

SERVANTS OF INDIA SOCIETY'S LIBRARY,  
POONA 4

Cl. No

Date of release for loan

Ac. No.

This book should be returned on or before the date last mentioned below.

*An overdue charge of 5 paise will be levied for each day the book is kept beyond this date.*

13 MAY 1967

**McGRAW-HILL PUBLICATIONS IN THE  
AGRICULTURAL AND BOTANICAL SCIENCES  
CHARLES V PIPER, CONSULTING EDITOR**

**Dhananjayrao Gadgil Library**



**GIPE-PUNE-009260**

**MARKETING OF AGRICULTURAL PRODUCTS**

## McGRAW-HILL PUBLICATIONS IN THE AGRICULTURAL AND BOTANICAL SCIENCES

EDMUND W. SINNOTT, CONSULTING EDITOR

- |   |   |
|---|---|
| <i>Adams</i> —Farm Management   | <i>Hutcherson and Wolfe</i> —Field Crops                      |
| <i>Babcock and Clausen</i> —Genetics in Relation to Agriculture               | <i>Jones and Rosa</i> —Truck Crop Plants                      |
| <i>Babcock and Collins</i> —Genetics Laboratory Manual                        | <i>Loeb</i> —Regeneration                                     |
| <i>Boble</i> —Marketing of Agricultural Products                              | <i>Löhris and Fred</i> —Agricultural Bacteriology             |
| <i>Boyer</i> —Cotton  | <i>Lutman</i> —Microbiology                                   |
| <i>Carriek</i> —Beginnings of Agriculture in America                          | <i>Piper and Morse</i> —The Soybean                           |
| <i>Crofts</i> —Commercial Fruit and Vegetable Products                        | <i>Pool</i> —Flowers and Flowering Plants                     |
| <i>Cruess and Christie</i> —Laboratory Manual of Fruit and Vegetable Products | <i>Rice</i> —The Breeding and Improvement of Farm Animals     |
| <i>Eames and MacDaniels</i> —Plant Anatomy                                    | <i>Sharp</i> —Cytology  |
| <i>Eckles, Combs and Macy</i> —Milk and Milk Products                         | <i>Sinnott</i> —Botany  |
| <i>Emerson</i> —Soil Characteristics  | <i>Sinnott</i> —Laboratory Manual for Elementary Botany       |
| <i>Fawcett and Lee</i> —Citrus Diseases                                       | <i>Sinnott and Dunn</i> —Principles of Genetics               |
| <i>Gardner, Bradford and Hooker</i> —Fruit Production                         | <i>Swingle</i> —A Textbook of Systematic Botany               |
| <i>Gardner, Bradford and Hooker</i> —Orcharding                               | <i>Thatcher</i> —Chemistry of Plant Life                      |
| <i>Gaumann and Dodge</i> —Comparative Morphology of Fungi                     | <i>Thompson</i> —Vegetable Crops                              |
| <i>Hayes and Garber</i> —Breeding Crop Plants                                 | <i>Waite</i> —Poultry Science and Practice                    |
| <i>Heald</i> —Plant Diseases  | <i>Weaver</i> —Root Development of Field Crops                |
| <i>Horlacher</i> —Sheep Production  | <i>Weaver and Bruner</i> —Root Development of Vegetable Crops |
|   | <i>Weaver and Clements</i> —Plant Ecology                     |

## McGRAW-HILL PUBLICATIONS IN THE ZÖOLOGICAL SCIENCES

A. FRANKLIN SHULL, CONSULTING EDITOR

- |  |  |
|--|--|
| <i>Fernald</i> —Applied Entomology                       | <i>Rogers</i> —Laboratory Outlines in Comparative Physiology             |
| <i>Graham</i> —Principles of Forest Entomology           | <i>Shull</i> —Heredity   |
| <i>Haupt</i> —Fundamentals of Biology                    | <i>Shull, Larue and Ruthven</i> —Animal Biology                          |
| <i>Haupt</i> —Laboratory Directions for General Biology  | <i>Shull, Larue and Ruthven</i> —Laboratory Directions in Animal Biology |
| <i>Metcalf and Flint</i> —Destructive and Useful Insects | <i>Snodgrass</i> —Anatomy and Physiology of the Honeybee                 |
| <i>Mitchell</i> —General Physiology                      | <i>Van Cleave</i> —Invertebrate Zoology                                  |
| <i>Pearse</i> —Animal Ecology                            | <i>Wieman</i> —General Zoology   |
| <i>Rogers</i> —Comparative Physiology                    |  |

*These two series were originally published as one under the title of McGraw-Hill Agricultural and Biological Publications. The late Dr. C. V. Piper was Consulting Editor from the inception of this series in 1917 until his death in 1926.*

# MARKETING OF AGRICULTURAL PRODUCTS

BY

**JAMES E. BOYLE, PH.D.**

*Professor of Rural Economy, College of Agriculture, Cornell University.  
Formerly Field Agent in Marketing with the United States Department of Agriculture. Author of Financial History of Kansas, Government of North Dakota, Rural Problems in the United States, Agricultural Economics, etc.*

FIRST EDITION  
THIRD IMPRESSION

**McGRAW-HILL BOOK COMPANY, INC.**  
**NEW YORK: 370 SEVENTH AVENUE**  
**LONDON: 6 & 8 BOUVERIE ST., E. C. 4**  
**1925**

X 9(J):51  
F5

COPYRIGHT, 1925, BY THE  
MCGRAW-HILL BOOK COMPANY, INC.

PRINTED IN THE UNITED STATES OF AMERICA

9260

THE MAPLE PRESS COMPANY, YORK, PA.

X

## PREFACE

The purpose of this book is two-fold: to set forth the so-called fundamental principles of marketing; to present the programs—that is, the efforts, good and bad, and the achievements in putting these principles into practice. The book, therefore, falls into two main divisions, I, Principles; II, Programs.

First place in the book is given to consumer demand, because the author believes this is the correct starting point for the study of agricultural marketing. Stress is naturally laid on quality and standardization of product. The author holds that there is no way to get a good price for a poor product. A great deal of attention is paid to our present large cooperative movement, and both its advantages and limitations are, it is hoped, clearly pointed out.

The author expresses his appreciation here of the stimulation he has received in his work from his graduate students from various parts of the world, and also the substantial help they have given him in the very pleasant task of preparing this book.

JAMES ERNEST BOYLE.

ITHACA, NEW YORK.  
*September, 1925.*

9260

# CONTENTS

	Page
PREFACE. . . . .	v

## PART I

### PRINCIPLES OF MARKETING

CHAPTER		
I.	CONSUMER DEMAND AND MARKETING. . . . .	3
II.	CONSUMER DEMAND AND MARKETING (CONTINUED) . . . . .	22
III.	PRODUCTION AND MARKETING. . . . .	44
IV.	THE MIDDLEMAN AND MARKETING . . . . .	74
V.	TRANSPORTATION . . . . .	106
VI.	STORAGE . . . . .	134
VII.	CREDIT. . . . .	144
VIII.	RISK BEARING . . . . .	156
IX.	SALE. . . . .	167
X.	AUXILIARY MARKETING FUNCTIONS, INSPECTION, GRADING, STANDARDIZING . . . . .	187
XI.	FUTURE TRADING . . . . .	197

### OTHER MARKETING PRINCIPLES

XII.	ORDERLY MARKETING, POOLING, SURPLUS PROBLEM . . . . .	212
XIII.	PRICE . . . . .	230
XIV.	PRICE (CONTINUED) . . . . .	247

### COMMODITY MARKETING

XV.	GRAIN . . . . .	262
XVI.	COTTON, WOOL . . . . .	285
XVII.	HAY . . . . .	304
XVIII.	MILK. . . . .	315
XIX.	LIVESTOCK . . . . .	332
XX.	EGGS. . . . .	348
XXI.	APPLES, PEACHES . . . . .	362
XXII.	POTATOES. . . . .	378
XXIII.	TOBACCO . . . . .	387

## PART II

### PROGRAMS

XXIV.	GOALS IN MARKETING. . . . .	397
XXV.	INDIVIDUAL EFFORT . . . . .	402



CHAPTER	PAGE
XXVI. COOPERATIVE EFFORT . . . . .	406
XXVII. COOPERATIVE EFFORT (CONTINUED) . . . . .	418
XXVIII. GOVERNMENTAL EFFORT . . . . .	434
XXIX. GOVERNMENTAL EFFORT (CONTINUED). . . . .	446
READING REFERENCES . . . . .	464
INDEX. . . . .	467

**PART I**  
**PRINCIPLES OF MARKETING**

# MARKETING OF AGRICULTURAL PRODUCTS

## CHAPTER I

### CONSUMER DEMAND AND MARKETING

Last Saturday the largest cotton mill in New England or the world shut down, leaving 10,000 persons out of work. It could not continue to operate at current prices for materials and labor because the public refused to pay corresponding prices for its goods. This is a fine example of the public's share in the regulation of prices, and we commend it to those vocalists who so often assure us that the manufacturer fixes the price of his products while the farmer has nothing to say about his. It is evident to any one who thinks straight that neither can get more than the public is able and willing to pay.

BAYARD, E. S., Editorial in *National Stockman and Farmer*, Pittsburgh, Pa., Oct. 13, 1923.

The growth and permanent prosperity of your industry depend entirely upon your pleasing the ultimate consumer as to quality, price, and service . . . The success of the industry is measured altogether by the degree to which you induce the North American people to consume your product aside from the possibilities of the development of your export trade . . . I repeat, therefore, as growers and marketers of California fruit, we should lose sight of every other consideration excepting to please the ultimate consumer . . .

BENGTWOLDT, J. E., fruit grower and shipper, "The California Fruit Industry in 1923," a paper read at the fruit growers' convention, Auburn, Cal., Oct. 2, 1923.

This book deals with agricultural marketing. It does not deal with the marketing of manufactured products except to demonstrate the respects in which the two kinds of marketing are fundamentally the same and the respects in which they are fundamentally different. There are many books on marketing. The facts of marketing have been gathered many times by public and private investigations; hence the facts are no longer a matter of dispute. The relationship of these facts, however, is not clearly understood; the interpretation of these facts is a

difficult matter. In interpreting the facts of marketing this book stresses the consumer's part in marketing—both in determining the market structure itself and in determining prices. The student ought to keep in mind the general plan of the book, which is to present in Part I, the Principles of Marketing (illustrated by numerous concrete examples); in Part II, Programs for Improving the Marketing System. In short, this book presents principles and programs. Since the consumer is considered as playing the important rôle in marketing, the first two chapters are devoted to consumer demand.

**Three Interested Parties.**—There are three interested parties concerned in the marketing of the farmer's products, namely, the original producer, the ultimate consumer, and the middleman. And of these three the consumer is the most important market factor. All goods are produced to be consumed. The consumer, therefore, is the only market and the satisfied consumer is the best market. In the end the consumer dictates both production and price. The consumer's needs must be met. Consumer demand is, therefore, the starting point of our study of marketing. This truth is all the more apparent when it is recalled that our farmers now produce a yearly surplus of food amounting to 15,000,000 tons. They also produce a huge surplus of other agricultural products, such as cotton and tobacco. This surplus production of foods and nonfoods, must seek consumer demand in foreign countries. In other words, there is a "buyer's market," not a "seller's market." The farmer, however, is strongly inclined to view the "marketing problem" as consisting of two parts only, himself and the "middleman." Indeed, much discussion of marketing focuses solely on the middleman, leaving the final buyer out of the consideration altogether.

Why does the farmer in his market discussions so largely ignore the consumer? It is doubtless because he has no direct contact with the consumer. If the Iowa farmer puts a bad egg in the egg case, he does not see the expression on the face of the Boston or New York housewife when this bad egg is opened. Her retail grocer hears her comment over the telephone. The farmer is a wholesaler, and has practically no direct dealings with consumers. The farmer's attitude towards the consumer is also due to the fact that he assumes that he has the consumer in his power—that the consumer must eat his food or starve to

death. He assumes, in short, not only the existence of this necessitous demand for his foodstuffs, but also that this demand is constant. Both these assumptions are false. The consumer may turn, and does frequently turn, to various substitutes and alternatives for any one kind of food. And the demand for food—for any one particular kind of food—is very elastic. This is an important assertion; it is contrary to the accepted views of many orthodox economists, and, therefore, needs some evidence to support it. And if this assertion is true, as the writer holds it to be, it revolutionizes the farmer's attitude towards the marketing problem.

**Elasticity of Demand.**—It is commonly assumed without question that the demand for non-staple foods fluctuates considerably, but that the demand for the staples, such as bread and meat, is quite inelastic. The facts of the market, however, indicate that the demand even for food staples is also quite elastic. To illustrate this truth the demand for bread and meat, the two greatest staples, may now be examined.

**1. Meat.**—The demand for meat fluctuates from day to day, week to week, month to month, year to year; it also fluctuates from one cut of meat to another cut; also from one kind of meat to another. To illustrate; in the year 1907 the per capita consumption of beef and veal was 87 pounds; in 1915, it had fallen to 60 pounds, that is, a shrink of 27 pounds in 8 years. In the same period the per capita consumption of beef in the United States fell from 80 to 56 pounds, or a drop of 24 pounds in 8 years. Veal consumption meantime showed a big increase. In 1915, it was 4.3 pounds per capita; in 1920 it was 7.9 pounds, an increase of 84 per cent in 5 years. There are remarkable variations in demand for meats between urban and rural districts, and between different sections of the country as a whole. Thus, according to the 1919 *Yearbook* of the United States Department of Agriculture, our per capita beef consumption at that time was 77.5 pounds in the urban districts, and only 28.5 pounds in the rural communities. For veal the figures are more striking: The urban districts of the North Atlantic states consumed 13.5 pounds per capita; the rural South Atlantic section but 1.7 pounds. In mutton the heaviest consumption occurred in the rural western group—15.8 pounds per capita. At the same time the rural North Central Western states consumed but 3.8 pounds. The chief meat of the American people is now pork, for its use

seems almost but not quite universal. The largest amount consumed per capita, 121.3 pounds, is in the rural South Central states; the smallest amount per capita, 60.5 pounds, is in the urban western group. In other words, the western group makes considerable use of mutton and lamb. And the large western lamb markets, Los Angeles and San Francisco, prefer an 80- or 90-pound lamb, whereas Chicago prefers the 100-pound lamb. In beef consumption there is a wide variation in the demand for particular cuts, both as to size and quality, in different parts of the country. In general, the large cities of the Atlantic seaboard, with their large hotel trade, demand the best and highest-priced cuts. The Jewish trade, which is large in Boston and New York, takes only the forequarter cuts of beef, and only beef which is kosher, that is, killed by a rabbi according to the Jewish ritual.

Editor J. Ralph Pickell, writing in his market paper, the *Round-Up*, Feb. 3, 1923, pointed out the slump in the demand for big sheep and big lambs in the first part of 1923. At that date the 160-pound sheep was selling at \$6.50 per hundred weight, while the 100-pound sheep was selling at \$9. Also at that date the 75-pound lamb was out-selling the 100 pounder by \$2 per hundredweight, "for no other apparent reason," said Pickell, "than that consumers want light meats. The moral is obvious; produce what the market demands." In the same issue of this journal the editor speaks of the premium on the light hog (160- to 200-pound kind), and the reluctance of butchers to buy the 250- to 300- pound hog because of the difficulty of moving the heavy hog into consumption.

One of the large Chicago packers issued a statement in 1922, on the marketing of beef, containing this important declaration: "The consumption of beef in October, 1919, was 53 per cent greater than in March of the same year." It will be borne in mind, at this period, that the demand for beef is a demand for cuts of beef. To illustrate:

About 90 per cent of the round steaks from corn-fed cattle go to the retail trade for household consumption while only 5 to 10 per cent of the ribs or loins have the same destination. Of this latter class of cuts, this leaves about 90 per cent to the hotel, restaurant, dining car, club, and similar consumption. The Jewish trade, as mentioned, eats only forequarter cuts. The sale of forequarter cuts drags during the hot months because the

housewives do not like to heat up their kitchens by cooking roasts and stews for the length of time necessary to prepare these cuts properly. But for 2 or 3 weeks around the first of August every summer the sale of chucks in the Middle West becomes very good: this is the period of grain harvesting and threshing. Big dinners are required for harvest hands. This demand for chucks is sufficiently great to raise the wholesale price 2 or 3 cents during this period.

The institute of American Meat Packers announced, in March, 1920, a campaign to increase the consumption of forequarter beef. At that time, war wages and war prosperity prevailed, causing beef consumers to turn to porterhouse and sirloins, rather than to the slightly coarser cuts—chuck, plate, clod, etc.

"In the first place," said this Institute, "the demand for beef at retail is more uneven than it has been for years . . . So long as the same high-priced feed goes into the forequarter that makes the hindquarter, there must be an outlet and a demand for the entire animal and not for a few cuts only."

An "Eat More Meat" campaign was put on by the United States Department of Agriculture in cooperation with various private agencies following the slump in meat prices in 1920. This department was able to announce, early in the year 1923, that more meat was consumed in the United States in 1922 than in any one year since 1911. This was an increase of 6 pounds over 1921. In 1923, however, the consumption jumped 17.3 pounds per capita. This year the pork consumption increased 20 per cent over the preceding year. This 1922 increase was due in part to a large shift in demand from the expensive steaks, chops, and roasts, to the cheaper and less familiar cuts such as chuck, plate, brisket, flank, shank, and shoulder clod. There was, however, one very noteworthy catastrophe (from the standpoint of the farmer) concerning pork prices, namely, the drop in demand and consequent drop in price for hams. The German and the English demand very greatly diminished. Domestic consumption of hams was not keeping pace with their production. Hence, for a considerable period hams remained at bargain-price levels, much out of line with other cuts of pork.

In recent times in the United States the year 1908 was the year of heaviest per capita meat consumption, and 1917 of lightest. The respective amounts consumed are as follows: 170.9 pounds; 130.9 pounds—a slump of 40 pounds in 9 years.

Pork consumption fell from 85.4 pounds per capita to 58.5 pounds, that is, 31.5 per cent.

In a thesis, prepared at Cornell University by Paul V. Horn, on the subject "Some of the Factors Influencing the Spreads in Prices between Retail Cuts of Meat," emphasis is laid on the retailer's problem of meeting the fluctuations in the demand for different cuts of meat and different kinds of meat. Horn says:

One of the greatest problems that the retail butcher has to meet is the fluctuation in the demand. The demand for meat varies within the hour, the day, the week, the month, and the season . . . During the day butchers have their habitually slack hours and busy hours . . . There is a fluctuation of sales with each day of the week. Monday is claimed to be a day of light sales due to the fact that many people consume leftovers from Sunday. Then from Tuesday on to Friday there is a gradual increase day by day in sales of meat. On Friday fish takes the place of meat in many homes so this custom reduces meat sales for that day. On Saturday, sales with most butchers are greatly increased over any other day in the week. Some butchers say their Saturday sales double any other day in the week; others say it triples; and one butcher (Ithaca) said that Saturday sales were five times greater than any other day in the week. With the different cuts of meat there is a great daily fluctuation. During the week there is a greater proportion of the cheaper cuts and frying meats sold than on Saturday when demand for roasting meat increases. Daily sales of meat also vary with the weather of the day. On a hot day, when it is desired to have little heat in the house, broiling and frying meats will be in great demand. On cool or cold days, sales of stewing and some soup meats will advance . . . With changes in season there is a change in demand for the kinds of cuts. Hindquarter meat consisting mostly of steaks and frying cuts, is called summer meat. Forequarter cuts consisting largely of stewing meats are called winter cuts . . . Not only are there seasonal changes in demand for cuts of meat, but also there seem to be considerable shifts in the classes of meats used. For example, in the winter, beef and pork seem to be more largely used than at any other season; then with the coming of spring there seems to be a tendency to shift towards veal, lamb, smoked meats, and fish, this shift continuing during the hot months. With the coming of fall the shift back to pork and beef commences, pork chops being especially popular in the early fall months.

Shifting of demand from one cut to another affects the price of the other cuts and so of the whole carcass. When the ordinary beef carcass, weighing 500 pounds, is sold at retail, about



6 per cent of it is wasted in trimming, evaporation, etc.; about 30 per cent consists of unpopular cuts which sell, therefore, for less per pound than the cost price; about 25 per cent consists of porterhouse steak, sirloin steak, or round steak, and this one-fourth of the carcass represents one-half of the selling value of the beef.

*United States Fair Price Commission.*—In July, 1920, the United States Fair Price Commission made an experiment in Baltimore and published the findings, showing what became of the twenty-one kinds of cuts of a 586-pound beef carcass on that market. The retail price of these cuts ranged from ½ to 60 cents per pound. The gross difference between selling price and purchase price was \$29.42, or a gross profit of 19 per cent. The complete statistics of this experiment (given in Appendix 1 of next chapter, page 37) show the wide range of choice of cuts which the consumer has, and how effectively the consumer's choice or rejection of any particular cut registers itself in price.

Horn, in his thesis, gives statistics of total weekly purchases of meat by one butcher for a period of 26 weeks, and considers that these figures closely indicate weekly demand for meats at this retail shop. Summarized, the figures are as follows:

WEEKLY PURCHASES OF MEAT IN POUNDS BY A RETAIL MEAT MARKET IN ITHACA, N. Y.  
Period of 26 Weeks. Aug. 29, 1920, to Mar. 5, 1921

	Beef	Pork	Veal	Lamb	Poultry	Fish	Miscellaneous	Total
Total 26 weeks.....	124,587	81,832	19,510	27,764	20,965	24,655	11,512	311,360
Highest week.....	8,604	6,933	1,349	1,705	2,712	1,931	991	11,471
Lowest week.....	1,541	493	150	0	236	80	110	5,912
Range expressed in per cent of average.....	147	205	160	159	307	195	199	105

These figures indicate that poultry, pork, and veal have the greatest fluctuations in demand. The total amount of meat of all kinds consumed shows, of course, the least variation. This indicates that there is substitution rather than abstinence. In any event, it is obvious that the consumer does not limit himself to any one kind of meat.

Judging from this evidence on meat consumption in the United States, the investigator is forced to conclude that the

demand for meat—that is, any particular kind of meat—is an elastic demand. It is not constant but subject to substantial and significant fluctuations.

2. *Wheat.*—The next great staple to be considered is wheat. Here again the usual assumption is that the demand for the farmer's wheat is constant. The facts of the market, however, show this demand to be elastic. The two chief buyers of the American farmer's wheat are the millers and the exporters. It is easy to prove that the amount purchased by each of these buyers fluctuates greatly. It is, of course, true that these amounts do not represent ultimate demand; but from the marketing and price-making standpoint of the American farmer they do constitute effective demand. The ultimate demand for bread and other wheat products will be discussed later.

*Wheat Exports.*—United States wheat, which is not bought by our millers and feed dealers, is largely taken by exporters. This export demand is what absorbs the surplus and plays, therefore, an important rôle in price making. Weekly, monthly, and yearly exports of wheat show sudden and irregular fluctuations. In short, the export demand is never constant. Considering first the yearly exports (domestic wheat, and wheat flour reduced to wheat basis for years ending June 30) variations are found as follows: In 1911 the exports were 69,300,000 bushels; in 1912, 79,700,000 bushels; in 1913, 142,900,000 bushels. Or compare the years 1914 and 1915: The exports were, respectively, 145,600,000 and 332,500,000 bushels, an increase in 1 year of 129 per cent. The exports of 1921, 366,00,000, fell off in 1922 to 279,000,000 bushels.

If wheat and flour exports are examined by months, violent fluctuations in volume are found similar to those in yearly exports. Wheat has been exported every year of our history since 1800 (with the exception of 1 year), and during all this time the export movement has been a fluctuating one. In this matter of fluctuations, the period from July 1, 1914, to June 30, 1921, covering 7 crop years, is a typical one. Examining this period in detail it is found that in the crop year 1914 to 1915, the lightest export movement occurred at the close of the season, namely June. During the next crop year, however, the lightest movement occurred the first month—July. For the 1917 crop, the light movement occurred in September; for the 1919 crop, in February; for the 1920 crop, in March. The heavy movement

into export, on the other hand, occurred as follows: 1914 crop, December; 1915 crop, September; 1916 crop, January; 1917 crop, December; 1918 crop, December; 1919 crop, May; 1920 crop, October.

The following table gives complete statistics for this period:

TABLE I.—EXPORTS OF FLOUR AND WHEAT FROM THE UNITED STATES, BY MONTHS, FOR SEVEN CROP YEARS  
Showing Fluctuations in Monthly Exports. In Terms of Bushels of Wheat (000 Omitted)

Month	1920-1921	1919-1920	1918-1919	1917-1918	1916-1917	1915-1916	1914-1915
July.....	34,655	13,624	11,154	8,429	10,583	11,649	30,174
August.....	32,550	20,310	19,496	9,739	14,919	20,430	27,618
September.....	34,994	24,816	28,347	7,182	18,689	26,301	31,436
October.....	43,033	20,979	24,531	11,418	16,131	23,769	25,664
November.....	30,989	23,396	21,989	10,615	19,006	19,264	25,897
December.....	30,179	15,427	33,539	15,301	18,160	20,416	37,118
January.....	27,105	12,274	22,103	12,450	24,003	20,872	32,037
February.....	23,075	10,581	15,842	10,492	13,561	20,066	31,428
March.....	29,763	16,881	20,314	12,207	12,438	24,071	28,114
April.....	24,791	13,722	31,127	12,364	18,505	22,424	29,224
May.....	30,624	25,885	26,342	10,915	16,220	20,593	20,288
June.....	32,192	21,754	32,652	11,373	21,366	12,221	13,445
Total.....	364,950	219,649	287,436	132,485	203,581	242,076	332,473

For purposes of comparison two typical and normal crop years are shown in the following graph (Fig. 1):

An examination of wheat exports by weeks shows large fluctuations in volume from week to week. This fact is shown in the following graph (Fig. 2):

Since much Canadian wheat goes into export from United States ports, this graph combines the movement of Canadian and United States wheat.

When the facts are considered, it is clear that export demand for wheat is a fluctuating and elastic demand. The milling demand for wheat will now be considered. Since the greater part of the wheat crop is made into flour, the millers' purchases of wheat constitute the major factor on the demand side. Millers

buy wheat as they sell flour. An examination of the statistics of the flour-mill output shows how this demand fluctuates very widely from week to week, ranging in certain sections of the country from 5 to 100 per cent of capacity of mills.

The Kansas City flour mills, for instance, in the year 1918, were operating some weeks at 96 per cent of full capacity, and in other weeks at only 5 per cent. It is interesting to note

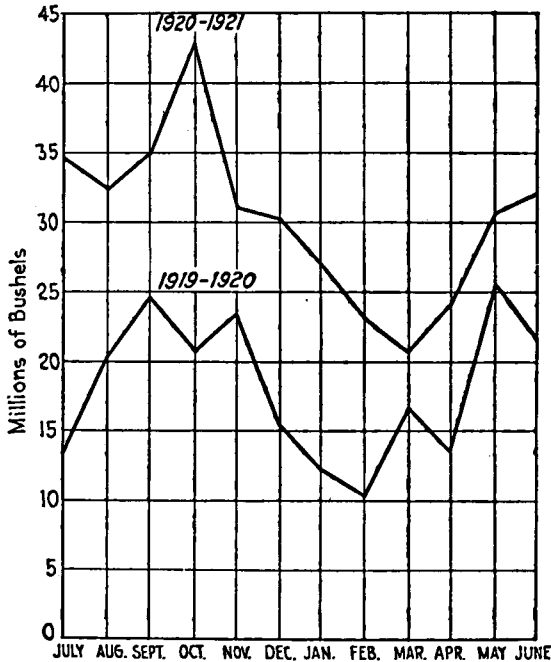


FIG. 1.—Demand. Export demand for wheat.

that the fluctuations in output (and consequently in demand for wheat) are sometimes sudden and big. Thus, the output for the week ending April 27, was 33 per cent of full capacity; the next week, it dropped to 14 per cent. The week ending May 25, the output was 18 per cent; the next week, 5 per cent. The week ending July 6, it was 5 per cent; the next week it rose to 49 per cent—a net increase of 880 per cent over the preceding week. Similarly the mills of the Central States showed a fluctuation in

weekly output ranging from 11 to 93 per cent. The Toledo mills ranged from 7 to 95½ per cent. The output of the north-west mills showed wide and sudden fluctuations.

Under the Food Administration during the World War it was considered imperative to control grain prices. This led to the

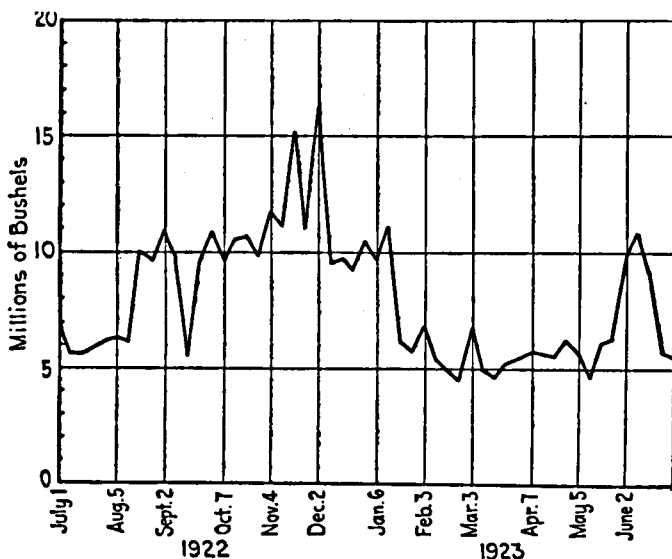


FIG. 2.—Weekly exports of wheat from North America.

creation of the United States Grain Corporation. The Milling Division of this Corporation secured reports on flour production from practically all producing mills—97 to 98 per cent of the output of the country. The following very interesting table on flour production, published by the United States Grain Corporation, shows, beyond dispute, that the miller's demand for wheat is a fluctuating demand.

**TABLE II.—FLOUR PRODUCTION**  
 Flour Production of the United States by Months, for Three Crop Years, with the Amount of Wheat Ground and Amount of Feed Produced

	1918-1919			1917-1918			1919-1920		
	Flour produced, barrels	Flour, per cent of years output	Wheat ground, bushels	Flour produced, barrels	Flour, per cent of years output	Wheat ground, bushels	Flour produced, barrels	Flour, per cent of years output	Wheat ground, bushels
July.....	5,319,000	4.4	24,031,000	8,571,363	7.4	39,633,243	6,268,000	4.8	28,878,000
August.....	11,248,000	9.3	49,676,000				13,010,000	10.1	60,141,000
September.....	11,363,000	9.4	49,876,000	10,528,068	9.1	48,029,085	13,043,000	10.1	60,430,000
October.....	10,758,000	8.9	47,247,000	13,856,254	12.0	65,431,813	16,903,000	13.1	78,424,000
November.....	12,506,000	10.3	55,208,000	16,601,204	14.4	73,737,012	12,673,000	9.8	59,531,000
December.....	11,044,000	9.1	48,674,000	17,063,843	14.8	77,611,738	11,545,000	9.0	53,745,000
January.....	12,006,000	9.9	53,674,000	10,382,470	9.0	46,508,013	14,840,000	11.5	68,866,000
February.....	7,736,000	6.4	34,762,000	9,184,772	8.0	41,233,192	9,277,000	7.2	43,322,000
March.....	9,370,000	7.7	41,493,000	9,049,279	7.8	40,778,702	7,810,000	6.0	35,995,000
April.....	10,426,000	8.6	47,283,000	6,893,266	6.0	31,251,139	8,806,000	6.8	40,855,000
May.....	12,439,000	10.3	55,518,000	6,458,925	5.6	28,716,496	7,461,000	5.8	34,722,000
June.....	6,915,000	5.7	31,616,000	6,784,279	5.9	30,155,194	7,461,000	5.8	34,722,000 <sup>1</sup>
<b>Total.....</b>	<b>121,130,000</b>	<b>100</b>	<b>539,058,000</b>	<b>115,373,723</b>	<b>100</b>	<b>523,085,627</b>	<b>129,097,000</b>	<b>100</b>	<b>599,631,000</b>
<b>Bushels per barrel of flour.....</b>	<b>4.450</b>			<b>4.533</b>			<b>4.645</b>		
<b>Pounds, wheat per barrel.....</b>	<b>267.00</b>			<b>271.98</b>			<b>278.70</b>		
<b>Pounds, feed per barrel.....</b>	<b>71.00</b>			<b>75.98</b>			<b>82.70</b>		
<b>Total feed, tons.....</b>	<b>4,300.130</b>			<b>4,383.047</b>			<b>5,338.160</b>		

<sup>1</sup> Estimated.

The Food Administration compiled the following statistics covering United States flour milling for 3 calendar years prior to the entry of the United States in the World War. These statistics show the fluctuations from month to month in flour output, and consequently in milling demand for wheat. The mills reporting cover the whole United States and represent practically all the flour produced in the country.

TABLE III.—FLOUR PRODUCTION  
Output of Flour by Months for Three Calendar Years in Per Cent of Year's Grind

	1914	1915	1916
January.....	7.3	9.2	9.6
February.....	7.9	7.9	8.1
March.....	8.0	6.2	7.7
April.....	6.6	6.0	7.1
May.....	6.4	6.3	6.4
June.....	12.3	6.4	7.0
July.....	7.2	6.4	7.8
August.....	8.8	7.5	9.3
September.....	9.2	9.8	8.8
October.....	9.9	11.1	9.5
November.....	8.6	12.4	11.3
December.....	7.8	10.8	7.4
	100	100	100

The reader's attention is called to the fact that the pounds of wheat in a barrel of flour vary from year to year, and also the extraction of flour as compared with offal- feed. Note the substantially larger amount of feed produced in 1917 to 1918, than in 1918 to 1919, and from a smaller volume of wheat. The values of bran, shorts, middlings, and other feeds from wheat are significant factors in determining market values of wheat from day to day and week to week. The dairy industry, with its 100,000,000,000 pounds of milk a year, now ranks first in value of output among our agricultural enterprises. On the same basis, poultry is sixth and wheat is seventh. The dairy and the poultry industries are both large consumers of wheat. The ordinary commercial dairy ration contains 10 to 20 per cent of

wheat; the common commercial poultry ration contains 20 per cent of wheat. The amount of wheat or corn or oats or other elements in the poultry and dairy ration fluctuates, of course, with the price of alternates and substitutes. The amount of wheat used in making white bread or other forms of human food is not definitely known. It is obvious, however, that a large percentage of the wheat crop is not used directly for human food but is utilized for feed for animals and poultry.

It must be remembered at this point that the United States produces, generally speaking, four distinct types of wheat, namely, hard wheat (56 per cent), soft wheat (31 per cent), white wheat (7 per cent), durum wheat (6 per cent); and each of these wheats must serve a distinct purpose. Three of these wheats, it will be noted, are inferior for milling and white-bread making purposes, and consequently are generally of lower market value. The soft wheats are used in the making of pastries, cakes, biscuits, crackers, etc., but are not suitable for making white bread. The durum wheat—a very hard wheat—makes yellow flour, and hence is not in demand by those millers who market flours of perfect whiteness. This limits demand for durum largely to makers of macaroni and similar food products. The *Grain Bulletin* of Minneapolis, the price card issued daily at that market, quotes prices on eight varieties of wheat and on thirty-one grades. Yet these 31 grades represent but a small portion of the different kinds of wheat produced in the United States. A great many of these wheats are not usable for flour-making purposes. Hence, it is obvious that the demand for "wheat" really means, on the market, the demand for some particular type or class or grade of wheat. Since the large flour mills now all blend wheats of various kinds to secure the per cent of gluten or protein or other standards which they must uniformly maintain, it is evident that the demand for any one kind of wheat is related directly to the demand for other wheats and to other competing grains. Corn and oats compete with wheat. So does cottonseed meal in the commercial feeding stuffs. In other words, a big cotton crop, like a big oats crop or big corn crop, may lower the price of wheat. The demand for wheat cannot be definitely known, but is always an estimate, and a changing estimate at that.

*Bread.*—Now the question of the "ultimate consumer" of bread arises. Is the demand for bread constant? This question, at



this stage of our knowledge, cannot be answered statistically, either "yes" or "no" It is the writer's firm conviction however, that the demand for bread does fluctuate considerably.

In the first place, a large share of the human race never saw or even heard of white bread. Again, some highly civilized people still use rye bread. So that, after all, the demand for the wheaten loaf is limited to considerably less than half the human race. And even in countries like the United States, large sections do not consume much wheat bread. The negro of the South still uses the white corn—the early food of most of the American settlers.

The following table shows the per capita wheat consumption of different countries in the pre-war period:

TABLE IV.—PER CAPITA WHEAT CONSUMPTION (IN BUSHELS)  
Food, Feed, Seed

Canada.....	9.5	Roumania.....	4.0
Belgium.....	8.3	Denmark.....	3.5
France.....	7.9	Chile.....	3.4
Spain.....	6.1	Germany.....	3.2
United Kingdom.....	6.0	Russia.....	2.7
Switzerland.....	6.0	Serbia.....	2.5
Australia.....	5.5	Sweden.....	2.5
Italy.....	5.4	Egypt.....	2.5
United States.....	5.3	Portugal.....	1.8
Uruguay.....	5.3	British India.....	0.8
Argentina.....	5.2	Mexico.....	0.8
Bulgaria.....	5.0	Japan.....	0.5
Austria-Hungary.....	4.3	China.....	?
Netherlands.....	4.2		

*Stimulation of Wheat Consumption.*—Bread consumption from country to country is a very variable quantity, as the above table indicates. Very small per capita increases or decreases in consumption of the wheaten loaf would cause significant changes in the demand and hence in the market price of wheat. For instance, in the "Eat More Wheat" campaign in the United States, in the summer of 1923, the people were urged individually to eat one more slice of bread at each meal and thereby create a demand for the 170,000,000 bushels of surplus wheat in the country.

It was stated above that the demand for wheat is a demand for a particular class and grade of wheat. Now it may be stated that the demand for bread is the demand for a particular kind of bread. A chain store system, covering the United States, put on an "Eat More Bread" campaign in the autumn of 1924, calling the consumer's attention to the various kinds of bread available at its stores—white bread, rye bread, bran bread, raisin bread, entire wheat bread. This advertising pointed out the "nourishing quality," "excellent flavor," "quality of material used—flour, lard, milk, sugar, yeast," "modern sanitary machinery," "appetizing appearance of loaf," and finally, "sold to consumer at wholesale prices."

If this advertising were successful in persuading consumers to eat more bread, it would not thereby necessarily increase the consumption of wheat: indeed it might even decrease the consumption of wheat, because there are five kinds of bread offered. One of them contains no wheat at all.

Many food manufacturers in the United States, wisely or unwisely, seek to enlarge their market as do the manufacturers of industrial commodities, namely, by stimulating demand through advertising. The irreconcilable difference between a factory and a farm will be pointed out in the next chapter. As a type of this advertising of food products, however, the organized raisin growers of California may be cited. In a press-release in September, 1924, this company stated, "Results are beginning to appear in the hard drive made by the Sales Division of the Sun-Maid Raisin Growers to increase the consumption of raisins in bread, pies, and like products."

This company reported that a single chain store grocery was taking 30,000 loaves of raisin bread per month in its Brooklyn plant, 25,009 loaves in its New Jersey plant, and 20,000 loaves in its Bronx plant. Also, that price campaigns for bakery drivers to increase the sale of raisin bread in Chicago lifted sales from 21,231 loaves per week to 43,184 loaves. A similar contest in Cleveland increased one baker's sales from 5,683 to 8,051 loaves per week. The raisin-pie industry made similar strides under the same stimulus. One pie company of Detroit increased its purchases of raisins in the 20-month period from 2,000 to more than 15,000 cases per year. Here is a case where the demand was stimulated, temporarily at least, for the soft wheats.

The Wheat Council of the United States (1923 to 1924) inaugurated an "Eat More Toast" campaign. Both the bakers and the farm bureaus were interested in this movement. An intensive campaign was first carried on in the State of Indiana. The National Conference Committee of the Baking Industry at about the same time began a campaign to increase the consumption of bread in the United States. The objective of this effort was to unite into a National Educational Campaign the wheat growers, the millers of both soft and hard wheat, the cracker manufacturers, the pie bakers, the cake and pastry bakers, and all the other manufacturers using wheat flour as the basis of their product. A very extensive advertising campaign was carried out, teaching the American people the advisability of using more breadstuffs, and stressing the health feature of bread in the diet. Leading dieticians were quoted as authority for the claim that more bread in the diet would improve the health. Indeed, the extravagant claim was made, backed up by expert sanction, that bread should constitute 60 per cent of the human ration. This sort of propaganda, however, was offset by propaganda of exactly the opposite kind—namely, the ill effects of bread and starchy foods on health.

*Discouragements of Wheat Consumption.*—In recent years there has been a very substantial increase in the number of sanitoriums, of diet experts, of health kitchens, of beauty parlors, of schools of home economics, of county home-demonstration agents. These various agencies quite commonly stress a diet of more milk and more fruits and vegetables, and less starchy food, such as bread. In a recent hearing before a congressional committee, when the subject of increasing wheat consumption was under discussion, a congressman from a wheat growing state summed up the situation concisely in these words:

In the program of the increased consumption of wheat what do we find? I think generally we find that 90 per cent of the physicians of this country, when some one goes to them who leads more or less of a sedentary life, will tell them to eat less bread and less potatoes. In my own case, it is not so long ago since I had a birthday and my wife gave me a book, the title of which was "Eat and Grow Thin," and the sum and substance of that was to cut out bread and potatoes and eat a lot of other things.

We are up against this proposition. It is more or less psychological perhaps throughout the county, but there may be something to it

from a medical viewpoint. It will be difficult to increase the consumption of wheat materially. For that reason it seems to me that it is important when we think of trying to get some people away from the raising of wheat to try to get them into something where they do not run up against that sort of argument. And so we find that every school nurse and every doctor, every person of that type, will encourage the greater use of dairy products, the greater consumption of milk, butter, cream, and cheese.<sup>1</sup>

It was during the World War that bread consumption in the United States took a severe slump. At first this curtailment was a voluntary act, at the suggestion of the Food Administration; later it became compulsory. Free bread with meals disappeared from the menus of dining cars, hotels, and restaurants, and it has not yet been restored. This charge for bread, and the numerous "health teachings" against bread consumption have caused a substantial recession in our per capita bread consumption during the last few years.

*Food Research Institute Wheat Studies.*—A notable study of the world's food resources is being made at Stanford University, California, by the Food Research Institute, and this study gives serious attention to wheat. The low level of wheat prices and the high level of wheat supplies during the 1923 to 1924 crop year was explained by the Institute in these words:

The experience of the year indicates that within limits, when the value of wheat in relation to other commodities drops to a distinctly low point, there is considerable elasticity in the demand, both in the exporting and the importing countries; and that for this reason there is, below a certain point, considerable resistance to further decline in price. Had it not been for this surprising degree of elasticity of demand, wheat prices and values might have fallen in 1923 to 1924 to much lower levels. This elasticity is afforded by the ready use of wheat as feed, which was furthered in several countries by relatively high prices for corn and potatoes and by the ease of substitution in human diet.<sup>2</sup>

<sup>1</sup> Statement of Hon. Olger B. Burtness, Representative from North Dakota. Hearings before the Senate Committee on Agriculture and Forestry, Sixty-eighth Congress, First Session, *Senate Document* 1597, p. 176. Emergency Commission to Promote a Permanent System of Self-supporting Agriculture, Jan. 11, 12, 14, and 24, 1922.

<sup>2</sup> "Wheat Studies of the Food Research Institute," vol. I, no. 1, p. 47, December, 1924.

The foregoing discussion of bread may be summarized by saying that the demand for bread is clearly an elastic demand; and that a very small shift in consumer demand for wheat bread is sufficient to have a significant effect on wheat prices, and at the present time, for financial and physiological reasons, there is a slump in demand for bread. Offsetting this fact, however, is the possibility and the likelihood that many peoples in Europe and Asia will gradually adopt a higher standard of living, and shift their consumption to more and more white bread. The Germans shift from rye to wheat, if they are prosperous enough to afford it: so also the Swedish and Norwegian peoples. The Japanese shift from rice to wheat, to a certain small extent. The Chinese already produce and consume a large amount of wheat. Hence it is perfectly obvious that the per capita bread consumption in the United States may actually decrease for the next few years, and yet this shrink in consumption may be more than offset by an increase in the per capita consumption of certain wheat importing countries. The so-called "statistical position" of wheat in the world's markets is, therefore, and must always remain, very largely, a matter of estimate, of judgment, of market opinion. Demand is not definitely known. Supply is not definitely known. On the market, both are estimates—and constantly changing estimates.

#### Questions

1. In what sense is it true that the manufacturer fixes the price on his product?
2. In what sense does the consumer have a voice in fixing the price?
3. Who are the three interested parties in marketing?
4. What is meant by a buyer's market?
5. Why does the farmer think of the middleman rather than the consumer, when discussing marketing?
6. Define elasticity of demand.
7. Is demand for foodstuffs elastic? Illustrate your answer fully in the case of meat, wheat, bread.
8. From your own observation or experience do you consider the demand for bread and meat elastic?

## CHAPTER II

### CONSUMER DEMAND AND MARKETING (Continued)

Classical economics has too long considered as negligible the phenomena of consumption; it has directed all its attention to the producer. Modern economics has shifted its viewpoint, and one of the first results is the elevation in importance of the consumer . . . Under the influence of the psychological school of economists, which places value in man's want itself and not in the thing wanted, the reciprocal relation of producer and consumer is reversed. The consumer is recognized as having a productive function; he ceases to be merely passive . . . The place of the consumer in the modern economic structure seems to be more important and his rôle far more active than is generally recognized.

STRAT, GEORGES Z. "Le rôle du consommateur dans l'économie moderne," pp. 244, 245, and 248, Paris, 1922. *Translation.*

In this chapter some further consideration will be given to the subject of consumer demand, particularly demand for the non-staple commodities. Facts will be stated to show the wide range of choice of food open to the consumer, and hence his possible shift from one food to another. Finally, advertising will be discussed as one means now employed either to control or influence demand.

**Demand for Agricultural Specialties.**—Such foodstuffs as bread and meat have been considered as agricultural staples. The various non-staple agricultural foodstuffs may be called agricultural specialties. It needs no extended argument to prove that the demand for this class of food products is very elastic. A few illustrations only will be given.

*Lemons.*—There are many commodities whose demand fluctuates with the weather. Lemons come in this class. This truth is very strikingly illustrated in the annual report of the California Fruit Growers Exchange for the period ended Oct. 31, 1921.

Towards the latter part of May, the weather suddenly became hot throughout the United States. The high temperature broke all previous

records and continued practically without interruption for two months throughout the Mississippi Valley and most of the Eastern States. Because the trade had made their purchases on a day-to-day basis there was an insufficient quantity of lemons on the market to supply the sudden demand; prices, therefore, rose rapidly, and the packing houses in California began shipping to maximum capacity. The daily shipments reached a peak of 100 cars.

During the 8 weeks of hot weather, the total supply, including California and imported lemons, was 4,274 carloads, compared to a 4-year average for this period of only 2,812 carloads. The heaviest supply in previous years was 3,377 carloads. Of this total, California supplied 92 per cent. In spite of these large supplies, the continuous hot weather created a demand in excess of the supply. During August the weather was exceptionally cool throughout the country and the market dropped to a point where lemons were again sold at less than the cost of production.

This extended quotation illustrates the elasticity of the demand for lemons. It also illustrates two additional truths of great importance concerning cooperative marketing: (1) One of the most successful cooperatives in the country sometimes sells at less than cost of production. In other words it cannot guarantee the farmer cost of production plus a profit. (2) The cooperative or the middleman, or whoever it is that carries the commodity, must also bear the risk due to price change. This speculative risk can be shifted or distributed but never eliminated.

*Sugar.*—Perhaps no article of human food consumption has shown a more elastic demand than has sugar. In the 5-year period following the Civil War, 1866 to 1870, the average per capita consumption in the United States was 30 pounds a year. In 1922 it was 102 pounds. The increase in the sale of candy and soft drinks in part accounts for this notable increase in sugar consumption. The 85,000 confectionery stores of the country sell 18 pounds of candy per person of our population each year. In the year, 1922 the per capita consumption of sugar rose 20 per cent. The following year consumption dropped  $6\frac{1}{8}$  per cent, due to boycott and to press agitation against the price of sugar. Consumers in other countries made a similar shift away from sugar consumption. Thus the exports of refined sugar through the ports of New York, Philadelphia, Boston, and Baltimore were 376,334,000 pounds in 1923, compared with 1,450-

172,000 pounds in 1922. The demand for sugar may express itself as a demand for cane sugar or beet sugar, or even, to a limited extent, to sugar made from corn. In any event, the demand is elastic.

*Oleomargarine.*—Among the notable shifts in consumption caused by the World War was that from butter to oleomargarine. In 1905 the per capita consumption of oleo in the United States was only a little over  $\frac{1}{2}$  pound. By 1915 it had increased to almost  $1\frac{1}{2}$  pounds. By 1918 each person in the United States was consuming on the average over  $3\frac{1}{2}$  pounds. This is a small amount compared with that of European countries. England uses 11 pounds; Denmark, exporter of good butter, consumes annually 44 pounds of margarine per capita. The United States government, during the war, used millions of pounds of oleomargarine for the army. At that time the price of butter was substantially twice the price of oleomargarine. Since the war butter has become both cheaper and better, and hence its relative consumption has increased. Like every other food product, however, the ultimate consumer can easily and readily turn to an alternate or substitute. Hence its elasticity of demand.

*Butter.*—With the shifting of butter making from the farm to the creamery, where 60 per cent of our butter is now made, there has come a definite standardization and improvement in quality, together with an increase in consumption. Yet in butter consumption per capita the people of the United States rank behind some other countries. For instance, our 16 pounds may be compared with Canada, 28 pounds; Australia, 26 pounds; New Zealand, 22 pounds; and Denmark, 18 pounds. In Italy the consumption is but  $2\frac{1}{2}$  pounds, but here olive oil plays an important rôle in the diet; in Switzerland it is 12 pounds, but here cheese is a very important item in the diet which is 25.2 pounds compared with our 3.8 pounds.

A recent survey of Boston's food supply showed that 98 per cent of the families used butter, and 76 per cent used cheese; also that the consumption of butter per family was 0.2 pound less per week in 1922 than in 1919, but that the consumption of cheese per family had increased 0.2 pound per week in the same period. For the country, as a whole, the consumption of butter is increasing at the present time. It must also be recognized that the number of butter substitutes, based on vegetable oils, is also increasing.



The butter export trade of the 13 exporting countries shows remarkable fluctuations in volume from year to year. Thus the average annual export of Denmark for the 5-year period, 1909 to 1913, was 195,530,000 pounds; for 1919 it was 80,662,000 pounds; for 1920, 164,959,000; for 1921, it was 202,942,000 pounds. New Zealand in 1920 exported 34,945,000 pounds; in 1921, 100,630,000 pounds. The United States averaged 4,125,000 pounds in the 5-year period, 1909 to 1913. In 1919 our exports were 34,556,000 pounds; in 1920, 17,488,000 pounds; in 1921, 8,015,000 pounds.

*Danish Butter.*—Denmark is justly famous for her cooperative marketing of butter. It is very instructive to study the Danish trade during the years immediately following the war, and to note the sudden, wide, and unpredictable shifts in consumption which befell this butter. Before the war, England was the customer for Denmark's butter, taking 91 per cent of the whole export. But after the war, England turned in part to butter from her colonies and in part to margarine, thus leaving Denmark without a market for a large share of her product. The United States, both an exporter and importer of butter, showed a similar shift in demand for Danish butter. Exports to the United States fell off from 8,681,700 pounds during the first 7 months of 1921 to only 28,650 pounds during the corresponding months of 1922. The Danes were able to turn to France and find a sudden increase in the demand there. The exports to France during the first 7 months of 1922 were 12,623,600 pounds, compared with 4,166,700 pounds during the corresponding period of 1921. Any country which exports butter must expect shifts in demand, both in the domestic and the foreign market, due in part to competition with other butters and in part to competition with butter substitutes. An even and so-called "orderly" demand for butter does not exist for any great length of time.

*Eccentricities of Demand.*—Demand is not rational. Our schools of home economics may be multiplied, but the goals of "scientific food consumption" and "scientific clothes consumption" will never actually be reached. Style, appearance, taste, appetite, whim, caprice, custom, habit, fad, price, health considerations—these are the motivating forces which determine choices in food, dress, and other commodities. Food is frankly bought many times for its aesthetic value as well as its nutritive value. A great deal has been written on the subject of the whims

of the consumers (see Appendix III, this chapter). A few outstanding examples of these eccentricities may be cited. The following cases are among better known examples of consumer's preference, whim and caprice, which substantially affect market values:

The Boston egg market prefers the brown egg, while the New York market shows preference for the white egg.

The New England corn market puts a premium on yellow corn. The South prefers white corn and discounts the yellow.

The New York and Boston hay market pay a premium for hay in large bales, but discount hay of the same grade in small bales. The usual premium on the large bale runs from \$1 to \$2 a ton. On one occasion, however, in July, 1919, small bales of hay on the New York market were discounted \$4 to \$5 a ton, and in a few instances, on medium grades of hay, \$6 to \$8 a ton.<sup>1</sup> While the North thus prefers (and pays for) the big bale, the South prefers the small bale. The farmer who bales his hay on the farm ought to recognize the consumer's wishes in this matter.

**Consumer Demand for Quality.**—The consumer is the final market. Since this is so, the important question is—What does the consumer want? What does he buy to satisfy his wants? When the consumer buys goods he is purchasing two things—commodity and service. For these two things he is paying a price. He is interested in a low price and is quick to feel a sense of injustice and wrong at a price he considers unduly high. Yet, in actual market practice, if the consumer must make the choice between quality and cheapness, he puts quality first. Cheapness is secondary. The consumer demands quality and service. There is much evidence of this important market truth.

**Package Goods.**—The immense growth in recent years of the package-goods trade illustrates the ultimate consumer's preference for quality first. He can buy crackers in bulk at one price, or in a package at a higher price. He chooses the package. Likewise he can buy in bulk or in package such various food items as coffee, butter, rice, and so on, the package price in each case being substantially higher than the bulk price. Yet the package trade is rapidly gaining in relative importance and volume. The commercial and trade papers frequently carry news items on

<sup>1</sup> *Price Current Grain Reporter*, p. 49, Chicago, July 23, 1919.

this subject, of which the following are typical examples:<sup>1</sup> "Demand gains for beans in cartons;" "One jobber now puts up marrow and split peas in boxes;" "Heavy demand for dates in packages." Prunes, raisins, breakfast foods, sugar, eggs, pancake flour, cake flour, etc., are common examples of package goods. Bread comes in paper wrappers. Milk comes in sealed bottles. Only the coarser kinds of food do not come in some neat container or package. Consumers are, therefore, annually spending millions of dollars for containers for food when in nearly every case they could buy the food cheaper in bulk from the retailer.

The consumer feels that the package goods cost more and are worth it. The package bears the name of the manufacturer or jobber, and is, therefore, a guarantee of both weight and quality. It is sanitary, and this is the sanitary age. It is convenient; convenience is a service, and it has aesthetic value. And finally, since it represents a thoroughly graded and standardized article, there is less waste about it.

*Flour.*—Flour is the first great food staple to be sold to the consumer in small packages. Some of the large mills are now using a cylindrical carton containing 5 pounds. Many millers remember the day, now gone, when their entire output of flour was packed in wooden barrels. The passing of the wooden barrel marks the passing of the family trade in flour, and the coming into general use of bakers' bread. As recently as 1914 the demand was for flour in 48 and 98 pound sacks; then came the 24-pound sack. Now mills frequently supply a straight carload of flour to chain stores in 5-pound sacks. Last of all comes the 5-pound carton. The modern flour mill is not even equipped to supply flour in wooden barrels.

*Market Gluts.*—Market gluts occur frequently with such agricultural staples as hay, cattle, hogs, and with such agricultural specialties as fruits and vegetables. As reported weekly in the United States government's publication *Crops and Markets*, in almost all cases of this kind, the glut is due to inferior or poor quality product. The result of such a glut is to lower the price for both the poor- and high-quality product, to make the market draggy.

*Milk.*—The increase in milk consumption in the past few years has been due chiefly to the improvement in the quality of the milk which reaches the consumer, particularly the consumer in

<sup>1</sup> *New York Commercial*, Nov. 3 and 10, 1923.

the great metropolitan centers. In New York City, for instance, due to the severe health regulations now rigorously enforced, the dwellers in the city, even in the crowded tenements of the lower East Side, receive a regular daily supply of pure, cool, clean, pasteurized milk. There is no better food than milk—clean milk. There is no worse food than milk—unclean milk. The consumption of milk—clean milk—has exhibited an almost revolutionary increase in New York City. The per capita consumption in 1900 was 92 quarts; in 1910 it was 111 quarts; in 1920 it was 146 quarts.

When the Eighteenth Amendment was introduced in Congress the annual consumption of beer in the United States per capita was 18 gallons. At that time the consumption of milk was 42 gallons per capita. One of the chief claims for beer, put forth by both its manufacturers and drinkers, was that it consisted almost entirely of absolutely pure water with the mere addition of enough alcohol and other ingredients to give it a palatable flavor. In other words, on the basis of its purity, it was featured as a health drink, when consumed with moderation. The consumption of milk showed no such increase as did the consumption of beer from the time of the Civil War on to 1917. Beer consumption per capita was as follows: in 1870, 5.31 gallons; 1881 to 1890, 11.37 gallons; 1901 to 1908, 17.34 gallons; 1911, 20.69 gallons; 1917, 18.17 gallons. The big increase in milk consumption has taken place since 1917. This is due in part to substituting milk for beer; in part to the improvement in the quality of market milk. A study of the Milk Ordinance of any great modern city reveals in a striking manner the final awakening of the city to the need of good milk and to the way of meeting this need. It is not yet sufficiently realized by the milk producers how imperative is the market demand for strictly high-quality milk. Three milk investigations may be cited to illustrate this truth.

Dr. John R. Williams of Rochester, N. Y., on behalf of the Health Bureau of that city, made a study of milk distribution in Rochester during the years 1911 and 1912.<sup>1</sup> The milk of 158 dealers in 1911 was studied, and was found to be as follows: "Good," 9; "Bad," 18; "Very bad," 71. In other words, 94 per cent of the dealers sold bad milk. In 1912, 150 dealers were

<sup>1</sup> *Proc. Amer. Assoc. Med. Milk Comm.* (in one volume), pp. 94-118. Sixth, seventh, and eighth Annual Conferences, 1912, 1913, and 1914.

studied, and the milk was found to be as follows: "Good," 24; "Bad," 90; "Very bad," 36. In other words, 84 per cent of the dealers sold bad milk. After making the Rochester survey, doubtless typical of any large American city at that date, Dr. Williams came to the following conclusions: "In the study of the use of milk in the homes it was discovered that many people are afraid to use cow's milk, and use as little as possible."

The Committee of Agriculture of the Boston Chamber of Commerce issued a milk report in 1915 containing these conclusions: "General consumption of fluid milk for cooking purposes as well as for individual consumption has decreased per capita in the last 10 years."

In the year 1923, the United States Department of Agriculture made a study of the Boston milk market to ascertain the results of advertising on consumer demand for milk. The advertising campaign had featured, in general, two things: the price, that is, the cheapness of milk when compared with eggs, meats, or other foods; the health appeal, and the cleanness of the milk then on the market. In other words, the quality idea. The consumers testified in a majority of cases, that the quality appeal came first and the price appeal came last.

A study of "Consumer Demand for Milk in Philadelphia" was made jointly by the United States and the Pennsylvania Departments of Agriculture in the year 1924. "Seventy-seven per cent of the families interviewed," says the report on this investigation, "used the amount of milk they wanted regardless of price, and stated that a price fluctuation of a cent or so in either direction would not change the amount consumed." The consumers testified that the milk advertising campaign had influenced their demand to a certain extent, and that the food value and quality appeal came first in importance, the price appeal sixth.

*Butter and Eggs.*—The economic principle in the marketing of milk—the consumer demands quality first—is also true of butter and eggs. A certain well-known woman physician, specialist in children's diseases, mother of a family of her own, feeds her children an abundance of good milk, but also feeds them oleomargarine. Her reason is, "I would rather feed my children good oleo than bad butter." In other words, it is the bad butter put on the market that promotes the increased sale and consumption of oleo.

In the year 1922, the Wisconsin Dairymen's Association celebrated its fiftieth anniversary. It was found on this occasion that so great had been Wisconsin's progress that it was now producing 10,000,000,000 pounds of milk a year, that is, one-tenth of the nation's milk supply. And the dairy industry was rapidly expanding, even to the point of facing overproduction. Then for the first time in our economic history, an agricultural program for 50 years into the future was drawn up and adopted. This program covered the three fundamental principles in agricultural marketing: economies in milk production; economies in milk distribution; improving the quality of raw milk and its products.<sup>1</sup>

Eggs as food may be compared with milk in one respect—a good egg is a good food; a bad egg is not only bad but dangerous. The cheapest egg on the American market is the Chinese egg, but no hotel or restaurant fills the patron's order for fried egg or egg on toast or soft-boiled egg by serving the Chinese egg. If so, that customer's patronage would be lost. The Chinese egg is so cheap, and so stale, that it must be used by bakeries or other industries. Egg consumption is increasing, but solely because the quality of the eggs in the market is improving. Not only is the quality of the eggs improving, but the egg producers themselves are standardizing their product through their cooperative associations and putting their own trade-mark, label, or brand on the eggs, as a guarantee of quality. With improvement and standardization of quality come economies in distribution.

*Meat.*—The United States Bureau of Agricultural Economics made a study of the retail meat trade, including consumer buying habits in five cities, during the year 1924. The five cities were Baltimore, Binghamton, New Haven, Jacksonville, and Washington. The strongest factor in creating and holding consumer demand was found to be quality. Convenience (or service) was found to be second in importance. Only 5 per cent of the consumers considered price a factor.

Summarizing the foregoing discussion on quality and price, it may be stated that the consumer is frequently a bargain hunter and always wants a cheap price. On the average, and in the long run, the American consumer puts quality first, and

<sup>1</sup> "Fifty Years of Dairy Progress and Plans for Fifty More," *Univ. Wis. Col. Agr. Marketing Circ.* 145, Madison, Wis., April, 1922.

with the high standard of living in America this is a market truth of first importance.

**Denmark's Experience.**—Denmark is quite generally cited as an outstanding example of conspicuous success in the cooperative marketing of farm products. This high praise is merited. The basic reasons for this success are not so widely heralded or known. Ninety per cent of Denmark's success is due to better production; 10 per cent is due to better marketing. Denmark's deserved reputation for marketing high quality, standardized food commodities rests on the three products—dairy, bacon, and eggs. Two of these three, eggs and butter, are not yet handled chiefly by the cooperatives. About 20.9 per cent of the total export trade of Danish eggs is now handled by cooperative associations. About 38.8 per cent of the butter export is through cooperative butter export associations. The swine industry ranks next in importance to the dairy industry. About 85 per cent of the bacon exports is from the cooperative bacon factories, but in all three of these products, the Danes have achieved notable success in producing the high quality which their market demands.

The following quotation is from an authoritative discussion of agricultural cooperation in Denmark, published in 1924 by the Federal government, and it establishes quite clearly the fact that the Danes have based their marketing success on quality production.<sup>1</sup>

*Dairy.*—The Danish farmer found that, to place a product successfully on a foreign market, this product should appear on the market in large quantity and should be of one fairly uniform grade . . . The cooperative idea originated with the farmers holding small and middle sized farms, and not with the estate-farm-owners or with philanthropic leaders. It came as an economic necessity to meet a new marketing situation which demanded standardized high-quality agricultural products . . .

Cooperative effort to manufacture a uniform grade of high quality butter has been stimulated by a unique system of competitive butter exhibitions . . . This effort to raise the quality standard of the entire production has been greatly encouraged through official butter-judging exhibitions held at the government agricultural experiment laboratory at Copenhagen on Monday of each week. Samples of butter

<sup>1</sup> CHRISTENSEN, CHRIS L., *U. S. Dept. Agr.*, "Agricultural Cooperation in Denmark," *Bull.* 1266, Aug. 22, 1924.

from about 130 creameries are judged and scored each week, according to quality and water content, by nine official judges who are butter merchants, dairy specialists, and butter makers. The exhibitions are arranged so that the judging of a creamery's butter may occur on the same day that the week's production reaches the English consumer's table. A leaflet with complete results of each exhibition is returned to each creamery. A creamery whose butter is below requirements is given expert advice regarding the defects. At first, creameries voluntarily sent samples of their butter, but since 1912 these official butter judgments are compulsory for every creamery that wishes to use the "Lur Brand" trade-mark.

As early as the nineties the Danish farmers began a voluntary movement to have the creameries use the common trade-mark including the words "Lur Brand" and "Danish Butter." Legislation enacted in 1906 and amended in 1911 adopted "Lur Brand" as the national mark on all export Danish butter.

When each creamery registers with the government for the use of this common trade-mark, it is given a number which is a part of its "Lur Brand" mark. With the registered number of the creamery, that manufactured and packed the butter, stamped on each cask, the Danish butter on the retailer's counter in England can be traced back to its producer. According to Danish law, the "Lur Brand" guarantees the butter to be manufactured from cream or milk which has been pasteurized (heated to at least 170°F.) and to contain not more than 16 per cent of water. The creameries using the "Lur Brand" are supervised by government dairy experts. Upon the request from the experiment laboratory authorities, either by letter or telegram, without any advance notice, each creamery is obliged to forward immediately a cask of the day's butter production. If at any time, the official judgments show that the butter manufactured in a certain creamery is below the standard requirements, said creamery loses the "Lur Brand" privilege. This restricts its butter to home consumption until the standard has been raised to satisfy the requirements.

The Danish producer takes a direct responsibility in marketing his products. He recognizes the need of a common understanding between the producer and consumer, if a fair share of the consumer's price is to be returned to him for his labor. He has studied the particular tastes and demands of the ultimate consumer, and has adjusted the supply of his butter, as well as the grade and quality, to meet the consumer's demands. He has been quick to recognize the importance of establishing a steady flow of his products to the British market the year round. Herein lies the great fundamental contribution which cooperation has given to the Danish dairy industry. It has adjusted production to meet the two outstanding demands of the market—the established consumer's market demand as to quantity, and the standard market demand as to quality.



A fundamental basis for efficient marketing, with costs reduced to the minimum, is thus provided . . .

*Bacon.*—Whether a bacon factory was cooperative or not, the first and outstanding element of success was to secure a regular supply of the high-quality, bacon-type hogs which the English market demanded. For this reason, the success of the killing and curing plants was almost wholly dependent on the producer. One great contribution which cooperation has made to the Danish bacon-factory industry is that the producer has become directly interested in producing and delivering the type of hog which the English market demands, and pays the best price for, and which consequently yields the greatest returns to the producer . . .

The Danish law requires that the Danish bacon export trade be handled under the common registered trade-mark, "Lur Brand." The carcass and offal are inspected by a government veterinarian in each factory and stamped with the official classification mark. Only the highest class bacon, from sound, healthy animals, free from tuberculosis or other diseases, can be stamped with the common trade-mark, "Lur Brand," in red, and only products bearing the red stamp can be exported. Bacon placed in second class is stamped in blue and may be used only for home consumption. The official registered trade-mark number of each cooperative factory must also be stamped on the products.

*Eggs.*—Since the beginning of the egg export, the marketing problem has been a live one. The early export trade with Great Britain in the last half of the nineteenth century was not a success. The eggs were of poor quality, not dependably graded, and the supply was irregular, all of which resulted in low prices to the producers. To bring a dependable supply of fresh eggs on the British markets was the problem which constantly confronted merchants and exporters. In 1895, the idea of marketing eggs through cooperative channels began to arouse interest among farmers, and the development of this method of marketing has had a tremendously beneficial influence upon Danish egg production and trade during the last quarter-century . . .

From a small beginning 23 years ago, this [export] association has gradually developed to be a most powerful and influential enterprise in the Danish egg trade. With the rigid control in collecting eggs from the producers and guaranteeing the consumers fresh, high-quality eggs, the Danish Export Association soon created a favorable market demand for its eggs both at home and in Great Britain, which eventually resulted in better prices . . .

Another prominent characteristic of this form of organization is the strict, almost perfect regulation as to quality. In its ability to demand the best quality product from the producer and to get it, the central organization surpasses similar cooperative selling societies in other European countries, and has made possible two outstanding accomplish-

ments in the Danish egg trade: (1) Improvement in the quality of the egg production, resulting in quality-egg export trade; and (2) steady increase in price paid for Danish eggs and the return of a large share of this price to the producer . . . The chief aim of the Danish Cooperative Egg Export Association is to create the best possible foreign market for Danish eggs by guaranteeing to the buyer that all eggs delivered by the association are fresh and of high quality . . .

Each egg delivered to the central association can be traced to the producer through the stamping system, which is strictly enforced. The central association gives each local egg-collecting association a registered number, and each individual member within each local association receives a number. Stamps are furnished individual members, and when the egg collector gathers the producer's eggs the two numbers (producer's and local association's) must be stamped on each egg. If bad eggs are discovered, the producer must refund the payment for such eggs and pay a fine equivalent at par to \$1.34 per egg for the first and \$2.68 for the second offense. This fine is divided equally between the central and local associations.

*Cooperative Breeding Associations (That Is, Cooperative Production).—*Improvement in livestock effected through cooperative breeding associations is one of the most remarkable achievements of Danish agriculture during the last 40 years. The increase in number of livestock from 1881 to 1914 was 68 per cent for cattle, 63 per cent for horses, and 374 per cent for swine, and the improvement in quality and productivity far surpasses the increase in numbers. According to Prof. H. Larsen,<sup>1</sup> the number of milk cows from 1881 to 1914 increased 45 per cent, while the total milk production increased 150 per cent. This remarkable improvement towards profitable dairying is further shown by the increase in the average yield per cow in Denmark from 3,306 to 5,730 pounds during this period. Similar improvements have been achieved in the swine industry where a superior bacon type highly desirable for the English market has been developed . . .

*Summary of Conclusions.*—(1) Standardized, high-quality agricultural products have become a fundamental basis for efficient distribution through more direct marketing channels with costs reduced to a minimum; and (2) a rational adjustment has been made in farm production to meet better the consumer's demand in the modern markets.

To this general conclusion concerning Denmark may be added this statement: by producing quality products the Danish farmer deserved a better price; by using his cooperative associations for bargaining and better marketing, he secured that better price to which he was entitled. Thus better production and better marketing run hand in hand.

<sup>1</sup>"Den Kgl. Veterinaer og Landbohøjskole Aarsskrift," p. 286, 1918.

**Advertising.**—Food manufacturers and the sales managers of farmers' cooperative associations have clearly recognized that the demand for food is very elastic. Hence, they have endeavored to influence demand and increase demand through advertising. A glance through the advertising section of any of our national magazines reveals the scope, magnitude, and character of modern food advertising. Many millions of dollars are being spent for this new type of publicity, both in regard to agricultural staples and agricultural specialties. Several brands of flour are thus advertised. One brand features its high price, and by implication its high quality by means of this slogan—"Costs More. Worth It." Some of the California specialties are outstanding examples of lavish and sustained advertising. Thus the producers of the "Sunkist" orange expended the following amount in advertising:

1918.....	\$216,000	1920.....	\$511,000
1919.....	427,000	1921.....	800,000

The producers of the "Sun-Maid" raisins spent the following amounts:

1913.....	\$100,000	1916.....	\$600,000
1914.....	150,000	1918.....	375,000
1915.....	440,000	1922.....	1,520,000

The national advertising drive to "Eat more sauerkraut" doubtless does increase the consumption of that food, at least temporarily. So also with the nation-wide campaign to "eat more apples," "eat more prunes," "eat more peanuts," and so forth.

**Shifts in Consumption.**—Does such food advertising bring a net increase in food consumption? Or does it merely cause a shift in consumption? If the consumer is persuaded to eat buckwheat cakes and maple sirup for breakfast, then he will not eat corn cakes and country sausage, or wheat cakes with corn sirup. He will eat a different food, not an additional food. If he eats an orange, he will not eat prunes or a baked apple. The highly advertised food becomes a substitute, and not an addendum to the diet. Foodstuffs are becoming interchangeable to a greater and greater extent.

**Limit of Food Demand.**—Since advertising campaigns are now being run to eat more bread, more meat, more fruits, more

vegetables, more milk and dairy products, the question arises, how much can food demand increase? How much can the human stomach expand? Probably 10 per cent is a reasonable limit. The people of the United States are already among the "biggest eaters" of the world. Per capita consumption varies widely from country to country. For example, measured in terms of calories, the pre-war per capita consumption in Italy was 2,560 calories, in the United Kingdom 2,860, in Germany and the United States 3,650 calories.<sup>1</sup> Any increase in income, it is well known, causes the recipient to turn to better or rarer foods, rather than to a sheer increase in the bulk of food consumed. Obesity is not popular. The "demand for individual foodstuffs," says Dr. A. E. Taylor, "is elastic under usual and normal circumstances. Demand for calories is relatively inelastic, demand for articles of food quite elastic."

<sup>1</sup>TAYLOR, ALONZO ENGELBERT, "Consumption, Merchandising, and Advertising of Foods," *Harvard Bus. Rev.*, vol. XI, p. 283, April, 1924.

## APPENDIX I

### RETAIL SELLING TEST IN BALTIMORE, UNITED STATES FAIR PRICE COMMISSION

RETAIL TEST ON A 586-POUND CARCASS AS CUT BY BUTCHER RETAILING BEEF IN BALTIMORE, SHOWING POUNDS, PRICE, LOSS IN CUTTING, AND PERCENTAGE OF EACH CUT BASED ON WEIGHT OF CARCASS.  
JULY 1920

Beef cuts	Pounds	Per-centage to whole	Shrink-age in cutting, pounds	Selling weight, pounds	Retail price	Money realized
Porterhouse steak..	38	06 $\frac{3}{4}$	1.90	36.10	0.60	\$ 21.66
Sirloin steak.....	52	08 $\frac{3}{4}$	2.60	49.40	0.55	27.17
Round steak.....	67	11 $\frac{3}{4}$	3.35	63.65	0.50	31.83
Round soup meat..	14	02 $\frac{3}{4}$	0.70	13.30	0.35	4.66
Rump roast, boneless.....	18	03	0.90	17.10	0.40	6.84
Flank steak.....	2	00 $\frac{3}{4}$	0.10	1.90	0.45	0.86
Flank soup meat...	16	02 $\frac{3}{4}$	0.80	15.20	0.30	4.58
Hind shin meat....	8	01 $\frac{3}{4}$	0.40	7.60	0.30	2.26
Rib roast, best.....	42	07	2.10	39.90	0.42	16.76
Rib roast, blade....	10	01 $\frac{1}{2}$	0.50	9.50	0.30	2.85
Chuck roast.....	66	11 $\frac{1}{4}$	3.30	62.70	0.35	21.94
Chuck, three corner	22	03 $\frac{3}{4}$	1.10	20.90	0.40	8.36
Neck, boneless....	13	02 $\frac{1}{4}$	0.65	12.35	0.30	3.70
Shoulder, boneless.	20	02 $\frac{3}{4}$	1.00	19.00	0.35	6.65
Fore shin meat....	9	01 $\frac{1}{4}$	0.45	8.55	0.30	2.56
Plate, bone in....	30	05 $\frac{3}{4}$	1.50	28.50	0.20	5.70
Brisket, boneless...	22	03 $\frac{3}{4}$	1.10	20.90	0.35	7.32
Top rib, soup meat	12	02	0.60	11.40	0.25	2.85
Bones.....	58	09 $\frac{1}{4}$	2.90	55.10	0.00 $\frac{1}{2}$	0.28
Fat.....	65	11	3.25	61.75	0.04	2.47
Kidneys.....	2	00 $\frac{3}{4}$	0.10	1.90	0.25	0.48
Tot.al.....	586	100	29.30	556.70	32.65	\$181.78

Cost figured at 26 cent per pound—586 pound at 26 cents = \$152.36.

## APPENDIX II

As illustrating the consumer's wide range of choice of different foodstuffs, the following statistics of Boston's food supply are illuminating. This metropolitan district is now typical of conditions in any of the 30 large industrial centers of the country.

There are about 36 kinds of vegetables and 20 kinds of fruit which Boston receives in carload lots. Not only is every state in the union called on to supply food to Boston, but practically every country in the world. The amount of any one particular kind of food consumed varies from year to year, as does also the source of the food supply.

## BOSTON'S FOOD SUPPLY

## I. Approximate Annual Receipts of Principal Vegetables at Boston

Commodity	Car lots or equivalent		
	1921	1922	1923
Beans (green, wax, and lima).....	409	654	662
Beets.....	299	348	492
Cabbage.....	1,179	1,309	1,573
Carrots.....	309	413	517
Cauliflower.....	251	250	404
Celery.....	505	653	845
Corn.....	283	287	376
Cucumbers.....	399	579	448
Lettuce.....	1,484	1,835	1,976
Onions.....	1,893	1,800	1,860
Peppers.....	352	419	406
Potatoes (white).....	8,803	8,228	12,293
Potatoes (sweet).....	808	773	739
Spinach.....	1,055	951	1,286
Squash.....	259	304	356
Tomatoes.....	1,040	1,518	1,609
Turnips.....	393	450	487
Asparagus.....	185	193	179
Artichokes.....	30	29	23
Beet greens.....	37	34	30
Brussel sprouts.....	10	11	21
Dandelions.....	79	122	164
Eggplant.....	57	55	42
Endive.....	46	53	42
Escarole.....	161	173	155
Kale.....	110	135	102
Mushrooms.....	36	50	52
Okra.....	5	12	10
Parsley.....	57	54	54
Parsnips.....	82	130	124
Peas.....	53	63	92
Radishes.....	91	107	108
Romaine.....	94	103	95
Scallions.....	46	48	41
Miscellaneous vegetables.....	179	185	108
Total all vegetables.....	21,079	22,328	27,771

## 2. Approximate Annual Receipts of Principal Fruits at Boston

Commodity	Car lots or equivalent		
	1921	1922	1923
Apples.....	2,727	2,815	2,928
Cherries.....	108	116	97
Peaches.....	790	1,279	992
Pears.....	505	662	621
Plums and prunes.....	321	185	265
<b>Total tree fruits.....</b>	<b>4,451</b>	<b>5,057</b>	<b>4,903</b>
Grapefruit.....	1,219	1,336	1,542
Lemons.....	680	627	511
Oranges.....	4,055	3,294	4,650
<b>Total citrus fruits.....</b>	<b>5,954</b>	<b>5,257</b>	<b>6,703</b>
Cranberries.....	91	206	161
Currants.....	9	12	15
Grapes.....	3,284	5,228	4,973
Blueberries.....	137	115	159
Strawberries.....	794	1,168	1,135
Other berries.....	39	43	28
Rhubarb.....	104	104	98
Cantaloupes.....	1,401	1,702	1,452
Watermelons.....	704	782	562
Bananas.....	6,880	6,737	5,915
Pineapples.....	75	89	154
Miscellaneous.....	34	252	135
<b>Total all fruits.....</b>	<b>23,957</b>	<b>26,752</b>	<b>26,393</b>
<b>Total fruits and vegetables.....</b>	<b>45,036</b>	<b>49,080</b>	<b>54,164</b>



<b>3. Milk, dairy, and lard</b>	
Fluid milk, quarts.....	165,313,232
Cream, quarts.....	19,375,257
Evaporated and condensed milk:	
Cases.....	594,129
Barrels.....	4,867
Butter, pounds.....	82,659,365
Cheese, pounds.....	15,913,718
Oleomargarine, pounds.....	4,317,300
Lard, pounds.....	27,846,305
<b>4. Eggs and Poultry</b>	
Eggs, dozen.....	58,327,680
Dressed poultry, pounds.....	56,013,023
Live poultry, cars.....	582
<b>5. Fish</b>	
Cured, pounds.....	800,000
Fresh, pounds.....	121,065,273
<b>6. Flour and Grains</b>	
Flour, barrels.....	1,178,930
Wheat, bushels.....	8,818,045
Rye, bushels.....	693,662
Barley, bushels.....	108,470
<b>7. Meat: Dressed Meats</b>	
Beef, carcasses.....	254,896
Lamb, carcasses.....	602,832
Mutton, carcasses.....	34,989
Goat, carcasses.....	791
Pork, cuts, pounds.....	10,471,225
Beef, cuts, pounds.....	96,308
Hogs, carcasses.....	447
<b>8. Livestock: Local Slaughter</b>	
Animals.....	1,691,867
<b>9. Sugar</b>	
1923, pounds.....	569,084,000
1922, pounds.....	857,230,000
<b>10. Tea</b>	
BOSTON RECEIPTS OF TEA, 1923	
COUNTRY OF PRODUCTION	
Japan (including Formosa), pounds.....	5,613,456
India, pounds.....	1,955,497
Ceylon, pounds.....	8,656,860
Java and Sumatra, pounds.....	1,666,544
China, pounds.....	1,022,133
Total.....	18,914,495
<b>11. Miscellaneous</b>	
Peanuts, bags.....	106,434
Canned fruits and vegetables.....	not available
Coffee.....	not available

### APPENDIX III

What set of nerves shall have the preference in determining the purchase of a farm product, the optic or the gustatory?

**Apples Desired for Ornamental Purposes.**—In the city, a large city especially, the appearance of an apple is everything and taste nothing, unless the purchaser was once a country boy and enjoyed the freedom of an orchard.

Again, in the case of plums it is found that 25 per cent are given to taste and 75 per cent to the eye, with a slight rearrangement of weights as compared with apples.

**Nut Scores.**—The same subordination of taste found in the judging of fruit is discovered also in the judging of nuts. The size of the nut has 15, the shape 10, thickness of shell 20, size of meat 15, quality 20 points. Although it may seem that it is positively not worth while, to say nothing of money, to buy a nut except to enjoy its delicious flavor, yet to taste is assigned only 25 per cent, while 50 per cent is given to the eye, the remaining 25 per cent going to the convenience of cracking the shells.

**Certain Colors Desired.**—The sale of corned beef, cured hams, sausage, and some salt meats of other descriptions is largely influenced by color, the popular prejudice favoring meat that has been cured and colored with the addition of salt-peter.

Butter and cheese are almost universally colored to meet the popular demand, and this demand varies so in different sections of this country that it is necessary for manufacturers and shippers to prepare their shipments especially for the section of country in which they are to be consumed; for instance, Washington demands a darker butter than Chicago, and New Orleans demands a color still darker than Washington.

One of the weaknesses of consumers is an admiration for foods that are polished or have a gloss, and this nickel-plate fancy plays some queer pranks with foods. The life-long resident of the large city, for instance, who has no first-hand knowledge of an apple orchard, may buy from an apple woman at the street corner a pretty red apple with a wax-like polish on its surface secured by an application of saliva and a dirty rag. On the contrary, the apple-loving countryman, especially one who has come to be known as a "horticulturist," delights in the natural bloom of the apple.

Farmers should learn the whims and fancies of the markets that they reach, or can reach, and endeavor to meet those fancies.

The farmer must not hang back in supplying things that are pretty to look upon, although they may not be delicious to eat; he must learn the scores of whims and notions in his available markets, even though they may be "without rhyme or reason," and remember that one of the great buyers of the products of the farm is the human eye.

HOLMES, GEORGE K., "Consumers' Fancies," *Yearbook, U. S. Dept. Agr.*, pp. 417-434, 1904.

## Questions

1. Is the rôle of the consumer in marketing active or passive?
2. Distinguish between agricultural staples and specialties.
3. Show elasticity of demand for lemons. What two additional marketing truths does the lemon market illustrate?
4. Show elasticity of demand for sugar, oleomargarine, butter.
5. Give the Danish experience in butter exporting.
6. Illustrate some eccentricities of demand.
7. What is the evidence that the consumer demands quality?
8. Show the relation of market gluts to quality products.
9. Show the relation of milk consumption to milk quality.
10. Show the relation of butter consumption to quality.
11. What is included in Wisconsin's 50-year dairy program?
12. Show the relation of egg consumption to quality.
13. Show the relation of meat quality to consumption.
14. Discuss at length Denmark's progress in marketing, showing importance of factors of: (1) portion of crop marketed cooperatively; (2) place of quality in dairy production and marketing of "Lur Brand"; (3) place of quality in bacon production and marketing; (4) place of quality in egg production and marketing. Also give relation of quality to price.
15. Does any cooperative production obtain in Denmark?
16. Give examples and effects of advertising of agricultural commodities.
17. What effect on total consumption has such advertising?
18. Explain and justify the 21 different prices charged the same day in Baltimore for parts of the same beef steer.
19. Summarize briefly the nature and sources of Boston's food supply. Also show the yearly fluctuations therein.
20. Explain and illustrate consumers' fancies in buying apples, nuts, meats, butter, cheese. To what extent should food be produced for its æsthetic value?

## CHAPTER III

### PRODUCTION AND MARKETING

A very large per cent of what the farmer can now do to improve the marketing situation consists of adjusting his production to the demands of the market. The rest lies largely in the field of local cooperation. There is no royal road to the solution of the present economic problem of American farmers . . . Something can be done to swing consumption from one line to another, but this method can have little effect on the demand for staples, and probably little effect upon the total demand for farm products. If anyone should discover an Aladdin's lamp or any other magic instrumentality which would enable him to control consumption completely and, at the same time, guarantee the happiness of the consumers, he would find a large field of activity.

Pending the discovery of this or some other panacea, it is believed that 90 per cent of what the farmer can now do to improve his marketing situation consists in adjusting his production to the demands of the market. The remaining 10 per cent lies largely in the field of local cooperation with a view to providing facilities which would otherwise be lacking, and to avoiding unfair charges for middleman services.

TAYLOR, HENRY C., *The Banker-Farmer*, vol. VIII, no. 6, p. 7, May, 1921.

There are three interested parties involved in the marketing process—consumer, original producer, and middleman. Of these three, when viewed solely from the standpoint of marketing, the consumer is first in importance, the original producer is second. It has been authoritatively stated that 90 per cent of the marketing problem may be solved on the farm by adjusting production to consumer demand. Or, in other words, 90 per cent of the marketing problem consists in producing the quantity and the quality which the consumer wants. This principle of marketing will be discussed at length in this chapter. A vast amount of advice has been given to the farmers in recent years, telling them to copy the merchandising methods of successful manufacturing corporations and thereby “solve their marketing problems.” Since this advice ignores the different production methods of farm and factory, it is necessary, at the outset, to make this distinction sharp and clear.

**Farm and Factory Products.**—There are, alas, fundamental, irreconcilable differences between the marketing of farm products and the marketing of industrial factory products. These differences are due to three elements: (1) quantity control, by factory; (2) quality control, by factory; (3) expansion of demand for factory goods.

*Quantity Control.*—A factory controls the quantity of its product. A factory manufacturing cotton goods, for instance, finds the demand slack; it curtails output or shuts down for a time. The large woolen mills of New England, in a dull season, will shut down for a few weeks. The Detroit manufacturer of the most universal automobile in the world occasionally finds it necessary to lay off a few thousand men, or to close temporarily certain units of his plant. The United States Steel Corporation having orders for 4,000,000 tons of steel does not produce 5,000,000 tons. In short, the factory has perfect control of the quantity of its own output. But in agriculture, an increased acreage frequently produces a smaller crop; a decreased acreage often yields a larger crop. During and following the World War, a decreased amount of farm labor produced an increase in crops. Weather, insect pests, plant diseases, these and other factors beyond the control of the individual farmer, determine the yield and quantity of his output. A very brief consultation of any issue of the *Yearbook* of the United States Department of Agriculture confirms this statement.

The spring-wheat farmers, for instance, in 1912 decreased their acreage 5.6 per cent, but increased their yield 72.7 per cent. Next year they decreased their acreage 3.9 per cent, and decreased the yield 27.3 per cent. In 1915, they increased acreage 9.2 per cent and yield 70.9 per cent. Next year they decreased acreage 8.0 per cent and yield 55.7 per cent. In 1919 they increased acreage 14.2 per cent but decreased yield 41.7 per cent. In 1922 they decreased acreage 1.6 per cent but increased yield 30.6 per cent.

Summarizing the question of quantity control, it may be stated in this way: the shoe factory which wants 1,000,000 pairs of shoes, makes 1,000,000 pairs, no more, no less. The farmer, however, who wants 1,000 bushels of wheat, plants 40 acres. He may get 500 bushels, or 1,000 bushels, or 1,500 bushels. He cannot tell. He can control acreage and labor, but not his yield (see Appendices I, II, III, and IV, this chapter).

*Quality Control.*—The factory produces a definite, standardized quality of product; the farm does not. If automobile users want a 6-cylinder car, the factory will not ship them 4-cylinder cars. If a railroad company wants 130-pound steel rails, the United States Steel Corporation will not produce 90-pound rails to meet this demand. If the consumers of woolen goods are buying creative lines or popular selling lines, the mills will not continue to turn out the standard lines such as blue serge or white flannel. The farmers have no such definite control over quality. Thus the farmers of the spring-wheat belt in 1916 planted No. 1 Northern Wheat. But one day of hot winds in August made the crop turn out to be mostly Sample Grade Wheat,—that is, below No. 4—or in trade language, “D Feed” Wheat. The farmers’ corn crop in 1917 was of extremely poor quality, owing to excess moisture. A somewhat similar condition existed in 1924. Fruits and vegetables show similar variations in quality under the influences of weather, plant diseases, insect pests, parasites, bacteria, and other causes. In fact, agriculture is sometimes pictured by its more dramatic critics as a battle between man and the “bugs,”<sup>1</sup> bugs loosely including all malignant forms of bacteria, as well as insects. At any rate, root killing and body canker in orchards; potato rot, blight, and scab; rust and smut in wheat; boll weevil in cotton; barley stripe disease; alfalfa leaf spot; and various other forms of blight, smut, and rust lower the quality of the farmers’ output to a very significant extent each year in some parts of the United States. The weather, too wet or too dry, too hot or too cold, is always a fundamental factor in determining quality of output for the farmer.

*Expansion of Demand.*—The consumer has a great variety of wants. Goods are bought to satisfy these wants. And when particular goods have satisfied particular wants, we say that such goods and such wants have reached the “saturation point.” The saturation point for food is thus ordinarily reached three times a day. Obviously, however, there are wants in which it would be difficult, if not impossible, to reach the saturation point. But the farmer, in producing food, is producing a commodity, in which the saturation point is soon and definitely reached. As stated in a preceding chapter, the demand for food is elastic,

<sup>1</sup> DUPUY, WILLIAM ATHERTON, “The Insects are Winning: A Report on the Thousand Year War,” *Harper’s Magazine*, vol. CL., pp. 435-440, March, 1925.

but it is the demand for different kinds of food, rather than for additional food—a substitution and not an addendum. The stomach is not capable of great expansion. With industrial and general non-food wants, however, there is practically no limit to the expansion of wants. Thus the prosperous young American business man demands and consumes for food, approximately, 3,300 calories per day: later, when prosperity has made him a millionaire, his food demand is still 3,300 calories per day, whereas his expenditures for other commodities have enormously expanded. Should he become a billionaire the same process would go on.

Therefore, there are factories producing goods, consumption goods, capital goods, and so on, for these industrial and general wants—wants which continue to expand. This fact constitutes a fundamental difference between a food-producing farm and a factory. Our national annual advertising outlay of \$1,250,000,000 is, therefore, largely to create consumer demand for new factory products, all the way from fountain pens to bricks and automobiles, including new forms of amusement, recreation, ornamentation, self-development, and not omitting aids to sweet breath, sound teeth, and good digestion. People are to be stimulated—if possible, to wear three pairs of eye-glasses a day, where one pair used to suffice. All of which adds to the complexity, if not the comfort of life.<sup>1</sup>

Although it is true that a factory controls the quantity and quality of its output and may expand the demand therefore, yet it does not follow that the factory is certain of success. The individual factory manager does control completely the quantity and quality of his own output, and adjusts this output to consumer demand as he interprets it. But the factory, like the farmer, is competing with others in the same general business,

<sup>1</sup> Many examples can be cited showing increasing complexity of "consumer goods." One example is women's hosiery. In the days of our grandmothers hosiery came in three standard colors—black, white, gray. A wholesaler's catalogue, issued in May, 1924, listed the following 57 colors: black, white, medium gray, navy, oriental pear, champagne, silver, taupe, gunmetal, tanbark, fudge, cinnamon, mode, thrush, sphinx, polo, new fawn, new beige, French nude, dawn, airedale, cordovan, beaver, log cabin, African, otter, mouse, atmosphere, pink, gold, red, emerald, sky, sunburn, peach, jack rabbit, dragon, bamboo, Mah Jongg, eastwind, banana, Sahara, blush, rose beige, tiffin, honeysuckle, beach, new rose, nutria, gray, mandalay, zinc, ecru, castor, bobolink, almond, beige buck. Marshall Field and Company, Chicago, Ill., *Field Quality News*, p. 22, May, 1924.

and hence the total output may not, and seldom does, accurately meet consumer demand. The demand must be forecast long in advance. Overcoats must be made in the early spring for next winter's trade. And the woolen cloth in these coats must be made up at least a year before the consumer will see the finished product. So also with shoes. Factories, in short, have their cycles of overproduction and underproduction, very much as has the farmer, but they can generally make readjustments much more quickly, with their rapid turnover, as compared with the farmer and his once-a-year turnover.

**Farm Products and Efficiency of Production.**—A farm paper of large circulation made the statement to its readers that the "farmer as a producer is incredibly efficient," but that "distribution is inefficient, bunglesome, wasteful, and costly." The significant claim is also made at intervals, that in marketing his commodity, "the farmer is entitled to cost of production plus a profit." Some farmers are incredibly efficient; some are not. On the basis of production per man, the American farmer with his natural resources and power machinery is among the most efficient farmers of the world. On the basis of production per acre, he is, of course, far below the farmer of Great Britain or France or Germany or Denmark.

On the basis of quantity and quality of his product, the average farmer is far from 100 per cent efficient. Some farmers produce 54 bushels of corn per acre; the average farmer produces 27. Some farmers produce 28 bushels or more of wheat per acre; the average farmer 14. Some cotton farmers produce 300 to 500 pounds of cotton per acre; the average farmer 150 pounds. The farmer is also needlessly reducing his crop yield by growing harmful weeds, the yield being reduced thereby 10 per cent in corn, 9 per cent in tame hay, 8 per cent in potatoes, 13 per cent in spring wheat, 7 per cent in winter wheat, and 27 per cent in pasture.<sup>1</sup> Or, briefly, the preventable leak from this source runs into a large percentage of the total crop. The United States Bureau of Plant Industry reported a preventable damage of over \$202,000,000 in the 3 years, 1919, 1920, 1921, in seven of our Northern States, due to the barberry bush (*i.e.*, to black stem rust).<sup>2</sup>

<sup>1</sup> *Yearbook, U. S. Dept. Agr.*, p. 205, 1917.

<sup>2</sup> The states were Idaho, Michigan, Minnesota, Nebraska, North Dakota, South Dakota, and Wisconsin.



In the course of an address to the delegates of the Manitoba Agricultural Society on Feb. 1, 1922, President Bracken of the Manitoba Agricultural College made the following significant observations:

Weeds caused us twice as much loss last year as we pay to maintain the provincial government; stem rusts of wheat take a greater toll in some years than the highest tariff ever put on by protectionist government; the losses caused by insects each year, if prevented, would more than offset the loss from increased freight; the waste in harvesting, threshing, handling, and transporting screenings, if prevented, would save enough to more than pay the cost of running the agricultural college.

The farmers of North Dakota, on the 1923 wheat crop, had a dockage of 11.3 per cent, thereby losing on this one crop \$6,426,780.<sup>1</sup> The amount of dockage, separable foreign material in grain, being shipped to the Minneapolis market has steadily increased since 1902. During the 21-year period, 1902 to 1922, there were shipped to the Minnesota markets 84,000 freight cars of dockage. The producers lost the freight on this, and also had their price lowered somewhat by reason of this dockage. The freight on dockage sent to the Minnesota markets in the 1-year 1922 amounted to \$800,000.<sup>2</sup> This is a large preventable leak in marketing, due solely to the producer. Harvesting and threshing weeds with the wheat adds materially to the cost of wheat production. The farmers of Minnesota, North and South Dakota, and Montana, paid over \$675,000 to thresh the dockage on their 1922 crop. Ninety-six per cent of the farmers in Minnesota and the Dakotas are drilling with their wheat 1,000 to 500,000 foreign seeds per acre. The Pennsylvania Bureau of Markets, reporting on the quality of wheat grown in that state, shows that enormous preventable leaks occur, due to such causes as the moth (Angoumois Grain Moth), garlic, dampness, etc.

According to investigations made by the Pennsylvania Bureau of Markets, the average annual loss in the State of Pennsylvania on account of various forms of damage occurring to wheat between the time it matures and the time it reaches the market, amounts to approximately \$4,000,000, more than 13 cents per bushel on every acre harvested.

<sup>1</sup> BENSON, ALVA H., "Dockage in Wheat," *N. D. Agr. Exp. Sta., Bull.* 172, p. 7, February, 1924.

<sup>2</sup> WALLACE, HENRY C., Secretary of Agriculture, "Report on the Wheat Situation," transmitted to the President, Nov. 30, 1923; also in *Yearbook, U. S. Dept. Agr.*, 1923.

The Pennsylvania wheat is a winter wheat and hence should be comparatively free from dockage. The following statistics show the actual grades of this wheat as marketed in the Philadelphia and Baltimore markets:

Grade	Per cent of total shipments
No. 1.....	0.3
No. 2.....	7.8
No. 3.....	13.5 (3 cents discount per bushel)
No. 4.....	15.9 (7 cents discount per bushel)
No. 5.....	2.2 (11 cents discount per bushel)
Sample (below No. 5).....	60.3 (12 cents discount per bushel)

A garlicky rating attaching to any grade results in an additional discount of approximately 10 cents per bushel. The miller can not grind garlic with his flour. In the foregoing summary, 50 per cent of the shipments were garlicky and had this additional cut. This meant a loss of another million dollars, which should be added to the \$4,000,000 before mentioned.

A study of the major crops shows a scarcity in the best grades, but an occasional glut in the poorest grades. Take cotton as an illustration, and note the amount and quality of cotton in store at any one time. The following table is typical:

TABLE V.—COTTON IN STORE, IN BALES, GOVERNMENT CLASSED, SEPT. 14, 1923  
Showing Relative Scarcity of Best Grades

	New York	New Orleans
No. 1.....	0	0
No. 2.....	118	19
No. 3.....	190	14
No. 4.....	196	1,315
No. 5.....	291	2,659
No. 6.....	939	2,345
No. 7.....	281	297
	2,015	6,649

That is, in New Orleans, 40 per cent was below No. 5, while in New York 60 per cent was below No. 5.

With perishable crops like potatoes, the volume of poor quality becomes a more serious marketing factor. A Minnesota bulletin covering this matter uses these words:

In a year of heavy production of potatoes, it certainly is wise for all producers to sort closely and put only a good quality upon the market. Yet the fact is that of 2,228 cars of Minnesota potatoes inspected in 1920 to 1921, 566 cars, or 24 per cent, were rejected.<sup>1</sup>

The slogan, "Cost of Production Plus a Profit," is put forward by certain would-be reformers of the agricultural marketing problem. Under the present marketing system, the farmer who is efficient above the average receives cost of production; he who is below the average frequently receives less than cost of production. Studies in "bulk-line costs" prove the truth of this statement.

**Bulk-line Costs.**—Many farm management studies have been made, showing the net cost of production of particular crops on individual farms. Such studies all reveal the wide range of costs between the high-cost and the low-cost farmers. Two examples, cotton and wheat, may be cited.

The net cost of producing cotton in 1919 ranged from 12 cents to \$3.78 per pound.<sup>2</sup> A survey by the Federal government, covering 783 farms, found that one-half the cotton cost 35 cents or less per pound. The bulk of the cotton, 85 per cent, was produced at a cost ranging from 12 to 50 cents a pound. Some detailed statistics are as follows: two farms produced at a cost of 17 cents; two at 18 cents; four at 19 cents; four at 20 cents; nine at 21 cents; ten at 22 cents; seven at 23 cents; seventeen at 24 cents; eighteen at 25 cents; twenty at 26 cents. The largest group, twenty-eight farms, produced at 35 cents. Passing now to the high-cost farmers, we find that five produced at a cost of 75 cents; four at 80 cents; two at 90 cents; two at 101 cents; four at 105 cents; one at 110 cents; one at 116 cents; one at 236 cents; one at 378 cents. Only 1 per cent of the cotton was produced at a cost of over \$1 a pound. However, 15 per cent was

<sup>1</sup> BLACK, JOHN D., and PRICE, BRUCE, "Cooperative Central Marketing Organization," *Minn. Agr. Exp. Sta., Bull.* 211, p. 6, April, 1924.

<sup>2</sup> *Yearbook, U. S. Dept. Agr.*, p. 359, 1921.

produced at a cost of over 50 cents a pound. This "marginal cotton" was, therefore, sold at less than cost of production.

Turn now to wheat. A North Dakota study in the crop failure year of 1919, of 113 farms, shows costs ranging from less than \$1.25 a bushel to \$15 per bushel.<sup>1</sup> The bulk of the wheat—85 per cent—was produced at a cost of \$3.50 and less. One farm had a cost of less than \$1.25; four farms produced at \$1.26 to \$1.50; seven at \$1.51 to \$1.75; twelve at \$1.76 to \$2; ten at \$2.26 to \$2.50. Fifty per cent of the farms were producing wheat at \$3 and under. Fifty-five per cent of the wheat was produced at \$2.25 and under. Five farmers produced at a cost of \$6.01 to \$8; two at \$8.01 to \$10; three at \$10.01 to \$12.

Overproduction in agriculture may be defined as the production of a crop so large that all of it cannot be sold at a price high enough to pay production costs to all the bulk-line producers. In other words, it is not the "average producers," producers of 50 per cent of the product, but the bulk-line producers—producers of 85 per cent of the product, who must be considered when discussing overproduction.

Underproduction in agriculture means the production of a crop so short that it can all be sold at a price high enough to pay production costs to more than the bulk-line producers.

The producer, however, who is producing \$5 wheat and \$5 cotton, whether in years of overproduction, underproduction, or normal production, obviously must sell at a loss.

**Overdiversification versus Simplification.**—A production problem, both in industry and agriculture, is the increasing diversification of the produce. This diversification immediately makes marketing more complex and hence more costly. To illustrate an ax is supposed to be a simple tool. An examination of the catalogues of three leading ax makers shows they are now offering 6,118 varieties of axes. Makers of milk containers now manufacture 239 styles of milk cans, 60 shapes of bottles, and 29 sizes of paper caps. The automobile piston rings are now made in 11,000 sizes and types. One manufacturer of bedsteads before the war, was carrying 901 designs. Womens' shoes are now put on the market in 3,920,000 sizes, styles, and varieties. One automobile tire maker produces 280 kinds of tires. The Conservation Division of the War Industries Board was able

<sup>1</sup> WILLARD, REX, "The Cost of Producing Wheat and Other Crops in North Dakota in 1919," *N. D. Agr. Exp. Sta., Bull.* 142, p. 19, September, 1920.

during the war, to issue schedules to manufacturers greatly simplifying and standardizing their output. Thus one farm wagon company reduced the number of front and rear gears in its product from 254 to 16.

In agriculture a far greater diversification occurs than in industry, due to the number and independence of the individual farmers. Some 25 varieties of cotton are said to be needed by the mills, but the cotton farmers are now producing 500 varieties. The apple growers of Sonoma County, Cal., found a demand for 8 varieties of apples; but the farmers there produce 40 varieties. This overdiversification adds substantially to the cost of operating the local cooperative association which merchandises this fruit. The local cooperative apple packing houses of the Lake Ontario district in New York State found an active demand for some 12 standard varieties; but the farmers produced and delivered to the packing houses 121 varieties. Most of these varieties, of course, are, and must be, sold in less than car lots—that is, at a higher marketing cost. The flour mills of Pennsylvania need two standard varieties of wheat, but the farmers of the state are producing 45 different varieties. This makes it impossible to load a car of uniform grade, or for a miller to mill a uniform flour from this wheat. The orange growers of California owe a large part of their conspicuous success in cooperative marketing to the change in production methods, reducing the number of varieties of oranges from 30 to less than 5. The United States Department of Commerce and other agencies interested in cheaper distribution are working for simplification and standardization. Progress in this direction is indicated by the following illustrations: One leading canned goods maker reduced his pack from over 200 to 21 varieties and increased his sales sevenfold. One shoe manufacturer reduced from 2,500 styles in three grades to 100 styles in one grade and has increased his business at lower cost to consumer. The Association of Milk Dealers considered a resolution to do away with 40 sizes of milk bottles—quarts, from 12 to 3; pints, from 13 to 3; half pints, from 14 to 3; quarter pints, from 10 to 0.<sup>1</sup>

**Community Production.—In Wisconsin.**—"The merchandising of farm products begins with the selection of seeds and sires,"

<sup>1</sup> DURGIN, WILLIAM A., "Over Diversification," *The Nation's Business*, June, 1923

says a recent report of the Wisconsin Extension service.<sup>1</sup> It is not possible to separate production from marketing. "We know enough about production, now give us a better marketing system," is a popular cry which must not be taken literally. We know too little about production to meet the demands of the market. There are but two classes of farm products—one derived from plants, the other derived from animals. Better production, therefore, depends fundamentally on better sires and better seeds. Group or community production in specialized types, varieties, or classes, is consequently a logical step towards better and cheaper marketing. Since Wisconsin is a state above the average in this field, examples may be cited from this state. The production and sale of pure seeds was put on a profitable basis through the efforts of a cooperative production association of over 6,000 members. Their program contained four steps: (1) grow one or more varieties of quality seed; (2) quantity production, making car lot shipments possible; (3) advertise to stimulate demand; (4) sales through central marketing agency. Certified seed potatoes is a second example of community production. One county shipped out 80 carloads of a single variety of seed stock. A third example is the Community Livestock Breeders Associations, for purebred dairy cattle. This state is now a dependable source of supply for dairy cattle. In the year 1923 Wisconsin dairy cattle were shipped into 45 states of the Union, and to Canada, Mexico, Porto Rico, South America, India, Africa, Australia, and Japan. Cooperative Producers Associations also safeguard the quantity and quality of their production by using protective agencies against plant and animal diseases, and field, orchard, and garden pests. Poultry culling and records, cow testing associations, and similar cooperative activities lowered production costs and promoted community production of a less diversified, but better quality, product. Simplified production leads to simplified, that is, cheaper marketing.

*In California.*—One of the most notable steps ever taken in America in community production, as well as in simplification of production, was that taken Nov. 24, 1924, in Kern County, Cal., in the interests of cotton production. The Board of Supervisors of Kern County passed an ordinance providing for a

<sup>1</sup> "Mileposts on the Road to Market," *Ann. Rept. Ext. Service, Circ.* 167, p. 3, College of Agr. Univ. of Wis., Madison, Wis., January, 1924.

“pure-seed district,” which enabled the growers of the county to organize an association for the production of one variety of cotton, and which prohibited under severe penalty the importing into, or the transportation over, or the possession within the district of other varieties of seeds or plants. The County Farm Bureau proposed the ordinance, the aim being to avoid the mistake of too many varieties as illustrated by the South and by the Imperial Valley. After the passage of the ordinance, (which is printed in full in Appendix VIII, this chapter) committees from the growers’ organizations began a campaign to secure the passage of similar ordinances by Tulare, Kings, and Fresno counties, so that these four counties of the San Joaquin Valley may be joined into a big one-variety area.

**Adjusting Production to Consumer Demand.**—The fundamental step in marketing is to adjust production to consumer demand. The difficulties of this program have already been pointed out in this chapter. These difficulties and limitations must be frankly faced. There are, however, certain very important opportunities for the producers to exercise control in adjusting production to consumption. The farmers, particularly the organized farmers, may exercise a beneficial degree of control in at least five ways: (1) quantity of output; (2) quality of output; (3) distribution as to place and time; (4) demand; (5) shift in production.

**Quantity and Quality of Farm Products.**—To maintain a profitable agriculture the farmers must adjust quantity production to effective demand. There is a narrow line separating the avoidance of a glut and the creation of a scarcity. The farmer is expected to discover and observe this line; public opinion justifies the glut-avoidance, but condemns the “artificial” scarcity.

The idea of quantity control has given rise to some rather militant proposals by farmers and farmers’ friends, such as the strike, picketing, boycotting, and limitation of output. Each of these “remedies” has indeed been tried, since organized farmers sometimes use the “strong-arm” methods of organized labor. For instance, a farmer writing in *Wallace’s Farmer* used these words:

We have always held that in a world dominated by the law of claw and fang any class has to fight for its own band. The farmer has been the lamb in the den of the wolf and the lion . . . In the business world

of today the only way to get consideration is to show your power . . . .  
Cut production. Be class conscious. Be hard.<sup>1</sup>

Many concerted efforts have been made to cut production by limiting acreage. Only two can be discussed here.

*Cotton-acreage Reduction.*—There was held in New Orleans, Feb. 17 and 18, 1919, the Cotton States Cotton Acreage Reduction Convention, composed of farmers, merchants, and bankers from every southern state. They recommended a shift in production, namely, a decrease of  $33\frac{1}{3}$  per cent in cotton acreage, and a corresponding increase in food crops acreage. There was held at Jackson, Miss., Feb. 27, 1919, a similar convention, and a "pledge" made, that for the Mississippi cotton acreage for the year 1919, the following cuts should be made: 40 per cent in the Delta; 75 per cent in the hill and other sections of the state. A publicity campaign was carried out, and public opinion was asked to—

. . . brand every man who, because his neighbor and the cotton producers generally are reducing their acreage, undertakes to profit through such general and united action by increasing his own crop, as an undesirable citizen, unworthy of the respect and confidence of the community in which he lives.

There was a shorter crop and a higher price this year. Whether this campaign increased or decreased acreage it is impossible to say, since the boll weevil at this time was such a powerful factor in reducing the cotton yield.

*Corn Acreage Reduction.*—An Iowa corn acreage reduction campaign, backed by two farm papers and the State Farm Bureau Federation, was carried out in the year 1922. But since there was an actual increase in corn acreage of 1.1 per cent, it seems that the campaign had little effect. An Iowa farm paper editor, speaking of this campaign said:

Thousands of farmers stated that they would be glad to make a cut in their corn acreage if they could be sure that every other farmer in the corn belt would do likewise. A few men stated that just so far as their neighbors cut their corn acreage, they would increase theirs.<sup>2</sup>

*Legality of Acreage Reduction.*—The individual farmer, of course, has a complete moral and legal right to increase or decrease

<sup>1</sup> NELSON, FRANK T., *Wallace's Farmer*, Des Moines, Iowa, Oct. 13, 1922.

<sup>2</sup> WALLACE, H. A., *Wallace's Farmer*, Jan. 12, 1923.



his acreage at will, just as the individual laborer has a right to strike or boycott or picket. When a number of farmers agree together, combine, or "conspire" to do a thing by concerted action, however, it may not, in the eyes of the courts, be legal. Governor Henry Allen of Kansas, in the year 1919 became involved in a controversy with the cotton interests of the South, concerning the legality of the concerted action to reduce cotton acreage. The Department of Justice at Washington took under advisement the possible violation of the antitrust law in this case, but no public statement was issued. Perhaps the most light available on this subject of legality comes from the suit of the United States against the California Associated Raisin Company, 1921 and 1922. A consent-decree, in the nature of an injunction, was issued Jan. 18, 1922, containing 11 prohibitions. Among the things which the company, its officers, agents and employees, and the individual defendants named on the complaint, "each is hereby enjoined and restrained from doing," is No. 8, which reads as follows:

8. Agreeing, combining, and conspiring, either among themselves or with others, to lessen, restrict, or limit the supply of raisins, or to curtail or decrease the production of supply of raisin grapes.

In other words, the raisin grower's company has no right to curtail or decrease the production of raisins.<sup>1</sup>

If the economic law of supply and demand is allowed to work itself out blindly and brutally it will do so in this fashion: a big supply begets low price; low price begets a low supply; a low supply begets a high price; and a high price begets a big supply, thus completing the vicious circle, and being ready to start on another round (see Fig. 3).

Artificial control of quantity would beget high price; so artificial control of price would beget big supply. For instance, The Dairyman's League of New York State, during the years 1920 to 1923, was able to maintain high prices for farmer's milk by successfully resisting the pressure from dealers for price reduction. The result followed the "vicious circle" above described. A big supply was called forth, so that the consumers refused it, and a glut followed, and then an inevitable price cut. The vice-president of the Dairyman's League, speaking on this subject before the annual meeting of the League in June, 1924, said:

<sup>1</sup> *The Associated Grower*, pp. 5, 6, and 44, Fresno, Cal., February, 1922.

The Dairymen's League has made mistakes, and in my judgment one of the greatest mistakes that it made, for which I assume as much responsibility as any other director, was that it tried to keep up the price of Class 1 (fluid milk) too long (applause).<sup>1</sup>

In an article, "What of the Walnut Growers? Economic Laws Cannot be Sidestepped—Time to Face Facts," this same problem of quantity and price is stated in these words:

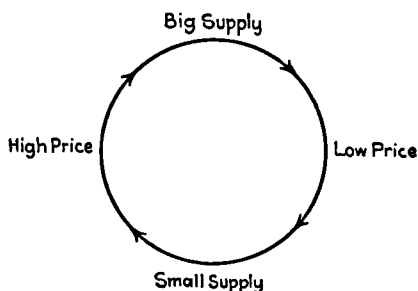


FIG. 3.—Supply and demand and price relationships.

The greatest danger to a successful cooperative organization lies in its success, because such success breeds overproduction . . . Neither can a cooperative marketing association set aside the law of supply and demand. It is true that with a wisely managed cooperative that can properly handle the problems of distribution; that can properly merchandise a product and increase consumption through such merchandising and through national advertising, what has appeared to be overproduction sometimes disappears. But when there is real overproduction and a cooperative has done what it can to increase consumption, then low prices are bound to prevail.

The annual farmer can reduce his acreage or change his crop as conditions seem to demand, just the same as the manufacturer of automobiles or cotton goods cuts down or speeds up production as conditions warrant.

It is quite apparent that a state of overproduction in tree crops is far more serious than in annual crops. The orchardist has a much greater per acre investment of both time and money in his orchard than has the annual farmer in his farm. The orchardist having spent much money

<sup>1</sup> "Judge Miller Describes Dairy Situation," *Dairymen's League News*, p. 2, June 27, 1924.

and many years in bringing an orchard into bearing, is not in position to meet conditions by cutting down production or changing his crop. He is there to stay . . .

No matter what the marketing method is, if we have overproduction we are bound to have low prevailing prices—prices so low in fact that the man who cannot produce high volumes of good quality, and hence have low production cost, cannot exist, and we are bound to have the operation of the law of the survival of the fittest. That is exactly what is going on now in the majority of agricultural and horticultural industries.<sup>1</sup>

The orchardists and vineyardists of California seem to fall into two classes, those that have already reached the stage of overproduction; those that are yet to reach this stage. The quantity and quality control problem in this case takes this form: (a) stop a further increase in production by curtailing or stopping any new plantings; (b) replace with other crops each orchard or each vineyard whose product is selling below its bulk-line cost of production; (c) improve the quality of the product which is actually produced, for a better quality gradually stimulates demand; (d) improve the quality of the product which is actually marketed by more severe culling at the farmers' packing houses.

The year 1920 was an "overproduction" year in potatoes in the United States, the price on farms falling from 116.1 cents, December 1, to 68 cents per bushel the following May 1. Of 2,228 cars of Minnesota potatoes inspected this season, 566 cars, or 24 per cent, were rejected as before mentioned. Over one-third of the losses from rejections were due to scab and undersize, most of which could have been saved by better grading and sorting. A smaller quantity would have been put on the market, under stricter grading, thus tending to raise prices; a better quality would have been put on the market, thus tending to stiffen prices through increased demand. Various studies of egg marketing have shown that in certain seasons of the year the losses on farm flock eggs, due to rots, checks, and other bad qualities, run 17 per cent.

*Potato Experiment in Grading.*—In agricultural products, as elsewhere, a part is frequently worth more than the whole, as is illustrated by the following experiment.<sup>2</sup> Seventy bushels of

<sup>1</sup> WEBBER, W. T., *Diamond Walnut News*, California Walnut Growers Association, Los Angeles, Cal., pp. 1 and 2, July and August, 1924.

<sup>2</sup> Experiment made by M. F. Thurston, at Smyrna, Del., in 1920.

Irish Cobbler potatoes were graded, and sold to a retailer at the following prices:

No. 1—55 bushels at \$1.25.....	\$68.75
No. 2—10 bushels at 0.75.....	7.50
Culls —5 bushels at 0.40.....	2.00
Total.....	<u>\$78.25</u>

Current prices for these same potatoes, field run (ungraded), except for removal of culls, were as follows:

65 bushels at \$0.95.....	\$61.75
5 bushels culls at \$0.40.....	2.00
Total.....	<u>\$63.75</u>

In other words, 55 bushels of potatoes sold for substantially more than 70 bushels. The 70 bushels contained the 55 bushels plus 15 bushels of undesirable stuff. The market paid \$14.50 more for having the lot graded, or 20 cents a bushel in favor of farmer grading, a sum ample to pay grading costs and leave a good margin. It may be stated as an economic principle of agricultural price, that a part is always worth more than the whole, the whole meaning the entire crop or supply, "field run," before any grading, culling, or cleaning has taken place; the part, meaning the supply after standardizing, grading, cleaning, culling, or removal of foreign material, as the case may be. To this extent the farmer has control of quantity and quality production, particularly when use is made of cooperative marketing machinery. While nature, therefore, determines largely the quantity produced from the soil, the farmer himself may control within wide limits the quantity and quality put on the market, by the simple process of keeping the low quality stuff at home.

**Distribution Control.**—A wider distribution may be defined as changing the time and place of distribution; extending distribution to new customers in new areas; lengthening the season of distribution. A big crop may not mean "overproduction," provided the producers secure a wider distribution for it. This principle holds good only for perishable crops, such as fruits and vegetables. A non-perishable staple crop, such as wool, for instance, is consumed only in certain definite, limited places, namely, in the mills. A "wider" distribution than these particular mills is not to be found. Neither is time of distribution an

important factor, for the commodity will keep in good condition for a number of years. Fruits and vegetables, however, moved to the wrong market, or at the wrong time, may cause severe market gluts, gluts due solely to faulty distribution. This is illustrated by an experience of peach marketing in Pittsburgh. In peach-moving season, this is a normal market for about 15 cars a day. This is the record of car lot arrivals, however, in the 1916 season:

Monday, September 18.....	32 cars
Tuesday, September 19.....	24 cars
Wednesday, September 20.....	16 cars
Thursday, September 21.....	1 car
Friday, September 22.....	15 cars
Saturday, September 23.....	74 cars

Here is faulty distribution (in time) and a glut. The following Tuesday, Sept. 26, the United States Bureau of Markets reported "Thirteen cars arrive; 118 cars held on track. Draggy, slow demand." In short, this illustrates what happens when a market, absorbing 15 cars a day, suddenly finds itself with 131 cars on hand. The natural consequence is, "draggy market" with "slow demand."

Contrast with this system of market glutting the work of any successful cooperative marketing agency in securing wider distribution. The Eastern Shore of Virginia Produce Exchange sells potatoes for the farmers of two counties. Before this association was organized, these farmers depended for a market largely on five large cities. Now, however, this exchange markets its standardized product in 44 states and in Canada and Cuba. In a similar way the American Cranberry Exchange has secured wider markets and a longer marketing season. The "Eatmor" cranberry is found, in season, on sale by retailers even in the remote mountain valleys in Utah and Nevada. The selling season has also been extended to several weeks before Thanksgiving and to many weeks after New Year's Day. It cannot be too much emphasized, however, that such wider distribution depends on quality production and standardization.

**Demand Control.**—Demand control, as used in this chapter, means the stimulating of an increase in demand among the customers who are already using the product. Its effect is, therefore, similar to the wider distribution—to lessen the pres-

sure on price of big production. Demand may be increased up to, but not beyond, the point of satiety, the "saturation point." And with the exception of a few agricultural specialties, this point is soon reached. Demand may be looked upon as domestic or foreign. The domestic market, the so-called home market, absorbs the bulk of all our agricultural products, with the exception of cotton, and certain types of tobacco. When the home market is saturated, attention is turned to foreign demand. Certain American products, such as apples, raisins, oranges, have found an outlet here for part of the surplus. The staples, in addition to cotton, which have depended on the foreign demand to absorb surplus are "bread and meat," that is, wheat and pork. The actual percentage of the principal crops which are exported is shown in Appendix V of this chapter; the distribution of these exports in Appendix VI, and the origin of exports into the United Kingdom in Appendix VII. Many of our agricultural economists hold to the belief that foreign demand must henceforth play a diminishing rôle in American agriculture, particularly European demand, and, therefore, our agricultural production system must be changed to meet the changed demand. The protective tariff also enters in to complicate the situation—not only the United States tariff, but the tariff of various foreign countries. It is, of course, obvious that an American protective tariff wall which is high enough to stop imports, also stops exports to exactly the same extent. For all foreign trade is, in the end, merely barter. Or, as has been said, the tariff act which stopped the shipment to America of German sensitized films for the making of moving pictures also stopped the shipment to Germany of American hams and lard. And this, gave the American consumer dear films and cheap hams.

**Shifts in Production.**—After due allowance is made for farmer control over quantity production, quality production, distribution and demand, there yet remains the major factor in adjusting production to consumption, namely, shifts in production. A shift in production means the changing from one crop to another. Shifts in production may be short-time or long-time shifts. When a shift is necessary, the farmer ought to recognize that fact and yield to it, rather than resist it. On the other hand, there is the danger of shifting too early or too frequently. Evidence shows that the farmer who is always shifting from one course

of production to another does not succeed. The farmer who adopts a sound production program and sticks to it, is in the end most successful. But a sound production program must recognize changes in production and in demand in other parts of the world.

Many shifts in production can be cited in almost every part of the United States. For instance, in such Middle States as Iowa and Kansas, many farmers have successfully shifted from timothy to alfalfa. The farmers of Ohio, West Virginia and Pennsylvania have made conspicuous shifts: a region now famous for apples was once a noted wheat section; a region once leading the United States in the production of sheep and wool now produces milk for the near-by market; another district which formerly produced beef and pork now supplies garden truck and eggs. The "six mills on the Brandywine" at Wilmington, Del., once marked that section as the center of American wheat production. Later, Rochester, N. Y., with its great mills, became the "flour city," drawing its wheat from the Genesee Valley. Now these old Rochester mills are all gone. Flour milling and wheat growing both moved westward with the frontier. Wheat is a pioneer crop. The sugar beet has a very checkered history, registering many sudden shifts into and out of this crop. Soybeans, sweet clover, kafir, rye, millet, broomcorn, sorghum cane, barley, flax, rice, potatoes, may be cited as examples of crops where both short-time and long-time shifts occur. Some of these shifts are wise, some are not.

*English Experience.*—England and Denmark afford very striking illustrations of what happens to a country when a severe agricultural shift (in fact, an agricultural revolution) is suddenly forced upon it by new competition. Both these countries met this crisis during the 25 years following the American Civil War. The opening up of the virgin prairies of the United States, Canada, Argentina, and the new lands of Australia proved a disaster of the first magnitude, for the moment, to the English growers of wheat and livestock. This period is called the "Economic Revolution" in English agriculture. Wheat was produced as the pioneer crop on the new lands in such volume and at such low costs that the English farmer could not compete. Ocean transportation was cheap. At the same time the invention of cheap refrigeration opened up the British market to the meat supplies of beef and mutton from Australia,

New Zealand, and Argentina. Along with this went a steady fall in the price of wool. And on top of these disturbances came a series of wet, unfavorable harvest seasons in England. The shock of all these disturbances shook the old order of British agriculture.

The farmers who clung to the old order were ruined. The farmers who recognized economic facts and made proper shifts in production were benefited by the transition. The immediate effect of cheap bread and meat was a benefit to the laboring classes in the cities. The prosperity of the working classes created a demand for foods which they looked on somewhat as luxuries, particularly such foods as milk, cream, butter, vegetables, fruit, jam, preserves, poultry, eggs, etc. In this manner the prosperity of the city workers was in part passed on to the farmers who met the new demands. It is also true that certain high-grade English and Scotch meats found an increased demand. There came a big expansion in certain types of livestock breeding, namely, pure-bred stock, particularly dairy cattle and beef cattle, partly to supply home demand, partly for export purposes to Argentina. In this latter country, fancy prices were paid for English pure-bred sires. The non-progressive farmers, however, resisted these shifts in production, filling the newspapers with their letters about the "depression in agriculture" and the dangers of "foreign competition," and even asking for a tariff against the cheaper crop from abroad. It was the age-old question of state aid versus self-help, and the policy of self-help prevailed. Now the British farmer is buying his wheat from Canada, paying for it with crops that yield a higher net return. He can secure a bushel of wheat from the prairie provinces of Canada with less labor than he can produce a bushel of wheat on English soil. Consequently, wheat-growing in England has been reduced to those lands having distinct advantages in producing this wheat.

*Danish Experience.*—The time from 1880 to the beginning of the World War in 1914 was a period of extraordinary and prosperous development for Danish agriculture. Before 1880 Denmark was producing mainly wheat and other cereal crops. America's surplus wheat, in the early eighties, began to force down prices in Europe. The Danes considered it unwise and hopeless to compete with this cheap wheat. So they decided to take advantage of the situation—first the cheap wheat, later the cheap oil cake—using these as raw materials in producing



domestic animals, and finished products from domestic animals, especially bacon, butter, and eggs. These three things gradually became the specialties of Danish agriculture. Every effort was made to produce the particular quality of butter and bacon required by the market, and simultaneously every endeavor was made to insure a standard quality common for the whole country all the year round and to insure equal shipments both winter and summer. So the long-time shift in Danish agriculture proved an unmixed blessing to the Danish farmer.<sup>1</sup>

**Need of Agricultural Production Policy.**—Any substantial changes in transportation as are taking place all the time, any development of new industrial or mining centers as are now in process, any development, in short, of new markets or new production areas, will of necessity force a shift in agricultural production in some other area. Thus production and marketing are inseparably bound together. Changing conditions are sure to justify and necessitate further changes in production, and wise men will watch for such opportunities. Agricultural statesmen might well confer and formulate and announce production policies, not merely for the present, but for the next 10, 20 or 50 years, having regard not merely to intercounty competition, but interstate, international, or interhemisphere competition. Each district should produce that commodity for which it has special advantages, and there should be as the ultimate goal, the cheapest and most unrestricted interchange of all commodities.

<sup>1</sup> The above description quoted and condensed from "A Short Outline of Danish Agriculture through the Last Generation," a pamphlet presented to British journalists on their visit to Denmark in August, 1919, by the Union of Danish Agriculture, Copenhagen, 1919.

## APPENDIX I

COTTON: PERCENTAGE REDUCTION FROM FULL YIELD PER ACRE, FROM  
STATED CAUSES, AS REPORTED BY CROP CORRESPONDENTS, 1909 to  
1922

Calendar Year	Deficient moisture	Excessive moisture	Floods	Frost or freeze	Hail	Hot winds	Storms	Total climatic	Plant disease	Insect pests	Defective seed	Total <sup>1</sup>
1909.....	14.9	6.0	1.1	1.0	0.6	3.0	1.4	28.6	4.2	7.9	0.1	42.0
1910.....	12.2	5.1	0.9	2.1	0.3	1.6	0.1	22.6	0.4	7.5	0.3	35.6
1911.....	9.8	2.6	*	0.3	0.1	1.6	0.3	15.4	0.4	7.9	0.2	26.1
1912.....	8.1	7.6	1.2	1.0	0.6	1.2	0.2	20.7	4.3	6.5	0.3	32.7
1913.....	15.2	2.0	0.8	1.1	0.4	2.4	0.5	23.1	0.5	8.9	0.4	33.7
1914.....	7.9	2.9	0.5	0.9	0.4	0.6	0.1	13.8	0.2	9.8	0.2	25.4
1915.....	6.8	5.7	1.9	0.6	0.7	1.1	2.0	19.3	1.9	12.2	0.1	36.8
1916.....	9.2	9.1	3.1	0.4	0.7	0.6	2.0	25.2	0.9	15.7	0.1	42.4
1917.....	15.1	1.7	0.5	6.0	1.0	0.7	0.2	25.5	1.3	12.3	0.1	39.9
1918.....	23.8	0.9	0.3	0.6	0.1	2.8	0.3	29.2	2.0	7.9	0.1	40.3
1919.....	2.7	15.3	1.6	0.3	0.2	0.4	0.5	21.2	1.4	18.8	0.2	41.9
1920.....	2.2	8.8	0.8	0.8	0.2	0.1	2.0	13.1	1.1	24.0	0.2	39.0
1921.....	8.6	4.3	0.7	0.4	0.2	0.6	1.2	16.0	1.0	35.4	0.1	52.9
1922.....	10.2	4.9	0.8	0.1	0.3	1.0	0.1	17.5	0.8	26.7	0.1	45.2

<sup>1</sup> Including all other causes.

\* Less than 0.05 per cent.

Yearbook, U. S. Dept. Agr., p. 800, 1923.

## APPENDIX II

**CORN: PERCENTAGE OF EXTENT AND CAUSES OF YEARLY CROP LOSSES,  
1909 TO 1921**

Year	Deficient moisture	Excessive moisture	Floods	Frost or freeze	Hail	Hot winds	Storms	Total climatic	Plant disease	Insect pests	Animal pests	Defective seed	Total
1909.....	13.0	7.3	1.5	1.0	0.5	1.6	0.7	25.8	0.2	2.3	0.4	0.3	29.6
1910.....	13.9	3.0	0.8	0.9	0.4	1.6	0.5	21.3	0.2	2.3	0.4	1.2	26.0
1911.....	23.4	1.6	.....	0.4	0.2	3.4	0.1	29.6	0.2	2.3	0.2	0.4	33.7
1912.....	8.7	4.6	0.9	1.7	0.5	1.0	0.3	18.1	0.3	4.8	0.3	2.3	26.3
1913.....	27.1	1.2	0.4	1.0	0.3	3.1	0.4	33.7	0.1	3.7	0.2	0.4	38.9
1914.....	20.8	1.3	0.4	0.4	0.5	2.1	0.4	26.1	0.1	3.6	0.1	0.2	30.6
1915.....	3.0	11.9	2.1	6.9	0.6	0.2	1.1	26.5	0.3	2.1	0.1	0.2	29.9
1916.....	18.5	5.8	1.7	1.7	0.4	1.7	1.1	31.3	0.3	2.0	0.1	0.6	34.7
1917.....	12.1	2.9	0.6	13.5	0.6	1.2	0.3	31.6	0.3	1.4	0.1	0.2	33.8
1918.....	22.1	0.9	0.5	2.0	0.4	6.3	3.2	32.8	0.3	2.6	0.1	1.5	37.7
1919.....	10.8	7.3	1.4	0.1	0.3	1.0	0.4	21.4	0.4	3.1	0.1	0.2	25.4
1920.....	5.4	3.3	0.6	0.7	0.5	0.3	0.4	11.3	0.3	3.6	0.1	0.3	15.9
1921.....	10.6	1.1	0.3	0.2	0.4	1.0	0.6	14.1	0.8	3.4	0.0	0.1	18.7
Average.....	14.6	4.0	0.9	2.3	0.4	1.9	0.7	24.9	0.3	2.9	0.2	0.6	29.3

Yearbook, U. S. Dept. Agr., p. 575, 1922.

## APPENDIX III

**APPLES: PERCENTAGE OF EXTENT AND CAUSES OF YEARLY CROP LOSSES,  
1912 TO 1920**

	Deficient moisture	Excessive moisture	Floods	Frost and freeze	Hail	Hot winds	Storms	Total climatic	Plant disease	Insect pests	Animal pests	Total
1920.....	2.2	0.8	0.2	10.2	0.8	0.2	0.7	16.6	4.4	1.9	0.1	25.9
1919.....	4.3	2.9	0.1	29.1	0.6	0.6	1.0	39.1	5.1	2.7	0.1	52.7
1918.....	7.5	0.7	0.2	19.1	0.8	1.0	0.7	30.7	4.2	2.9	0.2	44.9
1917.....	4.1	3.9	0.1	15.2	1.1	0.3	1.1	27.0	4.7	2.8	0.1	44.2
1916.....	5.4	3.2	0.2	9.9	0.9	0.6	1.4	22.8	5.6	3.0	0.1	38.6
1915.....	1.2	1.9	0.2	15.8	0.9	0.1	1.2	21.8	5.2	3.0	0.1	35.4
1914.....	6.5	0.2	...	6.4	0.6	0.4	0.6	15.1	0.8	5.0	0.1	28.2
1913.....	10.3	0.4	0.4	25.3	0.6	0.9	0.6	39.9	1.0	5.2	...	53.5
1912.....	2.5	0.9	0.3	10.2	0.7	0.3	0.9	16.9	4.2	3.1	0.1	32.4
Average....	4.9	1.7	0.2	15.7	0.8	0.5	0.9	25.6	3.9	3.3	0.1	39.5

Yearbook, U. S. Dept. Agr., p. 627, 1921.

## APPENDIX IV

### CORRELATION OF ACREAGE AND YIELD FOR CERTAIN CROPS, FOR 11 YEARS, 1912 TO 1923

	Winter wheat				Spring wheat			
	Acreage, 000 omitted	Yield, bushels, 000,000 omitted	Acreage, per cent increase or decrease with preceding year	Yield, per cent increase or decrease with preceding year	Acreage, 000 omitted	Yield, bushels, 000,000 omitted	Acreage, per cent increase or decrease with preceding year	Yield, per cent increase or decrease with preceding year
1912.....	26,571	400	- 8.0	- 7.2	19,243	330	- 5.6	+72.7
1913.....	31,699	524	+19.2	+31.0	18,485	240	- 3.9	-27.3
1914.....	36,008	685	+13.5	+31.0	17,533	206	- 5.0	-14.2
1915.....	41,308	674	+14.7	- 1.6	19,161	352	+ 9.2	+70.0
1916.....	34,709	481	-15.9	-28.6	17,607	156	- 8.0	-55.7
1917.....	27,257	413	-21.5	-14.1	17,832	224	+ 1.2	+43.6
1918.....	37,130	565	+39.8	+36.8	22,051	356	+23.8	+58.9
1919.....	50,494	760	+35.9	+34.6	25,200	208	+14.2	-41.7
1920.....	40,016	611	-20.9	-19.7	21,127	222	-16.2	+ 6.6
1921.....	43,414	600	+ 8.4	- 1.6	20,282	215	- 4.0	- 3.2
1922.....	42,358	587	- 2.4	- 2.2	19,959	281	- 1.6	+30.6

	Corn				Cotton			
	Acreage, 000 omitted	Yield, bushels, 000,000 omitted	Acreage, per cent increase or decrease with preceding year	Yield, per cent increase or decrease with preceding year	Acreage, 000 omitted	Yield, bales, 000 omitted	Acreage, per cent increase or decrease with preceding year	Yield, per cent increase or decrease with preceding year
1912.....	107,083	3,125	+ 1.0	+23.4	34,283	13,703	- 4.9	-12.6
1913.....	105,820	2,447	- 1.1	- 2.17	37,089	14,156	+ 6.2	+ 3.3
1914.....	104,435	2,673	- 1.3	+ 9.2	36,832	16,135	- 0.7	+13.9
1915.....	106,197	2,995	+ 1.9	+12.0	31,412	11,192	-14.8	-30.6
1916.....	105,296	2,567	- 0.8	-14.6	34,985	11,450	+11.3	+ 2.3
1917.....	116,730	3,056	+11.4	+15.1	33,841	11,302	- 3.0	- 1.3
1918.....	104,467	2,503	-10.5	-14.8	36,008	12,041	+ 6.4	+ 6.5
1919.....	97,170	2,811	- 7.2	+12.3	33,566	11,421	- 6.8	- 5.1
1920.....	101,699	3,209	+ 5.1	+14.1	35,878	13,440	+ 6.8	+17.6
1921.....	103,740	3,069	+ 1.9	- 4.4	30,509	7,954	-15.1	-40.9
1922.....	102,846	2,906	- 0.9	- 5.4	33,036	9,760	+ 8.2	+22.7

Lack of correlation between acreage and yield is shown in many cases by the above tables. To illustrate; in the years 1915 and 1921 an increased acreage in winter wheat was followed by a decrease in yield. In spring wheat, in 1919, an increase in acreage of 14.2 per cent, was followed by a decrease in yield of 41.7 per cent. Four times (1912, 1920, 1921, and 1924) a decrease in acreage produced an increase in yield. In other words, in 5 out of 11 years, the change in yield did not follow the change in acreage. In corn, in 1919, a decrease of 7.2 per cent in acreage produced an increase of 12.3 per cent in yield. In two other years the change in yield failed to follow the change in acreage. In cotton, in 1914, a decrease in acreage of 1.7 per cent produced an increase in yield of 13.9 per cent. In 1921, the effects of the boll weevil are seen, where a decrease in acreage of 15.1 per cent was accompanied by a decrease in yield of 40.9 per cent.

The first chapter in this book discussed at some length the fluctuations in demand. The above tables illustrate fluctuations in production, or what may be termed "disorderly production."

APPENDIX V

PERCENTAGE OF PRODUCTION EXPORTED<sup>1</sup>

	Average, 1909 to 1913	Average, 1914 to 1919	1921	1922	1923
Wheat.....	15.2	27.9	34.3	25.6	19.9
Oats.....	0.7	6.3	1.5	1.5	0.1
Rye.....	2.4	31.3	48.1	49.7	28.1
Barley...	4.3	11.8	14.5	10.0	5.7
Corn.....	1.5	1.3	5.7	3.2	0.7
Meat and meat products..	8.7	13.1	10.1	10.4	9.7
Apples.....	2.6	2.3	3.3	2.6	6.2
Tobacco.....	39.4	37.4	43.3	36.4	40.1
Cotton.....	67.8	52.2	84.5	53.8	58.5

<sup>1</sup> Summary of Statistics of Agricultural Exports and Imports to be Considered in Adjusting Production to Foreign Demand, no. 2, p. 4, Bureau of Agricultural Economics, August, 1924.

## APPENDIX VI

### DESTINATION OF PRINCIPAL AGRICULTURAL EXPORTS, 1910 TO 1924

Wheat: Belgium, Denmark, France, Germany, Gibraltar, Greece, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, and United Kingdom. Also Canada and Mexico.

Wheat Flour: Same: Also Cuba, Brazil, China, Hong Kong, and Japan.

Corn: Belgium, Denmark, Germany, Netherlands, United Kingdom, Mexico, Cuba, and Canada.

Bacon: Belgium, France, Italy, Netherlands, Norway, United Kingdom, Canada, and Cuba.

Ham and Shoulders: Belgium, France, Netherlands, United Kingdom, Canada, Cuba, Mexico, and Panama.

Lard: Belgium, Denmark, Germany, Italy, Netherlands, United Kingdom, Canada, and Cuba.

Cotton: Belgium, France, Germany, Italy, United Kingdom, Canada, and Japan.

Tobacco, unmanufactured: Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, Canada, Mexico, Argentina, China, Hong Kong, Japan, Australia, British West Africa, and French Africa.

Apples: United Kingdom and Canada.

## APPENDIX VII

### UNITED KINGDOM IMPORTS OF WHEAT AND FLOUR, BY COUNTRIES OF ORIGIN, 1909 TO 1923

	1909 to 1913, per cent	1921, per cent	1922, per cent	1923, per cent
United States.....	13.2	30.7	15.8	8.9
Canada.....	28.2	37.4	50.0	53.8
Argentina.....	14.3	4.2	16.7	18.3
Australia.....	10.5	21.5	16.3	6.1
Russia.....	13.3			
India.....	16.4	2.6	0.4	10.7
Rumania.....	0.8			
Others.....	3.2	3.6	0.8	2.3
	100	100	100	100

## APPENDIX VIII

### ORDINANCE No. 208

An Ordinance of the County of Kern, State of California, defining and establishing one variety seed district within said county, prohibiting the planting in one variety seed district within said county of other variety seeds and plants, prohibiting the importing into, or the transportation over, or the possession within, such one-variety seed district of other variety seeds or plants, and providing penalties for the violation thereof.

The Board of Supervisors of the County of Kern, State of California, do ordain as follows:

Section 1. For the purposes of this Ordinance certain words, phrases, and terms are herein and hereby defined as follows:

A. The word "person" shall include an individual, a copartnership, an association, firm or corporation, and the singular shall include the plural.

B. The term "one-variety seed" shall mean seeds that are true to variety type of the particular variety adopted by the organization of growers, hereinafter provided for.

Section 2. Whenever a majority of the growers of any one seed-bearing crop within the County of Kern, State of California, organize themselves into an association under the laws of the State of California for the purpose of growing and producing one-variety seed of such crop for propagating purposes, the county shall thereupon become and be a one-variety seed district within the meaning of this ordinance.

Section 3. Whenever an association as defined in Section 2 of this ordinance shall be organized, it shall be unlawful for any person to plant within the county of Kern seeds of any variety or varieties other than the one-variety seed crop selected by said association, and being grown in the country.

Section 4. It shall be unlawful for any person to transport into or have in his possession within the County of Kern any seed of any variety other than the one variety selected and grown by said association in the county, provided, that this provision shall not apply to seed in transit from a point without the county to a destination without the county, nor to interstate commerce passing through the county, and not consigned to any point therein: and provided, further, that the provisions hereof shall not apply to the transportation into, or through, the county of seed for experimental, technical, or milling purposes under the rules and regulations promulgated by the United States Department of Agriculture, the Department of Agriculture of the State of California, or the office of the Horticultural Commissioner of the County of Kern.

Section 5. The Horticultural Commissioner of the County of Kern is hereby charged with the duty of enforcing the provisions of this ordinance,

and all the provisions of the laws of the State of California with relation to the inspection of seeds, plants, and nursery stock consigned to points within the County, the giving of notice of the receipt thereof, and the summary seizure and destruction thereof, are hereby expressly made a part of this ordinance.

Section 6. Every person who shall violate any of the provisions of this ordinance shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than five hundred (\$500) dollars, and by imprisonment in the County jail of Kern County for not more than 6 months, or by both such fine and imprisonment.

Section 7. This ordinance shall take effect and be in force thirty (30) days after the date of its passage, and shall within fifteen (15) days from the date of its passage be published for one (1) week in the Delano Record, a newspaper of general circulation, printed and published in said County of Kern.

Passed and approved by the board of supervisors of Kern County on the twenty-fourth day of November, 1924, by the following vote:

Ayes.....	5
Noes.....	0
Absent.....	0

From *The Delano Record*, Delano, Cal., pp. 3 and 8, Nov. 28, 1924.

### Questions

1. In what sense is 90 per cent of the marketing problem solved on the farm? What field is left for cooperative marketing?
2. Which of the three interested parties in marketing is most important, and why?
3. Compare the marketing problems of farm and factory, pointing out three fundamental differences. Illustrate fully.
4. Is the factory able to adjust its output to consumer demand?
5. Is the American farmer an efficient producer?
6. Show preventable leak due to "dockage."
7. Compare volume of high-grade and low-grade products sent to market.
8. Explain and illustrate "bulk-line costs" for cotton; wheat.
9. Define overproduction; underproduction.
10. Define and illustrate overdiversification, both in agriculture and industry.
11. Define and illustrate community production in Wisconsin; in California.
12. What is impossible, and what is possible in "adjusting production to consumer demand?"
13. Discuss principles and programs involved in quantity and quality control: cotton; corn; raisins; milk; walnuts; California orchardists and vineyardists; potatoes; eggs.
14. Discuss principles and programs involved in distribution control; staples and perishables; peaches in Pittsburgh.
15. Discuss principles and programs involved in demand control.



16. What rôle is played by foreign market in fixing American prices? Explain "dear films and cheap hams."
17. What is meant by "shifts in production," and what is its relation to the adjustment of production to consumption? What is a sound program here?
18. Examples of shifts in production: United States; England; Denmark.
19. Show need of an agricultural production policy. Suggest general outline of such a policy.
20. Show fluctuations in cotton yields, 1909 to 1922, and causes.
21. Same for corn for the years 1909 to 1921.
22. Same for apples for the years 1912 to 1920.
23. Show the correlation of acreage and yield for winter wheat, spring wheat, corn and cotton, for the years 1912 to 1922. Draw conclusions.
24. What percentage of the following crops is usually exported; wheat, oats, rye, barley, corn, meat and meat products, apples, tobacco, cotton?
25. Give destinations of our principal agricultural exports.
26. Where does the United Kingdom secure its wheat and flour?

## CHAPTER IV

### THE MIDDLEMAN AND MARKETING

The economic distribution of the absolute essentials, food, clothing, shelter, and fuel is a fundamental problem which concerns every man, woman, and child in the United States. In earlier times there was no problem of distribution because people lived simply and produced their own foodstuffs, clothing materials, and found fuel and materials from which to create shelter close at hand. They enjoyed such comfort and convenience as they could provide for themselves and service was a matter of neighborly exchange.

Pioneers traveled into new country and established communities and developed resources. Railroads were developed, goods were transported, and time and distance became factors in the relations and transactions of men. Fertile soil yielded crops beyond the requirements of the tiller of the soil. Forests were converted into building materials for the erection of better homes and into furniture to fill the new homes. Mines were developed and their mineral products converted into machinery to relieve human labor. Farmers exchanged their surplus crops for lumber to build barns and homes and for implements to cultivate the soil and harvest the crops. Traders and merchants facilitated the exchange of commodity for commodity and surplus for comfort.

Refrigeration revolutionized the transportation and storage of food products and changed the living habits of the nation. Fruits, vegetables, and fresh meats were transported to distant markets, the production of the whole country was made available to the large consuming centers, and crops of seasonal production were offered to consumers throughout the greater portion of the year. The consumer came to accept unusual service and convenience as a matter of course and finally to demand more. Each new service and convenience drew additional people into the activities of distribution. Time-saving, convenience, comfort, and satisfaction became the determining factors in the excellence of service. More and more facilities were created, more and more people were engaged, with a constant upbuilding of expense, until we have now reached a point where it costs more to distribute and serve than it costs to produce. Commodity values are lost in a maze of service costs, and the time has come for a consideration of the fundamental problem of the economic distribution of the absolute essentials.

The distributive situation will be better appreciated when consumers realize that out of 41,614,248 people engaged in gainful occupation, 29,570,867 are engaged in manufacturing, transportation, distribution,

and allied activities, and that the people thus engaged are contributing the comforts, conveniences, services, and operations that make the present standard of living possible.

*Report of Joint Commission of Agricultural Inquiry, part IV, pp. 3, 4, and 13, 67 Cong., 1 Sess., House Report 408, 1922.*

There are three parties concerned in marketing, the consumer, the original producer, and the middleman. Of these three the middleman is least important. He is the effect, not the cause, of our present complex distribution system. Any changes in production or consumption will cause changes in the go-between known as the middleman.

**Cheap Production and Dear Distribution.**—People of today are living in a so-called industrial age; an age of machine and power production; an age of cheapness of production and dearness of distribution. Machinery and power have enormously cheapened production, but distribution, particularly the retail end of it, is largely personal service and, therefore, relatively costly. "Cheap" and "dear" are relative terms. An Ohio farmer in 1835 obtained 1 pound of tea for the product of 1 acre of his wheat. The farmer in 1925 on that same farm bought 10 pounds of tea for the product of 1 acre of wheat. In other words, goods are relatively cheaper, compared with agricultural commodities, than they were in the days of our grandfathers. But production has been cheapened so much faster than distribution that distribution is now relatively the too costly element. Doubtless the consumer's dollar is one-half used for purely distribution costs. A few examples of cheapened production will make this point clearer.

**Examples of Cheapened Production.**—In both agriculture and industry production has been prodigiously cheapened by the application of power and machine methods. The United States, with 6 per cent of the world's population converts and enjoys the use of 50 per cent of the world's basic resources of economic prosperity—iron, steel, copper, timber, cotton, and oil. The United States has one-half of the world's railroad mileage, 75 per cent of the telegraph and telephones, and 90 per cent of the world's automobiles. By introducing power and machine methods, the following economies have been effected:

**Iron.**—A pig-casting machine and seven operators replaced 60 men. An open-hearth charging machine and one man replaced 40 men. A magnetic crane and two men replaced 123 men.

*Automobiles.*—The 1909 output was  $1\frac{1}{2}$  cars per worker. The 1923 output was  $9\frac{1}{2}$  cars per worker.

*Clothing.*—Six men, operating two boarding machines, replaced 20 men. One girl operating a rib-cutting machine replaced 25 girls.

*Shoes.*—One man operating one lasting machine replaced 10 men.

*Glass.*—One bottle-making machine replaced 54 men. One window-glass blower replaced 40 men.

*Cigars.*—Four men, with cigar-making machines, replaced 15 men.

In agriculture, machine-labor has displaced man-labor in a similar way. A calculation made by the Department of Labor in 1899 showed that improved agricultural machinery had reduced the labor cost of corn per bushel from 35.77 to 10.57 cents, and had reduced the time of human labor from 274 to 41.3 minutes. David A. Wells estimated that the labor of three or four men in the Dakota wheat fields would annually produce 1,000 barrels of flour—delivered at the seaboard, or enough flour for 1,000 persons for 1 year. One authority has undertaken to calculate how much farm labor has been displaced by labor-saving machinery on farms. According to his estimates, it formerly required 11 hours of man-labor to cut and cure a ton of hay, whereas it required but  $1\frac{1}{2}$  hours in 1900.<sup>1</sup> According to estimates of competent statisticians, the United States wheat crop of 1924 required 7,000,000 days of human labor; the same crop, before the days of the self-binder, would have required 130,000,000 day's labor. The following table shows the notable increase in output per worker in five common crops.<sup>2</sup>

INCREASE IN PRODUCTION PER WORKER, 1900 TO 1920

	1900	1920
Wheat.....	54.9 bushels	78.1
Corn.....	205.4 bushels	301
Cotton.....	0.0976 bales	0.1247
Rice.....	24.7 pounds	135.5
Sugar beets.....	16.0 pounds	135.3

<sup>1</sup> QUAINANCE, H. W., "The Influence of Farm Machinery on Production and Labor," 1904.

<sup>2</sup> BARNES, JULIUS H., "America's Industrial Production Methods," *Amer. Econ. Rev. Supp.*, vol. XIV, no. 1, p. 114, March, 1924.

In distribution there are a few "labor-saving" devices, such as self-serve stores, "groccreterias," etc., but in the end the distributing process requires much personal service. In machine production, large volume means cheaper production. In some types of retailing the larger the volume of the business, the less the expense of doing business per dollar of sales. In other types of business the increase volume merely requires the addition of a greater sales force and represents an increase rather than a decrease in the ratio of expense to sales. This is a subject now being widely investigated in the United States. In the last few years figures have been published by the Harvard Bureau of Business Research, Northwestern University Bureau of Business Research, United States Department of Agriculture, Wisconsin University, Federal Trade Commission, National Retail Hardware Association, and the Joint Commission of Agricultural Inquiry. Further studies are being inaugurated by the Chamber of Commerce of the United States. The figures thus far published indicate that the average operating expenses decrease as volume increases in the case of retail hardware stores, jewelry stores, and retail meat markets, but that the expenses increase with the volume of business in the case of shoe stores, clothing stores, grocery stores, department stores, and wholesale groceries (see Appendix I, this chapter). For instance, the expenses in retail shoe stores ran as follows:

OPERATING EXPENSES, RETAIL SHOE STORES, 1922

Sales	No. of stores	Per cent expense
Under \$30,000.....	101	28.3
\$30,000 to 49,000.....	102	27.0
\$50,000 to 99,000.....	105	27.3
\$100,000 to 249,000.....	67	28.5
\$250,000 and over.....	45	31.2
Average.....	421	28.1

Large volume of business does not lessen the expense of retailing where the customer demands that he be waited on promptly, and have the undivided attention of an individual salesperson. Hence in such businesses as clothing stores and shoe stores, an increase in volume of sales almost immediately increases the ratio of operating expense to sales.

**Middlemen's Tolls.**—"Cheap" and "dear" are relative terms. Our cheap production and dear distribution have given rise to many criticisms of our present economic order. The assumption is that distribution is too dear, not that production is too cheap. At any rate, the challenge now is to the middleman system to lower its costs of doing business, its so-called "tolls." The popular discussions of this subject a few years ago referred to the farmer's "50-cent dollar." In more recent years the outcry is against the farmer's "30-cent dollar." Just what share of the consumer's dollar does go to the farmer and what share to the middleman? Many studies have been made of this question. The results show that what the farmer actually receives varies from 1 to 113 per cent of the consumer's dollar. It is impossible to state the average amount for all commodities, since the costs of distribution vary so much between perishables and non-perishables, and among the perishables themselves, depending largely upon the degree of their standardization.

**Low Returns.**—There are many isolated cases where farmers shipped to glutted markets perishable produce such as celery, cabbage, strawberries, tomatoes, etc., and got "red ink" returns, that is, a bill for freight or other charges. Also there are frequent isolated examples of farmers receiving ridiculously low returns for their shipments to city markets. Taking a typical case at random, a Mr. O. W., of Oak Hill, New York may be cited, who received 2½ cents per basket for his shipment of Wolf River apples to New York City, a distance of 150 miles. This occurred in October, 1922. The apples were of large size and good quality. It is not known what the consumer paid, although it is estimated that it was \$1.25 per basket, of which the farmer got 2 per cent. The tolls between farmer and wholesaler, however, were as follows:

Wholesale, 69 baskets at 75 cents.....		\$51.75
Charges		
Baskets, 69 at 23 cents.....	\$15.87	
Cartage, farm to Catskill.....	6.90	
Freight, by boat.....	10.35	
Cartage, New York City.....	4.83	
Commission.....	5.18	
Labor, picking, packing.....	6.90	
	<u>\$50.03</u>	\$50.03
Balance due farmer.....		1.72
Net return per basket.....		0.02½

In this case there was a glutted market. The apples were not suited for family trade, but were of the kind usually bought by hotels and restaurants.

**High Returns.**—There are occasional examples of the farmer receiving more than the consumer pays, the difference in such cases falling as loss on the middleman. Instances may be cited. The Christmas turkey trade of 1923 is a conspicuous example. At Richmond, Va., approximately 14,000 pounds of turkeys were sent to the city incinerator to be destroyed. Warm weather was in part responsible for this condition. In Philadelphia, Chicago, and New York also, large quantities of turkeys had to be destroyed. Potatoes and eggs furnish the best illustrations of farm products which are sold at times (in the late spring) to consumers at less than the farm price. The following table of potato prices shows what sometimes happens when potatoes are carried over in storage, when the crop approaches or exceeds 4 bushels per capita.

POTATO PRICES IN YEARS WHEN FARMERS RECEIVED LARGE PER CENT OF CONSUMER'S DOLLAR (YEARBOOK U. S. DEPT. AGR.)

Prices per Hundredweight

Year	Price December 1	Chicago cash price, fair to fancy, during December		Chicago cash price follow- ing May
	Average	Low	High	Low
1904.....	74.7	53	63	33
1905.....	101.8	92	110	80
1917.....	204.7	155	225	80
1920.....	190.8	120	225	40

A potato price study at Cornell University shows that in terms of the general price level (1910 to 1914 as 100) the average price per bushel to farmers at Batavia, N. Y., for the 32 years, 1892 to 1923 inclusive was, for October, 49 cents; November, 53 cents; December, 56 cents; January, 60 cents; February, 61 cents; March, 63 cents; April, 69 cents; May, 68 cents; June, 63 cents.<sup>1</sup> The same study shows the following years when the holder of potatoes in the spring (usually the middleman) realized a loss.

<sup>1</sup> MISNER, E. G., "Prices of State Potatoes," *Farm Economics*, no. 18. Cornell University, September, 1924.

## PRICES PAID TO FARMERS AT BATAVIA, N. Y., FOR POTATOES, CENTS PER BUSHEL

	October	November	December	January	February	March	April	May	June
1904 to 1905.....	42	38	36	31	25	29	19	19	19
1909 to 1910.....	..	42	40	40	38	33	22	22	22
1914 to 1915.....	30	30	30	32	28	26	32	25	30
1920 to 1921.....	..	101	70	65	44	51	29	26	

Wholesale prices of potatoes at the terminal market sometimes show similar declines in the spring. The following years illustrate this condition:

AVERAGE MONTHLY PRICES OF POTATOES IN NEW YORK CITY  
Long Island Potatoes, Bulk, Barrel, or Sack. Price per Barrel Basis,  
165 Pounds

	July	August	September	October	November	December	January	February	March
1883 to 1884.....	1.86	1.46	1.55	1.41	1.38	1.38	1.40	1.38	1.38
1920 to 1921.....	7.81	4.06	3.66	4.19	4.34	4.06	3.88	3.09	3.09

Eggs move to market in large quantities during April, May, and June. They are not bought for immediate consumption but are put away for fall and winter use. They, therefore, appear later on the market as cold-storage eggs. It happens in some seasons that although they are in good condition, these eggs sell for less in the spring than they cost the summer before. Calculations show that relatively heavy percentage of receipts stored usually means a losing year for the storsers of eggs, while a low percentage of receipts stored indicates the reverse. Between the 14 years 1907 and 1920, storsers of eggs in New York City had the following 7 years of losses: 1907, 1909, 1910, 1912, 1914, 1915, and 1917. In this manner it not infrequently happens that the farmer receives more for his product than the consumer pays.



These isolated cases of "low returns" and "high returns" however, are the exception and not the rule in the regular distribution of agricultural products.

**Typical Returns.**—Obviously the middleman's toll varies with different commodities, and with the same commodity at different times. The following typical cases may be cited:

KANSAS WHEAT, 1914	
	PER CENT
Kansas farmer received cents per bushel.....	87.0 OF 74.5
Local elevator margin.....	3.0
Freight to seaboard.....	15.0
Inspection, weighing.....	0.25
Grain dealer, gross profit.....	1.25
Export elevator, loading into boat, etc.....	1.25
Freight, ocean.....	6.0
Insurance on water.....	0.75
Exporter's expense.....	1.0
Exporter, profit.....	1.25

Price, delivered in Liverpool..... 116.75

"Prices of Wheat to Producers in Kansas, etc.," Sixty-third Congress, Third Session, House Document 1271.

Here the largest margin taken by any dealer is the 3 cents taken by the local elevator. The farmer actually received 74.5 per cent of the Liverpool price. In other words, wheat is handled on a low margin of cost—the lowest, perhaps, of any agricultural commodity when the transportation cost is omitted. The same report from which the above example is taken gives also the following statistics:

KANSAS WHEAT, 1914, DELIVERED AT PHILADELPHIA  
Kansas City Terms

	PER CENT
Kansas farmer.....	87.0
Country elevator.....	3.0
Freight to Kansas City.....	6.2
Inspection, weighing, interest on draft.....	0.25
Commission.....	1.0
Price paid in Kansas City, by shipper.....	97.45
Freight, Kansas City, Philadelphia.....	15.6
Mixing in Kansas City elevator.....	0.25
Exchange.....	0.20
Shipper, gross profit.....	1.0

Price, delivered in Philadelphia..... 114.5

In this case the farmer received 77.9 per cent of the city price. It will be noted that the transportation cost by rail is relatively much higher than by water (1,000 miles at 15.6 cents per bushel, against 3,000 miles at 6 cents per bushel). Next to retailing, transportation is the most expensive service in distribution. In Appendix II, this chapter, are found detailed records of nine cars of grain, showing all charges between the grain belt farmer and the terminal buyer of the grain. In the first five of these typical cases the farmer and the railroad received, respectively, the following percentage of the terminal price: (1) farmer, 66.0—railroad, 26.85; (2) farmer, 66.13—railroad, 27.55; (3) farmer, 58.60—railroad, 26.68; (4) farmer, 68.29—railroad, 28.11; (5) farmer, 94.28—railroad, 10.77 (here the local elevator lost 7.75). These statistics indicate the heavy toll taken for the transportation service, when the commodity must move a long distance. And yet the railroad companies apparently are barely making enough to maintain their roadbed and equipment, not to mention expand their terminal facilities to take care of increase in city population and city business. Indeed a few railroads have recently gone into bankruptcy and some have abandoned their tracks altogether. Our railway mileage actually decreased 4,000 miles between 1917 and 1921.

*Meat.*—Investigations of livestock and meat marketing show varying results, of which the following are representative:

	Cattle, per cent	Hogs, per cent
Farmer received.....	60.5	60.2
Freight, yardage, feed, etc.....	2.4	2.1
Packer, gross returns.....	11.3	15.4
Retailer, gross returns.....	25.8	22.3
	100	100

Figures compiled on cattle handled through the South St. Paul market showed these margins: farmer, 58 per cent; retailer, 30 per cent.

*Butter.*—The United States Department of Labor published a bulletin on butter prices, giving the following statistics:

BUTTER AND THE CONSUMER'S DOLLAR

	1904		1910		1911	
	June	December	June	December	June	December
Farmer.....	62.5	70.8	74.5	72.9	70.0	75.9
Creamery.....	9.7	10.3	5.9	7.1	7.3	6.7
Freight.....	3.0	2.2	2.1	1.9	2.4	1.7
Cartage.....	0.1	0.1	0.1	0.1	0.1	0.1
Wholesaler.....	5.3	4.7	4.6	4.4	5.3	4.3
Retailer.....	19.4	11.9	12.8	13.6	14.9	11.3
Consumer.....	100	100	100	100	100	100

A Wisconsin investigation, in the year 1916, found margins as follows:

WISCONSIN BUTTER

	PER CENT
Farmer.....	67.7
Transportation, farm to creamery.....	4.3
Creamery.....	6.7
Transportation, railway.....	2.3
Storage.....	0.5
Shrinkage.....	0.7
Receiver, jobber, broker.....	5.0
Packaging.....	2.9
Retailer.....	9.9
	100

Eggs.—Tracing a dozen eggs from an Iowa farmer to a New York consumer, the following tolls are obtained:

IOWA EGGS

	PER CENT
Farmer.....	60
Country store.....	0
Freight.....	6
Shipper, wholesaler, jobber.....	10
Loss from handling.....	8
Retailer.....	16
	100

It will be noticed that eggs and butter are well-standardized commodities, with a rapid turnover, and hence are handled with comparatively small charges for retailing. And since their value is high compared with their weight, the transportation cost is a relatively small item.

*Oranges.*—Reports in the year 1914 covering the marketing of 5,485 lots of California oranges in 30 markets show the following margins:

ORANGES, 1914		CENTS
Grower.....		26.7
Picking and hauling.....		2.4
Packing.....		7.4
Freight (refrigerator car).....		20.5
Sale by Cooperative Association.....		1.5
✓ Jobber.....		8.2
Retailer.....		33.3
		100

Here is a case of a perishable commodity, consumed thousands of miles from place of production, and several months after time of picking. It is interesting to note that the Growers Exchange through several years of cooperation with the retailer, succeeded in lowering this largest single item of toll by 6 cents on the dollar of sales.

ORANGES, 1921		CENTS
Grower.....		30.67
Pick, haul, pack, sell by Cooperative Association.....		11.70
Freight (refrigerator car).....		22.3
✓ Jobber.....		8.13
Retailer.....		27.2
		100

Apparently half the saving of 6 cents went back to the producer. Other California cooperative associations reported returns to the growers as follows: peaches, 1916 crop, 77 cents and 1917 crop, 80.3 cents; raisins, 1917 crop, 61.2 cents; almonds, 1918 crop, 53 cents.

*Apples.*—A study made by the United States Department of Agriculture, of Washington apples, 1922 crop, box pack, extra fancy and fancy grades, showed the following margins and costs on the New York City market:

## APPLES

	CENTS
Farmer.....	23.6
Cooperative Association.....	5.4
Railroad.....	16.0
Wholesaler.....	7.8
Jobber.....	9.8
Retailer.....	37.4
	100

*Potatoes.*—A study of the Food Supply of Boston, made by the Massachusetts Bureau of Markets in 1923, found the following margins on potatoes:

## MAINE POTATOES IN BOSTON

	CENTS
Farmer.....	48.0
Country dealer.....	4.0
Railroad.....	17.0
Receiver.....	5.0
Jobber.....	5.0
Retailer.....	21.0
	100.0

L.D.II. Weld estimates that the growers get about 50 cents of the consumer's dollar spent for potatoes.

*Onions.*—Onions require a large margin for the retailer, since they are sold in small quantities, are very perishable, and must be kept away from many other food commodities. The Boston Food Survey above mentioned, reports the following margins for onions:

## ONIONS (IN BOSTON)

	CENTS
Farmer.....	28.0
Country dealer.....	8.0
Railroad.....	7.0
Receiver.....	1.0
Jobber.....	2.0
Retailer.....	54.0
	100.0

*Cranberries.*—Turning now to a perishable commodity, cranberries, but standardized, graded, and marketed through the Growers' Cooperative Exchange, the following margins are noted:

CRANBERRIES (AMERICAN CRANBERRY EXCHANGE,  
EATMOR BRAND, 1920)

	CENTS
Grower.....	54.0
Cooperative Association.....	3.5
Advertising.....	1.5
Railroad.....	7.4
Wholesaler.....	11.2
Retailer.....	22.4
	100.0

Examples have now been given, showing the farmer receiving all the way from 27 to 94 cents of the consumer's dollar, where the dollar is spent for the original raw material which left the farm. Most agricultural products, however, are processed before they are ready for final consumption; wheat turned into flour and thence into bread; livestock into fresh meat, cured meats, lard, etc., and also into hides, leather shoes, etc. In such cases it is obvious that the consumer's dollar must pay for many intermediate manufacturing processes in addition to the usual middleman functions of transportation and storage. And in some cases the personal services involved are very expensive, as is the case where choice cuts of meat are served by uniformed waiters in luxurious and aristocratic hotels and restaurants. Those who eat bread and meat under such conditions are paying a high price, not for farmer's meat and bread, but for "atmosphere"—style, distinction, refinement, elegant surroundings, "good society."

**Reasons for Middleman.**—It is a familiar fact that within historic times there have been many large communities without middlemen. In such cases so-called fairs brought buyers and sellers together for barter or other forms of dealing. But this fair system is confessedly a wasteful and bunglesome method of doing business, when its jollification features, horse play, crude fun, and other social aspects are disregarded. Even the Greek philosopher Plato, 300 years before Christ, in picturing an ideal Republic, with a division of labor, and a money economy, made provision for the middleman, in the following passage:<sup>1</sup>

*Question.* Suppose now that a husbandman or possibly an artisan, brings some product to market, and he comes at a time when there is no

<sup>1</sup> "The Republic of Plato," book II.

one to exchange with him, is he to leave all his work and sit idle in the market place?

*Answer.*—Not at all; he will find people there, who, seeing this want, take upon themselves the duty of sale . . . All they have to do is to be in the market, and receive money of those who desire to buy goods, and, in exchange for goods, pay money to those who desire to sell.

*Question.*—This want will then introduce retailers into our state . . .

From Plato's time to the present moment the number of "retailers in our state" has been increasing. In 1850, there was one merchant for every 133 people. In 1920, there was one merchant for every 75 people. The relative number of merchants is increasing because the amount of goods is increasing. There was one merchant in 1850 for every \$6,376 of manufactured goods; in 1920 there was one merchant for every \$44,877 of manufactured goods.

Stated in economic terms, the existence of the middleman is justified by the economies which come from the division of labor. By specializing in the labor of distribution, he economizes time and labor for others who are producing and consuming goods. Division of labor makes the middleman a convenience to both buyer and seller. There are certain maladjustments in production and consumption, however, which make the middleman a necessity. The city consumer (and most consumers live in cities) eats, as a rule, three times a day, 365 days in the year, food which did not grow in his city. The farmer, as a rule, produces the food in the summer season. In short, the supply of food is produced in the wrong place, at the wrong time, in the wrong quantity, and of the wrong quality. The four maladjustments of time and place, quantity and quality, the middleman must overcome by transportation and storage, sorting, and grading. In doing this he must assume risks. He must extend credit. He must also perform the sale service. In the end, therefore, the consumer is paying for goods, plus services, plus the high price of so-called convenience.

*Types of Middleman.*—Since the middleman represents division of labor, there are doubtless hundreds of specialized types of middlemen, representing particular markets or particular commodities. In New York City, for instance, the pushcart man represents a type of the huckster or street vendor of considerable importance, whereas this type of dealer is not found in smaller cities. In wool, cotton, grain, livestock, etc., there are types

of dealers performing highly specialized services. In the grain trade, for instance, the licensed solicitor is an important factor in linking the country grain shipper with the terminal commission merchant. Likewise, the telegraph operators on the private wires perform a somewhat similar service, in addition to more general functions. In the terminal grain market, in addition to the usual commission men and brokers, there are middlemen performing these functions: storage (terminal elevator men); mixing, cleaning, drying (hospital elevator men); salvage (men buying off-grade, damaged grain); to arrive grain broker; pit scalpers; exporters; flour millers; grain industries of various kinds; transportation (men representing railroads and steamships); credit (men representing banks); market information (men collecting and disseminating market news); inspection and grading; risk assumption (men who assume risk of ownership for sake of profits from price changes); insurance or hedging.

In general, however, middlemen may be classed as of seven general types, as follows:

*Country Buyers.*—The country buyer is often the country store, particularly when the farmers bring in small lots of ungraded stuff—eggs, butter, etc. Much cotton is bought in this way. In the case of grain the local buyer usually is manager of an elevator. In livestock and wool and hay the local buyer commonly circulates among the farmers, bidding on the farm for the stuff after he inspects it. This is confessedly an expensive way to market products—but better than no market at all. It does not give a premium for better quality. Indeed, nothing is said, as a general rule, about the grade of the product.

*Commission Merchant.*—When country buyers ship miscellaneous assortments of heterogeneous stuff to the city market the commission merchant is a common type of receiver. He becomes the agent of the shipper and undertakes to sell the produce to the highest bidder. In some fields, such as eggs, this type of middleman is rapidly declining in importance. As a perishable product becomes better graded and standardized it can be merchandised in a quicker and cheaper way. With some nonperishable commodities, such as wheat, the commission merchant is as important now as he was 50 years ago. The same is true of livestock. This is due to the fact that the large volume of business concentrated at a few markets brings together there the two extremely skilled, experienced, competing groups



of buyers and sellers. The country shipper is, therefore, represented, by a competent agent, at a low, fixed rate of commission. With vegetables, such as potatoes, there is no uniformity in commission charges from city to city, or even in the same city. With hay, which is commonly handled on commission, the larger hay markets have all adopted fixed scales of commissions which represent roughly a fair compensation for the service performed. The Kansas City charges are about half those of New York City, because Kansas City is a shipping market and New York a consuming market.

Commission merchants who find their receipts too light to make their commissions profitable frequently send bids to the country, trying to buy outright. This is frequent in hay. They then become ordinary wholesalers, owning the commodity they sell. Of course the commission merchant cannot be agent and principal in the same deal—selling to himself produce consigned to him for sale on commission. It is usual for the state to bond and license commission merchants, as a protection to the country shippers. It is wise and safe, however, to open an account with that commission merchant only whose standing is vouched for by a bank or other competent party. In the poultry and egg business particularly, the "fly-by-night" kind of crook, disguised as a commission merchant, is yet a little too common.

*Brokers.*—In recent years there seems to be a big increase in the number of food brokers and other types of brokers handling agricultural products. This is because it is more economical to merchandise through a broker. It is impossible to use the services of a broker, however, unless the commodity is standardized and can be correctly described by name and grade. The usual type of broker is the agent of either seller or buyer, who brings buyer and seller together, but does not himself do any physical handling of the goods. To illustrate: a New York hay farmer may consign his hay to a commission merchant in New York City, who will find a buyer, and charge a \$2-a-ton commission; or the farmer may, by telegraph or telephone, have a broker find a buyer for this hay, and pay the broker 30 cents a ton for the service. The hay is then shipped to the market (perhaps a distant state) according to the broker's directions. The farmer in this case, however, is paying less for the selling service, but is also assuming more risks, namely, that the hay

may be rejected at destination as being not of grade named in telegram; also he may find the collection of pay a little slow. Obviously the broker's services are good only in the case of a standardized commodity. Some California products, such as prunes and walnuts, are sold through brokers. On the Minneapolis market, graded eggs from local cooperatives are now handled direct by jobbers or through brokers rather than by commission men, which represents a substantial saving to the producers.

*Wholesaler.*—The terminal buyer or seller in car lot quantities is commonly called a wholesaler. In poultry and eggs, butter and cheese, fruits and vegetables, the wholesaler is an important type of middleman. Since he buys for cash, he assumes the market risk. He commonly also performs such functions as storage, inspection, and grading.

*Jobbers.*—The word jobber is sometimes used as synonymous with wholesaler, although the usual distinction is that the jobber buys and sells in less than car lots. A jobber in Kansas City, for instance, would buy his supplies from wholesalers, but in selling to his customers, he would deliver "mixed cars" if desired—that is, a car loaded with potatoes, cabbage, onions, etc. The jobber maintains contact with the retail trade, and arranges the number, quality, quantity, and package of his goods accordingly. Since the supply of goods, on the one hand, is so heterogeneous, and, on the other hand, the demand runs the whole gamut from the easily satisfied to the meticulous, it is important to the market to have the jobbers' services. Of course, in the smaller cities the wholesaler and jobber are one person.

*Auction Companies.*—The auction company performs a service somewhat between that of a commission merchant and broker. The company is the agent of the seller, selling to the highest bidder. Bidding takes place only at a certain time and place—in the auction room, and usually during 1 hour, or within 2 hours. All the prospective buyers are present in person or by agents. The physical goods are not usually present. However, with one type of auction—tobacco—the actual commodity is present. The usual type of auction—fruit auction and egg auction—only samples of each lot are displayed. In the new type of f.o.b. auction no samples are present; only a printed description, giving name, quality, and grade, and name of inspector responsible for inspection and grade. On page 95 of this chapter further comment on the f.o.b. auction is made.

*Retailer.*—The retailer is the middleman who has direct contact with the ultimate consumer. He performs various services for the consumer; he has a relatively small volume of business; consequently he is the most expensive link in the marketing system.

*Elimination of the Middleman.*—Since distribution is recognized to be such an expensive process, the proposal is sometimes made to cheapen distribution by "eliminating the middleman." This may mean either one of two things. (1) Eliminate his services. Do without them. In this sense of the word, the proposal has little merit, because consumers now demand all the services performed by the middleman—and more services, as fast as new ones can be invented or discovered.<sup>1</sup> (2) The proposal may mean, perform the present middleman's services better and cheaper some other way. That is, get a cheaper middleman. In this sense of the word the proposal has very great merit indeed. There are two common assumptions concerning the middleman which must now be considered, namely: (1) the middleman always adds to the cost of distribution; (2) the cooperative marketing association eliminates the middleman. Both of these assumptions are false, as may easily be shown.

A cooperative apple-growers exchange with headquarters at Rochester, New York, made the experiment of "cutting out the middleman," that is, selling apples direct to consumers. The experiment proved that it cost 11 cents a box more to sell direct

<sup>1</sup> This is our proudest boast: "The American citizen has more comforts and conveniences than kings had 200 years ago!" It is a fact, and this fact is the outward evidence of the new force which has crossed the path of American democracy. This increasing stream of automobiles and radios, buildings and bathrooms, furs and furniture, liners, hotels, bridges, vacuum cleaners, cameras, bus lines, electric toasters, moving pictures, railway cars, package foods, telephones, pianos, novels, comic supplements—these are the signs . . .

Through the centuries the problem has been how to produce enough of the things men wanted; the problem now is how to make men want and use more than enough things . . . Formerly the task was to supply the things men wanted; the new necessity is to make men want things which machinery must turn out . . .

The problem before us today is not how to produce the goods, but how to produce the customers. Consumptionism is the science of compelling men to use more and more things. STRAUSS, SAMUEL, "Things Are in the Saddle," *The Atlantic Monthly*, vol. CXXXIV, pp. 577, 578, and 579, November, 1924.

than through the regular dealer. The Secretary of the Association reported the experiment in these words:

An effort was made, through advertising and personal solicitation, to sell direct to the consumer, but this was found more expensive than working through large department stores or companies owning a number of grocery stores.

The exchange had sale days for boxed apples in several cities, at which time it offered to deliver to any home in these cities at the flat rate of \$2.25 per box. It cost the exchange a fraction over 36 cents a box to make deliveries, thus leaving \$1.89.

Better prices resulted from an arrangement made with some department stores, which paid the exchange \$2 per box and sold on certain days to consumers at \$2.25 per box, the retail price advertised by the exchange. The exchange received 11 cents more per box in selling to large dealers than in selling direct to consumers.<sup>1</sup>

This is an illustration of division of labor, and therefore a saving, by using the indirect rather than the direct route in marketing. The specialist in marketing can usually market more cheaply than the specialist in producing.

Most of the successful cooperatives cooperate with, rather than eliminate, the middleman. Thus the California Fruit Growers Exchange works with the wholesalers and retailers in their efforts to secure wider and cheaper distribution. It is true that this association displaced the local buyer by setting up in his place the growers' local associations, plus the district exchanges and the central exchange. In a similar way, it may be pointed out that the cooperative marketing agencies of the growers of raisins, prunes, apricots, walnuts, almonds, peaches, apples, cranberries, potatoes, etc. deal through the regular wholesale-jobber-retail trade channels. In many cases the local livestock shipping associations either create a new middleman outright (their own local) or displace the existing middleman—local buyer—by an association of their own. This may not be a cheaper method, but in the end it leads to better grading, and hence to better production, and finally better quality leads to better prices.

**Efforts to Cheapen Distribution.**—Marketing reforms have two general methods; reforms in production—*i.e.*, adjusting

<sup>1</sup> BAXTER, HARVEY W., Secretary, Growers and Shippers Exchange, Rochester, N. Y., *U. S. Dept. Agr., Report 98*, p. 236, Jan. 2, 1913.

production to consumer demand; reforms in the marketing process itself. It has already been pointed out (Chap. III) that better marketing waits on better production. The marketing process itself, however, breaks up into a series of services or functions, each of which may be made better or cheaper or both. A program of better marketing will be discussed at length in the second part of this book. The problem may be summarized here by saying that reforms and improvements in inspection and grading, in transportation, in storage, in risk reduction, in selling (wholesaling and retailing), will greatly lessen the costs of marketing. Marketing may be compared with a chain of several links, any one weak link of which impairs the whole chain. Thus bad grading increases losses in transportation and storage, increases risks, increases credit cost, increases expenses of selling. Each link must be carefully studied with a view to improvement. This is the general situation concerning cheaper marketing.

Specific attacks on the high cost of distribution have taken many forms, of which the following five are most important.

*Chain Store.*—These stores have had a conspicuously rapid growth in recent years. It is now estimated that chain stores handle between 5 and 10 per cent of all goods which consumers buy at retail. Chain grocery stores and 5 and 10 cents stores are the most numerous types, although chain stores are now found in practically every line of retailing. They buy in large quantities; this is their chief saving. They can, and usually do, sell for a little less than the ordinary unit store. Or, in other words, the customer pays less and gets less. He gets the same goods, but less service. The ordinary unit store furnishes both delivery and credit service; the chain store is a cash-and-carry store. Hence, they will never displace the well-managed retail unit store. The average customer would rather pay more and get more.

*Mail-order House.*—It has been estimated that the mail-order business now amounts to 4 per cent of the total retail trade of the country and to 20 per cent of the rural trade. There are about 2,500 mail-order houses, the two largest of which, Sears, Roebuck and Company, and Montgomery Ward and Company, each having about 6,000,000 customers. The mail-order houses reach customers through a printed catalogue, based on the truth-in-advertising theory. The catalogue price is generally lower than

the price in the local retail store. But the customer must pay cash in advance, and also transportation costs, and assume certain risks as to delay, appearance of goods, etc. The advantage of large volume buying is largely offset by high-cost selling. It is said to cost \$1 to put a large catalogue into a home, and many persons, in addition to the 6,000,000 customers, send for catalogues. It is obvious that the mail-order system can have very little effect in cheapening distribution. Their competition does stimulate local retailers to use more up-to-date methods, particularly in simple, truthful advertising.

*Integration.*—A completely integrated business is one which owns its sources of raw material, its plants for processing this material, and the channels of wholesale and retail distribution. That is, the production and sale of the commodity is kept in the same hands, the object being to shorten the trade channels. There are few, if any, examples of such complete integration. There are, however, innumerable examples of partially integrated businesses. The United States Steel Corporation is fairly well integrated as to raw materials, transportation, and steel manufacturing. But the integration does not extend to many products of steel, such as hardware, implements, and so on, or into retailing. The meat-packing industry, in the hands of the national packing companies, is a partly integrated business. Raw material (livestock) is bought from producers; it is processed, stored, transported in private refrigerator cars, and wholesaled from branch houses or cars. Wholesalers and jobbers are eliminated, but the retailing is left with the unit meat markets. Integration brings in the economies of large-scale business; also the leaks due to hired management of widely scattered units. Integration does, however, hold promise of a substantial cheapening of distribution of perishable products.

*Cooperative Marketing.*—This subject is discussed at length in a later chapter, and is introduced here merely for the bearing it has on cheapening distribution. One of the most fundamental and commendable features of cooperative marketing is its purpose to effect savings. Indeed, one of the first slogans of cooperative marketing in America was, "Cooperation is for savings, not for profits." The study of those cooperative associations which are 10 years old or over shows that they have realized economies and savings in one or all of the following ways:

Cooperative marketing aims at large volume of business, lower costs for handling, grading, etc., lower freight charges, through car-lot shipments, telegraph and telephone service per unit cheapened.

Cooperative marketing promotes standardization, lower costs of merchandising, use of brokers instead of commission merchants, quicker turnover by retailers, a wider distribution, hence less risk, less loss, fewer gluts.

Cooperative marketing promotes the quantity buying of supplies, necessary supplies bought in car lots, with lower cost and lower freight charges.

The graded, standardized product of uniform quality and grade means cheaper transportation (less loss and shrinkage in transit), cheaper storage, lower sale costs, cheaper credit. These are substantial savings in cooperative marketing which benefit both producer and consumer.

*Auctions.*—Carefully graded fruit is now sold on some 30 fruit auctions in various cities of the United States. Oranges, lemons, grapefruits, and boxed apples from the northwest are the principal fruits thus handled. Eggs carefully graded and standardized by the cooperative associations of the Pacific coast are also sold at auction in New York City. At all these auctions the goods are sold "as is," the buyer inspecting the samples on display. The auctioneer is able to move a larger volume of produce in a very short time by this method. In very recent years there have been organized f.o.b. auctions, to sell cars of produce in transit or at local shipping stations. The buyers do not see the thing they are buying, and hence bid entirely on the basis of the inspection and grade. This means, in effect, that there has been shipping point inspection by state or Federal authority. The typical f.o.b. auction is held simultaneously in a group of cities, all connected by a leased telegraph wire ("private wire"). Thus, when the buyers are bidding in Chicago, the auctioneer announces the Chicago bid and also the competing bids coming over the wire from Boston, New York, Philadelphia, Pittsburgh, Detroit, Los Angeles, and San Francisco. The car is diverted to the city making the highest bid. In this way a large volume of produce can be sold at a low cost of selling. The buyers, of course, must be represented in person or by a broker during the auction. In the course of 1 hour from 40 to 60 cars of produce are sold. This system has certain obvious economies.

Its chief virtue, however, seems to be the promotion of shipping point inspection, and hence of better quality production, closer culling, stricter grading, better standardization, and in consequence thereof, cheaper marketing. Its chief disadvantage seems to be the new type of speculative buying and selling of cars en route to market.



## APPENDIX I

### INDEPENDENT RETAIL MEAT MARKETS WITH FAMILY TRADE, 1919

Sales	Number of stores	Per cent expense
Under \$25,000.....	22	18.1
\$25,000 to \$50,000.....	57	17.4
\$50,000 to 100,000.....	63	15.3
\$100,000 to 200,000.....	36	15.6
Over \$200,000.....	12	14.5
<b>Total and average.....</b>	<b>190</b>	<b>17.0</b>

### RETAIL CLOTHING STORES, AVERAGE FOR 1914, 1918, AND 1919

Sales	Number of stores	Per cent expense
Under \$20,000.....	...	24.9
\$ 20,000 to \$ 40,000.....	...	20.8
40,000 to 60,000.....	...	19.5
60,000 to 80,000.....	...	21.5
80,000 to 100,000.....	...	21.5
100,000 to 140,000.....	...	22.9
140,000 to 180,000.....	...	22.8
180,000 to 220,000.....	...	22.8
220,000 to 300,000.....	...	25.0
300,000 to 500,000.....	...	25.7
Over 500,000.....	...	25.0
<b>Under 40,000.....</b>	<b>313</b>	<b>21.2</b>
40,000 to 80,000.....	370	20.4
80,000 to 180,000.....	227	22.5
<b>Over 180,000.....</b>	<b>85</b>	<b>24.8</b>
<b>Total and average.....</b>	<b>995</b>	<b>22.7</b>

## APPENDIX I (Continued)

## RETAIL CLOTHING STORES, 1914

Sales	Number of stores	Per cent expense
Under \$40,000.....	119	22.6
\$ 40,000 to \$ 80,000.....	76	23.9
80,000 to 180,000.....	32	25.9
180,000 and over.....	6	26.6
Total and average.....	233	24.6

## DEPARTMENT STORES, 1921

Sales	Number of stores	Per cent expense
Less than \$250,000.....	81	26.6
\$ 250,000 to \$ 499,000.....	66	27.6
500,000 to 999,000.....	47	28.3
1,000,000 to 2,499,000.....	61	28.7
2,500,000 and over.....	46	28.5
Total and average.....	301	27.8

## DEPARTMENT STORES, 1922

Sales	Number of stores	Per cent expense
Less than \$250,000.....	162	26.4
\$ 250,000 to \$ 499,000.....	111	27.5
500,000 to 992,000.....	67	28.3
1,000,000 to 3,999,999.....	108	28.4
4,000,000 to 9,999,000.....	29	29.0
10,000,000 and over.....	14	29.5

## APPENDIX I (Continued)

## WHOLESALE GROCERS, 1920, 1921 AND 1922

	1920	1921	1922	1920	1921	1922
Under \$500,000.....	35	66	126	9.5	11.1	11.0
\$ 500,000 to \$ 999,000.....	96	132	153	8.9	11.4	11.0
1,000,000 to 1,999,000.....	105	84	106	8.6	11.8	11.1
2,000,000 and over.....	86	62	57	9.3	11.8	11.5
Total and average.....	322	344	442	9.0	11.5	11.1

## RETAIL SHOE STORES, 1920 AND 1921

	1920	1921	1920	1921
	Number of stores		Per cent expense	
Under \$30,000.....	47	77	25.0	28.6
\$ 30,000 to \$ 49,000.....	85	89	24.3	26.3
50,000 to 99,000.....	99	106	23.5	26.1
100,000 to 249,000.....	102	91	26.6	29.2
250,000 and over.....	64	44	29.6	29.1
Total and average.....	397	407	26.0	27.8

## RETAIL SHOE STORES, 1922

Sales	Number of stores	Per cent expense
Under \$30,000.....	101	28.3
\$ 30,000 to \$ 49,000.....	102	27.0
50,000 to 99,000.....	105	27.3
100,000 to 249,000.....	67	28.5
250,000 and over.....	46	31.2
Total and average.....	421	28.1

APPENDIX I (*Continued*)

## RETAIL GROCERY STORES, 1922

Under \$30,000.....	64	19.9
\$ 30,000 to \$ 49,000.....	101	17.7
50,000 to 99,000.....	160	17.4
100,000 to 149,000.....	60	17.7
150,000 and over.....	58	18.5
	<hr/>	<hr/>
Total and average .....	443	18.0

## APPENDIX II

### COST OF MARKETING GRAIN, FROM FARMER TO TERMINAL BUYER. RECORDS OF NINE TYPICAL SHIPMENTS, TAKEN FROM ACCOUNT SALES

**Example No. 1.—One car of Corn.**

Shipped from Elk Point, S. D., July 5, 1921.  
Grade No. 2 Yellow Corn, 1,960.20 bushels.  
Paid to farmers by local elevator, 42 cents per bushel.  
Sold to Chicago consumer, July 8, at 63½ cents per bushel.

Paid by Chicago consumer.....	\$1,247.28		
Farmer received.....	823.31	or	66.00 per cent
Railroad freight.....	334.83	or	26.85 per cent
Local elevator.....	56.91	or	4.56 per cent
Commission merchant, Chicago.....	19.60	or	1.57 per cent
War tax on freight.....	10.04	or	0.81 per cent
Car inspection.....	\$0.30		
Grain inspection.....	1.00	}	
Weighing.....	1.00		
Interest.....	0.29		
		.....	2.59 or 0.21 per cent
			100.00 per cent

**Example No. 2.—One car of Corn.**

Shipped from George, Iowa, June 6, 1921.  
Grade No. 2 White Corn, 1,830.40 bushels.  
Paid to farmers by local elevator, 41 cents per bushel.  
Sold to Chicago consumer, June 22, at 62 cents per bushel.

Paid by Chicago consumer.....	\$1,135.04		
Farmer received.....	750.60	or	66.13 per cent
Railroad freight.....	312.69	or	27.55 per cent
Local elevator.....	41.61	or	3.67 per cent
Commission merchant, Chicago.....	18.31	or	1.61 per cent
War tax on freight.....	9.38	or	0.82 per cent
Car inspection.....	\$0.30		
Grain inspection.....	1.00	}	
Weighing.....	1.00		
Interest.....	0.15		
		.....	2.45 or 0.22 per cent
			100.00 per cent

## APPENDIX II (Continued)

## Example No. 3.—One car of Corn.

Shipped from Ireton, Iowa, July 30, 1921.

Grade No. 1 Yellow Corn, 2,074.36 bushels.

Paid to farmers by local elevator, 37 and 38 cents per bushel.

Sold to Chicago consumer Aug. 11, at 64 cents per bushel.

Paid by Chicago consumer.....	\$1,327.77		
Farmer received.....	777.98	or	58.60 per cent
Railroad freight.....	354.35	or	26.68 per cent
Local elevator.....	159.95	or	12.05 per cent
Commission merchant, Chicago.....	20.74	or	1.56 per cent
War tax on freight.....	10.63	or	0.80 per cent
Car inspection.....	\$0.30		
Grain inspection.....	1.00	} .....	4.12 or 0.31 per cent
Weighing.....	1.00		
Interest.....	1.82		
			100.00 per cent

## Example No. 4.—One car of Corn.

Shipped from Ireton, Iowa, Aug. 2, 1921.

Grade No. 2 Mixed Corn, 1,732.41 bushels.

Paid to farmers by local elevator, 41 and 42 cents per bushel.

Sold to Chicago consumer Aug. 10, at 60 $\frac{3}{4}$  cents per bushel.

Paid by Chicago consumer.....	\$1,052.71		
Farmer received.....	719.08	or	68.29 per cent
Railroad freight.....	295.97	or	28.11 per cent
Local elevator.....	7.83	or	0.75 per cent
Commission merchant, Chicago.....	17.33	or	1.66 per cent
War tax on freight.....	8.88	or	0.85 per cent
Car inspection.....	\$0.30		
Grain inspection.....	1.00	} .....	3.62 or 0.34 per cent
Weighing.....	1.00		
Interest.....	1.32		
			100.00 per cent

APPENDIX II (Continued)

Example No. 5.—One car of Oats.

Shipped from Ridgeville, Ill., June 10, 1921.

Grade No. 2 White Oats, 1,977.06 bushels.

Paid to farmers by local elevator, 35 cents per bushel.

Sold to Chicago consumer, June 13, at 37½ cents per bushel.

Paid by Chicago consumer.....	\$734.05		
Farmer received.....	692.02	or	94.28 per cent
Railroad freight.....	79.09	or	10.77 per cent
Local elevator.....	(56.90	or	7.75 per cent) Loss
Commission merchant, Chicago....	14.82	or	2.02 per cent
War tax on freight.....	2.37	or	0.32 per cent
Car inspection.....	\$0.30		
Grain inspection.....	1.00	} .....	2.65 or 0.36 per cent
Weighing.....	1.00		
Interest.....	0.35		
			107.75 per cent

Example No. 6.—Wheat.

Shipped from Clearmont, Mo., July 30, 1921.

Grade No. 1 Hard Yellow Wheat, 1,472.40 bushels.

Sold to Chicago consumer, Aug. 12, at 120½ cents per bushel.

Paid by Chicago consumer.....	\$1,774.56		
Farmer and local elevator received....	1,506.97	or	84.90 per cent
Railroad freight.....	234.15	or	13.20 per cent
Commission merchant.....	22.08	or	1.25 per cent
War tax on freight.....	7.02	or	0.40 per cent
Car inspection.....	\$0.30	} .....	4.34 or 0.25 per cent
Grain inspection.....	1.00		
Weighing.....	1.00		
Interest.....	2.04		
			100.00 per cent

Example No. 7.—Corn.

Shipped from Wagner, S. D., Aug. 1, 1921.

Grade No. 1 Yellow Corn, 1,829.36 bushels.

Sold to Chicago consumer Aug. 13, at 61 cents per bushel.

Paid by Chicago consumer.....	\$1,116.08		
Farmer and local elevator received....	671.18	or	60.15 per cent
Railroad freight.....	414.96	or	37.18 per cent
Commission merchant.....	13.73	or	1.21 per cent
War tax on freight.....	12.45	or	1.12 per cent
Car inspection.....	\$0.30	} .....	3.76 or 0.34 per cent
Grain inspection.....	1.00		
Weighing.....	1.00		
Interest.....	1.46		
			100.00 per cent

## APPENDIX II (Continued)

Example No. 8.—Corn.

Shipped from Storm Lake, Iowa, Aug. 17, 1921.

Grade No. 1 Yellow Corn, 1,441.54 bushels.

Sold to Chicago consumer, Aug. 22, at 56½ cents per bushel.

Paid by Chicago consumer.....	\$814.70		
Farmer and local elevator.....	577.08	or	70.81 per cent
Railroad freight.....	213.99	or	26.27 per cent
Commission merchant.....	14.42	or	1.78 per cent
War tax on freight.....	6.42	or	0.79 per cent
Car inspection.....	\$0.30	}	..... 2.79 or 0.35 per cent
Grain inspection.....	1.00		
Weighing.....	1.00		
Interest.....	0.49		
			100.00 per cent

Example No. 9.—Wheat—Country shipper to Duluth, Minn.

Shipped from Mallory, Minn., Aug. 16, 1921.

Grade No. 1 to No. 2 Nor. Spring wheat, 1,040.10 bushels (net).

Sold to Duluth exporter, Aug. 25, at 129 cents per bushel.

Paid by Duluth exporter.....	\$1,341.82		
Farmer and local elevator received.....	1,198.07	or	89.27 per cent
Railroad freight and inspection.....	122.24	or	9.11 per cent
Commission merchant.....	15.60	or	1.17 per cent
War tax on freight.....	3.63	or	0.28 per cent
Weighing.....	\$1.25	}	..... 2.28 or 0.17 per cent
Insurance.....	1.03		
			100.00 per cent

Reference: BOYLE, JAMES E., "Cost of Marketing Grain," pp. 7-12, inclusive. 1922.

#### Questions

1. Sketch briefly the evolution of our present distributive system, with its "maze of service costs."
2. What do you know about the Joint Commission of Agricultural Inquiry?
3. Which of the three parties in marketing is least important? Why?
4. In what sense does "cheap production" and "dear distribution" exist?
5. Give one reason why retailing is costly.
6. Explain and illustrate cheapened production in the United States: in industry; in agriculture.
7. Does large volume of business (in wholesaling and retailing) cheapen these types of distribution? Explain fully: shoes; meats; clothing; department stores; groceries.



8. Are middlemen's "tolls" too high? How much is this toll?
9. Give examples of marketing costs showing where the farmer received low returns; high returns; typical returns; potatoes; eggs; wheat; nine cars of grain; meat; butter; oranges; peaches; raisins; almonds; apples; onions; cranberries; for service, style, etc.
10. Was the old distribution system (fairs, etc., without middlemen) more economical than the present middleman system?
11. Show reasons for middleman, according to Plato.
12. Compare (1) number of middlemen, and (2) volume of business for each, in 1850 and 1920. Why the increase?
13. Justify the existence of middlemen.
14. How many types of middlemen are there? Illustrate.
15. Reduce these to seven general types. Functions of each type.
16. May a commission merchant sell to himself products consigned to him?
17. What precaution, if any, should be observed in dealing with commission merchants?
18. Account for increase in number of food brokers.
19. Distinguish between wholesaler and jobber.
20. Can distribution be cheapened by "eliminating the middleman?" Explain two common assumptions about the middleman.
21. Cite five efforts to cheapen distribution. Give success and limitations of each one.
22. State fully the purpose and methods of the f.o.b. auction companies.

## CHAPTER V

### TRANSPORTATION

On the whole, the average distance between the producer and consumer of food in the United States is probably more than 1,000 miles.

"Wholesale Marketing of Food," *Report of the Federal Trade Commission*, p. 188, June 30, 1919.

In this book transportation is considered one of the six fundamental functions in marketing. These six functions are production, transportation, storage, credit, risk bearing, and sale. These functions are linked together, like the separate parts of a chain. If one link is weak, the whole chain is weak—the whole marketing process is made more costly. A typical illustration of this is afforded by a recent congressional hearing on "Railroad Terminal Warehouse Facilities."<sup>1</sup> Here the following facts were brought to light: During the year 1919 there were inadequate grain-storage facilities at the seaboard, particularly Philadelphia, Baltimore, and New York. This lack of storage caused an enormous stoppage and backing up of freight at the seaboard, and the consequent use of freight cars for storage purposes. This aggravated the already existing car shortage. Minnesota had 50,000 cars of potatoes to ship. Cars could not be had in sufficient number. Potato growers found local buyers afraid to buy freely because the potatoes were subject to the frost. This reduced the price of potatoes. The bankers in turn were unwilling to furnish credit on such uncertain collateral, except at a higher cost. Thus the whole marketing chain was weakened by one defective link—inadequate storage.

Production in its relation to marketing has already been considered, in Chap. III. This chapter is devoted to the sub-

<sup>1</sup> Hearings before Committee on Interstate and Foreign Commerce, sixty-sixth Congress, Second Session, *H. R.*, 11780, Mar. 22, 1920.

ject of transportation, while the four following chapters discuss the other fundamental functions. It should be said, at this point, that transportation is productive, in the economic sense. Economic science defines production as the creation of utilities. And utilities are classified as raw material; time, place, form, and personal service utilities. Transportation creates place utilities, and is, therefore, as truly productive as is the work of the farmers; storage creates time utilities. Manufacturing and processing creates form utilities; selling creates a personal service utility.

**High Cost of Transportation.**—Next to retailing, transportation is the most expensive link in marketing. One reason is, our food must be transported 1,000 miles by rail. In reality, however, this represents three expensive hauls, not one, as follows:

1. High cost of animal haul, farm to railroad. A short haul.
2. High cost of rail haul. A long haul.
3. High cost of cartage at city terminal. A short haul.

These three hauls may now be discussed in some detail.

In the year 1905, the average haul of a wagon load of wheat (55 bushels) from farm to shipping point was 9.4 miles, and the cost was 5.4 cents per bushel.<sup>1</sup> At the same time England was importing wheat from the Atlantic Coast and from the Black Sea, a distance of 3,000 miles; and from the River Plate and from Bombay, 6,000 miles; also large supplies from Australia, 10,000 miles; and 3,000,000 bushels were taken by sailing vessel from Puget Sound, down the west coast of America and around Cape Horn, a voyage of 15,000 miles, or more than half the distance around the globe. From these distant ports, from 3,000 to 15,000 miles away, the average carrying charge was 9 cents a bushel, or one and two-third times the cost of hauling 9 miles over country roads in the United States. At this time the cost of the haul from shipping station in the wheat belt to New York on export wheat was 13.4 cents a bushel. In other words, the short haul is a serious factor in the high cost of transportation.

The long haul by rail is, however, receiving a large share of attention, partly because of the cost of it, and partly because of the increasing use of the long haul in moving farm products to

<sup>1</sup> *Yearbook, U. S. Dept. Agr., pp. 371-377, 1906.*

city consumer.<sup>1</sup> In an earlier chapter the source of Boston's food supply was indicated, showing the wide radius of territory affected. Chicago, in the year 1917, received carloads of potatoes from a total of 41 states. That is, all the states in the Union shipped potatoes to Chicago, excepting these seven—New Hampshire, Vermont, Connecticut, Massachusetts, Rhode Island, Nevada, and Arizona, as shown in Fig. 4.

It is more significant, from the standpoint of cost of transportation, to note the increasingly long hauls of highly perishable foodstuffs. Strawberries are a type of this development. The following map shows from what long distances—13 states in all—a northern city draws its supplies of strawberries (Fig. 5).

One reason transportation is costing more is, the consumer is getting more transportation. He is receiving goods from greater and greater distances (see Appendix 1, this chapter). The trend of freight rates was steadily downward, up to the time of the World War. If two periods 40 years apart are compared, 1871 to 1875 and 1901 to 1905, the following facts emerge: The average rate on wheat from Chicago to Buffalo by lake decreased in this period to one-fourth the 1871 to 1875 rate; the average all-rail rate from Chicago to New York decreased to two-fifths that of 1871 to 1875.<sup>2</sup> During the World War, however, freight rates were substantially increased. And since consumers were securing food supplies from greater and greater distances, these

**NUMBER OF STATES FROM WHICH LARGE MARKETS OBTAINED THEIR  
POTATOES DURING THE YEAR 1923**

Atlanta.....	26	Memphis.....	25
Birmingham.....	23	Milwaukee.....	30
Boston.....	21	Minneapolis.....	20
Buffalo.....	18	Newark.....	24
Chicago.....	32	New Orleans.....	21
Cincinnati.....	23	New York.....	23
Cleveland.....	29	Omaha.....	23
Columbus.....	30	Philadelphia.....	24
Dallas.....	16	Pittsburgh.....	27
Denver.....	18	Portland, Ore.....	4
Detroit.....	21	Providence.....	16
Indianapolis.....	30	St. Louis.....	24
Kansas City.....	22	St. Paul.....	17
Los Angeles.....	11	Washington.....	18
Louisville.....	26		

<sup>2</sup> ANDREWS, FRANK, "Grain Movement in the Great Lakes Region," *U. S. Dept. Agr., Bur. Stat., Bull. 81*, p. 9, 1910.

consumers found two increases in their transportation costs at the same time.

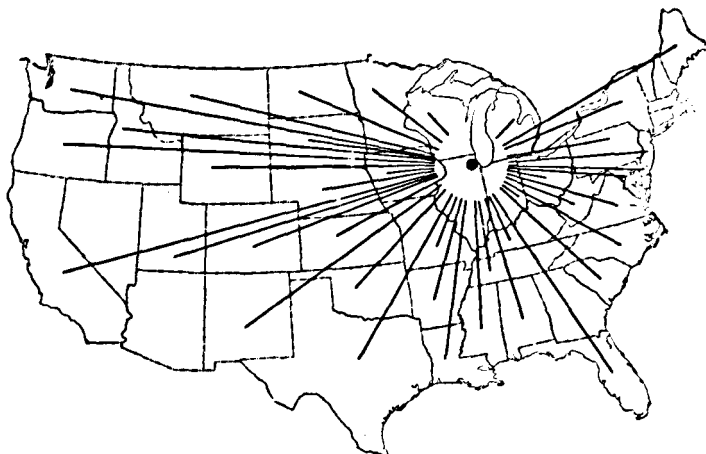


FIG. 4.—White potatoes, 1917. Carload shipments unloaded at Chicago

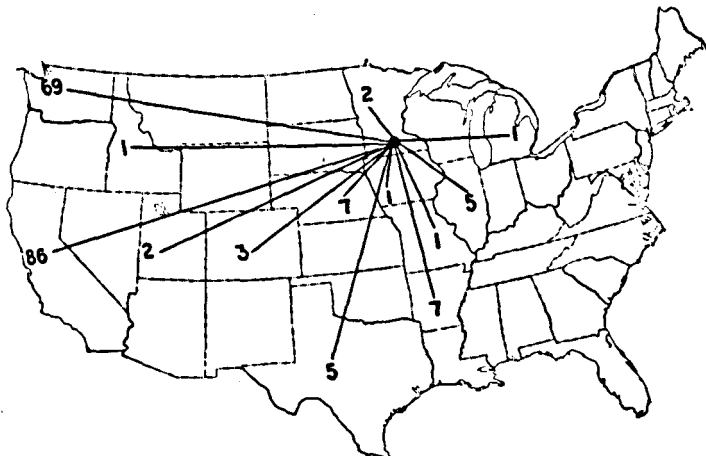


FIG. 5.—Strawberries, 1917. Carload shipments unloaded at Minneapolis. One hundred ninety carloads, from 13 states.

*Cartage.*—The cartage at the terminal, although a short haul, has also been steadily increasing in cost for many years. The cost of this cartage frequently is greater in amount than that for

the long haul by rail. The three chief causes for this are, the increase in the cost of labor, the rapid increase in the size of our cities, and the growing congestion of the terminal markets for perishable products.

To haul goods 250 miles overnight by rail and take the same amount of time or longer, and usually at greater cost, to transport these goods from the railway terminal to the merchants' store door, 2 or 3 miles away, is a sad reflection on our business sense.<sup>1</sup>

The cartage of perishable foods adds to their cost in two ways, namely, the direct expense involved, and the deterioration which is caused. It is estimated by the Federal Trade Commission that a ton of freight can be sent by rail nearly 700 miles for the amount it costs to carry it 20 miles by horse-drawn conveyance. In most of the large cities there is multiplicity of freight yards, which increases the amount of trucking by horse-drawn vehicles. Twenty-seven trunk railway lines enter Chicago, practically all of which have separate terminal freight yards. Poultry arrives at 17 terminal points. These food products were carted to the famous old South Water Street market, a distance varying from  $\frac{1}{4}$  mile to 2 miles, until the Chicago City Plan (1925) caused the removal of this market to a more convenient location. St. Louis has concentrated yards, but owing to delays in switching cars to terminal tracks, some dealers find it a time saver to send their carts to the outer yards, one 5 miles west, one 5 miles east.

Other examples may be cited of inconvenient terminals which cause high cartage costs. Norfolk, Va., has six railroad lines and six terminal freight yards. There are four railroad terminals in four sections of Jacksonville, Fla. In Minneapolis there are eight terminal yards, from which all fruits and vegetables must

<sup>1</sup> HORNER, F. C., "Where Railways Deliver to Store," *The Nation's Business*, December, 1923.

Horner bought two beds in Baltimore and shipped them by freight to New York City, his home. Five days later he got notice from the railroad company that the beds were at the Harlem River freight station, and must be removed within 48 hours. He sent a truckman after them, with some delay. The 48-hour limit was exceeded, and a 50-cent storage charge collected by the railroad. The truckman charged \$4 for carting the two crates (120 pounds) to the house,  $2\frac{1}{4}$  miles away. Total, \$4.50.

Freight, Baltimore to New York, 200 miles..... \$2.13

be hauled to the central market. In St. Paul there are eight freight yards. In San Francisco there are at least eight points of unloading perishables, each separated from the others by a long distance, and none of them is near the produce market. The Federal Trade Commission, speaking of the New York market, uses this language:

New York exhibits losses and wastes from cartage in a rather marked degree. At the present time most of the cars of produce come in on the New Jersey side of the Hudson River and are brought over to New York on lighters. The goods are dumped on the dock, often carelessly handled. The consignees are notified and send their trucks, which are loaded at the dock. The produce then rides many miles to wholesalers and jobbers scattered all over the city, and is again unloaded at their establishments. The wholesale districts of Harlem and the Bronx are 8 or 9 miles from the Canal Street market district and much produce is carted the entire distance. The expense of this handling and the deterioration due to heat, cold, and rough handling is considerable. One New York dealer in dressed poultry and eggs states, that with properly equipped terminal markets he would save between \$40,000 and \$50,000 on cartage charges alone, while there would also be important avoidance of deterioration . . . The congestion at the piers and in the streets is so excessive as to add greatly to the cost of cartage in New York, both on goods entering and goods leaving the city. One teamster is reported to have had trucks in line as long as 3 days, before they could be unloaded . . . While in Boston the length of hauls from the terminals to the stores of the wholesalers is never so great as some of those in New York, the congestion at the terminals and more especially in the market district is most serious, causing almost as much expenditure of time as do the larger hauls of the other city. "Wholesale Marketing of Food," pp. 127 and 128, June 30, 1919.

The archaic system of handling fruits and vegetables in New York City requires two short hauls by cart or truck, as contrasted with one haul in other cities. This may be illustrated by the system in vogue at the Pennsylvania Pier 29, the largest single point of unload in New York City. The first haul is known as "pierhead delivery" and consists of the shuttle service hauling the produce from pier to street in front and in distributing it, in classified lots, to the waiting jobbers' trucks there assembled. Since the produce is picked up on the pier from various solid car lots, and is split up into small lots of many kinds of produce to make a wagon load to meet jobber demand, the service is in reality threefold, namely, haulage, distribution, classification. The cost is \$20 a car. The second step is the haul by the jobber. To the downtown market this haul costs \$35 per car; to Harlem it costs \$57 per car. The large number of jobbers makes it

necessary to restrict the pierhead delivery service strictly to car lot receivers.

The problem of pierhead delivery and its high cost of cartage, may be illustrated by the following concrete example, where 95 baskets of lettuce were handled, and 11 hours of time with a two-horse truck consumed. On Apr. 17, 1922, this particular truck was at the head of the shuttle line at pier 29. It had left the Brooklyn stables at 11 p.m. Sunday night to be first in line Monday morning. Arriving at 11:45 p.m. the truck was parked in line, waiting for the opening of business. At 6:18 a.m. Monday, it entered the pier and picked up 95 hampers of lettuce. Coming out at 6:51, the driver distributed his load to eight jobbers in the street, each jobber taking from 8 to 15 hampers. This job was finished at 7:48 a.m. The driver then left the pier, there being no more business for him there; parked  $1\frac{1}{4}$  hours for breakfast, and drove back to Brooklyn, reaching the stables at 9:58 a.m. Out of an elapsed time of 11 hours, the truck, team, and man were actually moving freight  $1\frac{1}{2}$  hours, or 14 per cent of the time. And the work accomplished was the moving of 95 hampers of lettuce.<sup>1</sup>

These illustrations show the three burdens imposed by the three typical hauls—short haul from farm to railroad, long haul by rail, and short haul at terminal market. At this point, a somewhat detailed discussion of the railroad problem may be given, followed by a consideration of wagon road and water transportation.

**The Railroad.**—The railroads now use their tracks, rolling stock, and motive power, their capital and their administrative oversight, to perform at least five services. They transport: (1) mail, that is, letters and newspapers; (2) parcel post, that is, merchandise; (3) express; (4) freight; (5) passengers. They actually do not perform all these services with an equal degree of success. Mail and passenger transportation responds first to consumer demand for efficient service; freight comes last. Yet three-fourths of the railroads' revenue comes from freight.

The railroads are selling a public service, known as transportation, and are charging certain rates for this service. The question of immediate interest, therefore, to consumers is, are rates reasonable and are services adequate? This question can best

<sup>1</sup> HEDDEN, WALTER P., "Fruit and Vegetable Distribution in New York City," *Greater New York*, vol. XII, no. 24, pp.13-15, June 11, 1923.



be answered after a brief study of the background of our present railroad problem. One of the most frequently heard criticisms of our railroad system is that of "watered stock," or over capitalization. Upon examination, however, this claim is seen to have little merit. Comparing the capitalization of American and European roads, and using the figures of the pre-war time as a normal basis, the facts are as follows:

	Capitalization per mile	Tons of freight carried 1 mile per mile of road
Great Britain and Ireland.....	\$272,291	500,000
Germany.....	107,272	770,000
France.....	126,350	410,000
United States.....	58,664	1,052,119

The United States railroads, in fact, pay the highest wages in the world, out of the lowest rates in the world, and have the lowest capitalization per mile of all the great countries in the world. In 1920, the United States railroads were capitalized, by their own books, at \$20,040,572,611. In August, 1920, the Interstate Commerce Commission fixed their valuation at \$18,900,000,000 as at the end of 1919. Investments, 1920 to 1923 inclusive, increased this valuation by \$1,984,683,000, to a total, for rate-making purposes in 1924, of \$20,884,683,000. The President of the Lehigh Valley Railroad published, in 1924, the following inventory of the value of our railroads:<sup>1</sup>

400,000 miles of track at \$25,000 per mile	\$10,000,000,000
69,000 locomotives at \$20,000 each.....	1,380,000,000
2,400,000 freight cars at \$1,000 each.....	2,400,000,000
57,000 passenger cars at \$10,000 each.....	570,000,000
Materials and supplies—lumber, coal, rails, ties, etc.....	500,000,000
Working capital.....	500,000,000
50,000 stations and terminals, yards, signals, round houses, shops, machinery, water supply, power plants, elevators, docks, coal pits, etc.....	7,000,000,000
<b>Total.....</b>	<b>\$22,350,000,000</b>

<sup>1</sup> LOOMIS, E. E., Eastern Presidents' Conference, Committee on Public Relations, 143 Liberty St., New York, N. Y., 1924.

Many years ago some of the railroads were doubtless grossly overcapitalized, this being necessary to attract capital into a new and speculative field. At the present time, however, the the problem of overcapitalization has ceased to be a live question. Indeed, we seem to be drifting into an era of undercapitalization. Light is thrown on this question by comparing the growth of railroads before 1916 with their growth since 1916.

*Growth and Progress.*—James J. Hill, president of the Great Northern Railroad, writing in 1910 about the future needs of the railroad, said, "More miles of track, more equipment, above all more terminals, must be provided."<sup>1</sup> He depicted the growth of the railroads in the 10-year period, 1897 to 1907, showing the following increases: mileage operated, 25.5 per cent; freight ton mileage, 148 per cent; number of freight cars, 63 per cent; revenue per passenger per mile, a decrease of 0.039 per cent; freight revenue per ton per mile, a decrease of 4.88 per cent. During this period the roads added to their efficiency of operation by increasing the size of their locomotives and the capacity of the freight cars.

From 1907 to 1916 the railroad mileage increased on an average of 3,270 miles per year, reaching a total peak mileage (main track) in 1916 of 266,381 miles. From 1916 to 1921 was 3,951 miles in 5 years. By the year 1922, one-half of the mileage was not paying dividends on common stock, many roads were not earning operating expenses, a few roads were bankrupt, and some out of operation entirely. During this 5-year period, 2 years and 9 months were under private operation of the railroads, 2 years and 3 months under government operation. Under government operation, December, 1917, to February, 1920, there was a \$6,200,000 increase per day in the operating expense. After the roads were restored to private operation, there was a decrease of \$4,852,000 per day in operating expense. The government ended its experiment in railroading with a deficit of nearly \$1,000,000,000. The quality of the service performed, as well as the cost of it, tended to make government operation of railroads very unpopular in the United States.

*Credit.*—Widespread comment in the financial press was caused by the announcement in October, 1924, that the Illinois Central Railroad directors had voted to raise some millions of new capital by the sale of common stock. This was the first

<sup>1</sup> HILL, JAMES J., "Highways of Progress," p. 241, 1910.

time since the World War that any railroad had sold common stock. In other words, with the exception of three roads that issued preferred stock (the Nickle Plate, the Chesapeake and Ohio, the Illinois Central), all new capital had been raised by sale of bonds. The former balance of 50 per cent stock and 50 per cent bonds in railroad capitalization was thus, during a period of years, being dangerously altered. Roads were approaching the danger line in the ratio of bonds to stocks. Like a farm mortgage, the railroad mortgage (bond) should not be large enough to endanger the solvency of the road. The enforced sale of bonds, from the year 1900 on, was due to reduced earnings, and reduced earnings were due to various causes, such as wastes in operations, increased costs of labor, and, in some cases, reduction of rates by the Interstate Commerce Commission.

This may be illustrated by the Baltimore and Ohio, one of the oldest and most important railroads of the country. In the 20-year period, 1900 to 1920, this road raised about \$300,000,000 by bond sale, and \$107,000,000 by sale of common stock. This new capital was all used in improving the road and increasing its equipment. Thus the average train load increased 81 per cent in 9 years. With these economies, however, and with a big increase in tonnage and in gross earnings, the net earnings were not large enough to pay returns or the increased capitalization. This is a typical case, and shows why railroads during this period could sell stock only with increasing difficulty, and could sell bonds only by increasing the interest rate. The day of the 4 per cent railroad bond seems, for a time, a thing of the past.

*Future Needs of the Railroads.*—Since the volume of freight increases much faster than population, it will be necessary for the railroads to prepare for handling one-third more freight in the decade 1925 to 1935 than in the preceding decade; and also about 25 per cent more passengers. This will require new equipment substantially as follows: 38,350 miles of additional trackage; 13,200 locomotives; 725,000 freight cars; 12,300 passenger cars. The present plant must be maintained and improved. The estimated cost of this program is as follows: additions, \$5,339,874,000; improvements, \$2,533,103,000, or a total of \$7,872,977,000.

*Transportation Act of 1920.*—This Act, passed when the roads were restored to private ownership, had for its chief purpose the strengthening of credit, so that the railroads could successfully

enter the money market and secure enough new capital to restore the lost efficiency of equipment and operation. The Interstate Commerce Commission, the body which fixes railroad rates, received instructions from Congress under this Act to fix rates in such a manner as to permit the roads, in the rate groups, to earn a fair return on their actual property, namely, 6 per cent. In other words, the Commission is to protect the public, and at the same time protect the railroads. Rate groups (strong roads plus weak roads) were to have such rates as to make possible 6 per cent, if they could earn this much by honest and efficient management, but no individual road was guaranteed any net income whatever. This Act also looks forward to a final consolidation of the railway net into a few powerful groups, under the guidance of the Commission, so that strong roads will be linked with weak roads in such a way as to give all communities a dependable transportation service at a fair cost.

*Efficiency of Railroads.*—Before the World War there was a constant growth in railroad efficiency of operation—longer trains, larger engines, larger rails, stronger bridges, and so on. Under the strain of war conditions there was a slackening of this growth. With the return of the roads to private management, however, and with the passage of the Transportation Act of 1920, there set in a new period of improvement. In the year 1922, there was a capital expenditure of \$429,272,836; in 1923, \$1,059,149,426; in 1924, \$1,077,297,000. The index of prosperity—one million freight carloadings a week—was reached again several times during 1923, the total carloadings for the year amounting to 50,000,000. In the latter part of 1924, there was a period of 10 consecutive weeks with carloadings in excess of 1,000,000 a week. During the first 10 months of 1923 there were built 155,872 freight cars, and orders were placed for 48,571 more. The average number of cars per train showed the following progress: 1920, 36.6; 1921, 38.4; 1922, 38.5; 1923, 38.9; May, 1924, 42.1 cars. The rate reduction in 1923 compared with 1921 was \$657,000,000. It cost the roads \$932,591,000 less to operate in 1923 than in 1920. A conspicuous case of increase in railway efficiency was the opening in November, 1924, of the Castleton cut-off on the New York Central lines, a \$25,000,000 improvement in this system. This investment includes a high bridge over the Hudson River, 28 miles of new, double-track railroad, a freight-classification yard, and an engine terminal.

By means of this cut-off freight traffic flowing east over the six-track mainline of the road, between the agricultural west and industrial New England, will miss the steep grades and congested trackage at Albany, thereby saving 3 days in time of transportation of through freight. This is a type of improvement badly needed in several places at the present time to promote the efficiency of the physical plant of the railroads. The Car Service Division of the American Railway Association reported that seven new railroad traffic records were made during the first 10 months of 1924: (1) weekly loading record; (2) daily movement record—on Oct. 15, there were moved 1,030,211 freight cars; (3) grain loading record—the largest grain movement on record, “dumping” grain on the market, occurred in the week ending Oct. 25, 72,474 carloadings; (4) merchandise loading record—259,617 cars in week ending Oct. 11; (5) miscellaneous loading record—422,890 car loadings in week ending Oct. 25; (6) peak loadings with no car shortage; (7) all commodities except three made carloading records (coal, coke, ore, excepted).

*Service.*—The consumer of transportation is primarily concerned with the two problems of rates and services. Each of these problems will now be considered in turn. In performing its service, our railroad system is handling almost an infinite variety of commodities, of which agricultural products constitute less than one-fifth from the standpoint of freight revenue. Wheat constitutes 2 per cent; cattle 1.2 per cent; hogs, 1 per cent; coal, 23.4 per cent; automobiles, 3.1 per cent; refined petroleum, 4.5 per cent. Agricultural products (including animals and animal products) constitute 19.8 per cent of the total revenue producing freight; products of mines, 31.7 per cent; forest products, 9.1 per cent; manufactures, 28.5 per cent; merchandise and less than car-lot miscellany, 10.9 per cent. There are three respects in which the farmer criticizes the service of the railroads: (1) loss and damage in transit; (2) speed of freight trains; (3) car shortage.

Loss and damage claims constitute a serious problem. Shipments of foodstuffs, particularly perishables, are subject to many hazards, en route. Climatic conditions, lack of ventilation or refrigeration, faulty containers, faulty bracing or stowing of the load in car, rough handling, pilferage—these and many other factors cause damage. According to a bulletin issued by the Freight Claim Division of the American Railway Association,

there were inspected at 11 of the larger points in the west, in April, 1924, by the Western Weighing and Inspection Bureau, 5,910 cars of fruits and vegetables, with the following results:

NUMBER OF CARS FOUND DAMAGED, 1,027, OR 17.4 PER CENT

Damage due to decay, overripeness, etc .....	406	39.5 per cent
Damage due to field or orchard diseases.....	188	18.3 per cent
Damage due to improper bracing.....	119	11.6 per cent
Damage due to rough handling.....	93	9.1 per cent
Damage due to field frost.....	73	7.1 per cent
Damage due to pilferages (one-half box or more)....	45	4.4 per cent
Damage due to freezing in transit.....	44	4.4 per cent
Damage due to poor containers.....	34	3.3 per cent

The following figures (Figs. 6, 7, 8, 9 and 10) illustrate actual cases of damage on two of the leading railroads of the country.



FIG. 6.—Cabbage in hampers. Poor containers. Improperly loaded.

There are many causes for loss and damage during transportation. Specially equipped cars, such as ventilated and refrigerated cars, are sometimes not available for perishable produce. The shipper sometimes overloads the car in order to meet the minimum weight requirement for carload shipments. Many losses occur from irregularity or delay in transit. Rough and negligent handling in unloading is a too common practice.

The loss and damage claims paid by railroads involves a considerable expense to the carriers. In addition to the causes enumerated, loss of goods in transit is caused by improper marking, errors in waybilling, neglect by railroad employees at transfer points, and in making delivery from local car. For the year 1914, the loss and damage claims paid amounted to \$33,279,057; for 1919, \$104,507,174; for 1920, \$104,398,930. About 15 per cent of this is on fruits and vegetables,  $3\frac{1}{2}$  per cent on livestock, 6 per cent on grain, and 1 per cent on eggs. The loss and damage



Fig. 7.—Cabbage in crates. Crates not properly constructed. Improperly loaded.

payments run from  $1\frac{1}{2}$  to 3 per cent of the total freight revenues. About 80 per cent of the total loss and damage is due to causes within the supervision of the carriers. The railroads now have committees cooperating with shippers—inspecting, instructing, and otherwise assisting shippers and carriers to reduce loss and damage in transit.

The speed of freight trains is a matter of frequent complaint. The average freight train is able to make 4-miles per hour, or practically the same speed as a man walking, or a team of farm horses with a wagon on a country road. The chief cause of this slow movement is loss of time at junction points and in city

terminals. A study of the journeys of freight cars shows that the car is in use on the line haul 10 per cent of the time, while the other 90 per cent of its life is spent in yards, terminals, on side tracks, or on storage or spur tracks of private industries awaiting loading or unloading. An obvious remedy—or palliative—is to load cars to their full capacity, and to load and unload promptly. At the present time, however, the average journey of a freight

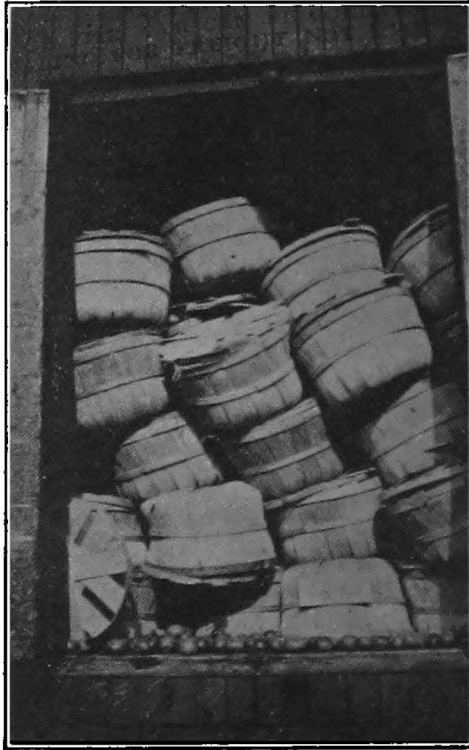


FIG. 8.—Pears. Car improperly loaded; slack space not taken up. This car loaded five tiers high. Maximum safety limit is four high for bushel baskets of pears, apples, etc. For peaches, three high. Too much bruising. Little strength in basket. Fruit itself sustains the weight of the load. Bushel basket is a container, not a package.

car takes 15 days, loaded and empty, of which time  $1\frac{1}{2}$  days are spent in actual travel.

Perhaps the most serious loss of all to the farmer is that caused by car shortage. Sometimes this shortage applies to staple crops like grain, sometimes to perishables, particularly peaches. In the year 1924, the roads were able to move 13,000 carloads of ripe peaches out of Georgia quickly without a car shortage. In the year 1922, however, there was a severe car shortage in the



**New York peach belt.** The railroads had based calculations on the preceding crop, 1,700 carloads, whereas the total crop proved to be 3,400 cars. In 1923, there was ample car supply in this same region at all times, and shippers had little cause to worry in this respect, since railroads had planned for a larger crop than was produced. The actual crop fell to 1,700 cars. This "disorderly production" adds greatly to the difficulty of transportation.

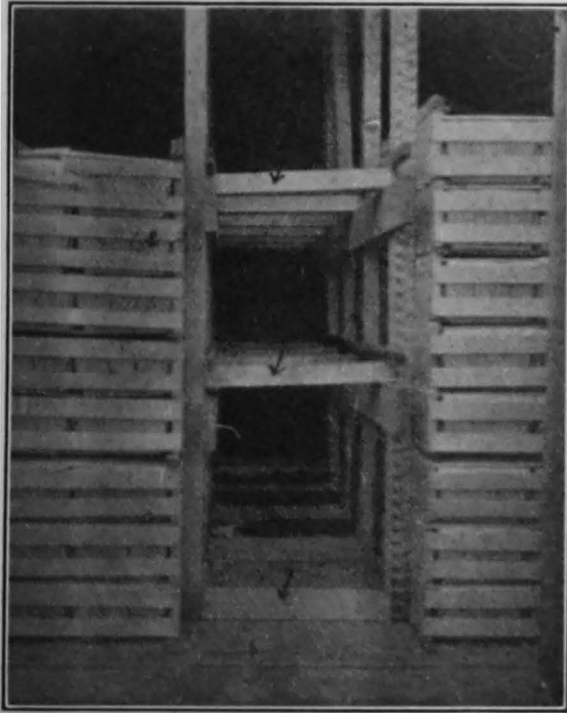


FIG. 9.—California fruit, plums and apricots. Good type of bulkhead. Uprights extend to top of car. Cross braces at top, middle, and bottom.

The corn crop of the year 1917 was large in volume, but extremely low in quality owing to excess of moisture, many cars testing as high as 30 or 35 per cent pure water. Such corn could be salvaged only by rushing to terminal markets and being put through the driers in the terminal elevators. War demands produced such a car shortage that the farmers in the corn belt lost an amount of money on wet corn estimated at \$500,000,000. This was one of the heaviest tolls ever paid for car shortage.

In the year 1922, the "grain congestion"—the car shortage—was the worst ever known. At one time over 400 country elevators were closed in Kansas, their bins full, and no cars

available for shipping out. The Buffalo public storage, 18,000,000 bushels, was full. This caused apprehension among the boat owners on the Great Lakes, and they advanced their rates on Buffalo shipments in 30 days from 2 cents a bushel to 6 cents a bushel. The Erie Canal route, Buffalo to New York, also advanced its rate from 9 (the rail rate) to 13 cents. The Buffalo-Montreal water route likewise advanced its rate from 6½ to 15½ cents. During this period, the shortage of grain in Europe advanced prices there 20 cents a bushel, while American prices advanced only 10 cents, due to transportation shortage. Speaking of this situation, one of our principal grain exporters said:

I make this statement out of 30 year's experience as a grain exporter, watching the diversion of grain from route to route for a half-cent-per-bushel economy of one route against another.

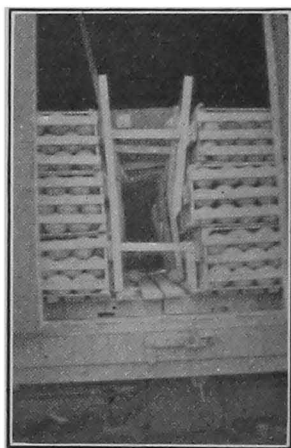


FIG. 10.—Cantaloupes. Improper bracing. Compare Fig. 9.

As a member of a trade that has been content for years to lift grain from the western primary markets like Duluth, Port William, and Chicago, and deliver it to Hamburg and Rotterdam and Liverpool and London for a charge of 1 cent per bushel, I make this statement, that we have today 4,000,000,000 bushels of grain in the West, the value of which to the farmer in every market in the West is at least 10 cents per bushel below a proper relation with the European consumer markets. You take 10 cents per bushel, assuming this continues through the crop year—and it won't, thank goodness—and it would mean a loss in farm revenues of \$400,000,000 . . .

That train of evil, that train of economic loss to a basic industry of this country, follows, I believe, from an overrigid system of government regulation over our railroads, which has extended over 10 or 12 years. By a process of control of revenues without any responsibility for operating costs we have destroyed the earning power of our railroads. We have thereby undermined their credit and from neither source, of earnings nor of credit, have they been able to maintain their equipment in a proper expansion with the growth of this country.<sup>1</sup>

These illustrations show that farmers have in the past, and may again in the future, suffer heavy losses from car shortages,

<sup>1</sup> BARNES, JULIUS H., *National City Bank Bulletin*, pp. 6 and 7, New York, N. Y., December, 1922.

whether the crop be grain or perishables. Whether the blame for this situation rests on the railroads, the government, or the general public is not a profitable question to discuss here. It is a situation which seems to be rapidly getting better.

Dealers sometimes use cars for storage purposes, instead of unloading promptly. To check this baneful practice, railroads now charge "demurrage," that is a fee for holding the car beyond the normal time for unloading. Under Federal regulations, the demurrage charge begins after 48 hours, beginning to count time from 7 a.m. next day after arrival of car. The 48-hour limit is "free time." Then for the next 4 days the demurrage is \$2 a day—after that, it is \$5 a day.

**Rates.**—The consumer has contact with the railroads at the two sharp points—rates and services. It is likely that the consumer will never be fully satisfied with either the service or the rates. The service performed by the railroad is wholly within its own power, subject only to the limit of the earnings produced by its rates, but over its rates it has no final control. The rates are fixed by the government acting through a commission of 11 men—the Interstate Commerce Commission. While railroads are owned by private individuals, they are selling a public service, and hence they are subject to governmental regulation. The Interstate Commerce Commission has power to prescribe minimum and maximum rates, and also prescribe accounting systems. The Transportation Act of 1920 instructed the Commission to establish rates which would yield a "fair" return, and further provided that for the 2-year period, Mar. 1, 1920 to Mar. 1, 1922, the words "fair return" should mean  $5\frac{1}{2}$  per cent, provided, further, that another  $\frac{1}{2}$  per cent at the discretion of the Commission, could be earned and put into improvements and equipment chargeable to capital account.

Can freight rates be lowered? No, not at the cost of service! No, not at the cost of labor! For high wages are, and have always been, a very effective factor in causing the introduction of labor-saving devices and economies. Yes, to the extent that rate reduction can be made by means of new economies of operation.

*Long Haul and Short Haul.*—It sometimes happens that a railroad due to water competition, charges substantially the same—or even more—for a "short" haul than for a long haul. Thus shipments of wool from Portland, Ore., go to Boston, at \$2.70

per hundredweight, and from Boise, Idaho, to Boston at \$2.58. From Portland to Boise is 493.6 miles. The haul from Portland is substantially 500 miles further, over the same road, but the rate is only 12 cents more. There is a lower rate from Seattle to the East than from Spokane, although the shipments use the same road, the same train, and pass through Spokane. Water competition, particularly competition of the Panama Canal, forces this peculiar and doubtful type of rate adjustment.

*What the Traffic Will Bear.*—Rates are made and doubtless should always be made on the principle of "what the traffic will bear," when those words are given their true economic meaning. Take hay for example; what the traffic will bear has two limits, an upper and a lower. The lower limit is the price the road can charge without losing money on the service; the upper limit is the amount the consumer is able and willing to pay for the service. The California farmer can grow alfalfa hay with profit at \$24 a ton. The New York consumer is willing to pay \$32 for this hay. A freight rate, therefore, of \$8 a ton can, and does, move this hay, by ship, through the canal. But since a common freight car holds but 10 tons of hay, a rate of \$8 would pay the road a revenue of \$80 a car from San Francisco to New York—return below the cost of the service. Hence no hay is shipped this far by rail. Alfalfa growers near Kansas City can produce hay profitably at \$20 per ton. The railroad hauls this hay to New York at a rate of \$12 a ton, which means \$120 a car for a haul of 1,300 miles—not a highly profitable business. In adjusting rates between the upper and lower limits of what the traffic will bear, the aim of the roads has been to charge each commodity such a rate as would permit that commodity to flow freely into commerce—high rates on precious goods, like silk; low rates on coarse goods, like coal.

*Joint Cost.*—It is impossible for the road to charge what the individual service costs, because such a cost is impossible of computation. Transportation costs are joint costs. In agriculture the principle may be illustrated by this simple question. If it costs the farmer \$10 to produce a sheep, how much did it cost to produce the wool and how much to produce the mutton of that sheep? Since wool and mutton are produced at joint costs, it cannot be exactly determined what the wool cost. Hence railroads cannot charge a rate which is based on the cost of hauling any one commodity, but only on the aggregate of all

commodities carried. So here again the principle of what the traffic will bear is forced upon the attention—a rate high enough to cover actual expenses of moving the freight-aggregatum, and low enough to keep the traffic stream flowing—that is, not exceed the value of the service.

*Increasing Returns.*—The actual work of surveying for a new road, constructing the cuts, fills, tunnels, bridges, laying the ties and rails, building the depots and side tracks, the terminal yards and stations, and putting into operation the locomotives, cars, and other equipment, represents a big investment in plant. In a small business, such as a retail grocery, the turnover of capital is six times a year. With a railroad, the gross earnings of 5 years are needed to cover once the capital invested. Railroads are called businesses of “increasing returns” because, normally, the business may be greatly increased without enlarging the plant, and with the increase of business comes a decrease in the cost per unit of doing business. Thus it costs as much to operate a railroad in January as in September (probably more), but the amount of business increases greatly from January to September each year. In 1921, there were 2,823,759 carloadings in January; 4,211,864 in September. In 1924, there were 3,362,136 carloadings in January; 5,166,742 in September. Seasonal production, marketing, and consumption account for these fluctuations in traffic and hence in revenue. The railroad with its costly plant and fluctuating business is either prince or pauper.

*Wagon Roads and Highways.*—The 1921 *Yearbook* of the Department of Agriculture contains an interesting table showing comparative costs of wagon and motor-truck hauls, from farms to shipping points, for the years 1906 and 1918. In the year 1918 it costs from two to three times as much to haul a ton 1 mile by wagon as by truck.

TABLE VI.—COST OF HAULING 1 TON 1 MILE BY WAGON AND MOTOR TRUCK  
1918

	Load			Cost of hauling, cents		
	Corn, bushels	Wheat, bushels	Cotton, bales	Corn, bushels	Wheat, bushels	Cotton, bales
Motor truck.....	58	84	6.6	15	15	18
Wagon.....	39	56	3.6 •	33	30	48

The use of motor trucks, now rapidly increasing, presupposes an improved highway. The motor truck and the farm automobile are the two chief causes of the strong movement during the past few years for good roads and surfaced highways.

*Improved and Unimproved Roads.*—Federal aid to states on joint projects, begun in the year 1918, amounted to \$375,000,000 up to and including the fiscal year 1923. When the Federal law was passed the total mileage of roads in the country was 2,859,575. Under this law the maximum that can be included in the joint system is 200,170 miles. By the close of 1923, 35 systems had been approved by the Federal authorities, with 111,699 miles. This system is planned to reach every town of 5,000 or more population. The 35 systems as approved show that of the 1,111 cities of over 5,000 population, 1,049 of them are situated on the system. The states and counties are rapidly supplementing the Federal system. The indications are, says the 1923 *Yearbook* of the Department of Agriculture that these roads, when completed, will pass within 10 miles of the homes of 90 per cent of the people of the United States, considering the country as a whole. In some states the percentage of the population reached will be still greater, reaching close to 100 per cent in a number of instances.

*Motor Trucks.*—One of the most striking changes in transportation in the period 1915 to 1925 was the use of the motor truck. It is now an important factor in farm marketing. Many illustrations may be cited. Take livestock marketing, for instance. There were hauled by truck to the St. Joseph, Mo., market in 1917, 56,529 hogs; in 1920, 129,228; to Omaha in 1917, 65,922 hogs; in 1920, 181,996; to Cincinnati in 1917, 79,202 hogs; in 1920, 249,113; to Indianapolis in 1917, 271,994 hogs; in 1920, 787,100.<sup>1</sup> In the hauling of peaches the motor truck is an important factor. In moving the 1923 peach crop in New York State, over 500 carloads were hauled by truck.

The truckers were able to pay a higher price for fruit than the car-lot shippers because of the economy of this method of distribution. They cover a wide range of territory reaching to almost all parts of New York State and well into Pennsylvania, getting stock into even the smallest towns.<sup>2</sup>

<sup>1</sup> "Marketing Livestock by Motor Truck," *Bull.* 8, Firestone Ship by Truck Bureau, Akron, Ohio, 1921.

<sup>2</sup> Brown, C. L., "Summary of Western New York Peach Deal, Season of 1923," *U. S. Dept. Agr.*, July, 1924.

The transportation of many other farm commodities is now extensively done by motor truck, but milk is the last one that can be mentioned here. Many of our larger cities are now receiving the greater portion of their milk supply exclusively by motor truck. Cincinnati, with a daily consumption of 190,000 quarts, receives less than 3 per cent of its supply by railroad. Kansas City, Mo., with a daily consumption of 133,000 quarts, receives about 75 per cent of its milk by truck and wagon; Atlanta, about 90 per cent; Indianapolis, about 60 per cent; Milwaukee, 65 per cent. The 1922 *Yearbook* of the Department of Agriculture publishes the statement that around Kansas City and Minneapolis, for a 30-mile haul, the rate for shipment by truck is less than half the cost of rail shipment plus the cost of bringing the milk to the railway station and hauling it from the terminal station to the milk distributor. In the Detroit area milk can be shipped by truck 60 miles for approximately the same rate as the railroads charge. Where the truck calls at the farmer's gate and hauls direct to the city plant there is an obvious economy of operation.

*Motor Truck-railroad Combination.*—A large part of the railroad's short-haul business is unprofitable. It is a sort of peddler freight-train service. Transportation efficiency is, therefore, greatly increased by coordinating rail and motor-truck operations. By the close of the year 1924, several railroads were using motor trucks on the highways for short hauls of less than carload shipments. The Pennsylvania system used this service between Cambridge and Salisbury; between Pittsburgh and Enon; between Overbrook and Downingtown; between Paschall and Wilmington; over New Alexandria Branch; between Pittsburgh and Monongahela City; between Gloucester and Newfield; between Wilmington and Perryville; between Arch Street, Palmyra and Bordentown; between South Amboy and Bordentown; between Holmesburg Junction and Morrisville; the New York Central between Yonkers and Brewster, (Putnam Division), and in five other zones (Syracuse, Newark, Rochester, Medina, Buffalo); the Lehigh between Geneva and Ithaca, N. Y. The motor truck is, therefore, doing less competing with the railroad and more cooperating.

The motor truck is also used by railroads in trap-car work and in terminal and suburban distribution.

In Cincinnati this has meant the release for a main line movement of the railroad of 66,000 cars, the elimination of 300,000 switching cuts, and the advancement of the freight movement by 52 hours.<sup>1</sup>

*Store-door Delivery.*—The purpose of store-door delivery is to expedite the movement of freight from and through the terminal. It takes the inbound freight of the delivery rail carrier to the premises of the consignee, or the outbound freight from the premises of the consignor to and through the terminal. This increases terminal efficiency and has the same effect, therefore, as increasing the car supply. Most large American cities have grown so fast that they have outgrown their railroad terminal facilities and the volume of freight handled is increasing much faster than population. The store-door collection and delivery of freight by railroad agencies has been in use in England for many years, and in Canada for several years. But this practice has not yet come into general use by American railroads. It was, however, in use in Baltimore for 44 years, starting there in 1867, under the auspices of the Pennsylvania Railroad. It was extended to Washington in 1883. A dispute with the Interstate Commerce Commission, 1911 to 1913, led to the discontinuance of this service. The Baltimore and Ohio inaugurated this service in both Philadelphia and Washington in 1886. On Sept. 1, 1903, this service ceased in both cities.

On that date and long afterward the terminals of the carriers in both Baltimore and Washington were scenes of the utmost and dire confusion. Freight jammed the platforms and warehouses and overflowed to the outside in mountainous masses.<sup>2</sup>

A coordinated system of transportation—rail, water, and highway—was recommended in the platform adopted by the United States Chamber of Commerce Committee on Transportation. It contained the following conclusions:

The best interests of the public, and rail, water, and motor carriers lie in the cooperation between the various agencies of transportation rather than in wasteful competition.

The greatest opportunity for cooperation is at the point where the capacity of the railroads is most limited and expansion is

<sup>1</sup> WHITE, WALTER C., "The Bus and Truck in Transportation," *The Nation's Business*, March, 1924.

<sup>2</sup> BANHAM, W. J. L., "Can't We Carry Freight to Your Door?" *The Nation's Business*, November, 1923.



difficult and costly; that is, in the terminal areas of our great cities.

Store-door delivery by motor transportation is the greatest contribution which can be made to the solution of the terminal problem.

Organized motor transport can also relieve the railroad from various forms of uneconomical service, such as switching between local stations and short-haul shipments within the terminal area.

It is to the interest of the public and the carriers that the economic limitations of each type of carrier be recognized, that the railroads be permitted to discontinue unprofitable service to which the motor is better suited, and that the motor abandon its efforts to handle general traffic over excessive distances.

To insure to the public continuity and reliability of service, sound financial organization of motor transport is necessary as is public regulation of common-carrier motor service.<sup>1</sup>

**Water Routes.**—The traffic by lake, river, and canal is large in the aggregate, although most of our river-borne commerce has dwindled, and most of our canals have fallen into disuse. One of the main arteries of commerce, however, is that by the Great Lakes, through the Soo Canal.

**River.**—The total expenditures of the Federal government for river, harbor, and canal improvements from 1824 to 1921, inclusive, was \$1,072,312,666. Most of these expenditures were made without regard to the requirements of commerce. Thus vast sums have been spent on the Mississippi River, deepening and widening the channel, removing snags and other obstructions to keep the stream open to commerce which has not materially developed. The United States government beginning in 1919, owned and operated vessels on the lower Mississippi and on the Warrior River. The results showed a total deficit for the 3½ years of operation ending Dec. 31, 1921 of \$3,873,023.<sup>2</sup> On the upper Mississippi, and on the whole of the Missouri River, both public and private efforts at profitable navigation have been unsuccessful. The annual appropriation bill in Congress for "Rivers and Harbors" is popularly called the "Pork Barrel."

**Lake.**—The Great Lakes are tributary to the grain belt and the

<sup>1</sup> *The Nation's Business*, p. 50, March, 1924.

<sup>2</sup> Sixty-seven Congress, First Session, *House Report* 408, pp. 333 and 335, part III, 1922.

great central agricultural area of America. While their commerce is chiefly iron and coal, yet the grain tonnage amounts to some seven or eight million tons a year. In years of large crops it is over 11,000,000 tons a year. The grain commerce averages about 8 per cent of the total. The size of the vessels in use in the Great Lakes increased rapidly from 1871 up to 1907. By this date grain boats were able to carry a cargo of 400,000 bushels of wheat. From that date on till 1925, little progress was made, the largest boat in 1925 having a length of 600 feet and carrying about 450,000 bushels of wheat. The depth of the Lake Channel (between the lakes) is a limiting factor. The length of the shipping season varies somewhat from year to year, although navigation usually closes about the first of December and opens about the first of April. Lake boats are commonly used for storage of grain during the winter. In the winter of 1924 to 1925, 6 cents a bushel storage was a common rate. The freight rate on wheat by lake from Duluth or Chicago to Buffalo varies greatly from season to season, and even from month to month. For the 4 years before the war, rates per bushel on wheat from Duluth to Buffalo were as follows: 1910, from 1 to 2 cents; 1911,  $\frac{7}{8}$  to 3 cents; 1912,  $1\frac{1}{8}$  to 4 cents; 1913,  $1\frac{1}{8}$  to  $3\frac{1}{2}$  cents. During the 3 years after the war the rates were: 1919, 3 to 5 cents; 1920, 4 to 7 cents; 1921,  $1\frac{3}{4}$  to 7 cents. In 1891, the highest rate was  $9\frac{1}{2}$  cents; in 1914, the lowest rate was  $\frac{3}{4}$  cents.

*Canal.*—The Erie Canal, constructed by the State of New York in 1825, was such a conspicuous and outstanding success financially that there were almost immediately many efforts by near-by states to imitate it. The canals of Pennsylvania, Ohio, and other states, however, lost a great deal of money. The Erie Canal itself became insignificant as a competitor with the railroads. The state made an effort to rehabilitate it by enlarging it, deepening it, changing its route somewhat—at an outlay of some \$200,000,000. The experiment has proved disappointing.<sup>1</sup> Only two great canals are any longer of commercial

<sup>1</sup> The old Erie Canal had a depth of 4 feet, a width of 45 feet, and would float a boat carrying 30 tons. The New Barge Canal has a depth of 12 feet, width of 75 feet, and will float a barge carrying 3,000 tons of freight. Five canal-boat terminals have been constructed in New York harbor, at a cost of over \$6,000,000, and having direct connections with both railroads and ocean-going vessels. The largest terminal is at Gowanus Bay, Brooklyn. Efforts are being made, by private interests, to develop sea-going canal boats.

importance to the American farmer—the Panama Canal and the Soo Canal (Sault Ste. Marie, Michigan). The Panama Canal brings the California grower of alfalfa hay into the markets of the Atlantic seaboard, as is evidenced by the fact that thousands of tons of this alfalfa have been sold in New York and Boston. The ocean shipment of citrus fruit through the Panama Canal is in the experimental stage. The Soo Canal is used for grain shipments to the extent of about 200,000,000 bushels a year. In years of heavy movement over 300,000,000 bushels pass the locks at the Soo.

*Great Lakes-St. Lawrence Waterway.*—An International Joint Commission of six men appointed by the United States and Canada brought in a unanimous report recommending the improving of the St. Lawrence River between Lake Ontario and Montreal, for the passage of sea-going vessels into Lake Ontario. If, and when, completed, this project will make Chicago a seaport, since vessels could pass through the Welland Canal connecting Lakes Erie and Ontario. The agricultural interests of the Middle West would profit by such an improved system of transportation. This area has a population of 40,000,000, and produces 70 per cent of all wheat, 66 per cent of all corn, 80 per cent of all oats, and 70 per cent of all barley produced in the United States. This area also produces in manufactured goods 89 per cent of all automobiles, 69 per cent of all meat product, and 58 per cent of all flour produced in the United States. Wheat and flour from this region, going into export, move: (1) all rail to New York; or (2) lake to Buffalo, then transfer to rail, to New York; or (3) lake to Buffalo, then transfer to Barge Canal to New York, then transfer to boat in New York harbor. It is estimated that a saving in freight, Chicago to Liverpool, of 10 cents a bushel could be made by the new waterway. Most of this saving would go direct to the American farmer.

*Summary.*—What is wanted by the producer and the consumer is a transportation "system," one sympathetic system, not a variety of disjointed, non-cooperating units. This system should include railways, waterways, and motorized highways. The railroads can furnish the wholesale transportation—the long haul, and the bulk commodity. The truck can furnish retail transportation.

## APPENDIX I

TRANSPORTATION COSTS, BY RAILROAD, OF FRESH FRUITS AND VEGETABLES  
Record of 9,476 cars, in the years 1920 and 1921. Freight as percentage of  
wholesale cost price<sup>1</sup>

	Cars	Average, haul miles	Freight, per cent
Barrel apples.....	2,022	400	12.0
Box apples.....	1,466	2,800	36.23
Bulk apples.....	18	600	28.01
Northern cabbage.....	331	400	40.89
Southern cabbage.....	60	1,000	66.34
California cabbage.....	20	2,300	70.8
Texas cabbage.....	65	1,800	75.12
California cantaloupe.....	431	2,800	41.66
Florida citrus.....	204	1,250	26.64
California cauliflower.....	90	3,000	57.99
California lettuce.....	617	2,800	47.15
Texas onions.....	395	2,000	46.91
Maine potatoes.....	295	552	35.15
Northern potatoes.....	355	250	20.15
Southern potatoes.....	63	1,300	28.82
Watermelons.....	75	1,240	44.89
All cars.....	9,476	.....	32.79

<sup>1</sup> Quoted from PHILLIPS, R. G., and FRASER, SAMUEL, "Wholesale Distribution of Fresh Fruits and Vegetables," for the Joint Council of the National League of Commission Merchants of the United States. The Western Fruit Jobbers Association of America, and the International Apple Shippers Association, Rochester, N. Y., 1922.

### Questions

1. What is the average distance food is transported to the United States consumer?
2. Name the six fundamental functions in marketing.
3. Show the relation of transportation to these other functions.
4. In what sense is transportation productive?
5. What are the two most expensive links in marketing and why?
6. What three hauls are usually involved in food transportation? Compare these as to distance and costs.
7. Why is transportation now costing more than formerly? Illustrate.

8. Illustrate the cartage problem in our large cities: Chicago; St. Louis; Norfolk; Jacksonville; Minneapolis; St. Paul; San Francisco; New York; Boston.

9. Explain "pierhead delivery" system in New York; example of 95 baskets of lettuce.

10. What five services do railroads perform?

11. What is the truth about railroad "watered stock?" rates? wages?

12. Discuss briefly growth and progress of railroads before 1916 and after 1916.

13. Discuss credit condition of railroads after the year 1900.

14. Show future needs of railroads.

15. Give provisions of Transportation Act of 1920.

16. Show efficiency of our railroad system.

17. State two things in which the consumer is interested.

18. What portion of the railroad freight business is made up of agricultural commodities?

19. What per cent of wheat?

20. Show causes, amount, and remedies for loss and damage in transit.

21. Criticize the speed of freight trains. Suggest causes and remedies.

22. What is meant by the car-shortage problem? Illustrate. Reasons and remedies?

23. Explain demurrage.

24. How are railway rates fixed? Should freight rates be lowered? If so, how?

25. Explain controversy over "long versus short haul." Illustrate.

26. In what sense do railroads charge "what the traffic will bear?"

27. Explain and illustrate "joint costs."

28. In what sense is transportation a business of increasing returns?

29. Compare costs of haul on country roads by wagon and motor truck.

30. Show cost and extent of our improved roads; how financed?

31. Show place of motor truck in agricultural transportation. Illustrate.

32. Show use of motor truck by railroads. Comment at length on store-door delivery service.

33. What coordinated system of transportation was recommended by the United States Chamber of Commerce?

34. Explain in detail the three branches of our water-borne commerce; their relative importance and success.

35. Suggest general improvement of all transportation agencies.

## CHAPTER VI

### STORAGE

The business of accumulating and storing these perishable products in times of flush production, preserving them safely, and distributing them in times of scarcity, is necessarily a part of production and equal in importance and dignity. The duties and responsibilities of the producer are no greater than the duties and responsibilities of those who store and distribute. Handlers and distributors of food products perform a great national service, and the fidelity and efficiency with which they perform this service has much to do with the maintenance of the original production of these products, on the one hand, and the maintenance of the health of the people on the other . . .

Both the producing and the consuming public at times take a curiously inconsistent attitude toward those who make it their business to buy, store, and distribute food products. Instead of looking upon this business not only as legitimate, but as indispensable to an even supply of food through the year, both producers and consumers have at times denounced it and condemned those engaged in it as food hoarders and profiteers. Such a view is most unjust. But for the absorption of the surplus during the season of production, the producer very often would be compelled to accept ruinously low prices, and but for the storage of this surplus for distribution during the season of lessened production, the consumer would be compelled to do without or to pay ruinously high prices. No fair-minded man, whether he be consumer or producer, can fail to look upon storage of food products, whether of grains or perishable products, in any other light than that of a necessary public service, if we hope to maintain our present industrial and community life.

From an address by HENRY C. WALLACE, Secretary of Agriculture, before the New York Mercantile Exchange, 1924.

The importance of storage was clearly stated by the late Henry C. Wallace, in the quotation just given. A true appreciation of this importance can be had by contrasting the United States, a leading country, with Russia, a backward country in the matter of storage. The development of refrigeration in Russia reveals an extremely backward condition. Here is a vast country, mostly agricultural, with an industrial population in a few cities of the west. Food supplies are, therefore, drawn from great distance, from regions of wide climatic differences,

such as Siberia on the north and Turkestan and the Caspian Sea region of the south. These producing areas could supply the cities with millions of tons of meats, fish, fresh fruits, and vegetables, if transportation, refrigeration, and storage were available in adequate volume, which they are not. In the summer time fresh meat is supplied by shipping live cattle thousands of miles from the breeding districts of Siberia, the northern Caucasus and the Steppe district. In the winter the cattle are killed and the meat frozen and loaded on freight trains—a primitive way of preserving meat. It often happens that warm weather causes a thaw of this meat and a consequent loss of millions of rubles. The vastly different conditions in the United States is a matter of common knowledge.

**Need of Storage.**—Storage overcomes the maladjustment between time of production and time of consumption. Most of the important agricultural crops, such as corn, hay, cotton, wheat, eggs, butter, potatoes, tobacco, etc., are produced in the summer but consumed during 12 months of the year. It is this seasonal nature of agricultural production which makes storage an economic necessity. As long as these field crops are grown outdoors, and not under glass, they will be grown in the summer time. In the case of butter and eggs, they can be produced in the winter, but they are not as yet so produced on an important commercial scale. Half the butter is produced in four months, namely, May, June, July, and August. Half the eggs are produced in the 3 months beginning Mar., 15 and ending June 15. Eggs and butter require cold storage; potatoes warm storage; grain dry storage. These are the three principal types of technical storage requirements.

**Storage Facilities.**—Storage facilities are adequate for some commodities, but not for others. Storage facilities are located in the right place for certain commodities, but not for others. To illustrate: the United States grain crop is 5,000,000,000 bushels annually; the storage facilities for this are approximately as follows:

Country elevators.....	550,000,000 bushels
Mill elevators.....	150,000,000 bushels
Terminal elevators.....	250,000,000 bushels
Farm storage—corn cribs, granaries, estimated.....	3,000,000,000 bushels
<b>Total.....</b>	<b>3,950,000,000 bushels</b>

Since country elevators are usually filled and emptied from four to ten times a year, there seems to be too much country elevator storage. Terminal storage for grain is ample, in normal times, at the primary terminal markets, but is considered inadequate at the seaboard. Cotton storage on farms is, in many cases, a strip of earth underneath a tree, where much weather damage to cotton results; cotton storage at the gins is also frequently in the open; at the terminal markets modern, dry, fireproof storage in ample volume is provided by the cotton merchants. Hay storage on farms is largely in the form of hay stacks. Hay sheds or barns shelter a large share of the crop in certain states. Farmer owned hay storage at shipping points is yet insignificant in quantity. The terminal markets are provided with storage to meet normal requirements. Farm potato storage is the most universal type of potato storage. It is a question worth careful consideration whether or not the farmers should own more shipping point storage for potatoes.

Butter, eggs, and dressed poultry require cold storage. Refrigeration of this type is more cheaply furnished in connection with the modern, large warehouse with the so-called direct refrigeration system. Apples, cheese, frozen and cured meats and lards, and fish, are also kept in cold storage. There are about 1,500 of such warehouses in the United States.

These warehouses are of two kinds, public and private. The public cold-storage warehouse is one in which food products are stored for hire, and the owner of the warehouse is not interested financially in the stored foods; the private cold-storage warehouse is one in which the owner of the warehouse stores his own goods.

*Volume of Storage.*—There is a very general lack of adequate storage warehouses throughout the country, says the Federal Trade Commission.<sup>1</sup> "Several cities have absolutely no public cold storage for the use of dealers in perishable foods." The large meat packers of Chicago, on the other hand, are so well equipped with cold storage in their refrigerator cars and in their branch houses that dealers in some cities are inclined to let the packers have the bulk of the business in butter, eggs, and poultry. Inadequate storage, either as to volume or location was found by the Federal Trade Commission in the following cities: San Antonio, Philadelphia, New York, Waterbury, Pittsburgh,

<sup>1</sup> "Wholesale Marketing of Food," p. 133, 1919.



Harrisburg, Wilmington, Wilkes-Barre, Savannah, Charleston, Norfolk, Jacksonville, Pensacola, Houston, and Knoxville. Other cities, such as Altoona, Pennsylvania, are reported by investigators to be grossly lacking in storage facilities. In Chicago, on the other hand, several large storage houses closed during the year 1924, for lack of business.

Once a month the United States Department of Agriculture publishes in *Crops and Markets*, a cold-storage report showing the amount of foodstuffs held in cold storage on the first day of the given month. Thus, in November, 1924, this report showed that on the first day of this month there were held total meats, 538,234,000 pounds (a 10-day supply for the whole country); frozen poultry, 55,430,000 pounds; butter, 135,251,000 pounds; cheese, 87,808,000 pounds; eggs, 158,850,000 dozen (a 17-day supply for the country); apples 5,573,000 barrels; also specified quantities of pears, onions, and preserved fruits.

*Regulation.*—Private storage is not subject to governmental regulation. Public storage, however, is the subject of regulation by the various states. The usual form of this regulation is: (1) the license, permitting the owner to perform this public service; (2) the reports which he must periodically make to the regulatory body; and (3) the limitation in the length of time food may be kept in cold storage, 12 months being the usual limit. It is obvious that the greater the number of limitations and restrictions there are upon the business of public warehousemen, the fewer public warehouses there will be. Considering the growing importance in the diet of fruits and vegetables, as well as dairy and poultry products, farmers may well give more attention to the storage problem in all its aspects—volume, ownership, location, and regulation.

*Effects of Storage on Quality.*—Much of the public regulation of cold storage reflects a state of feeling or prejudice of the public against cold-storage foods. The feeling is based on the suspicion that cold-storage foods deteriorate in storage and become, therefore, injurious to health. Under modern conditions of cold storage it is now recognized by those who know that food entering into cold storage in good condition is normally taken from cold storage in the regular course of business in good condition. If an egg comes out of storage rotten, it is because it went into storage rotten. An April egg coming out of storage in December is better than an August egg coming out of storage in

December, because it went into storage a better egg than the August egg, and because the extra 4 months of storage did not have any harmful effects on it. Dealers prefer for storage purposes the farm flocks eggs laid in March, April, and May, rather than those laid late in the summer, because the early spring eggs reach market in a cooler, sweeter condition. Professor William T. Sedgewick, Massachusetts Institute of Technology, testifying Oct. 24, 1911, before the hearings on cold storage, conducted by the Massachusetts Commission to Investigate the Subject of Cold Storage of Food and of Food Products kept in Cold Storage, spoke in part as follows:

So far as I am aware, there is no evidence whatever that cold storage is in any way prejudicial to the public health. On the contrary, it is one of the greatest aids to public health, in that it makes food more abundant and thus enables people to keep up their strength and to avoid such diseases as scurvy, from which the human race formerly suffered so intolerably. Various allegations, of course, have been made touching the wholesomeness of cold-storage materials, such as that deterioration takes place during cold storage, whereby people are poisoned or otherwise badly affected, but I have yet to hear of a single instance of carefully investigated and well-authenticated food poisoning due to the effects of cold storage, to deterioration during proper cold storage.

**Effect of Cold Storage on Price.**—The charge is frequently made that cold storage lends itself to speculation in food products. The charge contains an element of truth. But the word "speculation" must be critically used. Any person who buys food in large quantities and sells it in small quantities, at a higher price, is called a retailer, because his profits come from the difference between wholesale and retail prices, and are most secure when there is the maximum of price stability. With no price fluctuations at all, his profits would be most certain. But any person who buys food products and holds them for sale at a rise in price is a speculator. And equally so is that person a speculator who has food products of his own production ready for market but holds them for a rise in price. This form of speculation is both legitimate and inevitable, in the distribution of our food supply. Back of the charge against cold storage as speculation, however, is the implication that there is too much illegitimate speculation, meaning thereby price manipulation, fraud, deception, and cornering the market. Any intentional cornering of the market is to be unsparingly condemned. But looking frankly at the

facts, there seem to be fewer cases of cornering the market under our present cold-storage system than there were before the days of cold storage. Much of our cold storage is public storage, that is, the food in the warehouse does not belong to the warehouseman, but to many competing dealers. Upon examination, there were found to be over 3,000 persons storing goods, at one time, with the Quincy (Mass.) Market Cold Storage and Warehouse Company. Collusion or combination in such a case, to control prices or corner the market, would be difficult. Against the claim that cold storage is "hoarding," "profiteering," etc., must be set the fact that in many cases the spring price is lower than the fall price, thus registering a loss to those who own food products in cold storage. Examples of this are eggs, peaches, apples. Potatoes, kept in warm storage, show the same price risks and speculative losses.<sup>1</sup> Concrete illustrations of these facts were given in the chapter on the middleman.

It is difficult to state definitely the total effect of cold storage on price. The first effect obviously is to take food products off the consuming market in the surplus-producing season, thus making them scarcer and dearer at the time of maximum production. But just as prices are made higher to both producer and consumer during this into-storage period, so prices later on, during the out-of-storage period, are made lower to both producer and consumer. That is, storage tends to equalize prices throughout the year. Finally, there is the more general effect on production and on prices. The producer, finding a larger market and better prices during his period of heavy production by reason of the cold storage demand, is likely to increase his production. The total effect of this increase in production may lower the cost of living, or, on the other hand, it may just keep pace with increase in demand and hence not affect the cost of living.

<sup>1</sup> Potatoes show shrinkage in weight during storage, the shrinkage increasing as the temperature rises. Experiments at the New Hampshire Station (Circ. 20, June, 1919) show following facts:

Mean temperature of storage	Shrinkage	
	30 days, per cent	150 days, per cent
39	0.58	2.58
60	1.52	11.56

**The United States Warehouse Act of 1916.**—Farmers, bankers, and warehousemen should familiarize themselves with the provisions of the Warehouse Act. The purposes of this Act are: (1) to encourage proper storage of agricultural products; (2) to encourage proper and uniform practices in warehousing, and eliminate unsound or questionable practices; (3) to develop a warehouse receipt generally acceptable to bankers as security for loans on agricultural products.

This Act provides for the licensing and bonding of public warehouses storing agricultural products, so that the integrity of their warehouse receipts may be beyond question. There is no better or cheaper form of credit in commerce, industry, or agriculture than that based on a warehouse receipt. Warehousemen operating under state laws have been a little slow to change over to Federal license and Federal regulation, fearing the cost and the "red tape" involved. Those operating under this Act, however, generally have not found these two objections valid. The following are the seven requirements for licensing: (a) a suitable warehouse for the storage of the products; (b) a competent person in charge; (c) person in charge must have good business reputation; (d) person in charge must have certain amount of assets; (e) he must have proper equipment to take care of products; (f) he must be able to weigh and grade products correctly; (g) he must furnish an acceptable bond in an amount fixed by the United States Department of Agriculture.

When the farmer stores his product in such a warehouse he gets a receipt. This Federal warehouse receipt contains a description of the stored goods, their weight and their grade. This receipt may then be taken to a bank and used as collateral for a loan.

It has one distinct advantage over a warehouse receipt issued by a warehouseman operating under state laws, namely, it is looked upon favorably as collateral outside the state as well as in it, whereas receipts issued under the state law would be restricted largely to use within the state. The War Finance Corporation loaned large amounts on Federal warehouse receipts. The Federal Reserve Banks loan money readily to their member banks on this form of security. The Act is permissive, not compulsory. Only such warehouses are licensed as apply and are found to meet the requirements of the law. As originally enacted the law provided for licensing warehouses for the storage of cotton,

grain, tobacco and wool. As amended in 1923, the law now permits the Secretary of Agriculture to license warehouses for the storage of such agricultural products as he may deem proper. By the year 1925 warehouses had been licensed to store the following products: cotton, grain, wool, tobacco, dry beans, peanuts, broomcorn, potatoes, dry fruits and sirup. Under the Intermediate Credit Act of 1923 an impetus was given to the licensing of additional warehouses under this Act. The Act is proving a boon to cooperative marketing associations, by promoting the inspection, grading, and standardization of their products. The warehouse, under this Act, also furnishes protection against loss and damage from weather and from rodents. It also furnishes insurance at the lowest commercial rates.

*Expense.*—The warehouseman under this Act must supply a bond written by a reliable surety company. The amount of the bond depends on the size of the warehouse. In the case of grain it is 5 cents a bushel, maximum storage capacity, with a minimum bond of \$5,000 and a maximum bond of \$50,000. The price of these bonds may vary somewhat, but the usual rate is 1 per cent. The warehouseman pays a fee to the government known as an inspection fee, ranging in price from \$5 to \$50, depending upon the capacity of the warehouse. In addition, he must pay a license fee of \$2. The government inspects the warehouse at least four times a year. In practice the warehousemen have found that these inspections have resulted in some cases in a substantial reduction in their insurance rate. On cotton this has amounted to reductions of 10 to 25 per cent of schedule rates for licensed warehouses.

*Progress.*—The progress made under this Act has been satisfactory, additional warehouses applying for federal license about as fast as the government could take care of them. Cotton and grain warehouses have been so long and so successfully in operation under state laws that they are slow to change to the new system. Wool warehouses show a similar disinclination. The most notable progress has been in the case of tobacco warehouses. By the end of 1924, seven states had federal warehouses in operation, with a storage capacity of over 535,000,000 pounds. In Appendix I to this chapter are given complete statistics on the volume and location by states of all Federal warehouses in operation, Nov. 15, 1924.

## APPENDIX I

### TOTAL CAPACITIES OF WAREHOUSES LICENSED UNDER THE UNITED STATES WAREHOUSE ACT, BY STATES, MAR. 31, 1921 AND NOV. 15, 1924

	Cotton, bales		Tobacco, pounds	Wool, bags		Grain, bushels	
	1921	1922	1924	1921	1924	1921	1924
Alabama.....	79,350	243,378					
Georgia.....	218,000	459,896					
Louisiana.....		320,000					
Mississippi.....	25,100	474,375					
Missouri.....		42,000				40,000	209,355
North Carolina....	34,375	217,825	8,550,000				
South Carolina....	39,450	365,925	102,200,000				
Arkansas.....	11,900	352,750				100,000	1,581,002
Tennessee.....	10,000	50,036	19,188,000			15,000	
Texas.....	7,300	124,500					4,867,222
Virginia.....		1,000	153,336,000	2,500			
Massachusetts.....		3,000			5,500		
New York.....		1,000			2,000	6,000	100,000
Arizona.....		6,000			13,750		
Oklahoma.....	2,000					150,000	907,152
California.....	10,000				7,600	200,000	230,000
Wisconsin.....			9,900,000				
Iowa.....			800,000		2,000	304,000	
Kentucky.....			241,461,000				126,000
Illinois.....				95,000	52,000	27,000	100,000
Idaho.....					2,600	222,000	839,437
Indiana.....					3,000	96,000	585,036
Oregon.....					10,500		4,880,291
Vermont.....					1,780		
Colorado.....						255,000	451,613
Kansas.....						43,000	1,033,974
Pennsylvania.....						20,000	
Utah.....						180,000	
West Virginia.....						25,200	
Ohio.....						413,000	619,580
North Dakota.....						30,000	856,700
Washington.....							10,678,285
<b>Total.....</b>	<b>443,475</b>	<b>2,661,695</b>	<b>535,435,000</b>	<b>97,500</b>	<b>100,730</b>	<b>2,126,400</b>	<b>28,125,707</b>

Also, licensed under amendment of Feb. 23, 1923:

Georgia, peanuts.....	9,108 tons
New York, broomcorn.....	1,000 bales
Colorado, beans.....	10,000 hundredweight
Vermont, potatoes.....	16,000 hundredweight

**Questions**

- 1. According to Secretary Wallace, is storage production?**
- 2. In what sense is storage a "legitimate public service"?**
- 3. Contrast Russia and the United States in the matter of storage facilities.**
- 4. Show the need of storage. Three types of storage.**
- 5. What are our storage facilities? Grain; cotton; hay; potatoes; butter; eggs; other commodities.**
- 6. Describe two kinds of warehouses.**
- 7. What is volume of storage? Adequacy of cold storage?**
- 8. The monthly report on Cold Storage by the Department of Agriculture shows what holdings?**
- 9. What are the chief regulations of public storage?**
- 10. What are the effects of cold storage on quality? Give testimony of Professor Sedgewick.**
- 11. What effects has cold storage on price?**
- 12. Show in detail the purpose and provisions of the United States Warehouse Act of 1916. Expense. Progress.**

## CHAPTER VII

### CREDIT

A very large part of the world's business is conducted on a credit basis. In proportion to the magnitude of the industry, it is perhaps safe to say that a smaller amount of credit is used by farmers than by any other important class. The outstanding loans to farmers in the United States, nevertheless, amount to a significant part of the credit of the country . . . By far the most important single source of personal and collateral credit to farmers, as well as to most other industries, is found in the commercial banks of the country . . .

The truly progressive and constructive rural banker makes every effort to acquaint himself with the legitimate credit needs of the farmers in his community, and to supply this need to the extent of his ability. Similarly the progressive and constructive merchant frankly points out the advantages of the purchases with cash instead of on credit. The farsighted and progressive farmer in his turn aims to establish definite banking connections, is thoroughly frank with the banker as well as with the merchant, and prompt and businesslike in his dealings with both.

VALGREN, V. H., "Bank Loans to Farmers on Personal and Collateral Security, *U. S. Dept. Agr., Bull.* 1048, pp. 1 and 25, 1922.

Many agricultural commodities are produced in the summer time, are sold by the farmer at or near harvest time for cash, and reach the ultimate consumer only some weeks or months afterwards. The farmer does, in fact, get his share of the consumer's dollar a long time before the consumer pays this dollar. To bridge this time-gap between sale by farmer and purchase by consumer considerable use is made of the instrument of credit. Credit is a promise to pay money. Credit is more convenient than money. Money is, in its turn, a go-between in barter, but is more convenient than barter. But trade is, in its last analysis, merely a barter or exchange of one person's services and commodities for the commodities and services of other persons. This chapter is concerned with the use of credit for marketing purposes, that is, with one type of short-term credit.

**Short-term Credit.**—The farmer uses short-term credit primarily for production purposes: to a lesser degree he uses credit



in buying his supplies: and to a still less extent does he use credit for strictly marketing (*i.e.*, selling) purposes. Many farmers finance themselves out of their last year's crop. In buying supplies, the two almost universal forms of credit are: (1) "open account" or book account with the local store; (2) promissory notes, used with implement dealers or implement manufacturers. A study made by the Department of Agricultural Economics and Farm Management of the New York State College of Agriculture, covering the country stores in three New York counties, showed that at the general stores 65 per cent of all sales to farmers were credit sales: of this amount, 63 per cent was book credit and 2 per cent was promissory-note credit. At the implement stores, however, 56 per cent of all sales were credit sales; of this amount, 20 per cent was book credit, and 36 per cent promissory notes. The total cost of this store credit was found to be from 11 to 22 per cent, which is two or three times as great as for credit obtained from banks in the same area.

*Agricultural and Commercial Credit.*—Certain types of credit are purely agricultural. Examples are credit used for the buying of farm land, for improving land or erecting farm buildings, or buying farm equipment. Such credit constitutes long-time credit, and is covered by the Federal Farm Loan Act of 1916, which provides for credit running from 5 to 40 years. Or, the farmer might use short-time credit for buying dairy feeds, poultry feeds, or other materials for purely production purposes. This would also clearly constitute agricultural paper. In the event that the farmers' production enterprise requires "intermediate-term" credit, that is, credit running from 6 months to 3 years, such credit has been made available to him by the Intermediate Credit Act of 1923. Special agencies, or special credit instruments, have been devised to help furnish "agricultural credit," to "finance agriculture." When the farmer's product passes into the channels of distribution, the financing thereof changes from agricultural finance to commercial credit, involving the financial institutions of the entire commercial world.

Goods and merchandise of all kinds flowing in the channels of trade (wholesale and retail) constitute the basis of commercial credit. Since they are normally converted promptly into cash, they are a liquid security for loans. Commercial credit is purely

a banking problem. Commercial banks obtain their loanable funds from their depositors. It has been said that a bank owes its first duty to its community, and should build up the industries of that community. The truth is that the bank owes its first duty only to its depositors. Since the ordinary commercial bank holds most of its deposits payable to the depositors on demand, it must keep its loans liquid and safe. It is interesting to note, therefore, that for the typical month, October, 1922, the maturity of the paper discounted by the Federal reserve banking system averaged 10 days; for the New York bank, 4 days; and for the Minneapolis bank, 58 days. These banks, in other words, were handling standard, liquid securities.

**Examples of Marketing Credit.—Cotton.**—In the marketing process much credit is normally used, but it is mostly used by the regular dealers and not by farmers. And in case the farmers do use credit for marketing purposes, the banks usually supply this credit through various dealers as credit middlemen. With the growth of cooperative marketing, however, there has come a very sudden and a large growth of direct, bank-to-farmer credit. These facts can best be illustrated by taking an agricultural staple which requires a vast amount of credit financing, namely, cotton.

The cotton grower may, in the first place, sell his cotton for cash in full, to the local buyer (that is, to the local ginner or warehouseman, or resident buyer, or agent of city cotton merchant, or agent of mill). In such a case the local buyer is financed by credit at the local bank. Or he may consign to a cotton factor in the larger market, drawing a draft on him for nearly full value of cotton. In such a case the factor is financed by credit at the city bank.

The cotton grower may, in the second place, market his cotton through his cooperative marketing association. The local association takes full title to the cotton, and the grower draws a draft on the association for a part (say about 60 per cent) of the full value of the cotton. The association in turn deals in wholesale credit with the city banks of such banking centers as New York and Chicago. The reader will note carefully that better and cheaper credit has depended on the use of "standard, liquid" security, and this in turn has depended on the preceding marketing functions of inspection, grading (standardization), and storage. In other words, the marketing chain must be

strengthened, link by link, in order to improve the whole chain. It will be noted, also, that each loan made against cotton is secured throughout its life by documents representing the actual cotton which is being marketed; some of these documents bring funds from distant centers.

*Credit Documents.*—Certain papers known as “trade documents” or credit documents are used by the borrowers from banks who have cotton (or other agricultural staples) as the underlying security for the loans. In addition to the promissory note, the following are the commoner documents: warehouse receipt, compress receipt, bill of lading, bankers’ acceptance, and trade acceptances. The local buyer of cotton arranges with the local bank—and there are now country banks at all the principal primary markets—for credit at the opening of the marketing season, Aug. 15 to Sept. 1. This initial credit enables the local buyer to start the stream of cotton to flowing into the regular channels, and to pay the grower cash. The factors act as commission merchants in a few of the larger markets (such as Memphis, Augusta, New Orleans, Savannah, Charleston, Houston and Galveston). The factor obtains credit from city banks either on the warehouse receipt or his promissory note. If the local buyer sells to the cotton merchant, this merchant in turn performs the three functions of buying, storing, and selling. His credit is obtained from city banks. If the cotton is shipped to a mill, the shipper usually sends draft with the bill of lading. The mill in turn borrows at the city bank, largely on its own note, since its borrowings must finance not only the purchase of raw cotton but the payment of the labor employed in the mill, all of which borrowings must be met out of sale of manufactured products.

*Cooperative Cotton Marketing.*—A more detailed description of the leading trade documents may be given in connection with the cooperative marketing of cotton as in vogue in the years immediately following 1921. The grower delivers cotton to the association immediately after ginning, and draws a draft for part of the proceeds. The grower takes this draft to his local bank, where it is discounted (money advanced on it) and forwarded with bill of lading, to the association. The association pays the draft, and, pending the arrival of the cotton, borrows on the bill of lading. When the cotton arrives, it is held some days—or even some months—in a warehouse. The association

now borrows on a warehouse receipt, at a city bank. In practice, the associations have actually secured funds in three ways, namely: (1) bankers' acceptances; (2) trade acceptances; (3) War Finance Corporation loans.

The banker's acceptance is the best type of short-term credit, with lowest interest rate. It is a draft or bill of exchange drawn on and accepted by a bank. When endorsed by any bank having membership in the Federal reserve system, it can be rediscounted in any of the 12 Federal reserve banks. The purpose of the bankers' acceptance is to finance imports and exports, the domestic shipment of goods, the storage of readily marketable staples accompanied by a warehouse receipt. They may have a maturity of from 3 to 6 months when based on proper documents. In the case of cotton the documents would be the (a) warehouse receipt, (b) grade certificate, and (c) insurance policy. In other words, the commodity must be of a definite, known, standard grade. Without this standardization as to quality, it would fall short of being the basis of this form of cheap credit. The insurance policy would also indicate that another marketing risk had been taken care of, by means of shifting it to a specialized risk-bearing middleman, namely, the insurance company. The individual farmer or the association may use the bankers' acceptance with their local bank, and this bank may rediscount with Federal reserve banks, or sell in open market.

The trade acceptance is very similar to the banker's acceptance, except for the fact that it is not quite so liberal. It may be used only for domestic goods, and for goods actually moving in the stream of commerce—bought and sold, not stored, and also for goods sold by the retailer to the ultimate consumer. A trade acceptance is a draft or bill of exchange drawn on a buyer of the cotton, and accepted by him for payment, the time of maturity running from a few days to 9 months. The present limit set by law for agricultural paper of this kind is 9 months; for other forms of commercial paper it is 90 days.

*Grain.*—The individual farmer with grain stored on his farm frequently desires to hold it either for a higher market or for a more convenient time to market it. In such a case he is able to secure credit from his local bank, either by pledging the grain as security, or by his unsecured promissory note. This transaction begins and ends, usually, as purely local financing. The local bank, however, is usually able to borrow from a city bank

by endorsing and pledging these local promissory notes. It may be frankly stated, however, that the individual farmer does not make large use of this type of credit, preferring to sell his crop for cash and settle his various debts therewith—open book accounts, notes, etc. The dealer is usually the one who finances the grain from the time of farmer-sale to consumer-purchase.

There are two chief sources of credit used by farmers' cooperative elevators, the local bank and the commission house at the terminal market. In the Northwest (Minnesota, North and South Dakota, and Montana) these elevators use the local bank for but a small share of their credit requirements. They consign the greater part of their grain to the commission house, and are in turn financed by that house. Some commission houses have a written or verbal contract with the elevator, requiring the shipment of a definite per cent of the grain (60 to 100 per cent) to such house. Many others, however, depend upon the friendly relationship to hold the business. At the opening of the grain-moving season the commission house either permits the country elevator to draw drafts to finance early accumulation of grain for shipment, or advances funds in the form of a shipment of currency. Later in the season the method is the usual practice of draft with bill of lading, sent through the local bank.

In other sections of the United States the farmers' elevators use the local bank as the chief source of credit. Sale to mill, sale to terminal buyer, and consignment—each comes in for a minor part of the financing of the grain.

In the case of the farmers' elevator in good financial standing, there is severe competition for its business. Time and demand notes, either secured or unsecured by a mortgage of the elevator, are in some cases given in return for loans. Often the personal notes of the directors, and even stockholders, are required, where the reputation of the elevator is a little shaky. There are many cases, however, where the commission house does not ask for any security whatever, but simply instructs the farmers' elevator to draw on it as funds are needed. This competition among commission houses for more business tends to make their requirements for security of loans less severe than those of the local banks. As an insurance feature commission houses generally require that any elevator financed by them must hedge its grain on some organized exchange.

*Non-staples.*—The financing of non-staples introduces the problem of credit where there is more uncertainty of price and more fluctuations in price. In fruits and vegetables, except for those now standardized by the cooperative marketing association or by the government's shipping point inspection, there is a greater element of risk in respect to grade, quality, condition, transportation, and storage. In the case of well-managed farmers' marketing associations, however, credit in large quantities and easy terms is readily available. For instance, the Eastern Shore of Virginia Produce Exchange borrows in a busy season as much as \$1,000,000 from the three local banks in its area, on its unsecured, short-time, promissory note. The California cooperatives handling the highly standardized raisins, prunes, apricots, almonds, or walnuts borrow on regular trade documents. Since nearly all credit for the purpose of agricultural marketing is furnished directly or indirectly by banks, it is proper to introduce at this point a discussion of our Federal Reserve Banking System.

**Federal Reserve Banking System.**—There are in the United States 30,000 commercial banks. Everywhere people who are thrifty and businesslike enough to use banks for depositing purposes are able to borrow reasonable amounts from their banks. The depositors are, in general, also the borrowers. They rightly have first claim to bank accommodations; they create the loanable funds. These funds they may check out at any time, since they are payable to the depositors on demand. These 30,000 banks are separate and distinct institutions, each being owned in the community where it is located. To secure better cooperation among banks, and to secure (1) federated reserves and (2) an elastic currency, Congress, in the year 1914, passed the Federal Reserve Act.

This Act creates 12 Federal Reserve Banks, which have as their members (and owners) the national banks of the country, and such state banks as voluntarily join the system. Some 10,000 banks own the Federal Reserve Banks. They deposit their reserves there. In time of need they borrow there. To free the system of undue control, or the suspicion of undue control by large city banks and "Wall Street," a Federal Reserve Board of seven men is in general charge, five of these men being appointed directly by the President of the United States, and two

being ex-officio members—the Secretary of the Treasury and the Comptroller of the Currency.

*Rediscount.*—The local bank in financing an individual farmer or a farmers' cooperative association will receive in return some trade document as evidence of the loan. Take the promissory note as an example. If the local national bank at Downers Grove, Ill., for instance, has such a note and finds many other people are asking for loans to carry on their business, and its loanable funds are getting low, it will in its turn have to borrow. It is its privilege and legal right to take the farmers' notes to the Federal Reserve Bank of Chicago. If these notes are found upon careful examination to be sound and acceptable, the Federal Reserve Bank of Chicago makes a loan on them to the Downers Grove bank. This is called "rediscounting." The proportion that agricultural paper may form of the entire assets of a Reserve bank has been fixed by the Reserve Board at 99 per cent.

*The Discount Rate.*—The rate of interest the Federal reserve bank charges is called the "discount rate." It is a published rate, applying uniformly to all member banks in its district. It is, of course, lower than the rate charged by the local bank. The Reserve Bank rate is the wholesale price of money; the local bank charges the retail price, but the spread should not be much over 2 per cent, if that.

#### Rulings in Favor of Agricultural Marketing.

The Federal Reserve Board on Dec. 19, 1922 transmitted to Federal Reserve Banks its Regulation B, Series of 1922, superseding Regulation B, Series of 1921, relating to open-market purchases by Federal Reserve Banks of bills of exchange, trade acceptances, and bankers acceptances under section 14 of the Federal Reserve Act.

The new regulation was issued for the purpose of permitting Federal Reserve Banks to purchase in the open-market bankers' acceptance with maturities not in excess of 6 months which were drawn by growers or by cooperative marketing associations of growers of non-perishable, readily marketable, staple agricultural products, to finance the orderly marketing of such products and secured at the time of acceptance by warehouse, terminal, or other similar receipts issued by parties independent of the borrowers and conveying security title to such products.

The Board was moved to take this action by a desire to provide more ample facilities for financing the more orderly marketing of staple agricultural products, especially by cooperative marketing associations. This is in accordance with the principle heretofore recognized by the Board that the carrying of agricultural products for such periods as are

reasonably necessary in order to assist the orderly marketing thereof is a proper step in the process of distribution. There is a material distinction, however, between carrying agricultural products for such periods as are reasonably necessary to effect orderly marketing, and mere speculative withholding from the market in the hope of ultimately obtaining a higher price. Before purchasing such acceptances, therefore, Federal Reserve Banks should assure themselves that the agricultural products underlying the transaction are not being held for speculation but are being marketed in an orderly manner or stored as part of the process of orderly marketing.<sup>1</sup>

*Orderly Marketing and Speculative Marketing.*—The Federal Reserve Board has from time to time issued rulings making liberal provisions for the financing of cooperative marketing and “orderly marketing.” In no case, however, has the term “orderly marketing” been defined. Indeed the term is quite differently construed now by the various speakers and writers who employ these words. The Reserve Board has issued one statement which says, in effect, that orderly marketing up to a certain point is beneficial; beyond that point it ceases to be orderly marketing and becomes ordinary speculation. The Board uses these words:

In so far as the farmers' holding of crops contributes to the even flow of agricultural products to market, it is a legitimate part of orderly marketing, but in so far as it creates a shortage at one season followed by an excessive supply at another, it is not a part of the process of orderly marketing, but rather a disturbing element in the distribution of agricultural products.<sup>2</sup>

*United States Warehouse Act of 1916.*—This Act has already been discussed, as a storage measure, in Chap. V. It is necessary to refer to it here for its vital importance from the standpoint of marketing credit. The law creating the Federal reserve banking system specifies warehouse receipts as proper collateral for bankers' acceptances. And the bankers' acceptance constitutes prime commercial paper.

These warehouse receipts have now been made standard and uniform. The Federal government, in the first place, has one paper company manufacture a safety paper, on which the receipt is printed. These receipts are sold under bond, to the licensed warehouseman. This means, in fact, that every outstanding

<sup>1</sup> *Federal Reserve Bulletin*, p. 19, January, 1923.

<sup>2</sup> *Federal Reserve Bulletin*, p. 139, February, 1923.



licensed warehouse receipt, at any bank in the United States, will in general form look like every other one. This paper, therefore, represents a form of banking paper for marketing credit which is known and respected by bankers' everywhere. In the year 1924, for instance, country banks were able to borrow many millions of dollars, on this security, from the National City Bank, the Guaranty Trust, and the Equitable Trust, of New York City. This money was borrowed at the lowest market rates. In the year 1921, warehouse receipt credit to the amount of \$613,138,000 was used, being divided as follows: cotton, 41 per cent; grain, 15 per cent; miscellaneous, 44 per cent. Since that time there has been a rapid expansion in this form of marketing credit.

**Intermediate Credit Act of 1923.**—This act is primarily a production-credit law. It creates in each of the 12 Federal land banks a department known as an Intermediate Credit Bank. These banks loan money to local banks (rediscount farmers' notes, etc.) and also loan to cooperative associations, on standard, liquid security. They, therefore, serve in furnishing marketing credit, in case warehouse receipts are offered as security.

*Summary.*—Credit for agricultural marketing has been, and still is, largely a question of credit for the dealer. With the increase in the number of cooperative marketing associations, however, there comes an increasing demand from the farmers themselves for marketing credit. Federal legislation has provided the Federal reserve banking system and the Intermediate Credit Act, both of which make special provisions for agricultural credit, including marketing credit. Therefore, as fast as the farmers, either as individuals or as associations, provide the standard, commercial instruments of credit, they secure access to the loanable funds of the banks on the same terms as other commercial agencies.

## APPENDIX

1. List of the 12 Federal Reserve Banks:

- |                 |                   |
|-----------------|-------------------|
| 1. Boston       | 7. Chicago        |
| 2. New York     | 8. St. Louis      |
| 3. Philadelphia | 9. Minneapolis    |
| 4. Cleveland    | 10. Kansas City   |
| 5. Richmond     | 11. Dallas        |
| 6. Atlanta      | 12. San Francisco |

2. List of the 12 Federal Land Banks and the accompanying Intermediate Credit Banks, and states served by each:

District no.	States	Location of Federal land bank and Federal intermediate credit bank
1	Maine, Massachusetts, Vermont, New Hampshire, Rhode Island, Connecticut, New Jersey, and New York.....	Springfield, Mass.
2	Pennsylvania, West Virginia, Maryland, Delaware, Virginia, and District of Columbia.....	Baltimore, Md.
3	North Carolina, South Carolina, Georgia, and Florida.....	Columbia, S. C.
4	Indiana, Ohio, Kentucky, and Tennessee...	Louisville, Ky.
5	Louisiana, Mississippi, and Alabama.....	New Orleans, La.
6	Illinois, Missouri, and Arkansas.....	St. Louis, Mo.
7	North Dakota, Minnesota, Wisconsin, and Michigan.....	St. Paul, Minn.
8	Wyoming, Nebraska, South Dakota, and Iowa.....	Omaha, Neb.
9	New Mexico, Kansas, Colorado, and Oklahoma.....	Wichita, Kan.
10	Texas.....	Houston, Tex.
11	California, Nevada, Utah, and Arizona...	Berkeley, Cal.
12	Idaho, Washington, Montana, and Oregon.	Spokane, Wash.

Questions

1. Do farmers use more or less credit than other classes?
2. What is the farmer's main source of credit?
3. What should be the credit relations of local banker, merchant, and farmer?
4. Define credit. Show its necessity in agricultural marketing.
5. Show three ways in which farmer uses short-term credit.
6. Describe two common types of credit used by farmer in buying.
7. Compare cost of "store credit" and "bank credit."
8. Distinguish between agricultural and commercial credit. Three types of credit, on basis of length of term?
9. What is meant by a liquid security?
10. Functions and duties of commercial banks?
11. Give in some detail examples of credit in the marketing of cotton. Credit documents. Distinguish between bankers acceptance and trade acceptance.
12. Explain credit used in grain marketing. Local financing; dealer financing; cooperative elevators.
13. How is the marketing of non-staples financed?
14. Explain in detail our Federal Reserve Banking System: basis and purpose of; provisions of; rediscounting; discount rate; special rulings favoring agriculture; speculative marketing.
15. Illustrate credit features of United States Warehouse Act.
16. State purpose and provisions of Intermediate Credit Act of 1923.
17. Summarize farmers' credit position at present.

## CHAPTER VIII

### RISK BEARING

The proposal advanced last week to establish a futures market for raw silk in New York, with the aid of the facilities of the New York Cotton Exchange, is symptomatic of the constant search that men of every business are making for means to protect themselves against wide fluctuations in prices. The advantages of "stability" have never been so universally recognized. Most trades would be satisfied to have their prices either high or low if they could only have them stable.

Unfortunately, it is not in the nature of prices of raw materials to be stable over a long period. Almost every day brings forth its varying conditions of production and consumption which must be reflected in the markets and the unfortunate manufacturer who happens to guess wrong has no recourse . . . Unless he can buy his material and sell his goods at the same time, or he has access to some form of price insurance, he cannot avoid gambling to some extent—for even the intelligent and experienced adjustment of business affairs to future probabilities inevitably contains some element of gambling.

Most of the current intensive study of business has to do with developing a greater degree of stability and with reducing the unavoidable gambling to a minimum. So the silk trade, or part of it, turns to a futures market as a means of limiting the hazards of price fluctuations, which in raw silk have been particularly violent. The range of one grade between the high of January, 1920, and the low of June, 1924, was nearly 400 per cent . . . In 1923 silk was our most valuable import, exceeding even sugar.

*Editorial in Commerce and Finance, Jan. 21, 1925.*

The need of insuring the Belgian purchaser of foreign goods against futurity losses produced by excessive exchange fluctuations has caused the foundation at Antwerp of a clearing house for dealing in foreign exchange futures.

*Daily Consular and Trade Report, p. 890, Bureau of Foreign and Domestic Commerce, Nov. 26, 1920.*

The farmer, the merchant, and the manufacturer, all face the problem of risk. In the case of the farmer, the risk is the double one—the risk incident to producing the commodity; the risk incident to selling the commodity. Like the manufacturers and dealers referred to in the quotation at the head of

this chapter, the farmer is seeking for greater stability of price through greater stability of the price factors. But he must carry a greater risk of price change than the manufacturer because the manufacturer has greater control over output. Raw materials, therefore, fluctuate more in price than manufactured goods. The element of risk is everywhere present in business. This significant marketing truth may best be illustrated by definite examples.

**Examples of Risks.**—The “middlemen” are doubtless fully aware of the many risks which attend marketing. Individual farmers and farmers’ cooperative associations, however, often learn this lesson through experience rather than observation. The various types of risks may be roughly grouped under the six general headings below:

**Nomenclature.**—Trade names and trade terms cannot be made mathematically exact. The element of human judgment usually has to enter. And to the extent that judgment rather than fact enters, to that extent there will be difference of judgment followed by dispute. This is true, even in highly standardized products. Take eggs as an illustration. Practical grading of eggs is difficult, for no two eggs are alike. But in marketing eggs, the dealer must apply grades to the units which vary from a dozen eggs to a carload of 18,000 dozens. Most of the factors in grading eggs involve the use of human judgment. Whether an egg is a light float or a heavy float is easy to tell in extreme cases, but when the egg is near the line of distinction it is purely a matter of judgment, and difficult judgment at that. The Grain Trade uses a cipher code containing the word “bounce,” which means “time of delivery.” These words caused many disputes, until they were finally interpreted by a proper tribunal as meaning “time of delivery to carrier for transportation to destination,” and not time of delivery at destination. Consider flour: the Chicago Board of Trade Rules governing the inspection of flour state that “flour classed as sound shall be strictly sound, free from any and every defect or fault causing either smell or taste.” But all flour has smell and taste, hence the application of this rule is largely a matter of judgment rather than fact. The same Board’s rule for standard mess pork says:

Standard mess pork should be made from sides of well-fatted hogs, split through the center, cut into strips of reasonably uniform width, properly flanked and not backstrapped.

Here the words "reasonably" and "properly" are matters of judgment. The same Board's rules for timothy, clover, and other grass and field seeds, introduce the factors of soundness, purity and color. Each of these is a judgment, not a fact. California has made progress in standardization of fruits and vegetables. A recent non-compulsory standardization act of that state sought to establish standards of ripeness and color for marketable grapes. The trade asked, What color is a ripe grape? How green a color is green? Eastern grain dealers quote prices to prospective customers on "prompt shipment" and on "quick shipment." Some quote for "immediate shipment." With rapidly changing prices a difference of a few days in time of shipment is very important. The hay trade is perhaps the most fertile of all in the matter of trade disputes, particularly rejection disputes involving grades. Even the Federal grades for hay (which were not in general use in 1925) contain as grade requirements such terms as "brown leaf surface," "bleached," "off-colored," "in full bloom." Trade terms or nomenclature are, to sum up, vague enough and elastic enough to fit the changing requirements of each season's new crop; but they are, for the same reason, subject to different interpretations, and hence to misunderstandings and trade disputes. The trade dispute usually means a loss for one party to the trade. The risk in this field is, therefore, one of the serious risks in marketing.

*Perishability; Loss and Damage.*—Farm crops are sometimes classified as perishable, semiperishable, and non-perishable. But in all three cases they are subject to loss and damage. The fruits and vegetables are, by their nature, perishable commodities. It has been estimated that the spoilage, physical decay, and natural shrink between farmer and consumer is 40 per cent in this class of products. Somewhere along the marketing route—on the farm, during transportation or storage or wholesaling or retailing—loss and damage occur. Some of these risks are called "natural risks," such as those due to heat, cold, rain, snow, hail, wind, lightning, earthquake, disease, or vermin. Other risks combine the natural and human elements, or are purely "human" risks, such as theft, burglary, fire, accident, shipwreck, embargo; delay, car shortage, strikes, civil commotion, lockouts, war, change in the value of money, bad debts, errors, dishonesty, or incompetence. These risks all add to the cost of

marketing. Some of these risks, such as fire and burglary, can be covered by insurance. Others cannot be shifted in this way but must be borne by the agency performing the distribution service—whether farmer or middleman.

*Competition.*—A third type of risk is that known as competition. A new competitor may enter the field, thus reducing volume of business and increasing the unit expense for the present dealer. Or the competitor may introduce new methods of doing business, or may introduce new products which will compete with the old or even drive out the old.

*Supply Changes.*—Farm products differ from manufactured products most of all in respect to the lack of control over output. The manufacturer, when the market price registers oversupply (or underconsumption) can immediately curtail output; the farmer must keep on producing, waiting till next year, or perhaps several years (in the case of fruit orchards) to shift his production. His milk cows keep on giving milk; the hens keep on laying eggs; the apple trees keep on producing apples. The steel manufacturer can lay off half his labor, if demand slackens. But most farms are family-sized farms, and the farmer, his wife, and the three children constitute the labor supply. The farmer cannot dismiss his wife or his children temporarily, to tide over a slack demand period. The steel maker can close a blast furnace on Saturday night, and stop feeding it for a month or two. The farmer cannot stop feeding his horses or cattle. His business is unlike manufacturing. He must keep on producing. A big increase in the United States potato crop, for instance (as in the years 1922 and 1924), means a price below cost of production to most producers. The Georgia peach crop of 1924 was a painful example of this principle. A big increase in the wheat crop of Canada and Argentina simultaneously is likely to mean a loss to the American wheat grower. The government crop report on the supply of cotton or wheat may suddenly report a big increase. In one case an error in the government cotton crop increased (in the market sense) the supply of cotton and depressed the price. Supply increase may mean one of two things: the actual crop produced is increased beyond consumer needs; or the actual volume put on a particular market at a particular time has increased beyond consumer needs. Markets experience gluts and famines. In the handling of perishable foods it is a very serious problem to secure complete and even

distribution. Sometimes a glut in the market causes shippers to ship goods or divert goods to other cities, so that a genuine shortage may develop from the glut. The market may see-saw between glut and shortage. This happened in the New York market in 1918. A carload of cantaloupes arrived when the supply was about exhausted, and was sold at the extremely high price of \$7.50 to \$8 a crate. The news of such prices caused everyone to rush goods to New York, and soon there were 600 cars of perishable fruits there. The losses were terrific. Pears that had cost \$3.50 a box were sold as low as 30 cents. Incidents like this give rise to the rumor that city dealers are dumping produce in the river or dump heap to cause a scarcity and better prices. Says the Federal Trade Commission on this point:

There does not seem to be convincing evidence of any considerable premeditated dumping of good produce in order to maintain prices on the market, although instances were found where good vegetables were sold for practically nothing for feeding hogs because the market was glutted. Several tons of turnips were sold in one city at 25 cents a bag of 100 pounds, when the bags alone were worth 15 cents, on the understanding that the turnips were to be used for feed and not put on the market again. It is claimed that the turnips were not in bad condition, and this sale was made solely to prevent a break in prices . . . The wholesale dealer would be still more foolish to attempt price manipulation through dumping of goods which he himself owned. His loss would, in such a case, be certain, his gains quite uncertain. It seems to be pretty generally the policy of both commission men and wholesalers to sell goods for the best price they can get, reducing the price when it is necessary to do so in order to cause goods to move when the market is oversupplied. Often their judgment is at fault, and goods held for an expected increase of demand or decrease in supply go to waste . . . Thus a wholesaler in Washington reported a recent feeding of \$300 worth of cantaloupes to the hogs. These he had bought outright, but they spoiled while he was trying to sell them.<sup>1</sup>

*Demand Changes.*—Demand, as has already been seen in a previous chapter, is easily influenced to shift from one commodity to another. Advertising may cause this. In the case of many commodities, the weather causes demand to increase or decrease, as the case may be. Thus in the year 1921, an unprecedented

<sup>1</sup> "Wholesale Marketing of Food," *Report of the Federal Trade Commission*, pp. 152-153, June 30, 1919.



spell of hot weather caused record consumption of California lemons; this was followed by a period of unseasonably cold weather, during which these same lemons sold below cost of production. Weather affects the consumption of meat, fruit, ice cream, and other foodstuffs. Consumers' strikes occur at unpredictable intervals, curtailing the demand for certain agricultural products. The housewives of Galveston put on an "egg strike" in January, 1925, because eggs were retailing at 80 cents a dozen. The consumers of New York City put on a milk strike in 1919. A number of women's clubs in the principal cities of the country, early in the year 1919, resolved to discontinue the use of butter and eggs, and in some cases meat, until the prices of these products should come down. In April, 1923, the housewives in some cities went on a buyers' strike against sugar. In the winter of 1924 to 1925 a poultry disease was discovered in the East, and New York put an embargo on the shipment of live poultry to that market, thus depressing poultry prices in the Middle West. In the summer of 1924, the foot and mouth disease attacked the cattle in California. New York put an embargo on hay from California, thus stopping all further shipments of alfalfa from that state to New York. Demand is thus subject to many vicissitudes. It is a precarious thing. This fact makes "orderly marketing" difficult to carry out in practice, since the demand itself is not "orderly," that is, even and free from sudden increases or decreases.

*Price Changes.*—The one big risk of overshadowing importance in marketing is the risk of price changes. Changes in supply, changes in demand, changes in any of the factors which make price cause corresponding changes in price. The more perishable the commodity, the greater the risk in handling it and the greater the price fluctuations. Ordinary fruits and vegetables illustrate this principle, as shown in Table VII.

These wide price fluctuations may be contrasted with the rapid but narrow fluctuations in price of the staple commodities which are subject to future trading on the organized exchanges, such as cotton and wheat. "A 4 to 5 per cent change in the wheat market in a day," says the Federal Trade Commission, is considered most extraordinary yet the perishable produce market survives with an average daily range of eight to ten times as much.<sup>1</sup>

<sup>1</sup> "Wholesale Marketing of Food," *Report of the Federal Trade Commission*, p. 226, June 30, 1919.

TABLE VII.—PRICE FLUCTUATIONS, MINNEAPOLIS CENTRAL MARKET,  
SEASON OF 1907The Smallest Fluctuation for the Season is 100 Per Cent; the Largest 900  
Per Cent

Name	Quantity	Low price	High price
Onions.....	1-dozen bunches	\$0.06	\$0.15
Lettuce.....	Dozen	0.15	0.34
Head lettuce.....	Dozen	0.25	0.75
Spinach.....	Bushels	0.50	1.25
Radishes.....	Dozens	0.10	0.20
Asparagus.....	Dozens	0.35	0.80
Beets.....	Dozens	0.25	0.60
Peas.....	Bushels	0.50	2.00
Beans.....	Bushels	0.75	3.00
Sweet corn.....	Dozens	0.07	0.20
Cucumbers.....	Dozens	0.25	0.75
Cabbage.....	Dozens	0.35	0.75
Cauliflower.....	Dozens	0.50	2.00
Carrots.....	1-dozen bunches	0.25	0.60
Parsnips.....	1-dozen bunches	0.25	0.60
Potatoes.....	Bushels	0.60	1.75
Tomatoes.....	Bushels	0.50	5.00
Melons.....	Bushels	0.50	2.00

(From an unpublished manuscript, FEAR, D. W., "The Growing and Marketing of Small Fruits and Vegetables.")

**Profits as Pay for Risk Bearing.**—It is desirable to eliminate or reduce risks as far as possible. There remain many risks, however, that cannot be eliminated. They must be borne by middleman or farmer. There are people ready and willing to take chances in the hope of profits. Profits are necessary to pay for risk bearing. Profit which comes from risk bearing is called speculative profit. The simplest type of speculation is buying a thing expecting to sell it later at an advance in the market. In the distribution of foodstuffs there is necessarily much use made of the simple or complex forms of speculation, either by the dealer or by the farmers themselves. A simple illustration will make clear the part played by useful speculation. Take the matter of storing eggs. Under present conditions of American climate and hen habits, half the year's supply of eggs is laid during 3 months. Since eggs are consumed during 12 months,

a large part of the supply must be stored in times of plenty and be taken out of storage during time of shortage. During storage the price is sure to change. The storer expects prices to rise. He is willing to take a chance for this speculative profit. Without this hope of profit, no eggs would be stored. In such a case the farmer would likely get 10 cents a dozen for his eggs in April; in December (when he had none to sell) the price would likely be \$1 a dozen. Thus the storer of eggs confers a benefit on the farmer by making a market for him at a fair price; the consumer benefits by having a more uniform price throughout the year.

Does the storer of eggs (that is, the egg speculator) make huge or unclean profits from this speculation? The evidence is that he does not. Those who have spent years studying the question, tell us that there are many "marginal men" storing eggs—some years they store, some years they do not. The few dealers who store eggs after a disastrous storage year make big profits; their success is advertised: the following year vast numbers of the marginal men come in again and spoil the market for everybody. Thus years of profit and years of loss usually alternate in the egg storage business. Thus losses on storage eggs were registered in the years 1907, 1909, 1910, 1912, 1915, and 1917. The storers see to it that undue profits are not made on this business. For simplicity and justice and safety to the public, "no possible government control, or arbitrary fixing of profits, could equal this method of fixing the profits of the storers."<sup>1</sup>

**Reduction of Risks.**—Three questions may be asked concerning risks. Can they be reduced? Can they be shifted? Can they be eliminated? (1) Elimination. Risks can be eliminated only to the extent that the causes of the risk may be eliminated. Risks due to errors, for instance, can never be eliminated, for no human mechanism can be perfectly free from error. Risks due to nomenclature (trade terms) are gradually being partially eliminated. Risks due to perishability, loss and damage, competition, and price changes, cannot be eliminated. (2) Shifting. There are now in use over 50 kinds of insurance, as a means of shifting risks of various kinds.<sup>2</sup> There is also in use the trade

<sup>1</sup> BENJAMIN, EARL W., "Marketing Poultry Products," pp. 260-262, 1923.

<sup>2</sup> The following are the commoner kinds of insurance, a large part of which relate to marketing risks: life, fire, accident, sickness, health, marine,

practice of hedging on the organized futures market, as a means of shifting risks connected with marketing staple crops.

A risk which is shifted is not a risk eliminated, although growers of produce sometimes think that it is. A risk which is merely shifted must, of course, be fully paid for. An illustration will make clearer this principle. The apple growers in one of the principal apple belts of the United States were advised to organize a number of local cooperative associations, with local packing houses to grade, pack, and ship the fruit. They were told, further, that they would thus displace the local buyer, dominate the market, and "eliminate speculation" from the apple deal. They were further advised to practice "orderly marketing," which term was construed to mean the gradual feeding of the market, in a steady stream, over a period of several months, at a constantly rising price—the price advance to be enough (it was assumed) to cover all storage costs. The farmers organized some 30 packing houses, and put this program into effect. But the farmers learned, in the first 4 years of operation, that instead of eliminating the risk of price changes, they had shifted this risk to their own shoulders. In 2 years out of the 4, prices worked down as the season advanced, thus registering a loss on stock held in storage. Had it been made clear to the farmers at the outset that under the new plan they themselves must take all profits and all losses due to price changes—that is, do the speculating themselves—fewer farmers would have been discouraged and fewer quit the movement. But the speculative losses in apples, as in eggs and in other agricultural commodities, due to competition among dealers and competition between commodities just about offset the speculative profits.

The most important question concerning risk is, then, (3) Reduction of risk. Most risks cannot be eliminated; most risks cannot be shifted. Hence they must be borne by farmer or dealer. But most risks can be reduced by controlling or influencing the factors which cause the risk. The reduction of risk

---

lumber, travelers, church, plate glass, landlord, druggist, physician, credit, rents, profits, use and occupancy, elevator, grain elevator, compensation, fidelity, liability, automobile, collection, agricultural insurance, crop, hail, horse, hog, livestock, cyclone, windstorm, sprinkler leakage, exports and imports, parcel post, household furniture, merchandise in transit, baggage, dog bite, arsony, riot, fly wheel, explosion, boiler, strike, civil commotion, bombardment, floater, team, burglary, theft, and robbery.

through control of production has already been discussed in the chapter on Production. Progress is being made here by use of information put out by the Bureau of Agricultural Economics (crop reports, intention to plant, etc.). Control of production is also being secured through community production of one variety. Certain important price factors are being subject to influence or control.

a. Price insurance through hedging is the commonest form of this. Hedging and Future Trading are discussed at length in Chap. XI.

b. The functions of inspection, grading, standardizing, now performed by Federal, state, or cooperative agencies, are the next great influences in risk reduction. They eliminate many trade disputes as well as uncertainties of various kinds. This subject is treated at length in Chap. X. In addition to these two practicable forms of risk reduction, there is a third one, equally workable, namely, Market Information. In this field there is clearly need for cooperative organization among farmers. While the trade papers are full of valuable and reliable information, and while the Federal government is distributing, free of charge, much important market information, yet the fact remains that the most valuable market information must be had quickly by means of telegraph, telephone, or wireless. This type of information costs money and is worth it. The farmers of the Eastern Shore of Virginia are spending \$30,000 a year for telegrams, and find it cheap service in marketing 10,000 cars of potatoes. The orange growers of California spend \$75,000 a year for telegrams. The market information received is cheap at this price.

*Summary.*—Risk bearing is one of the fundamental functions in the marketing process. Risks, like production, transportation, or storage, are marketing costs and must be paid for. The factors making for risk can, in some cases, be eliminated or shifted. In other cases, they can be influenced but not controlled. By better production, by better standardizing, and by better market information, risks can be reduced.

#### Questions

1. What is the relation, if any, between risk bearing and future trading?
2. Can a manufacturer fix prices and thus guarantee his profits? Illustrate.

3. Why was future trading in foreign exchange begun in Antwerp in 1920?
4. Compare risks of the farmer and the manufacturer.
5. Give examples of risks; six general types and examples of each.
6. Do middlemen dump food in river to cause an artificial scarcity? Truth as to these charges?
7. Give additional examples of demand risks.
8. Which of the six risks is most felt by the middleman? Examples.
9. Justify profits in business.
10. Define speculative profit. Can you justify it? Apply it to egg marketing. Final results of? Cite Benjamin.
11. Discuss and illustrate in detail: (a) elimination of risk; (b) shifting of risk; (c) reduction of risks. Significance of the apple packing house illustration.
12. Summarize your conclusions on risk bearing and on risk reduction.

## CHAPTER IX

### SALE

The part played by bargaining in fixing the price in a local market is exemplified by the familiar case of U. S. Grant and the colt. All his life Grant was a poor "bargainer." His version of the colt story is here quoted.

There was a Mr. Ralston living within a few miles of the village, who owned a colt which I very much wanted. My father had offered \$20 for it but Ralston wanted \$25. I was so anxious to have the colt, that after the owner left, I begged to be allowed to take him at the price demanded. My father yielded, but said \$20 was all the horse was worth, and told me to offer that price; if it was not accepted I was to offer \$22.50, and if that would not get him, to give \$25. I at once mounted a horse and went for the colt. When I got to Mr. Ralston's house, I said to him: "Papa says I may offer you \$20 for the colt, but if you won't take that, I am to offer you \$22.50, and if you won't take that, to give you \$25." It would not require a Connecticut man to guess the price finally agreed upon . . . I kept the horse until he was 4 years old, when he went blind, and I sold him for \$20.

GRANT, U. S. *Personal Memoirs*, vol. I, pp. 29-30.

Selling is a service. It is one of the many forms of personal service in the marketing process. The mail-order houses and the self-serve stores are substituting printed catalogues and mechanical devices, respectively, for this human service, but as yet the mail-order houses and the self-serve stores do but a small fraction of the business of the country. Neither do they cheapen distribution perceptibly thereby. The large mail-order catalogue costs the house \$1, and many millions must be sent out to reach prospective customers. In manufactured goods there is a "buyer's market," for there are so many substitutes available. In agricultural products there is also a buyer's market, for not only is there a surplus of 15,000,000 tons of food each year, but it is also found that substitution of one food for another readily and frequently takes place. This surplus and this substitution make selling a highly important and very

difficult function. This is one reason why comparatively few of the larger cooperative marketing associations have been conspicuously successful in securing enough talent in their sales managers, and why so many of them have frequently changed sales managers and price policies. The selling service resolves itself into two parts: (1) find a buyer; (2) get "what the traffic will bear"—no more, no less. The phrase, "what the traffic will bear," rightly construed, represents a correct price theory. It does not mean exacting the utmost that can be had, for the traffic will not bear (*i.e.*, survive) this treatment. The two general divisions of selling are wholesaling and retailing. Wholesaling is relatively cheap,—that is, the percentage of the consumer's dollar going to the wholesaler is small. Retailing is relatively dear—that is, the percentage of the consumer's dollar going to the retailer is large.

**Confidence.**—Successful salesmanship is said to depend on two factors—the physical factor of a good commodity, and the psychological factor of confidence. In the business world there is a money value for "Good-will," which means reputation. And reputation or good-will rests on confidence. Confidence must be built up slowly, and can be acquired in no other way. The story is often told of a man who, on a wager, stood at the end of a bridge all day offering \$5 gold pieces for 5 cents apiece. He sold none, because of the lack of confidence. The successful cooperative marketing agency is certain to learn that it takes years to build up confidence; that it is a sound principle of salesmanship to label the quality of the product and sell it for what it is; and, finally, that it is a sound principle of advertising to have a good article and tell the truth about it.

**Methods of Selling.**—The farmer is a wholesaler. Shall he go further with his product and become a jobber and a retailer? There has been much futile talk about the farmer's "right to control his product till it reaches the consumer's table." Nobody denies him this right. This is an economic question, however, not a moral one. The farmer ought to do and will do what brings the highest net returns. Under our present economic system of division of labor there are all sorts of opportunities to make new experiments in distribution methods, or to make the old experiments over again. Our marketing system is a changing one, not a fixed one. It is in process of evolution now. The farmer may go the whole way in marketing—produce the raw



material, process it, manufacture the finished product, and retail it to ultimate consumer. Or he may consider himself merely a manufacturer and wholesaler of raw material. The farmer may, if he sees fit, try "direct marketing," or he may continue to use the present roundabout middleman system. Since the manufacturers have experimented widely with this problem, the farmer may wisely ask, what practice does the manufacturer now follow in this matter of direct marketing? The answer is, they use many sorts of methods, a few examples of which may be cited.

*Direct Marketing.*—The William Douglas Shoe Company is a familiar type of manufacturer that combines the three processes; manufacture, wholesale, and retail. In this case the manufacturer owns and operates a line of retail stores, so that the customer buys shoes "direct from the manufacturer." There are hundreds of other large manufacturers of shoes, but most of them do not do business in this way. They are evidently satisfied that they secure a wider and cheaper distribution of their product through the "indirect" system.

*Elimination of Jobber.*—The Proctor and Gamble Company (makers of Ivory Soap, & Crisco, and other products) announced a new policy in 1920, that they would henceforth distribute their products direct from the factory to the retailers, omitting wholesalers and jobber. At the same time a large competing soap company (Fairbanks) announced that they considered the regular channel of wholesaler-and-jobber to retailer the best and cheapest method, and they would continue to use this channel. The experiment being made by Proctor and Gamble is also being made by numerous other manufacturers—such as Spalding, Gillette, Ingersoll, Sherwin-Williams, Mellin's Food, Colgate, Nemo Corsets, Victor Talking Machines, Gorham Company, H. T. Heinz, and others, all of whom use national, consumer-appeal advertising. The Winchester Repeating Arms Company, following the war, radically changed a distribution system which had been in operation for over a generation. This company combined, in 1922, with the largest wholesale hardware house in America, the merger being called the Winchester Simmons Company. Six or seven thousand retail dealers buy small blocks of preferred stock (\$300 each) in the company, and thus become dealer-agents. This company has welded together a manufacturing business, a jobbing business, and several

thousand locally owned retail stores. The aim is to lower the cost of distribution of the Winchester-Simmons products.

The Big Packers illustrate the principle of marketing from factory direct to retailer. This has given the Packers better control of distribution, particularly the routing of their shipments, the avoidance of glutted markets with a highly perishable product, and lastly, better control of quality, by doing their own icing and storing. Thus far, however, the Packers have refused to enter the field of retailing which would create a "direct from factory to consumer" system. It is highly probable that they could not cheapen distribution thereby. In spite of all this experimentation and change in distribution, which is now going on, by far the greater number of manufacturers are using the "regular" channels of wholesaler, jobber, and retailer. Thus far they have found nothing cheaper and better.<sup>1</sup>

In agricultural products we find similar experimentation and change all around us. No revolution is taking place; no sudden discovery and elimination of huge and hideous profits in marketing. There is an evolution going on, a painful discovery of minor economies and savings here and there, whereby the system may be made cheaper, or better, or both. Experimentation with four sales agencies may be cited.

*Commission Merchant.*—Is the commission merchant an economical agency for selling the farmers' products? Yes, in some cases; no, in others. In certain great staple commodities, such as grain and livestock, the commission merchant is the usual agency. Custom and state law have established a rate of charges and a code of business ethics which render this selling service a safe and reliable one for farmers to use. And trade competition tends to eliminate the poor bargainers among the commission merchants. In many of the states the law requires that a commission merchant must be both licensed and bonded. It is unfortunately true that some crooked commission merchants

<sup>1</sup> There is a "human" side as well as an "economic" side to this question. Recently a large lumber manufacturing company acquired a line of retail yards in the Northwest, thus competing with independent local dealers. Farmers and others had a feeling of suspicion and even resentment against a foreign corporation (a "lumber trust" as they termed it), working in a community through a hired agent. Some large lumber companies find it best, in the end, to cooperate with the local dealer, who is a citizen in the community, and to help him develop more progressive methods of merchandising.

do find a way around such a law. In Minnesota, a state where much grain and livestock are sold on a pure commission basis, one of the strictest laws is found. Here the law requires all sellers of grain consigned to them for sale on commission, to furnish their principal, for whom the car is sold, with a report of the sale of each car, showing the grade of the grain, price sold for, date, hour, and minute of sale, and to whom sold. In grain and livestock the commission merchant is an economical agency.

Commission merchants are numerous in the markets for eggs and poultry, and for dairy products. It is probably in the egg and poultry market that the most abuses occur. Here the farmer generally lacks the protection of both state law and trade custom. The market is a disorganized one, many fly-by-night men operating in it for brief and precarious periods. It is for this reason, among others, that there has been in recent years a big decrease in the amount of farmers' trade handled in this way. The commission man still operates largely in hay and potatoes, usually functioning in two capacities (at the wish of the country shipper)—either as consignee (to sell on commission only), or as cash buyer. Of course, if he acts as consignee he cannot sell to himself; he cannot be principal and agent in the same deal. With increased use of grading and standardizing (particularly with shipping point inspection) there comes a decrease in the commission business, and an increase in the volume of business handled through a broker, or sold direct to cash buyers. One large cooperative which sells potatoes, sells its first grade, branded product direct to cash buyers (*i.e.*, wholesalers and jobbers), while its ungraded stock is handled through a select list of commission merchants in a few cities, who charge the cooperative 5 per cent instead of the regular 8 per cent which is the prevailing rate in these cities. A 3 per cent saving is a substantial economy.

*Farmer Sales Agent.*—In certain cases farmers are now employing a full-time representative to sell an agricultural product. Examples of this are found in fruits, butter, vegetables, livestock, grain, wool, cotton, and tobacco. The minor problem is, what does this agent charge for his service? The major problem is, what price does he get for the product? On this latter point so many conflicting claims are made by both parties at interest—the farmer sales agency and the regular commission merchant, or broker—that the truth is hard to discover. Regular dealers

claim, for instance, that the farmer-live stock sales agency frequently handles the business at a lower cost but receives, in turn, a lower price than do the regular dealers. It is difficult, if not impossible, to secure statistical proof or disproof of this assertion, because of the number of classes of grades of livestock sold each day, and the consequent number of different prices paid the same day on the same market. The question may best be answered with another question: which salesman, the farmer-employed agent or the commission merchant, has had the more successful experience on the market? The farmer has three choices here: (1) He may employ an amateur to do the selling, letting him secure experience and education on the market. In this case the farmer pays for the education. (2) He may hire an experienced commission merchant, inducing him to abandon his own private business and to ally himself with the farmer-company, for a stipulated salary or income. (3) Or finally, he may consign his stock to an experienced commission merchant, using his services as needed and paying the customary commission charge therefor.

One benefit should be mentioned which comes from the farmer-owned agency, and that is the experience and the "inside information." In all markets there are either minor or major trade abuses (or both), and farmers' knowledge of these abuses tends to lessen them.

*Brokers.*—A broker is the seller's agent whose duty it is to find a buyer. He performs the same selling service as a commission merchant. But he does not receive the goods on consignment, or have the goods in his care, or often have charge of their physical handling. He does his work, therefore, at a much smaller charge than the commission merchant. With the progress of inspection, grading, and standardization, there must come, therefore, an increase in the number of food brokers and a decrease in the number of commission merchants. The cheaper agency will drive the dearer off the market, under the law of the survival of the fittest. The field of the broker, however, is limited to those products which can be highly standardized, and this standard represented by a definite grade. A commodity like wheat, for example, is highly standardized as to color, weight, moisture content, per cent of foreign material, variety and class. Unfortunately, the flour miller looks at the chemical content—per cent of gluten, ash, protein, etc.—and this chemical

content is not standardized or indicated by grade. On the wheat market, therefore, carloads of No. 3 wheat, of high protein content, sell every day for a higher price than cars of No. 1 wheat. In handling wheat, therefore, the commission merchant is still able to hold his own in competition with the broker.

Many cooperative associations which perform the market function of grading and standardizing are thereby able to sell their product through a broker, at a saving ranging from 3 to 12 per cent. This principle may be exemplified by walnuts, almonds, prunes, and eggs.

The sales department of the California Walnut Growers Association determines the quantities and grades it will offer in each large market, and authorizes its agents (the brokers) to offer walnuts to the wholesale grocery and wholesale produce trade. The 1918 *Report* of this association says:

In every jobbing center of importance, there exists what are known as food product brokers, and each food product shipper selects one of such brokers in each market as his exclusive representative. These brokers secure orders for account of the shipper, attend to making deliveries on arrival of the goods, and, in fact, act as the shippers local representatives, in every way protecting his interests wherever possible, and, as a remuneration for their services, they usually receive a commission of from 1 to 5 per cent of the sales price, depending upon the particular commodity handled. The Association pays a uniform commission of 1½ per cent of the f.o.b. value of walnuts unshelled, and 2½ per cent on shelled walnuts . . . It should be noted that the Association makes sales only to wholesale grocers and wholesale produce firms. All large distributors of food products, with but few exceptions, distribute their products through similar channels, which are conceded to be the most practical and economical food product agencies now in existence.

The California Almond Growers Exchange has a highly standardized product. This Exchange states in a recent report that:

The Exchange is represented by brokers in every important market of the United States, and is also represented in England and Canada. . . . The Exchange has sold to more than a thousand wholesale dealers in a single season . . . The Eastern broker receives 2½ per cent for his services which consist of the following: Soliciting orders from customers; forwarding them to the Exchange; telegraphing when

necessary; and unloading and distributing our cars on arrival. Two and one-half per cent is a very reasonable brokerage for the service rendered.

Brokers are selected in large trade centers and given exclusive contracts to handle California prunes. In a large market, such as New York City, this contract is looked upon by the broker as very valuable. Such contracts usually run 1 year at a time. The broker is considered an economic agency for handling this nationally advertised, highly standardized product.

The advantage of the broker system over the commission-merchant system is exemplified by the experience of Minnesota eggs. Owing to the uncertain age, color, size, and quality of the country eggs, the country storekeepers for many years found it unavoidably necessary to consign these eggs to commission merchants. Terminal dealers refused to carry the risk of such shipments. The country merchant assumed the risk, but shifted it to the farmer by paying a safely low price for the eggs. The commission merchants charged a commission of substantially 10 per cent. Within a period of some 20 years this system was entirely transformed. There came improvements in transportation, in refrigeration, in handling, and grading eggs, and finally in egg production from flocks of pure-bred poultry. The risks of handling were in part eliminated. The costs of handling were, by the same process, reduced. Now jobbers buy the eggs outright from country shippers, or brokers find buyers in city markets. In either case the "toll" for the service is about 2 per cent, or one-fifth of what it used to be.

*Auction.*—The two conspicuous cases where the auction method of sale at terminal market has survived and grown in importance for many years, are wool and furs. The fur auction at St. Louis continues to be the outstanding fur market of the United States. The wool auctions of Boston hold a similar position for wool. The wool auctions of England, South Africa, Australia, and New Zealand determine wool prices for the world. The auction method of selling farm products has reached a position of importance in fruits and eggs and other products. There are at present several private auction companies, which receive and sell, at public auction to the highest bidder, graded and standardized products such as Sunkist oranges, Skookum apples, and Pacific coast eggs. In the auction room itself no samples are displayed. Prior to the opening of the daily auction

the buyers visit the pier or warehouse where type samples are on display. The entire lot must, of course, be up to the grade and quality of the sample. In the case of the f.o.b. auction no samples are exhibited; only a catalogue is used by the bidder, and this catalogue lists the product under official shipping point inspection. Both types of auction promote marketing through farmers' cooperative associations, because they offer a cheap sales service for graded and standardized commodities. The *bona-fide* auction is highly competitive and secures the highest price justified by buyer demand.

A noteworthy example of the successful use of the auction, in its simplest and cheapest form, by farmers, is that of the association operating a hog auction in the San Joaquin Valley of California. This is an unincorporated, no-contract, cooperative association with the somewhat misleading title of "California Farm Bureau Marketing Association." A calendar is issued at the beginning of the year, giving place (village or city), and date of each hog auction for the next 12 months. Farmers bring in their fat hogs, and the buyers for the Los Angeles or San Francisco markets buy for cash. No matter how few hogs the farmer brings in, there is a good cash market, for the buyer gets volume for car-lot shipments by buying many small lots. The farmer has no bookkeeping, no waiting, no uncertainty. He receives cash. In 6 years the sales of these auctions have totaled \$6,000,000 and the number of hogs sold has amounted to 285,953. One man serves as Secretary-treasurer and General Manager. Under his management 1,039 sales have been held, and 3,343 cars of hogs sold. The auction has had a marked effect in improving the breed of hogs produced by the farmers.

**Cooperation with the Trade.**—Very few marketing plans (individual or cooperative) eliminate the middleman. Most plans to fight the middleman have been unsuccessful. Indeed, the tendency now is in the opposite direction, namely, towards cooperation with the middleman. Since the legitimate middleman service must be performed by some agency, the question arises whether or not a new agency should be set up, or the old agency improved? It is interesting and instructive to see how this principle in marketing has been recognized, and an appropriate program therefor adopted by the California Fruit Growers Exchange. These orange growers found, as others have found, that the most expensive link in marketing is the retailing. The

program which they adopted to meet this condition was cooperation—that is, cooperation with the retailer. For many years there has been close cooperation with both the wholesale and retail trade in developing the best methods of fruit merchandising. A so-called Dealer Service (established in 1916) has been successful in reducing by 6 per cent, the costs of retailing fruit, and this is a saving of vast importance in a business of such magnitude. The manager of this Exchange, M. G. Harold Powell, wrote, shortly before his death:

One of the important developments of Exchange advertising is the dealer service work, which is conducted on an extensive scale for the purpose of acquainting the retail trade with the sales possibilities of oranges and lemons, serving as a clearing house for selling and display ideas and enhancing the trade preference for the "Sunkist" brand. Dealer Service men are trained in window dressing, and in addition to arranging attractive orange and lemon windows and placing Sunkist display material, are trained to give sound merchandising advice which will increase the merchant's sales of fruit. Personal dealer service work was carried on throughout the entire season in five sales divisions. In the course of this work 19,643 retail dealers were visited, displays being arranged personally in 15,322 stores, or 78 per cent of those visited.<sup>1</sup>

In the 1923 *Report* of this Exchange mention is made of the enlargement of the dealer service work. There are 400,000 retail stores selling oranges, and the Exchange hopes to teach these retailers the three axioms: good display; reasonable margin; rapid turnover. In the 1924 *Report* of the Exchange further enlargement is noted, including the personal visit to 44,000 retail stores by service men of the Exchange.

**Price Policies.**—One of the most difficult problems to be solved in agricultural marketing is that of a correct price policy. This problem is solved for those few commodities now dealt in on the organized exchanges of the world, for here hundreds, even thousands, of competing buyers and competing sellers place their buying and selling orders. These buying and selling forces express effective supply and demand on the market and thus register the equilibrium price. Most products, however, have markets which vary in scope from national to purely local. Utah hay can have no effect on the Boston hay market. In marketing fruits and vegetables, dairy products, livestock, and many other

<sup>1</sup> *Report of the General Manager, California Fruit Growers Exchange, Los Angeles, Cal., pp. 22 and 23, Oct. 31, 1921.*



farm products, therefore, the elements of bargaining and "price strategy" enter. If farmers are organized to do their own bargaining, what shall be their price policy? Farmers may do one of three things; (1) charge too much; (2) charge too little; (3) charge what the traffic will bear.

*A High Price.*—When a farmers' organization becomes a monopoly (that is, controls substantially three-fourths of a commodity or more), it is in a position of great strength in price strategy and price determination. It will—for a time—have power to fix prices. Assuming that such price-fixing escapes the condemnation of the Federal government, and assuming also that the farmers' association should fix the price too high, what will be the result? Experience has given the answer. The Associated Raisin Growers of California, organized in 1912, furnishes a characteristic illustration. Beginning in 1913 with a price to growers of 3.46 cents per pound, this was raised by 1916 to 4.21 cents; in 1917 to 4.85 cents; in 1918 to 5.50 cents; in 1919 to 10 cents. The Federal Trade Commission investigated the company and reported: "Our conclusion is that the price fixed by the Raisin Company for the 1919 crop was in excess of a fair and reasonable price."<sup>1</sup>

Whatever the consumer may have felt or done, these prices proved too high for the raisin growers themselves. It is not necessary to point out here the financial difficulties of this company, its reorganization, and successful refinancing, and final adoption of new and sounder price policies. The three evil effects on the industry of too-high prices were: *a.* a decrease in consumer demand; *b.* competition from imported raisins; *c.* increase in raisin acreage in California. The president and general manager of the new company, the Sun-Maid Raisin Growers of California, reported these facts to the members in these words:

The records of the raisin industry prove that as long as raisins were selling at prices in line with the general level of other food commodities, the industry was healthy. It was only when prices soared to levels entirely out of line with the cost of other foods that trouble began. That fact was clearly shown in the chart which was part of my annual personal report and which was printed on page 17 of the December issue, illustrating graphically how one-third of the crop remained unsold when prices got out of line, how thousands of tons of foreign raisins were

<sup>1</sup> *Report of Federal Trade Commission*, pp. 183-192, 1920.

invited into the country, and how the raisin acreage was more than doubled.<sup>1</sup>

This report goes on to mention the fact that prices charged by the association are dependent on prices charged for other comparable foods and food substitutes. Also that the prices the association can ask, and get, are dependent on consumer demand.

The same principle is illustrated by the marketing of milk through a dairymen's league or cooperative association. In the year 1924, as mentioned in a preceding chapter, the vice-president of the largest dairymen's league in America, addressing the annual meeting, said that mistakes had been made but that the biggest mistake of all had been to put the price of milk too high. The loud applause of the audience (all dairymen) indicated that this statement was approved. The too-high price had had the usual three effects—decreased consumption, increased production, and created competition from new sources. The dairymen envisaged their difficulty as "Surplus," that is, the supply of milk not salable as fluid milk. The too-high price breeds a surplus, whether raisins or milk or any other farm product, and the surplus breaks the price. This is economic law and cannot be circumvented. The one way to avoid the consequences of a surplus is to avoid creating a surplus.

*A Low Price.*—Farmers, particularly unorganized farmers, have for many years, through custom or trade abuse, received too small a price for premium quality products. Farmers selling hay or wheat or cotton or other products to local buyers have commonly received an average price for the neighborhood, disregarding differences in quality. In other words, the terminal market distinctions in grade and corresponding differences in price have not been reflected back to the farmer. Thus the poor farmer was unduly rewarded for poor products; the good farmer penalized for quality products.

The Department of Agriculture is to be commended for its "Know Your Wheat" and "Know Your Cotton" educational campaigns among growers. Where Federal grades apply to commodities the growers themselves must be taught to know these standards, and to be able to form a fairly accurate judgment as to the grade of their own product. This would be an

<sup>1</sup> MERRITT, RALPH P., "Concerning Prices and What Affects Them," *Sun-Maid Business*, p. 3, Jan. 15, 1925.

important step in preventing the "too-little" price. Unless they know the grades and standards used at the terminal markets for price quotations, they have no means of knowing whether they are overpaid or underpaid for their commodity.

*Price Based on What the Traffic Will Bear.*—The maximum price is that price which the consumer can be persuaded or compelled to pay. The minimum price is that price which will reward the bulk-line producers and induce them to continue producing. "What the traffic will bear," means that price which will keep the consumer consuming and the producer producing. It is a price which will move the crop, all the crop, into consumption, without a shortage and without a carryover. It is, therefore, not a price which is unduly high or unduly low. It may be called a supply-and-demand price, or an equilibrium price. This principle can be illustrated by the sale price of walnuts, almonds, cranberries, and milk.

The California Walnut Growers Association (in their report of Apr. 30, 1918) announce their price policy in these words:

The prices of the various grades of walnuts produced by the California growers must necessarily be based on the law of supply and demand. If prices are set so high as to prevent normal consumption, a carryover must necessarily result, which always tends to demoralize the market and makes necessary a material price reduction . . . The method now pursued in determining proper prices is through advices received from salaried agents that the association maintains in France and Italy, the principal countries producing walnuts which come into competition with the California line. Advices are constantly received through these agents as to the extent of the foreign crops, the quality, prices being paid, whether the harvest is early or late, etc. The association's sales department then gathers all possible information regarding the consumer demand in America. Accurate estimates of both domestic and foreign walnuts carried over in this country are secured, the purchasing power of the nation considered, then a careful and accurate estimate of the quantity and quality of the California Crop is made, and all of these matters laid before the Board of Directors . . . They then consider all the factors that enter into the value of the product and name prices at which the Association's various grades and brands of walnuts will be offered to the trade. And for reasons above stated, these prices must be slightly below the figure justified by the actual supply and demand as long as the policy of selling at one uniform price throughout the season is deemed advisable.

Yet this same association in its official organ *Diamond Brand News* of January, 1920, spoke of the large crop "surplus," and again, in July, 1920, of the fact that the walnut crop was doubling every 4 years, and the "surprise and worry" at lack of demand, and the "surplus" on hand. This is an indirect way of stating that law of economics known as the law of supply and demand, which states that a high price stimulates production and discourages consumption.

The California Almond Growers Exchange states in its 1918 report:

At an opportune time the association's representatives are called together for the purpose of considering prices. The latest information as to the foreign and domestic crops, as well as general market conditions, is fully discussed. The result is a price that in the opinion of all will move the crop promptly. It must be fully understood that the price named by the Exchange is the best estimate as to the value of the crop to be harvested. Later market, financial, and foreign conditions may materially raise or lower that value. The Exchange maintains a salaried representative in Europe who reports from time to time on the European almond crop, and market conditions. Thus the Exchange is well posted on world-wide conditions affecting our industry.

The reader will at this point note three things from the preceding discussion which bear on price policy. Cost of Production was not mentioned as a factor in price determination. Supply was considered as an "estimate" not a matter of definite statistics. Demand was considered as an "estimate," not as a matter of definite statistics.

The best statement of price policy in the cranberry market is that made by the General Manager of the American Cranberry Exchange, a conspicuously successful cooperative marketing association of growers. The manager says:

We try to arrive at the highest price the consumer will pay for a maximum crop and then try to adjust the price the consumer should pay, based on the size of the crop. That is to say, if the crop is 25 per cent less than a maximum crop we can afford to lose 25 per cent of the maximum consumption.

This, however, does not always mean that we can get 25 per cent more in price or that we will not have to take less than very favorable conditions would bring us for a full crop. We must then base our judgment on the supply of competitive fruits on the market; the good-will of the

trade and the consuming public toward cranberries; the prosperity of the country; the quality of our fruit, etc.

We must always realize that the cost of production of a perishable food that is not a prime necessity—a crop that must be sold while it is sound and in season—can have no influence on the sale price. The crop is produced and must be sold whether it costs \$2 or \$20 a barrel. Knowing the supply, it is our duty to make every effort to learn the probable consuming demand and what effect the price will have on that demand; and what price will divert cranberry users to substitutes.

It is our belief that the smallest liability of loss and the greatest certainty of a moderate profit interest dealers more quickly and certainly than the possibility of large profits coupled with a danger of serious losses.

We strive to establish our market, and to develop and sustain it. We recognize only the consumer as our customer and the dealer as our agent, but we are dependent upon the good-will of these agents. We believe agents, or dealers, will work more effectively for our interests when they are assured of definite profits and their risk of loss is reduced to the least possible minimum. The "middle man," "commission merchant," or "jobber" is our best friend—close cooperation with him and holding his interest alive toward our commodity is vital in our endeavor to establish and sustain a sure and stable market throughout our season.

The economic value of any crop is represented by the highest price, or series of prices, that will clean up the entire supply by the end of the normal selling season. The success of selling a crop depends not so much upon influencing the marketing as it does upon putting yourself in a position to gage and measure the factors which influence the sale of your commodity and thus prepare yourself to take advantage of conditions as you find them. The only price named by our exchange is the opening price, f.o.b. shipping point, which price is made at the beginning of the season for the early fruit and then again at the beginning of the season for the late fruit. Market conditions thereafter must set the quotations. Our experience has proved to us that it is of the utmost importance that our opening price closely conform to the supply and demand factors—the real economic value. Our price is usually started on a basis that will allow a definite retail price permitting a very liberal profit to the wholesale dealer and a good margin to the retailer, based on a stable market.

By the collective selling and pooling system, it is manifestly fair to sell the early portion of the crop at a lower price than it might naturally sell for in order to establish a fair value that will move the whole crop. The prices are just as much dependent upon the conditions influencing the demand as they are upon the supply, and especially is this true of commodities easily substituted and not considered prime necessities—a class which includes cranberries and many other fruits and vegetables.

The whims of the consuming public can make such a commodity valuable or worthless, regardless of its production cost. We can, therefore safely conclude that the price received for our cranberries is very largely dependent upon the demand from the consuming public. Therefore, it is our duty very carefully to consider the factors influencing demand. Among the most important factors are: first, weather conditions during the selling season; second, supply of competitive fruits which can readily be substituted for cranberries; third, the ability of the consumer to purchase, as reflected by the prosperity of the people, particularly in the districts of greatest natural consumption; fourth, (and probably the most important), the attitude of our customers and consuming public toward our fruit.<sup>1</sup>

Walnuts, almonds, and cranberries illustrate the principle of charging what the traffic will bear. Or, at any rate, they represent attempts to discover the price based on this principle, so far as statistics and judgment reveal such a price.

The official organ of the New England Milk Producers Association once announced in bold-faced type: "We fix the price of milk." This led a farmer to make the innocent inquiry, "Why don't you fix it higher?" This called forth the rejoinder that only within the limits of "supply and demand" did the association fix the price. Milk is the one agricultural commodity above all others whose price is now fixed by a definite, conscious, frank bargaining process between producer and distributor. Some milk markets have tried monopoly power and compulsion (and too-high a price); some have relied on persuasion by means of mutual bargaining. The maximum degree of success has been reached by those associations which have depended on bargaining and persuasion. They have arrived at an equilibrium price, representing what the traffic will bear.

*Summary.*—This chapter has presented the various methods of selling and price determination in use by farmers and farmers' organizations. The older cooperatives generally cooperate with existing middlemen, selecting the most efficient and cheapest type of middlemen. The price policy of what the traffic will bear, rightly construed, is the correct price policy. It is the policy successfully followed by many cooperatives which handle commodities not having a world price level.

<sup>1</sup> CHANEY, A. W., Proc. Fourth An. Meet. Natl. Assoc. State Market. Offs. Chicago, Ill., pp. 29, 30, Dec. 1922.

## APPENDIX

### MILK PRICE CONTROVERSY

The Milwaukee Sale Plan vs. the Twin City Plan. Milwaukee uses the pure bargaining method.

The following letter is quoted from a leading dairy paper and contains pertinent comments:<sup>1</sup>

#### A REPLY TO SCHILLING ON ORGANIZING PRODUCERS

The article, "Organizing New England Dairy Farmers," by W. F. Schilling, attracts attention. President Schilling is a capable writer and an able expounder of the plan of marketing milk as practiced by the Twin City Milk Producers' Association, but his conclusions tend to mislead the fluid market milk producer. Mr. Schilling recites at some length the experiences and practices of his association which are rather interesting, but he also makes some very positive statements of alleged facts which we feel impelled to question.

The two principal types of fluid milk selling organizations are named by him and placed: "The centrally controlled has everything in its favor," and "We were confronted at the outset by the fact that a bargaining organization was a fizzle." It is probably safe to assume that the intended purpose and object of any of our milk selling organizations is service to the industry and betterment of the producer's condition, shall I say dealers, also?

Mr. Schilling speaks of the Twin City Milk Producers' Association as "the *oldest* and *most* successful milk marketing organization in America." "It will be 8 years old next September." The Milwaukee Cooperative Milk Producers was 8 years old the sixteenth of last April, and it has functioned continuously since that date.

The net return to the members of these associations for their milk may be taken as an indication of the success of the respective organizations and also perhaps measures the value of the two types mentioned. The Twin City Association represents, according to Mr. Schilling, the superlative in "centrally controlled." The Milwaukee Association may be considered representative of the "bargaining organization" type.

The average net return per hundredweight of 3.5 per cent milk at the farm to the association member for the years 1921, 1922, and 1923 was: Twin City Association, \$1.95; Milwaukee Association, \$2.07. The average difference for the 3 years is 12 cents per hundredweight in favor of the "bargaining organization," located in the heaviest fluid milk producing

<sup>1</sup>G. R. Rice, Secretary Milwaukee Cooperative Milk Producers.

section of the whole country and selling to a smaller consuming center than the Twin City Association. The 12 cents per hundredweight difference means \$1,000 per day on the Twin City Association intake of 25,000,000 pounds per month, or \$30,000 per month.

Is our "bargaining organization" such a "fizzle?" Is the "centrally controlled" so "successful?" The ability to sell any commodity successfully is somewhat of an art in this present day, and especially is it true of milk in fluid form at any advance over manufactured value. It takes only a comparatively small area to supply a large consuming center like Minneapolis and St. Paul with its needs for fluid milk. The section adjoining the zone of needed fluid supply is constantly attempting to "break in" on the fluid market if the price paid is above manufactured value plus the extra cost of delivery. There is only one way to sell successfully, and that is to influence the buyer to buy and pay the price. This may be done in several ways.

One is to apply a padded brick with just the right amount of force to the correct spot above the neck, which will make the buyer amenable to the seller's reasoning. Another is to "corner" the supply so the buyer is compelled to buy from you if he wishes to buy at all. Another is to gain the buyer's good-will, his confidence, and his cooperation to such an extent that he will buy his needed supply from you even at a higher price than it might be bought elsewhere.

The first method is not practiced as much by sellers today as it was formerly. The second method has been, or is being, followed by a considerable number today with rather indifferent success in the selling of fluid milk. Various existing milk producers' associations are obliged to extend their area of supply beyond their need, in their attempt to bring about "monopoly control" of the fluid milk, and "contracts" are still being signed with those outside the needed circle in order to keep them from "breaking" the market with their production.

The third method is followed by a few associations with the result that the buyers of milk do what you and I as individuals are doing constantly; that is, buying from those that have our confidence and good-will, even though we pay more sometimes, or all the time, than we might some place else. But does someone say, "That is not true; we buy from the first store we come to?" No, we do not. We pass up Smith's to reach Brown's store, be it shoes, clothes, groceries, machinery, or what not that we need, because of the confidence we have in Brown—because of good-will we have the desire to throw everything we can Brown's way. Is good-will a business asset? Yes, it is. Can it be capitalized? Does it yield a financial return? You know it! Why do so many fluid milk association salesmen wish to "centrally control?" Are "the open-price associations" so "harmless and toothless" when it comes to getting results? What are we organized for? Is it to "harm" someone, is it "control" and selfish power, or is it service to the industry and betterment of conditions?

Mr. Schilling says, "I would not be afraid of the milk dealers," which proves that he is afraid of them and always will be until he grows big enough to think of the milk industry as the unit. Dealers and producers are each a part of the same thing, and should cooperate for the benefit of



the industry. They do so work together in some places that we know of, and would without doubt in other places if the good of the industry were uppermost in the minds of all. If the dealer and the producer will think of the good of the industry rather than their own individual good, they will grow together, think together as one. There is, then, no question *between them* to argue over, and "fight" about. The disposition to "harm" either side will be absent.

Mr. Schilling to bolster up his courage repeats aloud, "I would not be afraid." His fear engenders fear in the other, so both are afraid, and both do things to protect themselves from detrimental practices, instead of working together for the common good. The dangerous body is the "afraid" person; one never knows when his finger is going to jerk the trigger.

Confidence in each other creates stability. Good-will brings the price. Cooperation gives protection to the industry in our individual markets. The three combined promote harmony and the teamwork that renders efficient service to the industry and betterment of conditions for all, producers and dealers alike:

*Hoard's Dairyman, Sept. 26, 1924*

### Questions

1. Give the story of U. S. Grant and his colt bargain.
2. In what sense is selling a service?
3. Show two chief aspects of the selling service.
4. Show place of confidence in selling.
5. Has the farmer a right to control his product till it reaches the consumer?
6. Define "Direct Marketing." Examples. Is this method in general use? Why or why not?
7. Give examples of "Omit-the-Jobber" sales method. Why is this method not more generally followed?
8. Explain the Winchester-Simmons system.
9. Explain the Big Packers' system.
10. What general system of distribution has survived longest?
11. Is there any revolution in agricultural marketing in sight?
12. Cite the present experimentation with four types of sales agencies.
13. Cite Minnesota law on commission merchants.
14. Describe fields where commission merchant services are widely used at present. Any changes in sight?
15. What are the major and minor problems of a farmers' sales agency?
16. What commodities are best handled by brokers and what by commission merchants, and why? Under what conditions ought a commission merchant act as a cash buyer?
17. Show services and savings through using broker service: walnuts; almonds; prunes; eggs.
18. In what two conspicuous cases is the auction method of sale employed? In what other products is it important? Arguments for the auction.
19. Describe interesting example of hog auction. Effects.

20. Is the modern tendency to "fight the middleman" or to cooperate with the middleman?
21. Give example of large cooperative association cooperating successfully with middleman. Results.
22. Show the need of correct price policy.
23. Define and illustrate three possible price policies.
24. Can farmers fix prices?
25. What "price policy" is illustrated by the Associated Raisin Company? Three results? Cite report of Sales Manager.
26. Cite similar example for milk. Results. How avoid the evil consequences of a surplus?
27. Under what conditions are farmers charging too little?
28. Define "what the traffic will bear."
29. Illustrate; walnuts; almonds; cranberry.
30. What place is given to consumer demand in determining the price policy for cranberries? To cost of production?
31. What milk price policies have been tried? With what success? Cite the Schilling-Rice controversy, and indicate clearly the principles at stake.
32. Summarize conclusions as to sales methods and price policies.
33. Can any price policy secure a good price for a poor product?

## CHAPTER X

### AUXILIARY MARKETING FUNCTIONS INSPECTION—GRADING—STANDARDIZING

Although my visit to America was primarily for the purpose of gaining experience in the management of grain elevator systems, I could not fail to notice the exact and scientific manner by which the wheat is graded, and the price paid to the farmer varied according to the quality and condition of his grain. I had in recollection the rough-and-ready means carried out in Australia for determining deductions off the f.a.q. [fair average quality] price, and the many disputes as to quality by experts and others, as well as the injustice to many growers of superior wheat imposed by the f.a.q. system, and I could not fail to come to the conclusion that the Australian wheat-growers would reap great benefits by some equitable, scientific, and exact system of grading, which would tend to the encouragement of good farming methods and to further improvement in the quality of our grain.

HARRIS, E. "Wheat Handling and Grading in America," *Dept. Agr., Farmers' Bull.* 128, Sydney, N. S. W., December, 1919.

The words "standards" and "grades" have a somewhat similar but not identical meaning. In order to produce a uniformity in the mercantile transactions of mankind one with another, says Crabb, it is the custom of governments to fix a certain standard for the regulation of coins, weights, and measures. A standard, therefore, means a prototype, an original, a model, pattern, type, or example. The verb, to grade, says the dictionary, means to arrange or classify by grades or degrees, as according to size or quality. The commercial meanings of standard and grade are illustrated by the United States Grain Standards Act of Aug. 11, 1916. The Secretary of Agriculture is authorized by this Act to establish "standards of quality and condition" for grains; he is to promulgate such standards, and they then become the official grain standards of the United States. The Act further provides that grain shall be inspected and graded, and the grade by which the grain is sold shall be "one of the grades fixed therefore in the official grain standards of the United States." Under this Act there have been established and promulgated, for instance, "Wheat Standards," divided into

five "Classes," and each class again subdivided into six "Grades." The grades are known as Nos. 1, 2, 3, 4, 5, and Sample Grade. This illustrates the usage of the terms standard and grade, and makes this meaning clearer than does a formal definition.

**Historical Background of Food Inspection.**—As far back as history takes us examples are found of publicly employed food inspectors about the market places and fairs, whose duty always was to protect the consumer. Both the middleman and the producer were looked upon with a cold, suspicious eye. Aristotle, in his "Athenian Constitution," speaks of the pure food and market inspectors in Athens 400 years before Christ.

Market Commissioners [Agoranōmi] are elected by lot, five for Piræus, five for the city. The duty assigned to them by law is to see that all articles offered for sale in the market are pure and unadulterated.

Commissioners of Weights and Measures [Metronōmi] are elected by lot, five for the city, and five for Piræus. They see that the sellers use fair weights and measures.

Aristotle also refers to the 35 Corn Commissioners and the 10 Superintendents of the Mart.

In the *Court Leet Records* of the Manor of Manchester, England, from the year 1552 on for a century of more, the names are given of the men who served as "Markete Lokers for Corn" (inspectors of grain), "Markete Lokers for fysshe and flesshe" (fish and meat), "Markete lokers for white meytte" (white meat, *i.e.* veal, pork, lamb, etc.), "Ale founders or aletasters," "Officers for makyng cleane the markete place," "Officers electe for the assyse and holsome makinge of breade," "sealers of leather," "officers for frutes." The jury of the Court Leet imposed fines on persons brewing ale which was too weak, or offering bread for sale which was below standard weight. The assizes of bread and ale established a sliding scale which regulated the weight of bread according to the price of wheat, and the price of ale according to the price of wheat, barley, and oats. An old London proclamation to the brewers specified that "they make and brew as good ale or better, as they were wont." Not a very definite standard. Lack of definiteness was one of the reasons why these assizes were so frequently broken. With the passage of time, however, definite weights and measures were established and finally grades and standards for a great variety of com-

modities were put into commercial use. In some cases manufacturers by their own trade-marks and brands established standards; in some cases growers performed this service by means of their cooperative marketing associations; in other cases governmental agencies established standards and grades. In still other cases there are yet no standards or grades.

Most legislation in this field, even at this late date, aims to protect the consumer.<sup>1</sup> A typical example is the Pure Food and Drug Act of June 30, 1906, which has ended, or at least checked, the misbranding of bottles and packages of foods and drugs. Adulteration of that which enters the human stomach can be attacked on the grounds of public health. Adulteration in the realm of clothing, such as selling shoddy for virgin wool fabrics, is more difficult to bring under governmental regulation. Nothing is more certain, however, than the fact that if manufacturers do not voluntarily tell the truth about their goods, then this truth will be forced on them by outside agencies. The consumer is the market. He must be protected from deception. And in the end he will be protected. Not only does the further growth of grading and standardization help the consumer, but it also proves highly beneficial to the producer of the quantity and quality of commodities which the consumer wants.

*Reasons for Inspection and Grading.*—There are many reasons for inspection, grading, and standardization of farm products. This is particularly true of fruits and vegetables, which now have very incomplete standardization. A few of the common business reasons for standardization may be enumerated as follows:

*Consumers Demand Grading of Foodstuffs.*—The bulk of the food the consumer buys has been thoroughly sorted, culled, and graded. Somebody does this grading for the consumer and charges for the service. The farmer pays for it. The question,

<sup>1</sup> A news item in the trade papers, dated Los Angeles, May 9, 1924, carried the caption, "Fined for violation of Standardization Act." A grower had been warned against offering immature fruit for sale. The Horticultural Commissioner found the warning disregarded. Upon a second offense, the grower was haled before the court and fined \$75 for violation of the Fruit and Vegetable Standardization Act.

A press report from Brawley, Cal., June 20, 1924, gave an account of both growers and packers of cantaloupes in the Imperial Valley being subject to fines for bringing into the market, green and immature fruit, contrary to the provisions of the state's standardization laws. "Inspection activities," says the *Dispatch*, "have been much braced up." The Packer, New York, N. Y., May 10 and June 21, 1924.

Shall grading be done? is already answered in the affirmative. The question for the growers to consider is, When, where, and by whom shall grading be done? There are 6,000,000 farmers producing, individually, and hence the lack of uniformity in the product. Very rarely is there community production and concomitant community uniformity. In the state of Pennsylvania, for instance, the farmers are producing 45 varieties of wheat, while the consumers (the Pennsylvania millers) want but two varieties. Standardization is thus seen to be first a production problem and then a distribution problem.

Grading decreases marketing costs. Standardized products are sold by grade, not by personal inspection, and this alone represents a great saving. Standardization lessens risks, cheapens financing, cheapens transportation by reducing loss and damage, cheapens storage by reducing decay or deterioration, cheapens retailing, and widens the market.

Grading encourages future trading. By making contracts for future delivery at a specified price (only possible for graded articles), the trade risks incidental to price fluctuations are shifted, and marketing at lower middleman's tolls is realized.

Grading decreases consignment business. The need of commission men grows less as standardization increases. Brokers can handle the business at less expense. A cheaper middleman is thus made possible through standardization. There is also made possible a more direct dealing between producers and distributors.

Grading promotes sales f.o.b. shipping point.

Grading promotes f.o.b. sales in transit.

Grading promotes f.o.b. auction.

Grading reduces rejection disputes. There is now a definite correlation between price decline and increase in number of rejection disputes. Definite grades check this. Shipping point inspection or terminal inspection by the government (possible only for standardized products) puts an additional check on rejection disputes.

Grading makes market information available. There can be no comparison of terminal and local prices, or various local community prices, unless both price and specified grade are stated. Market information is not available or understandable unless the commodity be standardized and graded.

Grading reduces freight costs by keeping culls (dockage, etc.) at home.

Grading reduces speculative risks due to price changes or to loss and damage or to trade nomenclature.

Grading makes advertising campaigns possible and their success probable.

Grading builds up confidence. Confidence begets trade and creates dependable market outlet.

Grading makes fundamental market reforms possible. "Without grades and standards," declares Herbert Hoover, "it is hopeless to eliminate waste, to establish repute, to improve commercial practice."

Grading checks inferior production. This, in turn, checks overproduction and market glutting. It is usually the "surplus" of inferior stuff that breaks the market.

**Better Production.**—More general application of disease-control measures is one of the necessary steps by which better market grades can be produced. Many fruit and vegetable products are sold according to grades, and grades in part are based on degree of freedom from disease. Transportation is cheapened in two ways by shipping disease-free products: (1) smaller volume on which to pay freight; (2) less loss and damage in transit. The Extension Work in Plant Pathology of the Federal Government in the year 1923 alone, cooperated with farmers in combatting more than seventy diseases affecting thirty crops. Some of the commoner diseases are the following:

Apple.....	anthracnose bitter rot black rot blotch cedar rust crown gall fire blight scab sooty blotch	Oats.....	crown rust smut
		Peach.....	bacterial shothole brown rot leaf curl nematodes
Cabbage.....	black-leg black-rot yellows	Potato.....	black leg early blight late blight leaf roll mosaic rhizoctonia scab spindling tuber wart
Corn.....	root, stalk, and ear rots		
Cotton.....	anthracnose wilt	Wheat.....	covered smut, loose- smut, stem rust

In the *Plant Disease Survey*, United States Department of Agriculture, it was estimated that in the 1922 crop the reduction in yield from disease was as follows: wheat, 83,795,000 bushels; cotton, 417,000 bales; corn, 187,524,000 bushels; potatoes, 120,943,000 bushels; apples, 59,120,000 bushels; peaches 13,068,000 bushels.<sup>1</sup> Plant disease may, therefore, cause both a reduction in yield and a reduction in quality and grade. Among the control measures recommended or used by the United States Department of Agriculture are the following:

1. Planting of immune or disease-resistant varieties.
2. Crop rotation.
3. Seed disinfection.
4. Seed-bed sterilization.
5. Field treatment of soil.
6. Spraying and dusting.
7. Insect eradication to prevent transmission of disease.
8. Selection of seed free from disease.
9. Eradication of weeds and other plants that might harbor the causal organism.
10. Careful handling and practice of sanitation during harvest.
11. Proper storage and loading of cars.

**Objections to Inspection and Grading.**—The objections to inspection and grading come from both the grower and the distributor. These objections may be listed briefly as follows:

Grading costs money. The growers fail to see that in the end the consumer receives graded foodstuffs, graded, that is, by retailers, wholesalers, or other handlers. The price of this grading has been subtracted from the farm price. Grading nearer point of production would be a less expense to the grower.

Grading changes old practices. Many members of the trade are conservative, and dislike to change either their ideas or practices.

Some grades are thought to be academic grades. Many grades, as established at first either by legislative enactment or by administrative order are impractical, academic, and not suited to ordinary commercial needs or practices. Such grades must, of course, be ended or mended. The United States Grade 1 for potatoes is (or was) a sample of this sort of grade. This objection is incidental, not fundamental, for both Federal and

<sup>1</sup> MEIER, FRED C., "Extension Work in Plant Pathology," *U. S. Dept. Agr., Circ. 329*, November, 1924.



state grades are easily adjusted to fit the trade as well as the laboratory requirements.

"Too many culls." This is an objection raised by the growers. Such a grower may be asked: are you actually selling your culls, or do you only imagine you are selling them? If they never reach the consumer (as they do not), then the grower has merely delivered them but received no pay for them.

Finally, there is the valid objection that some dealers, particularly the local buyers, pay a flat price for good and poor stuff. Such buyers pay no attention to grades or quality. This unhappy situation may be hard to overcome. If the individual farmer, however, can secure no credit or recognition for quality and grade, then cooperative action is necessary among those growers who do produce a quality product and offer it to the market graded and standardized.

*Summary.*—Standardization begins at home—as a production problem. Standardization is a marketing expense which is justified by consumer demand. It is an investment, rather than an expense, since its final effect is to cheapen distribution, and to benefit thereby both consumer and original producer.

Standardization leads to community production—a form of cooperation very much needed to cheapen the distribution process.

This chapter has presented the historic background of standardization as a means of protecting consumer against both the producer and the dealer. There has also been presented the arguments for and against standardization. The actual program for carrying out the principles of grading and standardizing is set forth in a latter chapter of this book (Chap. XXVIII). At this point it is only necessary to state that very great progress has been made by both state and Federal governments, particularly in shipping point inspection and in terminal market inspection.

For a complete list of the standards promulgated by the Federal government, up to October, 1924, the reader is referred to the Appendix to this chapter.

## APPENDIX

### STANDARDS PROMULGATED BY UNITED STATES DEPARTMENT OF AGRICULTURE (October, 1924)

*Mandatory:* (Under United States Grain Standards Act)

Shelled corn.....	Promulgated 1916
Wheat.....	Promulgated 1917
Oats.....	Promulgated 1919
Rye.....	Promulgated 1923
Cotton—(Under United States Cotton Futures Act)	
White and colored cotton	
Grade.....	Promulgated 1914
Lengths of staple.....	Promulgated 1918
Containers—(Under United States Standard Containers Act).....	
Climax baskets.....	Promulgated 1916
Berry boxes.....	Promulgated 1916
Till baskets.....	Promulgated 1916

*Mandatory:* (Under United States Warehouse Act)

Wool—	
Diameter of fiber.....	Promulgated 1923

*Permissive:* (Under United States Grain Standards Act)

Milled rice.....	Promulgated 1918
Rough rice.....	Promulgated 1923
Grain sorghums.....	Promulgated 1922
(Mandatory, Dec. 1, 1924)	

*Permissive* (Service under United States Food Products Inspection Act) Shipping Point and Market Inspection

Hay.....	Promulgated 1922 <sup>1</sup>
Apples, barreled.....	Promulgated 1918 <sup>1</sup>
Asparagus.....	Promulgated 1922
Beans, string, (wax or green).....	Promulgated 1924
Beets, bunched.....	Promulgated 1924
Cabbage.....	Promulgated 1922 <sup>1</sup>
Cantaloupes.....	Promulgated 1924
Carrots, bunched.....	Promulgated 1924
Cauliflower.....	Promulgated 1922 <sup>1</sup>
Celery.....	Promulgated 1922 <sup>1</sup>
Citrus fruits.....	Promulgated 1923
Cucumbers.....	Promulgated 1922
Grapes (table).....	Promulgated 1924

Grapes (juice).....	Promulgated 1923
Lettuce.....	Promulgated 1923
<i>Permissive: (Cont.)</i>	
Bermuda onions.....	Promulgated 1918 <sup>1</sup>
Northern-grown onions.....	Promulgated 1920 <sup>1</sup>
Peaches.....	Promulgated 1922 <sup>1</sup>
Peanuts (farmers stock).....	Promulgated 1924
Peanuts (Wh. Shld. Spanish).....	Promulgated 1923 <sup>1</sup>
Pears.....	Promulgated 1924
Sweet peppers.....	Promulgated 1923
Pineapples.....	Promulgated 1924
Potatoes.....	Promulgated 1917 <sup>2</sup>
Sweet potatoes.....	Promulgated 1920
Plums and Prunes.....	Promulgated 1924
Strawberries.....	Promulgated 1918
Cannery tomatoes.....	Promulgated 1923
Tomatoes (fresh).....	Promulgated 1918 <sup>1</sup>
Bunched turnips.....	Promulgated 1924
Watermelons.....	Promulgated 1923
Butter.....	Promulgated 1918
Cheese.....	Promulgated 1922
<i>Tentative: (Service under United States Food Products Inspection Act)</i>	
Eggs.....	Promulgated 1923
<b>Meats (In Market News Work)</b>	
Fresh, frozen, and cured beef	
Fresh and frozen veal	
Fresh, frozen, and cured pork	
Fresh and frozen lamb	
Fresh and frozen mutton	
Livestock (Market News Work, Educational and Demonstration Works)	
Cattle: Slaughter, stockers, and feeders	
Calves: Slaughter and stockers	
Hogs: Slaughter, stockers, and feeders	
Sheep: Slaughter, stockers, and feeders	
Lambs: Slaughter, stockers, and feeders	

**Questions**

1. According to Harris, what effects on the farmer does scientific wheat grading have?
2. Define the terms grades and standards. Illustrate.
3. Give historical background of inspection and grading.
4. For whose protection, originally, was inspection introduced? Why?
5. Give 15 reasons for inspection and grading. Examples of each.
6. Can you cite examples of rejection disputes on a falling market?

<sup>1</sup> Revised 1924.

<sup>2</sup> Revised 1923.

7. What relation exists between grading and better production?
8. Cite findings of United States Plant Disease Survey. Control measures?
9. Give five objections to inspection and grading.
10. Which objection is most serious? How overcome it?
11. Where does standardization begin?
12. What progress has been made by Federal and state governments in inspection, grading, and standardization?

## CHAPTER XI

### AUXILIARY MARKETING FUNCTIONS: FUTURE TRADING

The establishment of the system of selling futures led to a complete change in the method of moving the cotton crop from America to Europe. The risks incidental to the business were reduced to a minimum, and by and by the charges for conducting the business were greatly diminished.

ELLISON, THOMAS, "The Cotton Trade of Great Britain," London, 1836.

Experience has taught the lesson over and over again that future trading reduces the risks of the business to a minimum, and thereby the charges for conducting the business become "greatly diminished." The term "future trading" needs some definition and illustration. The term "futures" means buying or selling for future delivery. Future trading means the making of a contract to buy or sell some commodity; delivery to take place in the future; the time of delivery and the price both being stated in the contract. There are various types of future trading, from the simple to the complex, with all degrees between these two extremes. The simplest type of future trading may be illustrated by the sale of canning crops by the grower to the canner. The New York farmer, for instance, contracts to deliver his peas and tomatoes to the near-by cannery, at a time when they are sufficiently ripened, and at a specified price. The farmer knowing the contract price before he signs the contract can govern his acreage accordingly. If he considers the contract price attractive, he can plan for and contract for a larger acreage; conversely, if he thinks the price unfavorable, he can sign for a curtailed acreage, or he can shift to some other crop. In any event, if he signs the contract, he has no further risk or uncertainty about the price he will get upon delivery some months hence. This is the simplest type of future trading, and is in use with many agricultural commodities.

The two essential elements of this contract are: (1) The actual owner of the goods contracts with the consuming buyer; (2) The actual goods are delivered by original seller to original

buyer, when delivery month arrives, and cash is paid to seller. The contract itself is thus kept in the background.

At the opposite extreme from this simple type of future trading is the complex type. It may be illustrated by wheat, or cotton, or any other commodity dealt in on the organized produce exchanges of the world. Take wheat as an example: here future trading means dealing in contracts, not dealing in wheat. This type of future trading may be illustrated by the sale of a wheat future contract by a country elevator, to a buyer on the floor of the organized grain exchange or Board of Trade. The country elevator in July, for instance, sells wheat for delivery in December. The seller of this wheat has no intention of delivering this wheat on this contract. The wheat contract is bought, probably, by a flour miller. He, in turn, has no intention of receiving delivery on his contract. One party to the contract has sold, and one party to the contract has bought a contract, merely as a price protection, a "hedge."

The actual wheat is shipped by the actual owner, arrives at the terminal in August, for instance, and is sold for cash to the first buyer who bids enough to get it. But what happens to the contract? An unconditioned contract has been made and must be fulfilled. The miller gets his wheat—not by deliveries on future contract, for he does not use contract grade wheat—the miller gets his wheat by selecting, from day to day, those carloads which have the amount of gluten and protein which his mill is using in its trade-marked blend of flour. And as he buys this spot wheat, he sells out his future contract. To whom? To other millers, to exporters, to terminal elevator owners, to grain industries, to various grain interests, or to speculators who deal only in contracts. There are a large number of these speculators scattered over the whole continent, and they focus their buying and selling orders, in the hands of the brokers, on the floor of the grain exchanges. There are also present on the floor a few members, speculators, trading for themselves. All these trades are supervised by the United States government, through the Grain Futures Administration, to see that there is no manipulation or other artificial control of prices. These speculators, the government has found, are about half on the buying side and about half on the selling side; so grain contracts are bought and sold many times, sometimes at a loss, sometimes at a profit. The country elevator, therefore, has no trouble in buying

back a contract offsetting the one which it sold, immediately after its actual grain has been delivered. This is quicker, easier, cheaper, and, therefore, better than holding the wheat till delivery month, and then delivering it on the contract. Of course, if the elevator holds its wheat to the delivery month, it will find some buyer (not the original one) waiting to receive and pay for the grain according to the exact terms of the contract.

This type of future trading is called the complex type, because it is the contract which really changes hands and is bought and sold many times, rather than the commodity itself. The use of this type of trading for hedging or price insurance will be considered at length later in this chapter. The essential elements of this type of future trading are: (1) it is done only on an organized exchange, under definite, published rules, and under close, daily supervision of the Federal government; (2) the contract itself is bought and sold; (3) the contract is finally settled either by delivery of the commodity or by offset. In other words, a man who has bought a contract for wheat must take the wheat or actually sell his contract to someone else. This latter transaction is called an offset, and has been upheld by the Supreme Court of the United States as being a legal means of meeting such a contract.

This chapter will present examples of various types of future trading, and will then give the services rendered and the objections to future trading.

**Examples of Future Trading.**—Future trading is a business institution developed to a high degree of utility in various commodities, non-agricultural as well as agricultural. Each of these commodity types will be illustrated in turn.

*In Non-agricultural Products.*—Cement affords a notable example of the use of future trading to stabilize business and reduce speculative risks. In a brief presented to a United States District Court, the cement manufacturers explained the common practice of making future contracts in these words:

Portland cement is largely used in the construction of works which are undertaken long prior to the time for the delivery of the cement used therein. For instance, the construction of a building or reservoir or dam or subway or road or other work involving enough cement to call for a special contract, commonly begins sometime after the contract is made and extends over a considerable period, usually many months and often some years, and deliveries of cement for the work are required as the

construction progresses and until it is completed. It is, and always has been, common practice in the cement industry to enter into contracts, usually with dealers, to supply and deliver in installments the cement needed in the construction of such works and to fix the price at which the cement is to be delivered at the time the contract is made, payment to be made after delivery.

Here is a transaction very similar to that in the canning crops industry.

*Furniture.*—Twice a year some 350 of the leading furniture manufacturers of the country, in addition to about 40 local makers, exhibit their samples in Grand Rapids, Mich., and take orders for 6 months ahead.

*Steel.*—The large steel corporations usually work "on orders," that is, manufacture the finished product according to contracts on hand. This eliminates the three risks common to output in agriculture—quantity, quality, and price.

*Foreign Exchange.*—Following the World War the price of foreign exchange fluctuated so violently that it became difficult and hazardous for individuals to carry on international trade. At this juncture, there was opened at Antwerp an exchange for future trading in foreign exchange. The need of insuring the Belgian purchaser of foreign goods against losses due to excessive exchange price fluctuations was announced as the reason for establishing this type of future trading. In brief, the aim was, by means of futures, to insure against loss.

In the industrial and commercial world futures are also used in clothing, lumber, coal, paper, building supplies, leather, and many other commodities. The agricultural field will now be discussed.

*In Agricultural Products.*—Mention has already been made of canning crops as a type of commodity used in future trading in its most elementary form. There are, in fact, two forms of futures here: first, farmer to canner; second, canner to wholesaler or to chain store. California canned tomatoes or spinach, for instance, are sold by the canners or packers in December for February delivery. Contracts are made in April for fall delivery of Northwestern canned fruits such as pears, blackberries, red raspberries, Italian prunes, etc. In December, 1924, chain stores bought 100,000 cases of canned foods, consisting of canned peas (in Wisconsin), for delivery in January, February, and March, and sauerkraut (in New York) for delivery as required.



*Dried Fruit.*—This commodity is bought in the Rochester, New York, territory in June for delivery in October and November.

*Box Apples.*—In the Northwest boxed apples are sold by contract in July, to be delivered in New York City in the fall. Individual farmers in the commercial apple regions frequently sell their entire orchard, for future delivery, by means of a single contract. While this contract can be resold by the purchaser, he usually keeps the contract and takes the apples. He trades in apples, rather than contracts.

*Potatoes* are frequently sold for future delivery while they are still in the ground.

*Wool.*—In seasons of wool scarcity buyers go out into the sheep range country and sign contracts with the sheep owners. Thus the trade papers announced that by the end of October, 1924, 2,000,000 pounds of wool on the sheeps' backs had been contracted for. This wool, of course, could not be delivered till shearing time the next spring. The question has often been asked.—Why is it that wool, a great world-market commodity, non-perishable, highly standardized, is not dealt in on any organized exchange in the United States? There have been wool exchanges in Europe. The great wool markets of the world are now cash, auction markets, but it is believed that in due time exchanges with future trading will supersede these auctions.

The agricultural commodities named thus far—canning crops, dried fruits, apples, potatoes, and wool—are all, to a limited extent, traded in for future delivery, but are all handled off the organized exchanges. A group of commodities subject to future trading, but all handled on organized exchanges will now be taken up. This group includes many commodities, of which the following are the commoner ones—butter, eggs, rice, sugar, coffee, lard, cotton, and grain.

*Butter and Egg Exchanges.*—The two chief butter and egg markets of the United States are New York and Chicago. The first of these to institute future trading in these commodities was Chicago. On Dec. 1, 1919, the Chicago Mercantile Exchange began future trading, in a small way, in butter and eggs. The market remained a narrow one for 2 or 3 years, that is, there were few buyers and sellers in it. The narrow limit meant wide fluctuations in price, and opportunity for price manipulation. Speculators sought to take advantage of this piece of market machinery. This is usually the case with newly

organized exchanges. Only with years of growth, and a large clientele of traders, is any exchange strong enough to be beyond the combined power of a small clique of strong, daring, financially powerful men. If the exchange is large enough, however, the would-be manipulator and cornerer is crushed in his attempt. It is the young exchange that is peculiarly subject to this abuse of power. After coming through this precarious juvenile period of growth successfully, however, this Chicago Exchange found itself a much wider market, with a greatly enlarged and hence stabilized volume of future trading. In New York City the dealers organized a similar exchange some 2 or 3 years later. The New York trade was by no means unanimous for such a method of trading, some preferring the egg auction, others the old-fashioned method of private, individual bargaining; some the exchange without the futures. A few traders held to the gutter view that future trading is merely an instrument for gambling, price control, rigging the market, artificial manipulation, and corners. Future trading in eggs is of greatest benefit to those dealers who put away eggs in cold storage, for they can greatly reduce their risks and stabilize their business by the buying and selling of futures. This reduction of speculative risks should in turn be reflected back to the farmers in the form of lower margins of marketing costs.

**Rice Exchange.**—In November, 1923, an exchange was opened in New Orleans for future trading in rice. The exchange was organized by the cooperation of the three interests concerned—farmers, dealers, and rice millers. These three reasons were announced for organizing this institution:

1. To make rice a more liquid commodity.
2. To stabilize rice prices.
3. To provide means for hedging.

**Sugar and Coffee.**—Sugar and coffee exchanges are familiar institutions in all first-rate commercial countries. Future trading in the United States in these two commodities is conducted on the New York Coffee and Sugar Exchange. Future trading here is used largely as price insurance. For instance, future trading in sugar is used not only by dealers in the United States, but also by manufacturers of beet sugar in Europe, by cane growers in Cuba, Java, Brazil, and Peru, and by refiners the world over.

**Cotton Exchanges.**—The Cotton Exchange of Liverpool is among the earliest exchanges to develop future trading to a position of commercial honor, dignity, utility, and stability. The Cotton Exchanges of New York and New Orleans have for many years functioned successfully as great future trading markets. On Dec. 1, 1924, future trading in cotton contracts was instituted on the Chicago Board of Trade.

**Hedging.**—The hedging function of future trading in cotton has been clearly explained by the Federal Reserve Board, in order that its importance to banks might be better understood, and also its use in lowering marketing costs. Since this explanation carries with it high official authority, it is here quoted at length:<sup>1</sup>

While the marketing and distribution of cotton is a gigantic financial task for the financial institutions in the United States and those of all the principal cotton-consuming countries of the world, the ease and effectiveness with which the crop is handled are due in a large measure to the organized cotton exchanges of the world and the facilities which they offer for insuring against the risks which accompany fluctuations in the cotton market, resulting from daily price changes. Use is made of exchanges in the United States and Liverpool in buying and selling futures throughout the year. When a cotton merchant buys a lot of 100 bales of cotton during the marketing season, he either sells it immediately to another merchant, spinner, or exporter, or sells, in one of the principal cotton markets, a future contract for the same number of bales of cotton in order to protect himself as far as possible in the event of a decline in the value of his purchased cotton. If cotton is bought in October the merchant may immediately sell a January or any other future-month contract against it. This transaction is known as a "hedge" and serves as a method of protecting the merchant against losses in case of a decline in the market. If the cotton is sold in the meantime the merchant cancels the "hedge" by buying in the future contract.

In the United States two future-contract markets—New York and New Orleans—are used by the merchants, brokers, exporters, and others, but the principle of hedging is of even greater importance to the importers in England and on the Continent. When an importer buys cotton in the United States in 100-bale lots he immediately sells a future contract in the Liverpool market covering the amount purchased to protect himself against price declines while the cotton is *en route* from the exporting country. Thus, if an importer buys cotton in October or

<sup>1</sup> *Federal Reserve Bulletin*, pp. 572-573, May, 1923.

November in the United States, he usually sells a January or March future contract against it in Liverpool, the future month being determined by the approximate date of arrival or sale of the cotton.

The problem of hedging is of great importance to the banks that extend credit to the merchants who handle cotton in the United States as well as to the banks that finance its importation. If the American cotton merchant keeps his cotton hedged through the sale of future contracts the loans are more secure and business can be transacted on a much narrower margin than on cotton that is unprotected. In England the banker is primarily interested in keeping cotton hedged, because he has accepted the bills under which it is moving, and if it was not thus protected the margin maintained on cotton loans would have to be much larger to insure the bank against loss.

**Grain Exchanges.**—Future trading in grain contracts in the United States is conducted on seven exchanges. Eighty-five per cent of this trading, however, is conducted on the Chicago Board of Trade. Other futures markets of significance are Minneapolis and Kansas City. Outside the United States, the futures markets of Winnipeg and Liverpool are of greatest commercial importance, although there are many other smaller markets. Future trading in grain, as in all other commodities, is largely used for the purpose of hedging. Hedging may be defined as insurance against the risk of loss from price fluctuations. At this point the technique of hedging may be briefly explained. For the sake of simplicity, one type of hedging only will be explained—that by the country grain elevator.

*Hedging Technique.*—Hedging on the grain exchange presupposes two things, first future trading, and secondly, that the cash prices (spot prices) and the future prices, will move up and down together. If the two prices move up and down exactly together, then hedging affords 100 per cent protection. If they fail to move together, protection is incomplete. If they move in opposite directions, hedging would produce a certain loss on the trade. As a matter of fact, however, as the market statistics for over 50 years show, the two prices move up and down in fairly constant relationship. If the cash price drops 5 cents, the future drops 4 or 5 or 6 cents, as a rule. In other words, hedging furnishes about as good insurance as does the ordinary commercial insurance of property. In the illustration now to be given, it is assumed for simplicity's sake that the two prices move exactly together—a thing which rarely happens.

ILLUSTRATION OF HEDGING

Time, Aug. 15.

Place, country elevator, Lakota, North Dakota.

wheat sold in Minneapolis.

Freight to Minneapolis, 10 cents a bushel.

Buying margin (*i.e.*, profit) of elevator, 1 cent a bushel.

Overhead expense of elevator, 3 cents a bushel.

Spread between terminal and local price, 14 cents made up of:

Buying margin.....	1 cent
Overhead.....	3 cents
Freight.....	10 cents

Total..... 14 cents

(That is, if the country elevator can buy wheat at 100 cents and sell it at 114 cents, it is sure of a trading profit of 1 cent.)

Two Steps in Hedging

Minneapolis prices—Cash grain.....	114
December future.....	119
Elevator price.....	100

Step 1. Buy cash wheat: Sell future.

Elevator buys farmers' wheat at 100:

Sells December future at 119.

Step 2. Sell cash wheat: Buy future.

Ships wheat to Minneapolis, where it arrives Sept. 1. Market is down 8 cents.

Sells cash wheat in Minneapolis at 106.

Buys December future at 111.

Analysis, Cash Wheat Transactions

Cash wheat cost.....	100
Freight.....	10
Handling.....	3
Total cost.....	113
Sold for.....	106
Loss.....	7

Analysis, Futures Transactions

Sold futures at.....	119
Bought future at.....	111
Profit.....	8

Summary, Profit on futures, 8 cents; loss on cash wheat, 7 cents; net result, 1 cent trading profit, insured and secured by hedging. The trading profit can be regulated by the country elevator by widening its spread between terminal and local prices (*i.e.*, by increasing its buying margin). In this

case if the price had gone up, the elevator would have lost money on the futures, but made a profit on the cash grain; the net profit would have remained 1 cent.

The country elevator keeps itself hedged by keeping its books balanced—having the amount sold (for future delivery) always equal to the amount of cash grain bought. It then has no further interest in price changes. Without hedging, a big price change would mean a huge profit or a huge loss—a speculative risk no safe business cares to assume. In the grain trade constant use of hedging is also made by flour millers, terminal elevator owners, grain industries, and exporters.

**Services of Future Trading.**—Future trading, when conducted according to business ethics and the rules of the exchanges and the regulation of the Federal government performs many useful services, among which may be named the five following:

*A Wide Market.*—It furnishes a wide, liquid continuous market. A wide market means a market containing many buyers and sellers, and hence one which is the enemy of monopoly or control by combinations. A liquid market means one in which it is easy to sell any amount, large or small, at any time, without depressing price unduly. A wide market furnishes this liquidity. A continuous market means one which is functioning every minute of every business day of the year, so that market prices may be registered and published abroad.

*Credit.*—Future trading facilitates the securing of ample credit, promptly, for buying farm crops.

*Stabilization of Price.*—By future trading the speculative and investment sentiment of the whole country is channeled, harnessed, and made effective in preventing price declines in the face of heavy marketing. The flow of wheat to market is very heavy in the months following the harvest, 50 per cent of the crop normally being put on the market within 90 days. In the year 1924, however, the farmers actually dumped 141,000,000 bushels of wheat on the market in excess of this normally heavy flow. The week ending Oct. 25, 1924, was the week of heaviest car loadings of grain on record. The price, however, did not decline. The speculative and investment sentiment, through the channel of future trading, caused the price steadily to advance, because of general world conditions of big demand and—outside the United States—short crops.

Because future trading causes many tiny fluctuations in price, constantly throughout the trading hours on the Exchange, some careless observers are led to believe that it does not stabilize price. Its effect is, however, to put on the brake against every break or bulge in price. Before the days of future trading a drop of 50 cents a day sometimes occurred. Now a drop of 5 cents a day is rare, and a drop of 50 cents a month a very unusual thing. In the old days, fluctuations were few but big; today they are frequent and small. Future trading stabilizes price then, in the sense that the price does not rise so high or fall so low as it did before the days of future trading.

*Price Barometer.*—Future trading actually registers a price which speculators and investors are willing to pay many months ahead. This puts an element of certainty and stability into all phases of the grain business.

*Hedging.*—Hedging serves two purposes—to protect profits, and limit losses. By it the hazards of price fluctuations are minimized. By hedging, therefore, there comes a lower cost of doing business. This is the reason why wheat, for example, is handled on a lower margin of cost than is wool or barley or other staple agricultural products that have no hedging market.

Various services of future trading have now been listed. If these functions are all reduced to two of first importance, then the two outstanding services of future trading are Hedging and Price Barometer.

*Objections to Future Trading.*—Many objections have been made to future trading, in part by those who never use it, and in part by those who have suffered from its use and abuse. The simple forms of future trading are in universal favor; the complex forms are subject to severe suspicion and often outright condemnation. Why this distinction? The reasons may be stated in two words—short selling. The actual commodity itself will be delivered, in the case of the simple forms of future trading. In cotton and grain the contract is delivered, is passed on to other buyers and sellers, and is finally settled, in nearly every case by offset. A few contracts are settled by delivery. The seller of the grain futures contract may or may not own any grain. If he owns no grain he is said to sell short.

Short selling constitutes almost one-half of the purely speculative trading done on the organized exchanges. It is impossible to state what per cent of all future trading is: (1) hedging to

avoid speculation; (2) selling or buying for actual delivery; and (3) pure speculation—assuming the risk of ownership for the forecasted profit of an anticipated price change. This is not the time or place to enter into a long explanation or defense of short selling. It seems to be absolutely necessary, however, to have short selling in order to have a wide, liquid, continuous market, affording ample hedging and price barometer facilities. In other words, when judged by its results, it proves to be an economic benefit to producer and consumer.

*Speculation by the Unfit.*—Speculation by the incompetent (those who lack information, ability, brains); speculation by the financially unsound (those who cannot afford to take a loss or whose families cannot stand the loss); speculation by those in positions of trust and honor (bankers, cashiers, bookkeepers, and others occupying fiduciary relationships towards other peoples' money); all these classes constitute the "unfit" to speculate. Unfortunately all these classes do still speculate, to a certain extent, both on and off the organized exchanges.

*Manipulation of Prices.*—The objection is made that organized exchanges by furnishing the machinery for use in future trading and hedging (both useful practices), also, at the same time furnish machinery, the abuse of which causes squeezes, price manipulation, and artificial corners. The answer is, that many years ago a few powerful traders did hold this same gutter view of the market, and did succeed, at times, in prostituting the market machinery to base uses. In recent years trade ethics have improved; the United States Supreme Court has declared corners illegal; the exchanges themselves have adopted anti-corner rules. And finally, under the Grain Futures Act of 1923, the Federal government itself supervises and regulates all future trading in grain and in this way has eliminated both manipulation and corners in grain futures, but see Appendix to this chapter.

*Extension of Future Trading.*—Future trading is gradually being extended to cover more and more agricultural products. Better grading and standardization make future trading possible. Professor H. C. Emery of Yale, speaking of future trading in grain, said, "The development of the system of grading and of elevator receipts is the most important step in the history of the grain trade." It was this system of grading and elevator receipts which made possible the full and free growth of future trading. Herbert Hoover, testifying on Future Trading before the House



Committee on Agriculture in 1921, expressed himself as strongly in favor of extending future trading to additional agricultural commodities. He testified:

My belief is that those grains that have a free hedging market are marketed more efficiently than those that have not. The margin, for instance, between the farmer and the consumer of barley, which has not so free a market as wheat or corn, is a very much wider margin. And again, the margin in beans, which have practically no hedging market, is very wide.

Asked whether or not the boards of trade and grain exchanges had rules and regulations to discourage and stop corners, Mr. Hoover replied:

Yes. We must credit the boards of trade with a great desire to eliminate the obnoxious practices in those trades and the opportunities for manipulation. I think the boards of trade themselves exhibit the growth of the business conscience. By their own actions they have practically eliminated the old-fashioned corner.

*Summary.*—This chapter has defined the term “future trading,” and given concrete examples of its meaning. Future trading is employed to an increasing extent, both in agricultural and non-agricultural commodities, to lessen certain business risks. The chief services of future trading are those of price barometer and hedging; the chief services of hedging being to protect profits and limit losses. Objections are made to future trading by various critics. It is the abuse, however, not the use of future trading, which is objectionable. Much progress has been made by the trade itself and by the government in promoting the good and eliminating the evil in future trading. There is, and should be, a continued expansion of future trading into new commodities. Full use of future trading can only be made in those commodities which are standardized and graded.

## APPENDIX

### PRICE FLUCTUATIONS IN WHEAT

In January, February, and March, 1925, there were such large fluctuations in daily prices of wheat futures in Chicago that the Secretary of Agriculture ordered an investigation to determine whether or not there had been manipulation. On January 2, May wheat futures closed at  $176\frac{1}{4}$ ; on April 3, May wheat closed at  $136\frac{1}{2}$ . The high peak of quotations meantime was noted on January 28, when the market reached  $205\frac{7}{8}$ . The daily fluctuations were wide, several days showing 10 cents, the greatest range being noted on Mar. 13 and 30, when the range was, respectively,  $13\frac{1}{4}$  and  $13\frac{1}{2}$  cents. There was a drop of approximately 50 cents in 1 month. This caused the claim to be made that future trading had increased, rather than decreased, the fluctuations. The world wheat situation was, according to governmental reports, one approaching a wheat famine. The later reports, however, were more optimistic concerning wheat supplies.

These extreme fluctuations were by no means as great as the fluctuations in price, when the government controlled the wheat market, and there was no future trading. To illustrate: from Jan. 15 to 19, 1920—4 days—the price of No. 2 northern wheat in Chicago fell 55 cents: from Jan. 15 to Feb. 10—23 trading days—the price fell \$1.15.

#### Questions

1. What were the economic effects of establishing future trading in cotton?
2. Give meaning of the terms "futures" and "future trading."
3. Distinguish the types of future trading. Illustrate.
4. What are the essential elements in the simple future trading contract?
5. Explain the phrase "selling December wheat." Is any wheat sold? What is sold?
6. What are the essential elements in the complex future trading contract?
7. Give examples of future trading in non-agricultural commodities, its purposes and results.
8. Cite examples of five or six agricultural commodities traded in for future delivery off the organized exchanges.
9. Cite eight agricultural commodities now traded in on the organized exchanges for future delivery. Give dates, places, and other specific information.
10. What is meant by the terms wide market? narrow market? liquid commodity? continuous market? liquidity of market?
11. Give reasons for establishment of future trading in rice.
12. What does the Federal Reserve Board say about hedging? about the relation of hedging to bank credit? hedging and the middleman's margins?

13. Where is 85 per cent of future trading in grain in the United States conducted? Name the other important futures markets.
14. Define hedging.
15. Explain clearly the technique of hedging.
16. Who uses hedging in the grain trade?
17. Give the five services of future trading, and illustrate each.
18. Name and illustrate two purposes of hedging.
19. The two outstanding services of future trading?
20. Define and illustrate short selling, and explain the objections to it. Why is short selling necessary?
21. What classes are unfit to speculate? Do these classes speculate? Where?
22. What is now the relation of future trading to manipulation and corners?
23. Cite Emery's opinion of grading and future trading.
24. Cite Herbert Hoover's views on extension of future trading.
25. Cite statistics on wheat price fluctuations in 1920 and 1925, and draw conclusions.

## CHAPTER XII

### ORDERLY MARKETING: POOLING: THE SURPLUS PROBLEM

Two years ago under my direction the Department of Commerce undertook an investigation into the wider issues of marketing perishable produce . . . Very few of our highly specialized agricultural producers are sufficiently organized to be able effectively to control the day-to-day flow of their products to the terminal markets. Most of them are not. The result is we have periodic gluts and famines from week to week, at different spots all over the country. This overconsignment to a given point breaks the prices and entails enormous losses and deterioration and reconsignment. We thus receive less value for our products, even when there is no overproduction than would be the case if we establish a flow comparative to the demand from day to day in the different terminals.

There is a large variation in the volume of yield of our perishable products from season to season. The very moment that we have a good season, prices are crushed to a point where all effort goes for nothing—unless we be in a position to divert this surplus into some sort of a by-product, or prevent the shipment of inferior grades.

From an Address by HERBERT HOOVER, Secretary of Commerce, at San Francisco, Cal., Nov. 6, 1924. Quoted from *Pacific Rural Press*, p. 500, Nov. 15, 1924.

#### I. ORDERLY MARKETING

Orderly Marketing is a term which is extremely difficult to define. The expression first came into general use during the years when the American Farm Bureau Federation was being organized, 1919 to 1921. The term implied, in a general way, price stabilization through control of the flow of the product to market. The two germinal ideas in the expression are, therefore, price influence and control of flow. The objective is the avoidance of gluts and famines. The method is to direct the flow in both time and place—ship to the right place and at the right time. The term “orderly marketing” is gradually taking on a wider meaning; so that in addition to the two basic ideas, it implies also control of quantity and quality marketed. In the modern or liberal sense of the term, therefore, orderly marketing may be

defined as the marketing of the commodity at the right time and place, in the right quantity and quality.

By whom should orderly marketing be done? The term as now used implies that orderly marketing is not done by the "middleman," and should, therefore, be done by the growers themselves. The fact is, however, that the "middlemen" have attempted to make their marketing (that is, their selling) as orderly as possible, in view of the fact that they have bought agricultural products at any time and place, in any quantity and quality offered. In the case of the staple, non-perishable commodities, where standardizing and grading are already done by the government, the middlemen have worked out "orderly marketing," but with the perishables they have not been able to solve the problem. Only the cooperation of growers and dealers will solve this problem.

**Need of Orderly Marketing.**—The principle of orderly marketing and the need can be made clear by actual illustrations. It will be noted that in the case of perishable fruits and vegetables the problem of orderly marketing is a serious and urgent one.

**Asparagus.**—In the "Three Rivers" district of southeastern Washington, the asparagus crop increased 100 per cent in the year 1923 compared with the preceding year. Some of the local markets had bought asparagus, to the saturation point, and the price fell to \$1 a crate. By moving two carloads to Minneapolis, two to Chicago, one to New York, one to Grand Forks (N. D.), and Winnipeg, the manager of the growers' association was able to bring his local price up to \$1.50 a crate. This meant that the growers received a remunerative price for their product.

**Strawberries.**—This same district had a similar experience with strawberries. In 1922, its strawberry shipments were 7,000 crates; in 1923, they were 47,800 crates, an increase in 1 year of nearly 600 per cent. This "disorderly production" made orderly marketing difficult but necessary. The situation was successfully met by the organized growers by supplying the large near-by markets one car each, and by shipping to distant markets the balance. One car each went to these cities: Portland, Seattle, and Vancouver; thirteen cars went to Montana towns; six to Calgary; three each to Regina, Grand Forks (N. D.), and Salt Lake City; four went to Spokane. Shipments were not made to points competing severely with the other heavy strawberry producing regions, such as Missouri, Arkansas, and Tennessee,

all of which had heavy crops. The result of this orderly distribution was a price netting \$2.81 to the growers, compared with a price of \$3.25 the year before. In the case of ripe strawberries the grower has choice of place but not choice of time to ship. With less perishable crops, those that can be held, the growers have some choice of the best time to ship.

*Cranberries.*—The cranberry growers of three states, Wisconsin, Massachusetts, and New Jersey, have a semiperishable crop, whose period of consumption centers about the three holidays of Thanksgiving, Christmas, and New Year's. The central sales agency which handles the bulk of this whole crop has been conspicuously successful for many years, in cooperation with the retail and wholesale distributors, in securing orderly marketing in both place and time. The crop is now moved into a very great number of markets both large and small. The time of marketing (and hence of consumption) has been extended to cover several months. Gluts and famines have been successfully avoided, and a good price has been maintained by the consumers.

*Watermelons.*—Watermelon marketing has been one of the difficult things, both for growers and dealers, the markets alternating between glut and famine. Large groups of organized growers, such as the Sowega group in Georgia, find themselves (in years of big production) at the mercy of competing non-organized groups.

*Peaches.*—Ripe peaches are among the most difficult and most speculative of all commodities to handle and require, therefore, large dealers' margins, both wholesalers and retailers. The risks of perishability and the risks of gluts and price breaks are the two chief speculative risks in marketing this commodity. The organized peach growers of New York State have made this market a little more orderly by finding a wider distribution and avoiding gluts. The time of marketing (of late peaches) is prolonged somewhat by using cold storage. But ripe peaches taken from cold storage do not stand up well.

*Potatoes.*—There are many kinds of potatoes, and hence many different ways of securing their "orderly marketing."<sup>1</sup> For

<sup>1</sup> The following quotation from one of the Federal government papers shows a narrow, strict use of the term "orderly marketing."

#### MICHIGAN POTATO POOL HAS PLAN FOR ORDERLY MARKETING

Handling their potato crop through a single-season pool to insure orderly marketing is the plan in use by the Potato Growers' Association at Falmouth,

instance, the 2,000 farmers on the Eastern Shore of Virginia peninsula produce the early potato, and rush it to market at the earliest possible date when it reaches maturity. They have no storage problem, and since they sell for cash, f.o.b. shipping station, they have no credit problem. And since they ship as soon as nature ripens the potato, they do not choose the time of shipment. That leaves for the organized growers the place problem only as their task in orderly marketing. By spending \$30,000 a year in telegrams they are able to ship the 10,000 cars into the least glutted markets of 44 states, and secure the best prices consumers are willing to pay.

*Canning Crops.*—Farmers who are producing peas, beans, tomatoes, corn, and other crops for the canners generally do so under specific contract, so that the price problem is settled in advance and has no reference whatever to the time and place of marketing—but only to the quality of the produce. Here, then, orderly marketing has no reference to the time or place of marketing.

*Summary.*—Orderly marketing is very necessary in the case of fruits and vegetables and other perishables. The term "orderly marketing," however, means one thing when applied to canning crops, another when applied to potatoes, another when applied to asparagus, and so on with various other crops. It is not a simple mathematical formula for solving the marketing problem. And orderly marketing itself, in the best sense of the term (place of marketing, wider distribution) waits on better grading and standardizing (on better quality), for only standardized stuff can be sold by telegraph, in distant cities. And even in the matter of f.o.b. sales by telephone or telegraph or f.o.b. auction, orderly

---

Mich. The pooling period begins Dec. 1 and closes the following June. At the beginning of the pool period, a careful estimate is made of the total quantity of potatoes to be marketed through the pool and then one-seventh of this quantity is shipped every month, regardless of the weather conditions, market conditions, or price. At the end of each month settlement is made with each member for one-seventh of the potatoes he has listed with the association. At the end of the pool period, such adjustments are made as are necessary because of minor over- or under-estimates.

The advantages claimed for this system are that every member gets the average season price for his potatoes, he gets some money every month, overhead expenses are reduced to a minimum, growers are relieved of worry as to ups and downs in the market, and old-line dealers are at a disadvantage in their efforts to destroy the morale of the growers. *Marketing Activities*, vol. V, no. 15, p. 112, Apr. 15, 1925.

marketing means one thing with California oranges and another thing with California grapes, cantaloupes, etc. The oranges are sold "as is," at destination, not "as was" at shipping point. The one commodity is sold delivered; the others are sold to be delivered. Orderly marketing is greatly needed with all perishable farm commodities, and must be fitted in each case to the particular commodity, but it is itself, alone, no open sesame to perfect marketing.

**Limitations of Orderly Marketing.**—It must be kept in mind that marketing is primarily a production problem, that "90 per cent of the marketing problem is solved on the farm," as a Chief of the United States Bureau of Markets expressed it. This is but another way of saying that the basic problem of marketing is to produce the quantity and quality the consumer wants. A marketing agency, cooperative or otherwise, which ignores this, would be like a manufacturing concern with a separate and distinct sales department, the manufacturing department of the business turning out products, helter skelter, of all sorts of qualities, in all sorts of quantities, the sales department vainly trying to find buyers for all the product all the time. Such a sales department would fail. Selling and producing must be coordinated, to meet consumer demand.

It must be repeated and emphasized, there are three parties interested in marketing—the consumer, the producer, the dealer. Demand is not constant and even; it is elastic, changing, "disorderly." Production is not even, constant; it is fluctuating, changing, "disorderly." Marketing which is merely coordinating production and consumption cannot, therefore, represent merely the even, orderly flow of goods into trade channels. This truth needs illustration.

*Boston Dressed Poultry Consumption.*—Many cities are now studying their food supply problems, particularly from the standpoint of consumer demand. In a notable study of this kind it was found that in the City of Boston 50 per cent of the annual consumption of dressed poultry occurs in 3 months.

*Milk.*—The milk crop now ranks first in value among all agricultural products in the United States. The "flow of milk" from the cow is, unfortunately, not adjusted to the "flow of milk" which the consumer wants and takes. That is, the heavy milk production is in the early spring, whereas the consumer does not want to increase his consumption of fluid milk accordingly. This maladjustment between production and



consumption is largely met by putting away the surplus milk in the form of by-products, such as butter, cheese, and canned milk. The "surplus" going into by-products, however, commands a much lower price, ordinarily, than does the fluid or so-called market milk. Yet it frequently happens that in the large commercial milk areas (about New York, Chicago, St. Paul, etc.) the "surplus" is larger in volume than the "market milk." A very simple, concrete illustration will make clear this marketing principle. In June, 1924, the Twin City Milk Producers (Minneapolis, St. Paul) discovered that after a period of profitable prices for market milk, they had quite unexpectedly reached, for the first time in their history, that unhappy point where over half their milk was "surplus." They did not blame the consumer, or even disorderly marketing, but disorderly production. Stated in their own words in their own official organ, their troubles were as follows:

For several years we have been urging our members to have cows freshen early in the fall when the price of milk is high. Government reports from cow testing associations show that fall-freshening cows produce more milk, more butterfat, more money, and are generally more profitable. Our preaching does not seem to have done much good. The following table shows the average production per farm in June and October in the years from 1918 to 1924:

	JUNE	OCTOBER
1918.....	5,266	2,821
1919.....	5,340	2,776
1920.....	5,266	2,898
1921.....	5,462	3,393
1922.....	5,434	3,580
1923.....	5,518	3,533

Members object to low prices in the summer time but go on producing twice as much milk in June as in October and November.

This extreme fluctuation makes it necessary for us to provide plants and equipment to take care of the large amount of milk produced in June. Much of this equipment is not used to capacity during the rest of the year.

It would seem from these figures that members will not do the thing that is to their own interest unless they are forced to, and that it may, therefore, be necessary to work out some surplus plan which will prevent this fluctuation . . .

For the first time in our history our surplus which had to be manufactured into by-products amounted to more than the amount we sold to

distributors. In other words, 52 per cent was manufactured milk and only 48 per cent market milk.<sup>1</sup>

This quotation is given at length to emphasize the fact that orderly marketing is not the cure for a disorder in production. Only a change in production or consumption will cure such a disease. And any great or permanent expansion in consumption of one food is hardly to be expected: it occurs, if at all, by displacing some other food, not by expanding the human stomach. Butter, as the principal by-product of milk, is subject to orderly marketing in the full sense of the term, time and place, quantity and quality control. First the domestic market is exploited, then the foreign. Since many countries in both hemispheres, however, are now surplus butter countries and hence are seeking foreign markets in which to barter butter for manufactured goods or other agricultural products, the problem of butter marketing itself comes back to the fundamental basis of producing only the quantity and quality which the consumer wants.

*Staples: Wheat and Cotton.*—When the term “orderly marketing” is applied to wheat and cotton, meaning thereby stabilizing, raising or otherwise influencing price through control of the flow of the commodity to market, then the term has no validity. The reason is, the price of these staple commodities is registered on the great organized exchanges of the world, and on a purely world supply-and-demand basis, and such price is not influenced by the flow of the commodity to market. A short crop, for instance, causes a price advance as soon as the authentic market news from the government or other source announces such shortage, not some weeks later when the “flow to market” begins. Thus the world’s wheat shortage in 1924 was confirmed by the Canadian government in the summer of 1924, when it issued a crop report showing the 200,000,000-bushel shrink in Canada’s crop. This market news put the world’s wheat price up many weeks before any of the 1924 Canadian crops even started to flow to market. A speculative holding of wool off the market in the spring of 1925, in the face of big world supplies was not able to hold prices up. Price responded to the supply, not to the flow, and with all great staple crops the supply is estimated, officially or otherwise, and announced to the world, at an early date, regardless of the time of flow to market.

<sup>1</sup> “Milk Prices for May,” *Twin City Milk Producers Bulletin*, St. Paul, Minn., p. 1, June, 1924.

**ORDERLY MARKETING: POOLING: SURPLUS PROBLEM 219**

The "flow to market" of the organized exchange commodities such as wheat and cotton may be and usually is very irregular, "disorderly," and uncertain, yet the prices of these commodities are "orderly" in the sense that they start at the low point as marketing begins, and advance just enough, or barely enough during the year to cover carrying charges (storage, insurance, interest).

Wheat and cotton price statistics over long periods of time prove the truth of this marketing principle. To illustrate, take Minneapolis and Chicago wheat prices over long periods of time, and note in each case the price is an orderly one.

**MINNEAPOLIS CASH WHEAT PRICES BY MONTHS  
FOR 41 CROP YEARS, 1883 TO 1924  
No. 1 Northern Wheat**

September.....	\$1.0387 per bushel
October.....	1.0395 per bushel
November.....	1.0326 per bushel
December.....	1.0395 per bushel
January.....	1.0683 per bushel
February.....	1.0642 per bushel
March.....	1.0625 per bushel
April.....	1.0956 per bushel
May.....	1.1429 per bushel
June.....	1.0970 per bushel
July.....	1.1053 per bushel
August.....	1.0985 per bushel

Here the total spread between high and low month is 11 cents—which represents the carrying charge for 8 months. This is recognized as a very low carrying charge for wheat. The Chicago winter-wheat market represents a similar situation for the crop year which begins in July. Taking a "normal" period—free from world wars, the following is obtained:

**CHICAGO CASH WHEAT PRICES BY MONTHS  
FOR 43 CROP YEARS, 1871 TO 1913**

July.....	88 cents
August.....	90 cents
September.....	93 cents
October.....	90 cents
November.....	90 cents
December.....	90 cents
January.....	92 cents
February.....	92 cents
March.....	92 cents
April.....	94 cents
May.....	97 cents
June.....	94 cents

Here, on the average, the high month of the year is May. The total spread for the year between high and low month is 9 cents, a carrying charge for the 10 months. This is a low carrying charge on wheat.

That the so-called "dumping" of wheat on the terminal marketing does not break prices or otherwise affect prices is evidenced by the following graphs, showing periods of very unusual and extreme dumping on the Chicago market (Figs. 11 and 12).

"Dumping" may be subjected to a careful statistical study, to test its effects. Take the Chicago market for 10 normal years,

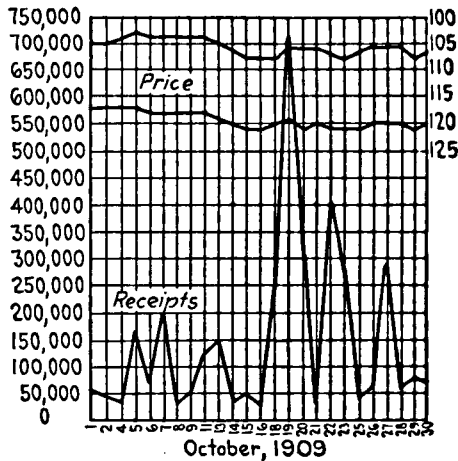


FIG. 11.—Wheat receipts and wheat prices daily at Chicago for one month. Prices are for cash wheat, contract wheat, contract grade, October, 1909. Showing that big fluctuations in receipts do not cause big fluctuations in prices.

July 1, 1904, to June 30, 1914. There were days of low receipts (to be exact, there were 5 days with no receipts); and there were days of very sudden and very large increases in receipts (to be exact, there were 6 days when receipts passed the 1,000,000-bushel mark). These 11 days mark the extremes in receipts for the whole period. What happened to price on each of these days? On the 5 days of no receipts the following happened:

A drop in price occurred twice ( $\frac{1}{2}$  cent, 1 cent).

A rise in price occurred twice (1 cent, 2 cents).

No change in price occurred once.

On the 6 days of "dumping" the following happened:

A drop in price occurred twice ( $\frac{1}{2}$  cent,  $\frac{1}{2}$  cent).

A rise in price occurred once ( $\frac{1}{2}$  cent).

No change in price occurred three times.

This is proof that daily receipts have little effect on price. A yet more striking proof was afforded by the marketing of the 1924 wheat crop. Owing to campaign speeches and preelection fright, the farmers literally dumped on the primary markets 141,000,000

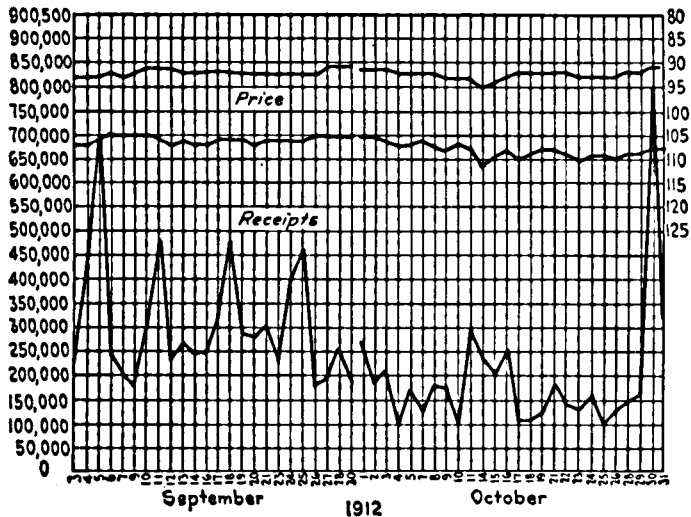


FIG. 12.—Wheat receipts and wheat prices daily at Chicago for two months. Prices are for cash wheat, contract grade, September and October, 1912. Showing that big fluctuations in receipts do not cause big fluctuations in price.

bushels of wheat over and above the usual big flow of this same period. In the face of these overwhelming receipts (the largest for all time in both Chicago and Duluth) the market rose from \$1.20 in July in Chicago, to \$1.55 in November. World demand justified a rising price.

"Dumping," or the heavy and sudden flow of wheat to market, does not break price. This is because the demand is there to absorb the offerings. The demand comes from millers, the grain industries, speculative investors in wheat, and exporters. The orderly marketing of wheat should coordinate the flow with

the demand, so far as demand is known or predictable. The milling demand is erratic, as already shown on page 11. The speculative investment demand is more constant, reflecting world-wide factors of supply and demand. The export demand is slightly more regular than our own milling demand since the flow of United States export wheat coordinates or should coordinate with the flow of export wheat of our three important competitors. On this basis, one-half of export wheat ought to be moved to the seaboard within 4 months after harvest; the balance of it during the following 8 months. Since the world takes, roughly speaking, 200,000,000 bushels of wheat exports every 4 months, this flow into export is an orderly flow, as the following table shows:

TABLE VIII.—WORLD'S WHEAT EXPORTS FOR 5 YEARS, 1918 TO 1919 AND 1922 TO 1923

	July to October		November to February		March to June	
	Exports in bushels	Per cent of period	Exports in bushels	Per cent of period	Exports in bushels	Per cent of period
United States..	118,032,000	54	79,239,000	36	80,544,000	36
Canada.....	43,505,000	20	80,512,000	36	40,987,000	19
Argentina.....	37,287,000	17	34,399,000	16	63,935,000	29
Australia.....	20,600,000	9	27,644,000	12	36,218,000	16
	219,424,000	100	221,794,000	100	221,684,000	100

From the standpoint of world market export conditions, therefore, an orderly flow of wheat to market, in the United States, is apparently the marketing of one-half the crop during the first 4 months after harvest; the marketing of the remaining 50 per cent at the farmer's convenience during the following 8 months. This would make the monthly flow "orderly" from the statistical standpoint. The day-to-day flow to market, is as has been said, a negligible factor in price control.<sup>1</sup>

<sup>1</sup> The pooling of wheat to produce "orderly marketing" has had the added disadvantage of increased cost of marketing as compared with the existing channels. Farmers market through four types of country elevators. According to the *Report of the Federal Trade Commission* on "The Grain

*Summary.*—The doctrine of “orderly marketing” is a new and important doctrine for fruits and vegetables and other perishables. It is a good principle to employ in the marketing of these commodities, but for the staples that have organized exchanges, orderly marketing is of very little or no significance.

II. POOLING

In agricultural marketing a pool is defined as a combination of growers who entrust to paid managers, hired for that purpose, the complete and unqualified control of the storage, grading, and selling of their products. The three underlying ideas of the pool may be named and illustrated as follows:

**Savings through Pooling.**—The pool furnishes a volume of business, and volume sometimes makes possible various economies. Among these economies are lower cost of materials and equipment used in packages, wrappers, containers, etc.; lower freight rates on car-lot shipments; lower outlay for labor per unit of business done.

**Higher Prices through Pooling.**—Pools in most commodities, if successful, have a program of grading and standardizing, of building up a reputation for certain grades, brands or labels or

---

Trade,” vol. I, p. 192, the cost of marketing through these agencies is as follows:

MARGINS TAKEN ON NO. 1 NORTHERN WHEAT, FOR THE 5 CROP YEARS, 1912 TO 1916

Line elevators.....	5.91 cents per bushel
Farmers elevators.....	6.13 cents per bushel
Mill elevators.....	6.65 cents per bushel
Independent elevators.....	7.61 cents per bushel

Cost of marketing through Wheat Pools, as reported by United States government, in *Agricultural Cooperation*:

Oklahoma-Texas 1922 Pool....	15.332 cents per bushel
Texas 1923 Pool.....	14.570 cents per bushel
South Dakota Pool 1923.....	13.8 cents per bushel
Colorado Pool, 1923.....	14.6 to 16.7 cents per bushel
North Dakota Pool, 1923.....	13.7 cents
Nebraska Pool, 1923.....	17.4 cents

In other words it cost from two to three times as much to market through the pool. In 1922, 11 wheat pools handled 2.8 per cent of the United States crop. In 1923, 10 pools handled 3.3 per cent. This was too small a volume to furnish any economies.

trademarks. This means that they produce and guarantee quality. And quality of this kind leads to wider, better distribution. Better quality and better distribution bring better prices, due to competition among competing buyers. In this way the pool may lead to better prices, as illustrated by wool.

*Wool Pooling.*—Wool pools in the United States, following the World War, furnished notable examples of pools which graded their commodity, based payments to farmers strictly on quality, and sold the graded product on the wool market at an advance in price over the non-graded stuff. This advance in price more than covered the overhead expenses of the pool. Local wool buyers, in many instances, fail to pay premium enough for good grades, and fail to discount the low grades sufficiently. This penalizes the good farmers. The Ohio Wool pool, however, taken as an illustration, paid growers prices varying from 20 to 60 cents a pound for wool, thus recognizing accurately quality differences. The pool, therefore, not only raises prices (by meeting market demands) but also reacts on the farmer and encourages better production.

Pooling which has for its aim and achievement the effecting of savings and the securing of better prices, in the manner just described, is following sound economic principles of merchandising. A third aim of pooling is now reached, which may easily cause the failure of the pool.

**Withholding Product from Market. A Speculative Pool.**—The pool may, in order to exercise price influence or price control, withhold its product from the market in order to anticipate or force a rise in price. The Federal Reserve Board has ruled that a farmers' pool may secure credit (through the Federal reserve system) on agricultural products which are held off the market for a "reasonable period," pending "orderly marketing." But the banker himself is left to draw the line between holding a product for a reasonable period and holding it for a speculative period.

Holding the product for a rise in price means the assumption of risk of a price drop as well as a price rise. The assumption of such a risk, is, of course, purely speculative. Someone, of course, must speculate on this price change, and the farmer has the legal, moral, and economic right so to speculate, if he sees fit. In some cases, however, in real practice, the pools have told the farmer that "we are eliminating speculation." A drop in price came; the perplexed and disappointed farmer quit the pool.



These pools should have said, "we are carrying the speculative risk—to profit by any price increase, to lose by any price decline." This would have been the truth.

Pooling of this speculative kind succeeds in a rising market, and only in a rising market; it fails on a falling market. This truth may be illustrated by the potato and wheat pools.

The Federal Reserve Board has intimated that the line must be drawn between orderly marketing and speculative withholding from the market. The formulation of the general policy of orderly marketing and speculation should have the participation—or at least the clear understanding—of the general membership of the pool. A majority may frankly want to speculate for higher prices. The problem is one which must be frankly, candidly faced, not glossed over, evaded, or concealed.

**Comparison of Agricultural and Industrial Pools.**—Most agricultural pools have the sound economic aims of savings and better price through quality and distribution. A few have the "price control" or speculative urge. They may be compared with the industrial pools which showed such an amazing but short-lived growth in the seventies and eighties. These industrial pools were all formed to overcome what was termed the evils of competition. Prices were too low; all the competing plants could not remain in business. The manufacturers, on their side, refused to consider the evil to be overproduction, but placed the blame on the marketing system. In forming the Salt Pool, for illustration, the promoter issued a printed call, Jan. 8, 1876, which circular, by substituting the word "wheat" for "salt" would fit conditions in 1925. The circular says in part:

"Organized we have prospered, unorganized we have not." This is the experience which we have been paying dearly for . . . The trouble lies in the marketing of the product. Each man has taken care of (or attempted to) his own product . . . The other salt districts of the United States are now organized, and are ready to treat with us (as soon as we have an association) relative to fixing and maintaining prices.

The Salt Pool was accordingly organized. It prospered for a time because it did "maintain prices." But it had no power to limit production, hence new wells were sunk continually and the salt output increased. Then a New Jersey trust was formed, displacing the pools. Still later a holding company, the Inter-

national Salt Company, was formed, followed by a period of extravagance, mismanagement, and failure. There were formed in this period some 416 pools, in the various industrial fields, such as the gunpowder pool, the envelope manufacturer's pool, candle manufacturers' associations, wire nail pool, plate pool, wall paper pool, etc. In time these all passed away. In a few cases they were superseded by large and successful corporations, the most conspicuous of which is the United States Steel Corporation.

**United States Steel Corporation.**—Comparisons are wrongly made between the marketing problem of the United States Steel Corporation and an agricultural pool, particularly a wheat pool. Three fundamental, irreconcilable differences may be pointed out.

1. The steel company produces steel. The wheat pool does not produce a bushel of wheat; it is only a marketing agency.

2. The steel company controls absolutely the quantity and quality of the steel it makes, but the individual farmers themselves who produce wheat cannot control the quantity; the weather does that. Neither do they control the quality within any definite limits. Spring-wheat farmers in the Northwest planted good marquis wheat ("No. 1 Northern") in the spring of 1916. Their crop proved to be below No. 4 in grade, and was called "D-Feed Wheat." Stated another way: they planted No. 1, and reaped No. 8. Hot, dry weather did this for the farmer. The steel company does not produce a surplus or a shortage; the wheat farmer does both. The steel company produces the grade, quality, and standard wanted by consumers.

3. Steel enjoys expansion of demand. Finally there is this stubborn fact that wheat is for the human stomach, and this stomach can be expanded very little—likely not over 10 per cent. Steel, on the other hand, is for industrial purposes, and there is no limit to the expansion of this demand. Steel in railroads, steamships, automobiles, skyscrapers, bridges, not to mention typewriters, radios, tools, implements, and all manner of small objects of metal enjoys a constantly and rapidly expanding demand. It is not necessary for the steel company to advertise to stimulate demand for steel.

*Summary on Pooling.*—The pooling of perishable crops, to effect economies and secure higher prices through better quality and distribution, is sound in principle and successful in practice.

Pooling for price control, for withholding from market, or for other forms of risk assumption is a speculative activity, and should be understood and frankly called such. It succeeds on a rising market, loses on a falling market. It does not control prices. This is equally true, but less apparent when the pool is a monopoly.

An agricultural monopoly is possible for a time, but it is both useless and harmless. When a pool is also a monopoly, it passes through three stages, as follows:

- a. Pool, as a monopoly, leads to high price.
- b. High price leads to a surplus.
- c. Surplus leads to low prices, and back to a pool without monopoly. This is true whenever any agency exercises price control and not at the same time production control. Prunes, raisins, milk, all afford good examples of this principle.

### III. SURPLUS

This chapter discusses, first, orderly marketing; second, pooling; and third, surplus. These three topics are related and interrelated. There is but a twilight zone between one and the next one. The sales manager of an agricultural cooperative marketing agency has a much more difficult task than an industrial sales manager, for he cannot coordinate production and sales, having no control and little influence over production.

*Surplus.*—When the bulk-line price is attractive to the farmer, or when the weather happens to be exceptionally favorable, a surplus is produced. Some critics of our marketing system deny the existence of an overproduction or a surplus, calling it “underconsumption” due to faulty merchandising methods. The result on the farmer is the same—low prices. When the United States potato crop goes a little beyond four bushels per capita, the price of potatoes stays low all year. When the world’s wheat crop or cotton crop is increased suddenly above the 10-year average the price is low. With perishable products the results are much more severe. A market glut (even though the general crop be short) breaks the price in the place of the glut. There may be a famine elsewhere within shipping distance. Is there any remedy for the surplus problem? To have enough, there must be some surplus. For the surplus, over and above the necessary surplus, three solutions have been proposed:

1. Persuade present consumers to eat more of the product. This is largely a question of advertising and salesmanship. This tends to keep up prices.

2. Find new consumers. This is a question of finding wider markets, domestic and foreign. This tends to keep up prices.

Methods (1) and (2) aim to keep up prices. They both tend, therefore, to increase the surplus in the end.

3. Discontinue producing a surplus. This implies an actual falling off in production, or a falling off in the amount marketed through a more severe culling and grading, or by diverting part into by-products. Fluid milk is the classic example of an agricultural product where, to have enough, you must have a surplus, and where the surplus is readily diverted into by-products. The by-product manufacture is either done by farmers' milk pool or by the milk dealers and manufacturers themselves. The economic effect of the surplus is the same in any event. This reduces the milk by-product question to the simple economic problem—Who can operate such a manufacturing business more efficiently, farmer or dealer?<sup>1</sup>

Whatever surplus plan is used, however, the point is soon reached where any further surplus must not be produced. Price is the final great regulator. The law of supply and demand never abdicates its throne. When the saturation point is reached in consumer demand, a lower price will register that fact. When the price is below the bulk-line cost of production, as it frequently is, a slack in production and rise in price register that fact.

#### Questions

1. Show the importance of controlling the flow of perishable produce to market? Do these same reasons apply to non-perishables? Show the significance of large variations in yield of perishable commodities.

<sup>1</sup> The largest milk pool in the United States, the Dairymen's League of New York, became an extensive manufacturer of milk by-products, during its first 4 years, 1921 to 1924. The following announcement was made at the beginning of 1925:

"Announcement is made by the Dairymen's League Cooperative Association, Inc., that it is to discontinue its manufacturing operations in five of its large plants. Three of these plants are in New York State and two in Pennsylvania. Two of the New York State plants have been sold outright to the Borden Company the other three plants have been leased to the same company which will take over the manufacture and distribution of Dairylea evaporated and condensed milk in addition to its established brands." *Agricultural Cooperation*, p. 72, Feb. 16, 1925.

**ORDERLY MARKETING: POOLING: SURPLUS PROBLEM 229**

- 2. Define and illustrate orderly marketing: asparagus; strawberries; cranberries; watermelons; peaches; potatoes; canning crops.**
- 3. Summarize briefly the meaning of "orderly marketing" in actual practice. Is it the solution of our marketing problems?**
- 4. What are the chief limitations upon orderly marketing?**
- 5. What truth about orderly marketing is illustrated by the Boston market for dressed poultry? Milk? Cause and remedy for the Twin City milk surplus?**
- 6. Describe place of orderly marketing in wheat and cotton. Wool. Cite wheat prices in Chicago and Minneapolis, and explain meaning of these statistics.**
- 7. What constitutes "orderly marketing" of wheat for export?**
- 8. Show effects of wheat pools on costs of marketing.**
- 9. Define and illustrate pooling. What are the three underlying ideas? Which of these aims are sound?**
- 10. Wool pooling illustrates what principles? Example.**
- 11. When does a pool engage in speculation? Advantages and disadvantages of this?**
- 12. Compare agricultural pools with industrial pools.**
- 13. Why were the industrial pools formed? Salt pool; success of.**
- 14. Compare agriculture with United States Steel Corporation.**
- 15. Summarize benefits and limitations of pooling.**
- 16. Describe effects of a pool which is a monopoly.**
- 17. Is there a "surplus" of agricultural commodities? Reasons for and against using this term.**
- 18. What three solutions for the surplus problem have been proposed?**

## CHAPTER XIII

### PRICE

Historical attempts to correct price changes may be grouped into four classes. First are the well-known instances of efforts of the authorities in almost every country to fix the prices of staple products.

The second method to which resort has been had for preventing alleged loss from price changes is the attempt to find an ideal or unvarying standard. Accounts of this are to be found in theoretical literature rather than in legislation or social programs.

The third class of proposals includes those which would change the money supply without statistical information indicating the amount of change needed, or the degree of rapidity with which it should proceed. The most important of these proposals is bimetallism.

The fourth method, known as the tabular standard, is that which attempts to determine the change in the average of prices and to pay in money in amounts proportionate to the degree of this change.<sup>1</sup>

Price is defined as market value expressed in terms of money. What then is market value? Without entering into a theoretical discussion of value here, it may be stated that there are, in general, two widely divergent views on the subject of value, the first holding that market value is opinion, or, more strictly speaking, the consensus of opinion of buyers and sellers. The second view is that value is a cold, impersonal expression of the economic law of supply and demand. The truth of the matter lies about half-way between these two extremes.

The farmer knows that he is a producer of raw material, and that he is a wholesaler. He knows that in a period of falling prices, wholesale prices of raw materials are first to drop. The cause has already been explained. Farmers constitute the largest single class of our population having a common interest in the price problem, and changes in the price level. This chapter does not deal with the general question of the price level over long periods of time, and the quantity and value of money in the country. The chapter is concerned, therefore, with market

<sup>1</sup> Adapted from KINLEY, DAVID "Objections to a Monetary Standard Based on Index Numbers," *Amer. Econ. Rev.*, vol. III, March, 1913.

price as it concerns any one crop. Since the usual explanation of price is by the "law of supply and demand," the discussion of the price problem will begin at that point.

**Supply, Demand and Price.**—In its classical and *laissez-faire* form the law of supply and demand rests on four economic axioms: High prices stimulate production and curtail consumption. Low prices stimulate consumption and curtail production. The cure for high prices is high prices; the cure for low prices is low prices. This is the general statement of the operation of the law as it works on an open, free, competitive market. This is the view held by classical economists. The law of supply and demand, stated in this bold and somewhat brutal form, is challenged by many modern economists. There are so many human factors—subject to influence or control by man—that enter into this problem, that some writers and speakers, in their haste, deny the existence of the "law" of supply and demand. An understanding of this problem can be reached only by analyzing the factors (human and other) in supply and demand. In such an analysis it will be noted that there is a constant interplay of facts and opinions, of statistics and sentiment, which complicates the situation and makes "supply and demand" a very complex thing.

**Supply.**—At first blush the word supply may seem simple enough—the quantity on the market—yet when examined in the light of concrete market conditions it is seen to be indefinite both as to quantity and quality of commodity. Take a simple case as an example—wheat. The largest wheat market in the United States is Minneapolis. What constitutes the supply of wheat on the Minneapolis market? Since the Minneapolis market is linked by wire with all other great wheat markets of the world, the question of supply is thereby greatly affected. Since the commodity is standardized, graded, and nonperishable, is liquid and the basis for cheap credit, is easily transported and stored, its supply is also affected by these considerations. An inventory of the "supply" of wheat on the Minneapolis market (which would affect the market price) must include all the following factors: daily receipts; amount held in public and private storage in city; visible supply (*i.e.*, amount held in terminal elevators in the United States, as reported by wire weekly); amount in store in the 30,000 country elevators (estimated only, but not definitely known); amount of merchantable wheat held

on farms (wheat is grown on 2,000,000 farms in the United States); wheat acreage and wheat crop prospects; the weather; in addition there would be the factors of grain afloat or on passage; stocks held in foreign markets; world crops and crop prospects; war; strikes and labor troubles; in addition, such important factors would enter the supply question as per cent of wheat crop which is durum wheat; per cent which is other hard spring varieties or hard-winter varieties, or soft wheat; amount and conditions of protein content of the wheat. Finally, since wheat enters into dairy and poultry rations, the supply of wheat substitutes for these feeds would affect the "supply" and hence the price of wheat. Also the supply of competing food cereals—corn, rye, and barley—would be important. The market term "supply" does not mean, therefore, merely the actual physical commodity present on the market. The spot wheat, or so-called cash wheat, is one of many elements of supply. In market terminology, there are also two other kinds of wheat being bought and sold on the Minneapolis market; to arrive wheat, and futures. The supply of these on the market is registered only by the selling offers, largely over the wire, from those who either hold the actual wheat or wheat contracts, or those who desire to speculate by selling short and have no wheat at all.

The "supply of wheat" does not mean the quantity of wheat on the market. The term includes various factors, as shown by the "inventory," some of which factors are definitely known, some of which are mere estimates, and others pure market opinion or market sentiment. In other words, the supply is partly psychological.

Similar analyses, in briefer form, can easily be made for other commodities, by the reader himself. If milk is taken meaning whole milk, fluid, or market milk used in city retail trade, then the supply factors cover such things as: actual gallons of milk being delivered under present conditions; increase or decrease possible in flow on dairy farms producing this milk due to increase or decrease in feeding rations, or to care of milk; new cows or herds inside the milk area not being used for city milk production; dairy cattle outside milk area (but near it); milk supplies at long distances which are subject to shipment in tank cars. In the case of butter, a very important factor on the supply side is the substitute. In 1923, some 226,000,000 pounds of butter substitutes were used in the United States, one-fourth on farms.



Organized dairymen have waged picturesque campaigns against the "cocoanut cow" and the "cottonseed cow."

In spite of governmental crop estimates and frequent reports on cold storage holdings (and these are valuable market services), in spite of trade paper estimates and reports, and in spite of all other sources of information about markets, the "supply" of any agricultural commodity is not a matter of definite statistics, but is, and must remain, largely a matter of "estimate." As estimates change and fluctuate, market opinions change and fluctuate. Value and price, therefore, reflecting consensus of market opinion, are subject to fluctuations. As information becomes wider and more definite, this range of fluctuation is thereby reduced. It can and will be very greatly reduced, but never entirely eliminated.

*Demand.*—The discussion up to this point has largely dealt with supply, one aim being to show that supply is largely psychological. Demand is frankly recognized as almost wholly psychological. Demand is usually defined as the desire to purchase, coupled with the ability. If demand is analyzed from the market price standpoint, it is at once apparent that there are many factors which influence demand. This subject has already had some attention paid to it in the first two chapters of this book. It is only within very recent years that economic surveys by commercial engineers and others have been made to determine demand for any particular commodity or service. Such surveys by commercial institutions, as a telephone company, for instance, have for their purpose the forecasting of demand as a guide to further business expansion. Market surveys by manufacturing concerns have much the same purpose. The research study surveys made by the Bureau of Agricultural Economics, however, have aimed to find out the factors constituting market demand and hence affecting present market prices.

*Demand for Milk.*—Consumer demand for milk was studied in Philadelphia by several joint agencies in the year 1924, and the following factors were all found to enter into the demand: the milk cleanliness, purity, food value, quality, and freshness; the milk's value as a health food; price; financial ability of family; race and nationality (white, colored, Italian, Jewish, etc.); effect of seasons; effect of advertising; number and ages of children in family. The consumption of cream and buttermilk, and of condensed, evaporated, and powder milk, were also found to

be factors. Canned milk was considered by many consumers to be most convenient. The consumption of butter, butter substitutes, and cheese was also studied, and found to vary considerably from race to race.

*Demand for Meat.*—Consumer demand for meat has been studied in a similar manner in different cities. Demand was found to fluctuate with the following factors: race, color and religion; quality, convenience, price; use of substitutes (and foods for variety of diet); availability and price of eggs, fish, dairy products, etc.; financial ability of family; appetite and preferences for beef or pork or lamb or veal or mutton; buying habits of consumers; knowledge or ignorance of market cuts; custom.

*Demand for Cranberries.*—Similar consumer-demand studies for cranberries revealed the following factors on the demand side; race, color, class, age, and sex (more men like cranberries than do women); flavor, color, and appearance of cranberry; season; price; price of sugar; advertising.

*Summary.*—Demand is largely psychological, although it rests on the basis of ability to buy. Demand is not a definite, constant factor, capable of being expressed in statistics, but is from the market standpoint largely a matter of estimate. The amount of cranberries, or meat, or milk, for instance, which New York will consume next week, must be a market estimate by those supplying these commodities. With more information on production and consumption, and with more free exchange of such market information will come less guessing, less estimating, less speculating, and in consequence, a better coordination of supply to demand.

Various factors of supply and demand have been listed. Certain conclusions have been drawn. The prices of agricultural products, on the open market, are determined by supply and demand. Supply and demand, in turn, are determined by many forces, some natural, some human.

Value (or price) of a commodity is determined by its utility and scarcity.

Utility is determined by the demand. Demand is influenced or controlled in various ways.

Scarcity is a problem of supply. Supply is influenced or controlled by cost of production.

Not cost of production alone, not supply alone, not demand alone, determines price. There must be a balancing of supply

and demand, an "equilibrium," and the temporary point of equilibrium is the temporary market price.<sup>1</sup>

**Wide and Narrow Markets.**—The law of supply and demand, as usually stated, implies an open, free, competitive market. When a market contains many buyers and sellers, it is called a wide market. When a market contains few buyers or sellers it is a narrow market. The wider the market, the more accurately will market prices reflect actual market opinion. The consensus of opinions or estimates is better than an individual opinion. The narrower the market, the less satisfactory is the adjustment of price to conditions of supply and demand. For instance, an auction in which there is no collusion, in which there are many buyers, represents one very trustworthy method of arriving at value and price. Indeed, in many of the state tax laws (requiring property to be listed at "full value" for purpose of taxation) the term "full value" or "actual value" is defined as that price at which the goods would sell at a *bona-fide* public auction. Value in such a case is clearly the combined estimates of several persons.

This principle may be illustrated by having a number of people estimate the length of a stick. A stick 45 inches long was displayed before a class of students. Each person estimated its length. These individual estimates varied from 30 to 58 inches. An individual estimate, therefore, like a narrow market, was erratic. The combined estimates of 10 persons was found to be 96.8 per cent correct. The combined estimates of the 73 persons in the class was 99.6 per cent correct.

<sup>1</sup> The following is adapted from WILLIAM R. CAMP, "The Organization of Agriculture in Relation to the Problem of Price Stabilization," *Jour. Pol. Econ.*, vol. XXXII, no. 4, August, 1924. William R. Camp has written much on the subject of price stabilization and in criticism of the iron law of supply and demand. He lists the following supply and demand factors as among the many influences which cause "instability of prices:" stocks on hand, holdings of the financially weak producers and distributors, instability of producer demand, credit extension and contraction, elasticity of consumer demand, growth of nationalism and the rise of workers and peasant governments, expansion and contraction of production by different producing groups, change in purchasing power of peoples, change in sentiment of peoples towards purchase with a tendency to overemphasize political and economic rights over the acquisition of goods by the peoples of Central Europe, Russia, India, China, war, changes in balance of trade credit, rate of foreign exchange.

The main argument in favor of organized exchanges as correct price barometers rests on this principle. They are, in fact, huge public auctions, open to all competent buyers and sellers in the land, through the broker or commission houses who are members. Thus, in one day in the Chicago Board of Trade wheat pit there will be selling orders from over 500 persons and buying orders from about the same number. These orders represent estimates of value, and the combined estimates are fairly accurate barometers of the real market value. The more estimates, the more correct is the value. These combined estimates constitute the price quotations which are given the widest and speediest possible publicity.

Most agricultural products, however, are not sold on the wide markets afforded by organized exchanges, but on "narrow" markets. This makes possible the large amount of "artificial" influences which commingle with the "natural" influences in determining actual market value or price. And hence those two recurring newspaper expressions of public sentiment—first, in the farm press when prices are low, wanting to use public or private means to elevate prices; second, in the city press when food prices are high, wanting governmental or other agencies to bring down the "high cost of living." How and to what extent can agricultural prices be artificially influenced? Controlled? These questions will now be considered.

**Price Control.**—"Neither legislation to increase prices nor marketing programs devised by farmers are apt to prove effective if they seek to controvert economic law."<sup>1</sup> Can prices be controlled? Yes, to the extent that the forces governing price can be controlled. No, to the extent that the forces governing price are beyond human control.

The problem of price control breaks up, therefore, into a number of separate problems, pertaining to the human and non-human forces which govern price. To each a separate answer must be given.

**Quantity and Quality Control.**—On the supply side of the market, the physical factors of quantity and quality can be controlled within certain limits only. The non-human factor of weather is the conspicuously powerful influence here. It is an "Act of God," and not subject to human control.

<sup>1</sup> FILLEY, H. C., "Factors Affecting the Price of Farm Products," *Univ. Neb., College Agr. Exp. Sta., Bull.* 198, p. 40, November, 1923.

*Demand Control.*—To control consumer demand it is necessary to do one of two things. Persuade the consumer or, compel the consumer. The farmers' strike is the extreme form of compulsion used, and is resorted to only in those exceptional cases where the farmer feels he must fight some form of injustice by means of this union labor weapon. Milk strikes have been held in California, Illinois, New York and elsewhere. These milk strikes have been partially successful, that is, they have resisted price cuts or forced price increases. They have reached consumer demand by controlling market supply. The net effect of strikes both with labor unions and with farmers unions is always a matter of serious doubt. The same may be said of persuasion by means of picketing. "Peaceful persuasion" by picketing in labor disputes, is held to be legal: violent picketing, in labor disputes is held illegal.

There is a twilight zone of price control in which farmers, if organized, can actually temporarily control prices. This zone of control is a narrow one, being limited to those price making forces which are in the hands of the farmer. These forces apply to either the supply or the demand. In case of demand control new consumers are found: or old ones increase their consumption, or the consumer is led to pay higher price. And the consumer will do this only if he is persuaded or compelled to do it. In the case of supply control, competing consumers bid up the price, but easily turn to alternates or substitutes when the price gets too high.

*Examples and Results of Price Control.*—The outstanding examples of price control by farmers are to be found in that group of powerful, highly centralized, cooperative associations in California, such as raisins, prunes, and walnuts. Here there is no collective bargaining, but frank, direct price fixing by the farmer group. To what extent does such price fixing defy the law of supply and demand, and to what extent does it conform to such law? An answer to this specific question must be given.

*Raisins.*—In a preceding chapter mention was made of two facts about the organized raisin growers of California: (1) the notable price elevation in raisins during the years 1912 to 1920; (2) and the corresponding increase in raisin acreage. By means of long-time contracts with some 90 per cent of the raisin producers, the association had a substantial monopoly and was able to name its own prices, and competing buyers took the crop.

Consumer demand was stimulated by national advertising. A high-grade standardized product was put on the market. But eventually the increase in output outran the increase in consumption. It was at this juncture that a price collapse occurred, which well nigh disrupted the association. By means of financial cooperation of large business men, however, in the cities of Los Angeles and San Francisco the farmers' company was salvaged and reorganized. Price fixing (and fixing the prices high) had almost proved the undoing of this association, which was performing its major services of good quality and wider distribution with signal success. Is cooperation for savings or for profits? In the official organ of the raisin growers, *The Associated Grower* p. 8 for March, 1923, is announced in a few simple words the bitter lesson learned in 11 years of experience:

The future returns of the farmers can be increased either by savings in the cost of production or by savings in the cost of distribution.

Following this period, prices were back to the early pre-war levels. A review of the raisin industry, published in the growers' organ, in July, 1924, spoke of the surplus problem, the "fact of overproduction." At no time following the war had the association been able to sell the whole crop including the carryover. The maximum tonnage ever sold in any one year was 140,000 tons; yet the crop of 1923 was 270,000 tons, and the carryover from 1922 was 100,000 tons. Evidently the law of supply and demand does set rather definite limits to price, even when the farmers have and exercise the power of price-fixing. The consumer has the last word in price because he can turn to substitutes.

*Prunes.*—It is not necessary to analyze at length the record of the organized prune growers, whose association began to function in 1917, with a long-time contract, and a substantial monopoly of the California prune acreage. The association proved to be a brilliant success in securing quality and distribution. Organized on a rising market, with the growers fixing their own prices the program worked smoothly until the post-war deflation set in. Prune prices then behaved like raisin prices. The output of prunes had outrun demand; prices dropped to original price levels.

*Walnuts.*—The California Walnut Growers represent a much more democratic organization than the two just named, and have a record of similar success in securing quality and distribu-

tion. It has had, however, better success in price-fixing, by always having in mind the latent power of the law of supply and demand. This association at one stroke made a saving of 3 per cent in its distribution costs when it changed from commercial shippers on a 6 per cent basis to a brokerage business at 3 per cent. Following the post-war deflation came a heavy cut in walnut prices. The price policy of the walnut growers, and the surplus problem, have been discussed in a preceding chapter. In speaking of the price fixed in 1921, to meet the price slump, the organ of the walnut growers used this language: "Our problem resolved itself down to what the actual consumers are willing to pay." At this time the walnut acreage was found to be doubling every 4 years. With an increase in price to the California grower had come two results: (1) increase in California crop; (2) increase in imports of foreign walnuts.

The California cooperatives, therefore, that actually name their own price, must interpret and obey the law of supply and demand, or suffer the consequences. The consequence of misreading or ignoring this law is surplus, and the consequence of a surplus is low prices.

**Price Influence.**—Price-control has been discussed as holding out certain limited opportunities to the producers to better their prices, through control of the price-making forces. In price control farmers can do little. In price influence they can do much. Since the law of supply and demand works only on and through human agencies it is obviously subject at all times to all the forces of human influence which are consciously or unconsciously brought to bear upon it. This "law," therefore, does not work with mathematical precision, but only approximately so. The classical economists asked and answered the three following questions on this law:

Does the "market price" give a true indication of the value of the commodity offered? The answer was, "yes." The answer should have been, "no, not always;" the "market price" varies too much in the same market, at the same time, for the same commodity.

Is the market price a competitive price? The answer was, "yes." The answer should have been "no, only approximately so." Only in an auction was the price a competitive price.

Does the law of supply and demand, in coordinating production and consumption (i.e., calling for an adequate produc-

tion) also, at the same time, establish a correct and "fair" price? The answer was, "yes." It should have been, "no, not quite." The question of "fair" price is a misleading one, however, and will be discussed at the end of this chapter.

The three questions on the law of supply and demand are all answered daily by the facts of the market, and need not remain mere matters of theory or speculation. To illustrate; take the laboring man selling his labor on the labor market and compare him with the farmer selling the product of his labor on the market for agricultural products. The exact way the law of supply and demand works is shown by the following table:

TABLE IX.—THE HIRING WAGE RATE FOR COMMON LABOR IN 38 PLANTS IN A LARGE OHIO CITY, ON SEPTEMBER 27, 1921<sup>1</sup>  
Showing Variations in Price of Labor

3 plants paid 30	cents per hour
1 plant paid 32	cents per hour
1 plant paid 35 to 40	cents per hour
8 plants paid 35	cents per hour
2 plants paid 36	cents per hour
1 plant paid 37	cents per hour
1 plant paid 37½	cents per hour
1 plant paid 39	cents per hour
1 plant paid 39½	cents per hour
10 plants paid 40	cents per hour
1 plant paid 42½	cents per hour
1 plant paid 43	cents per hour
1 plant paid 44	cents per hour
2 plants paid 45	cents per hour
3 plants paid 50	cents per hour
1 plant paid 55	cents per hour

The work done by the common laborer in these plants was substantially the same kind in all cases. Moreover, each plant knew what the others were paying, and, indeed, had known this for months, since each plant had for months received bi-weekly reports on the wages being paid in this market. Yet the price of labor varied from 30 to 55 cents per hour, or 83½ per cent.

<sup>1</sup> Data furnished by S. H. Slichter. It may be added that at about this same time some city carpenters in Chicago were receiving \$2 an hour, while some farm labor on near-by farms was receiving \$2 a day.

*Bargaining.*—The better price goes to the better bargainer. This is one of the reasons why some of the laborers in the Ohio city received 83½ per cent more for their labor than did other workers doing the same kind of work in the same city the same day. The individual farmer is also a poor bargainer; he is held up before the world as the poor bargainer. Bargain-



ing, therefore, constitutes a price factor of varying importance, depending on the "narrowness" or "width" of the market. In an individual horse trade, it is of first importance. At the opposite extreme from this is the organized produce exchange market where a large number of price factors in addition to bargaining are focused.

To what extent can farmers, organized or otherwise, influence price by better bargaining? A general answer may be stated in this way: competition (or the law of supply and demand) sets the price only within general limits. These limits may be compared to a prize ring where a fight is to be staged. Within this ring the actual price is set by the conflict of wits known as bargaining. Thus, in the case of the boy, U. S. Grant, the competitive price (the market price) of colts was from \$20 to \$25, but Grant, the poor bargainer, paid the maximum amount. In the case of the laborers in the Ohio city, the law of supply and demand fixed wages at from 30 to 55 cents an hour. The actual wage A or B or C received depended on his bargaining power within these two boundaries. Supply and demand set the limits of price. Bargaining sets the price within these limits.

*Advertising.*—Advertising is listed as one of the chief ways of influencing price by demand stimulation. The efficacy of advertising a graded and standardized product is generally recognized. Much advertising goes far beyond the economic limits of usefulness and becomes thereby fruitless waste of money, even though the advertising itself is well written or drawn and well displayed. There is a second group of advertising, also an economic waste, namely, that kind which is not properly prepared and fails to carry the right message.

*"Strategy."*—Price "strategy" is the term applied to a general group of psychological price influences. This group includes carefully timed reports on market or crop conditions, publicity "drives" in the newspapers against prices of certain food commodities, or in favor of higher prices of certain products. In political campaign times, it may also include spectacular law suits—local, state, or Federal—against farmers' organizations, or the Sugar Exchange (to "bring down the price of sugar"). At one time there were pending in five widely separated cities of the United States five dramatic lawsuits against dairy farmers charged with violation of a criminal statute (the antitrust law).

The aim was to "bring down the price of milk"—for the city consumer. The farmers in every case escaped conviction. At another time, for a similar purpose, the farmer officers of a dairymen's cooperative association were actually arrested and hurried into jail, in a large city, on a Saturday night, under conditions which made their securing of bail difficult. On trial later they were acquitted. Price strategy is a two-edged sword, cutting both ways. Since, however, it is used by both the organized farmers, and those who represent buyers' or consumers' interests, it must be listed as one means of price influence.<sup>1</sup>

*Summary.*—On the unorganized markets there is much scope for the use of price influence by farmers' organizations. It may be done by bargaining and by advertising or by price "strategy" (within reasonable limits). Previous discussions have shown also the proper place and scope of price influence through orderly marketing and pooling, by grading and standardizing—through quality and distribution. A program of reasonable and economically sound price influence is a proper part of the policy of the cooperative marketing association. In price control, however, the consumer always has the last word, and hence programs of price control by farmers' organizations frequently lead to disappointment and disillusionment.

*Government Price-fixing.*—One of the most persistent fallacies in economics is that of government price-fixing on competitive commodities. There is already government price-fixing in the realm of natural monopolies, that is, in commodities and services where competition plays no part in price determination. These common natural monopolies are railway transportation; electricity, gas, telephone and telegraph, and so on. It is perfectly obvious here that government price-fixing is solely to protect the consumer. There are two fatal objections to government price-fixing for agricultural products, which products represent the most competitive business in the world. These two objections are: (1) it will not work; (2) it is always done, sooner or later, for the consumer as against the producer. These two objections will be explained and illustrated.

*Government Price-fixing Will Not Work.*—Price-fixing, like irredeemable paper money, has been employed in historical times by every civilized government, and with the same universal

<sup>1</sup> See WALLACE, HENRY A., "Agricultural Prices," pp. 11-29, Des Moines Iowa, for further discussion of "price strategy."

failure. Yet so short is the economic memory of mankind that there is a constantly recurring clamor for this handy patent-medicine "remedy" for low prices.

Government price-fixing for agricultural products would work if at the same time the government regulated wages and profits and middlemen's margins; the production of all commodities; and the rationing of all consumers. In short, if the population were enlisted in one vast army, directed and rationed, price-fixing would work, but otherwise not. If the price is fixed on the wheat the farmer sells, then he cannot keep on producing wheat if wages or the cost of harvesting machinery rises, or if the cost of other material he buys rises. So step two would be the fixation of other prices, and yet other prices. During the World War the United States government controlled the price of wheat from September, 1917, to June 30, 1920. The price was fixed at \$2.17 at Chicago, September, 1917, to June, 1918. From July, 1918, on the minimum price at Chicago was set at \$2.22. Then followed 24 months of very violent fluctuations in price, The Chicago price ranging from \$2.22 to \$3.50. Price-fixing did not stabilize price. Nor did it work successfully in other respects. Briefly stated, the facts are as follows;

*Wheat.*—By Dec. 1, 1917, the farm price of wheat had been reduced from \$2.29 to \$2.01. Had the price not been fixed, it was obvious that the farm price would have gone to \$3 or higher. When the price was reduced, a patriotic appeal was made to "eat less wheat" and to "feed the Belgians." A portion of the public did eat less wheat; another portion began to eat wheat at an increased rate. An unduly large proportion of the crop was consumed by Feb. 1, and yet the year's wheat exports were low. Then compulsion was applied to force the use of wheat substitutes. The government's March 1 crop report revealed that the farmers had marketed their crop more rapidly than usual, that consumption had been too rapid, and hence stocks on hand were too low. Consumers then turned to rye, and the farm price of rye jumped from \$1.75 in February to \$2.35 in April. Rules were promulgated requiring substitutes for rye, and in June the farm price of rye dropped back to \$1.88. The price of wheat was fixed, but not the price of all wheat products.

The price of bran was fixed in the spring of 1918. The fixed price was ineffective in many cases. By combination sales and by mixing other

feeds, a price higher than the supposed price has often been charged. The distribution in different regions was also changed as a result of the fixed price. The actual cost to farmers was made very high in the East, but was slightly lowered in the Middle West. For the six New England States the average price paid by farmers on Sept. 15, 1917, was \$39.48. On Sept. 15, 1918, when the price was supposed to be fixed, the prices paid averaged \$48.58. At the same time the prices in many of the Middle Western states were lowered. The actual operation of the fixed price made it impossible for many farmers to obtain bran, and acted to the particular injury of New England.<sup>1</sup>

The same authority says,

Apparently the fixed price reduced the amount that farmers received in 1917 by three-hundred to five-hundred millions of dollars.

*Eggs.*—Another war measure was to fix the price at which cold-storage eggs could be sold. The price was set too low. This kept the price of fresh eggs down. The price of poultry feeds went up, particularly corn, the price of which was not fixed. It no longer paid the farmer to keep expensive hens and sell cheap eggs; so the hens were slaughtered. In New York State approximately 2,000,000 hens were slaughtered in 1 year (the state census reported 10,738,960 hens Apr. 21, 1917; and only 8,907,644 Feb. 1, 1918). The government then promulgated a rule prohibiting the sale of hens, hoping thereby to stop the killing of the hens. This rule did not compel any farmer to raise chickens, and hence the number of chickens fell off, egg production declined, and egg prices soared to new high levels. There were violent fluctuations in profits and in prices.

*Bituminous Coal.*—The fixing of the whole chain of prices from the producer of raw material to retailer involves the fixing of margins for manufacturers and middlemen. The government desires to stimulate production and at the same time satisfy consumer demand for lower prices. This situation led the government in many instances to cut dealers' margins too low. This was true for flour and sugar; also for bituminous coal. Little harm was done in the distribution of flour and sugar, for grocers could make up their losses on other commodities. But with coal the result was different; the coal dealer had his whole business disrupted. In the Report of the Committee of the

<sup>1</sup> WARREN, G. F., "Some Purposes and Results of Price Fixing," *Amer. Econ. Rev.*, vol. IX, no. 1, pp. 233-245, March, 1919.

American Economic Association it was said, concerning the Price-fixing Policy:<sup>1</sup>

. . . if the jobbers in bituminous coal had been more sure of their ground, had had freer hands and larger margins to work on, no small part of the railway congestion from which the country suffered so much in the winter of 1918 might have been avoided.<sup>1</sup>

As it was, however, there was an appalling failure in the distribution of this primary necessity of civilized life. Great cities, like Chicago, found it necessary to close all stores and places of business many days during this "coalless period." This proved to be one of the most costly and colossal break-downs of government price-fixing on record.

The most impartial study of price-fixing for the World War period was that issued by the Carnegie Endowment for International Peace, "Prices and Price Control in Great Britain and the United States during the World War."<sup>2</sup> Here the conclusion is, "Unless some system of priority of distribution and of rationing is introduced in connection with price fixing, the latter is doomed to failure."

#### Questions

1. Name four methods which have been suggested for correcting price changes.
2. Define price; value; law of supply and demand.
3. Name four axioms underlying law of supply and demand.
4. Is there a law of supply and demand?
5. Show clearly what is meant by "supply." Illustrate.
6. Show clearly what is meant by "demand." Illustrate.
7. Show relation of value to supply: relation of supply to cost of production.
8. Show relation of value to demand; relation of demand to utility.
9. Show relation of value to the two changing factors of supply and demand; to cost of production.
10. What is meant by an open, competitive market? Show that consensus of opinion is a truer gage of value than is individual opinion.
11. How secure a good price barometer?
12. Can agricultural prices be controlled? Be specific. Two general aspects. Summarize.
13. Give examples of price control: raisins; prunes; walnuts. Do these three California cooperatives ignore, control, or obey the law of supply and demand? To what extent do they control price?
14. Can agricultural prices be influenced? Be specific.

<sup>1</sup> ANDERSON, B. M., JR.

<sup>2</sup> LITMAN, SIMON.

15. Does the market price give a true indication of the value of a commodity?

16. Is the market price a competitive price?

17. Does the law of supply and demand establish a correct and "fair" price?

18. Cite prices of labor in Ohio City.

19. Cite place of bargaining in price influence. Reconcile bargaining with law of supply and demand.

20. Cite advertising and price influence. Benefits and limitations.

21. Define and illustrate price strategy.

22. Summarize scope and value of price influence efforts.

23. Where does government price fixing now exist? Why in these fields?

24. Explain at length two objections to government price-fixing in agriculture.

25. Give facts as to workings of government price-fixing for wheat, eggs, coal?

## CHAPTER XIV

### PRICE (Continued)

The preceding chapter closed with the account of price fixing by the United States government during the World War. This chapter will open with two examples of governmental price fixing in peace times, that of Argentina and that of Brazil.

**Argentine Price Fixing.**—An instructive example of price fixing in peace times is that of Argentina during the year 1923. An oversupply of cattle brought the price down to \$3.50 to \$4 per hundredweight. The cattle growers secured a law providing that the packers should pay a minimum price of \$4.50. The packers' market for this meat is the export trade. The Argentina growers had the mistaken idea that the world needed these cattle and would pay the price. Better and cheaper meat, however, was to be had from Australia and the United States. The packers, therefore, refused to buy, and closed their plants. The Argentina government soon abandoned the experiment in price fixing, and the cattle growers were then able to sell their cattle on the world price basis.

**Brazil's Coffee Valorization.**—One of the most noteworthy, large-scale, price-fixing experiments in recent years is that of coffee in Brazil. Valorization means giving by law a fictitious or artificial value above or apart from the normal or ordinary market value. The valorization of coffee was a plan carried out by Sao Paulo a state in Brazil, to enhance the market price of coffee. Most of the world's coffee comes from Brazil. The 1906 crop was a big one, and broke the price. Hence a plan was conceived and executed for having Sao Paulo enter the market, buy up enough coffee to have a corner on the market, and thus enhance the price. A heavy tax was levied on new acreage to keep down production.

Coffee is not perishable and is subject to long storage. So Sao Paulo borrowed funds, bought coffee, elevated the price, and planned to "feed the market" slowly for the next few years until the stored coffee was sold.

How was the scheme financed?

How was the state coffee marketed?

What were the final effects of valorization?

The financing proved difficult on account of the size of the undertaking and the second-rate credit standing of the state of Sao Paulo. Temporary credits were first used; later long-time securities were sold. Through the Brazilian Bank for Germany, paper amounting to £81,000 was discounted. Next a loan of £3,000,000 was secured through New York and London banks. A loan of £3,000,000 was made by the Federal government of Brazil. The transaction now became too big for the State of Sao Paulo. The Republic of Brazil took charge of the financing, funding the various debts in one loan of £15,000,000 through a syndicate of bankers. These bankers made a hard bargain. The loan was to run 10 years (to Jan. 1, 1919), at 5 per cent interest, and was taken by the banks at a discount of 15 per cent. It is significant that in the preliminary arrangements for the first £3,000,000 loan the New York bank was represented by Herman Sielcken; also that when the purchase of coffee began for the State of Sao Paulo, Aug. 20, 1906, among the large firms through whom the purchases were made was Crossman and Sielcken of New York, a partnership composed of G. W. Crossman and Herman Sielcken.

The expenses of valorization were criticized. The first bonds for £3,000,000 were to run 3, 4, 5, and 6 years, at 5 per cent interest, yet they sold at 93. This made the discount \$1,016,400. They were paid off at par in 3 years, the interest amounting to about \$2,178,000. The bankers also received 1 per cent, par value, and also 1 per cent on the interest paid, which amounted to about \$167,000, and they were also paid  $1\frac{1}{4}$  per cent, or about \$181,500, for stamps, taxes, and other expenses. Hence, the total cost of this loan of \$14,520,000 was about \$3,542,000, or 24 per cent.

The bonds for the £15,000,000 (\$72,600,000) were taken by the bankers at 85, a discount representing a loss to the state of \$10,890,000.

The committee of bankers took charge of the marketing of the 10,000,000 bags of coffee withdrawn from the 1906 market. The decision was reached to put on the market each year a certain amount—500,000 bags the first year, then 600,000; thereafter, 700,000. When the World War broke out there were



3,000,000 bags in store in Europe. This the belligerents seized and paid for.

The effects are very instructive. The immediate effect was to raise the price of coffee to the growers. From this increase, however, must be deducted the increase in taxes used to finance the scheme and reward the bankers. The Brazilian planter, denied the right to plant new trees, cultivated his crop better. Competing coffee areas in Java and elsewhere increased their production. High-priced coffee caused American consumers in many cases to turn to cheaper substitutes, of which there are many on the market. At any rate by 1916, prices had again worked down. This led the *Wall Street Journal* of Mar. 18, 1916, to say:

Coffee prices are low, inexplicably low, even to the best-trained specialists in the world's leading markets. At about 73½ cents the market hangs at the mercy of liberal supplies coming from producing sources . . . The price depression is sufficiently explained by trade dislocation and by surplus production . . . The non-Brazilian coffees were 30 per cent above the average in yields . . .

Another effect was the legal collision between the United States and Brazil, which threatened an international lawsuit under our antitrust law. A suit in equity was brought against Herman Sielcken and the other members of the bankers' committee. The brief in this case refers to the large profits of the bankers, and says, "it was not for the welfare of the producers that this valorization scheme was concocted and carried out." These bankers were all, however, beyond the reach of the United States. The assistant Attorney General states, in his detailed report on valorization:

Of a violation of this law (United States Antitrust Act) the members of the so-called valorization committee, who are among the best-posted coffee men in the world, were and are guilty, but of them we can deal only with the American member, Mr. Herman Sielcken, who is now, and has been since before this investigation was begun, living out of the United States, to wit, on his estates in Baden-Baden.

The chief advantages of the scheme evidently accrued to the bankers who managed it.

**Government Price Fixing for the Consumer.**—Since the consumers have twice as many votes as the producers (and governments represent majorities) price-fixing schemes by the

government lead to but one result, namely, price fixing to protect the consumer against the so-called "high cost of living." This is one reason why great labor leaders like Samuel Gompers and others have always fought against any and all forms of compulsory governmental arbitration of labor disputes or wage regulations and the use of injunctions in labor disputes or laws restricting boycotting and picketing. The principle of "Protecting the consumer" is a very ancient principle of government, particularly in governmental regulation of markets and prices. This practice was common in Greek and Roman times, and the death penalty was sometimes imposed for violation. Yet history does not record any cases when the practice of price regulation was anything else than a disaster to all concerned. Spain apparently violated every known economic law in attempting to regulate the details of the economic life of the people. France did almost as badly. The English laws against forestalling, regrating, ingrossing, and regulating prices of bread, ale, grains, occupy literally thousands of pages of the old English laws. A law of Edward III set the price of a bushel of wheat at 10 pence. Laws favoring the wool trade caused some spurt in that industry, with a consequent enclosing of formerly tilled lands, for sheep pastures. This caused a decrease in rural population and the so-called "decay of villages," against which, in turn, more statutes were passed. Thus, in Queen Elizabeth's time (43*d* Elizabeth, Chap. VII) a law was passed providing that Justices of the Peace should "compel those who cut down corn growing to make satisfaction." Some idea of old prices may be had by noting the following list: it was made by Parliament in the year 1314, in the reign of Edward II, and is taken from the King's Letter to the Sheriff of London:

PRICES OF PROVISIONS TO BE SOLD IN LONDON, IN THE YEAR 1314			
	£	s.	d.
The best grass fed ox, alive.....	0	16	0
The best cow.....	0	12	0
The best hog of 2-years old.....	0	3	4
The best mutton.....	0	1	4
The best goose.....	0	0	3
The best capon.....	0	0	2½
The best hen.....	0	0	1½
Twenty eggs.....	0	0	1

Counting the shilling as 25 cents, then an ox sold for \$4, a goose for 6 cents, and 20 eggs for 2 cents. Were these prices actually

enforced, in the interest of the consumer? No. Scarcity then, as now, increased prices. In the reign of Edward III, 1335, the King, with the advice of the privy council, sent a severe reprimand to the Lord Mayor and Sheriffs of London, upbraiding them for the little regard they paid to their oaths, by suffering bread, wine, beer, and other kinds of victuals to be sold in the city at "excessive rates." He commanded the Lord Mayor, upon the penalty of his whole fortune, forthwith to convene the Aldermen and Commonalty of the city, to deliberate upon, and to regulate the prices of all sorts of provisions according to the "prime costs." This order was obeyed, and a new set of prices, much lower than those of 1314, was announced. The best ox was reduced to 6 shillings 8 pence; the best wheat to 3 pence (6 cents a bushel). An old writer, describing and justifying these laws expressed a point of view which unfortunately still prevails in our cities concerning the farmer's "duty." He said:

They, undoubtedly, when they fixed the prices of corn, and the several other necessary articles of life, conceived that being of such general necessity, the farmers who produced, had no more than a qualified property in them; and consequently, could have no right to withhold them from market and perish their fellow-creatures with hunger; that the public safety supersedes every private privilege, and that to feed its people is the duty of a government; that the farmer should be obliged to sell his produce reasonably to his fellow-subjects, for whose use it is his duty to produce it; and, consequently, that for a farmer, or a monopolizer or middleman, stepping between him and the public, to withhold corn or any other necessary article of life, from market, or to extort an unreasonable price for it, was a crime of great magnitude.<sup>1</sup>

The United States government fixed the price of wheat but once in our history, and then it was fixed to benefit consumers, not producers. The government might, in an emer-

<sup>1</sup> GIRDLER, S. S., "Observations on the Pernicious Consequences of Forestalling, Regrating, and Ingrossing, with a List of Statutes, etc., which have been adopted for the punishment of those offences; and Proposals for New Laws to Abolish the System of Monopoly; Remarks on the Impolicy of Consolidation of Small Farms; . . . On the Sale of Cattle at Smithfield, Contractors, Carcass and Cutting Butchers, Fish and Cheesemongers, Poulterers, etc. with an account of some convictions of Regrators; and Reflections on the act lately passed for Incorporating the London Flour, Meal, and Bread Company, with various Hints, Notes, Etc.," p. 65, London, 1800

gency, fix some agricultural prices for the purpose of elevating such prices. Such action would inevitably and speedily lead to outcry from city consumers and a consequent reversal of policy. Indeed, the consumers, not the producers, are most likely to demand and secure food price regulation by governmental authorities. The farmer, therefore, who favors any form of governmental price-fixing is working against his own interests—he is putting his head into a noose. Both consumer and producer are best served by keeping the channels of trade open and free, untrammled by private abuses or bureaucratic regulations.

**Stabilizing Prices.**—The fluctuations in price and the consequent speculative losses or profits have led to many proposals for stabilizing price. Many bills have been introduced in Congress with the purpose of price stabilization, or for both price elevation and stabilization. Certain of these measures propose to dump the surplus abroad at foreign prices, and sell the remainder at home on a “domestic” price level, this domestic price to be elevated and kept stabilized by the government itself. The fallacy of such a course is apparent, for it is the surplus which lowers the price and hence the surplus is the “evil” to be cured. But such a scheme would reward not penalize, for producing the surplus, and hence would increase the surplus. The market price itself penalizes for producing a surplus, already, without any new machinery.

All market reforms which remove risks and stabilize the individual price factors tend to stabilize the price. But unless the factors which make price are controlled or stabilized, price itself cannot be stabilized. A great deal of misinformation is given the farmer about industries, other than agricultural, stabilizing and controlling their prices. For evidence on this point see Appendix II to this chapter.

**Cost of Production Price.**—The cost of producing farm products does not determine their selling price. This economic law can be made clear by means of simple illustrations.

**Cattle Costs and Beef Prices.**—To produce a steer for meat purposes requires a period of from 1 to 3 years. The prices the producer has to pay for feed, labor, and other items during this period, together with weather conditions, determine what it costs to produce the steer. But the price the producer receives for the steer depends upon conditions existing at the time it is sent to market. The market may have gone down; but the

steer is produced and cannot be "unproduced." He must be sold. If the supply of cattle coming to the market at this time is greater than the consumer demand for dressed meat, then the prices of meat and livestock go down. If the supply of cattle coming to market is less than enough to supply consumer demand for meat, the prices of meat and livestock go up. Receipts of cattle vary from week to week; consumer demand for meat fluctuates also. Market conditions and competition establish the price the producer gets for his steer. When meat prices go up or down, so do the prices for live cattle. The meat packers, large and small, cannot pay out more money for cattle than they take in for meat and the by-products, and stay in business very long.

*Milk Costs and Prices.*—Organized dairymen have been strong enough to make a very complete test of the theory of setting price on the basis of cost of production. In the Chicago areas the Pearson formula of cost of production was used; in the Detroit area, the Anderson formula; in the New York City district, the Warren formula. These formulas worked on a rising market, as long as there was no more milk than the consumer wanted at that price. But soon the consumer did not want it all, that is, there was a *surplus*. Hence in every case the formula was abandoned as the method of fixing the price. The President of the New York Dairymen's League, speaking at the Annual Meeting in December, 1919, and explaining why the cost-formula had been abandoned, said:

The Warren formula was found impractical because it seemed impossible to sell the milk by its use without continual friction and warfare, and because it is necessary to sell all, not part, of the League milk. It is difficult, if not impossible, to sell all of the milk or all of any other commodity on a plan absolutely guaranteeing to dairyman or other producers the cost of production every month in the year for all they may care to produce.

*Wool Costs and Prices.*—Wool is given as an illustration of two additional reasons why cost of production does not determine selling price. (a) The cost of producing agricultural products is a joint cost. That is, two or more things are produced at the same time, with the same outlay, and each of which has a market value. (b) The cost of production differs from farm to farm, and on the same farm from year to year. President Taft

asked the Tariff Board, in the year 1912, to find out the cost of producing a pound of wool and report this fact to Congress, so that Congress could levy a duty on wool sufficient to cover the difference in the cost of production at home and abroad. A commission of five men, aided by a large field force of experts, in a period of 9 months, at an expenditure of \$100,000 dollars, brought in a report of 1,278 pages on Schedule K (the wool schedule of the tariff). The gist of this report is as follows:

It is not possible to state in exact terms the actual cost of producing a pound of wool considered by itself, for the simple reason that wool is but one of two products of the same operation. That is to say, flocks produce both fleece and mutton—products entirely dissimilar in character and yet produced as the result of the same expenditure for forage and for labor.

Later, in the report, it is further stated:

The conclusion is inevitable that when the woolgrower's receipts are derived partly from wool and partly from mutton, it is impossible to apportion the costs between the two products, and that, therefore, we cannot obtain a result which can accurately be termed the cost of producing a pound of wool.

The student who recalls his algebra will recognize in the above problem the mathematical principle that two unknown quantities cannot be found with but one equation. For instance, given the cost of production of one sheep as \$5, the cost of producing the wool, as  $x$ , the cost of producing the mutton as  $y$ , find the value of  $x$ . The equation is,  $x + y = \$5$ . Such an equation cannot be solved. No need to spend \$100,000 to find that out.

This Tariff Board also found out that it cost more to produce sheep in the Ohio region than in Western parts of the United States; that in the states east of the Missouri River wool production was incidental to general farming, and that mutton production, generally, was of more importance than wool; that the opposite was true of the West; that the West had 35,000,000 sheep; the East had 15,000,000 sheep; that the cost of sheep production varied from farm to farm and from year to year. The important point of the report, however, was that it was impossible to find out the cost of producing a pound of wool.

This difficulty of "joint costs" applies to many farm commodities. It also applies to a crop in a definite crop rotation system. For such an individual crop might sell for less than cost of production, yet be a profitable crop in the rotation system.

Whose Cost? Another difficulty arising in making a practical application of cost of production as the basis of market price is the problem of whose cost of production shall be taken? It was pointed out in the chapter on Production that some farmers are incredibly efficient; some are the opposite. The government found out that the 1919 cotton crop was produced at many different costs from farm to farm; on some it cost 12 cents a pound; on others \$3.78 a pound. The average of these two costs is \$1.45 a pound. No consumer will pay that for cotton. The wheat study made in 1919 in North Dakota found out that this crop cost the best farmer \$1.25 a bushel, and the highest-cost farmer \$15 a bushel. The average of these two is \$8.12½ a bushel. No consumer will pay that for wheat.

The cost of production affects the supply of a crop which will go on the market later; not the supply on the market now.

*Summary.*—Cost of production is not the correct basis for price-fixing. It is useful to farmers, so far as they keep records, in guiding them in their farm management; it is useful as one of the bargaining points where a crop is sold by the collective bargaining method. It strengthens the farmers' hands as bargainers to show by statistics that a proposed price is below cost of production. The fact remains, however, that no scheme has yet been devised whereby the farmer (or anybody else) can always sell all his product above cost of production. This puts a business risk on the farmer. Offsetting it is the speculative opportunity of selling his product on some occasions at a price very greatly above cost of production (with no governmental price-fixing to keep prices down to a cost-of-production basis).

**Collective Bargaining.**—The term "collective bargaining" has a definite meaning in organized labor, but not in agriculture. If the practice of collective bargaining in agriculture is analyzed, however, it is found to consist of the following three elements: (1) organized group of producers; (2) organized group of dealers; (3) bargaining about price, in one market only, by these two groups. The outstanding example in the United States is the milk market. The classic example of this for many years was the Pittsburgh milk market, for here the three parties at interest were represented—producers, dealers, consumers. In most markets, however, such as New York, Boston, Chicago, Milwaukee, etc., the two groups—producers and dealers—bargain and set the price. The price of milk is usually set for 1

month at a time. The farmers naturally seek the highest price possible, using all available arguments, such as high cost of production, labor and risk involved, etc. The dealers make their profits, of course, through the margin, between retail and wholesale prices. They, therefore, oppose high prices on the general grounds that retail consumption would decrease. Were it not for this consumer-demand factor, the dealers could conspire with the producers and raise the price of milk to very high figures indeed. But the dealers want maximum volume, and hence a retail price which seems "reasonable" to the consumer. Hence, dealers commonly bargain for stationary or lower prices of milk. The price, to be a successful one, must conform to general business conditions. The collective bargaining is thus a method of giving farmers a "voice" in fixing the price of their product. It differs from ordinary cooperative selling in that it means bargaining with an organized group of dealers for the whole supply on this one market, whereas cooperative selling means dealing with individual dealers here and there, wherever they can be found on the open market. Collective bargaining offers a method of selling milk far superior to the old individual method, but it does not give cost of production plus a profit, when there is a big surplus produced. No permanent scheme can do that.

To what other farm commodities collective bargaining may be applied is a matter for the future to decide. Can collective bargaining be applied to the livestock industry? It is consumer demand that dictates meat prices; it is consumer demand plus packers' bargaining plus receipts that sets the price of livestock. Collective bargaining might slightly lower the packers' margin of advantage as buyer, but this would prove to be a very small item on each particular head of cattle. It might conceivably stabilize the flow of livestock to market—now one of the serious problems—and thus help coordinate shipments with demand, and to that extent improve prices. Collective bargaining in grain does not promise any improvement, since the margins here are already low, the number of consuming buyers so large and so scattered and their wants so diverse. The same holds true for cotton and hay. With poultry products, with fruits and vegetables, the matter is open to debate.

**Fair Price.**—A "fair price" is considered desirable by both producer and consumer, but there is no definition of fair price.



The implication is that price is frequently "unfair." A low price may be—frequently is—due to good weather. Can we then say "unfair" weather? "Fair" applies only to the human factors in price. A price set by governmental authority such as a railway freight rate, may be unfair, or a market price where some trade abuse has entered as a price factor. But an open, competitive price, free from obstructions and trade abuses, is obviously the equilibrium price, and can not be called either "fair" or "unfair."

*Summary.*—The law of supply and demand, rightly understood, governs prices. Supply is partly psychological; demand is very largely psychological. This chapter has set forth the scope and limitations of price control, price influence, government price-fixing, price-stabilization, relation of price to cost of production, collective bargaining. The vagueness of the term "fair" price has been explained. Price, after all, is a product of many factors, some of which are subject to human control; some entirely beyond human control.

## APPENDIX I

### WHAT MAKES HOG PRICES?

The Bureau of Agricultural Economics issued a *Preliminary Report* in March, 1925, on a "Study of Hog Prices and Production over 20 Years to Determine What Factors Influence the Price." The following were found to be the chief factors:

1. Supply of hogs brought to market.
2. Value of the dollar.
3. Level of demand.

The level of demand was found to vary with changes in export demand, in the price of steers and, hence, of beef, in the quantity of hog products in storage, and with changes in business conditions. The supply of hogs varied as farmers responded to differences in relation between hog price and corn price, the "normal ratio" being 100 pounds of hog equals 11.4 bushels of corn in price. The change in breeding lagged 18 months behind the change in corn-hog ratio. As to cause and remedy of these hog-price fluctuations the *Report* states:

As a result of this periodic variation in hog production, most hog producers have "too many hogs to sell when prices are low, and but few hogs to sell when prices are high." Though fluctuating corn yields and corn prices will continue to make profits from hog production a variable quantity, once farmers recognize that the seemingly almost perverse, action of prices has been very largely due to actions by them and their fellow producers, they can do much to stabilize both the production and the price of hogs.

## APPENDIX II

### CONTROL OF PRODUCTION AND PRICE BY INDUSTRIES OTHER THAN AGRICULTURE

Farmers are frequently falsely informed that all the other industries are able to control production and prices; that these industries are in some manner "stabilized" and made sure things. Oil is generally cited as a case in point. Gasoline is subject to even more "control" than crude oil. The fluctuations in oil and in gasoline have been as violent in recent years as have been agricultural prices. Stability of gasoline prices may be judged by the fluctuations in tank-wagon quotations in Oklahoma City, from Dec. 31, 1923, to Feb. 16, 1925 (omitting the tax):

DATE OF CHANGE	PRICE PER GALLON
1923, Dec. 31.....	12 cents
1924, Jan. 14.....	14 cents
Jan. 21.....	15 cents
Feb. 11.....	17 cents
Apr. 21.....	16 cents
May 26.....	14 cents
July 14.....	13 cents
Aug. 18.....	11.5 cents
Sept. 22.....	9.5 cents
Sept. 24.....	11.5 cents
1925, Jan. 19.....	12.5 cents
Jan. 26.....	13.5 cents
Feb. 2.....	14.5 cents
Feb. 9.....	15.5 cents
Feb. 16.....	16.5 cents

From Apr. 21 to Sept. 22, there was a drop from 17 to 9.5 cents, that is, a drop of 44 per cent in 5 months. Corn and wheat did not make such a drop during the whole year.

Similar showings can be made for other so-called "trusts" and big industries. To illustrate:

*Sugar.*—The American Sugar Refining Company is popularly known as the "sugar trust." In a debate in the United States Senate (which terminated in the refusal of the Senate to ratify the President's nomination of a candidate for the office of Attorney General of the United States) this sugar company was declared to be "one of the most offensive and oppressive trusts with which the American people have been familiar." It is the largest sugar-refining company in the country, with a capital of \$162,000,000. There are 25,747 stockholders. To pay a 6 per cent dividend requires net earnings of \$9,720,000. The 5 years 1920 to 1924 were years of price

changes. In 1920, this company had net earnings of \$1,800,000; in 1921, a loss of \$2,177,000. In 1922, it refined 1,650,000 tons of raw sugar at a profit of \$10,083,833. In 1923, it refined 1,162,000 tons at a loss of \$1,693,070. In 1924, it refined 1,162,622 tons at a loss of \$327,637. During the year 1924, there were 115 changes in the price of raw sugar. Losses 3 years out of 5 show that this "masterful trust" had little control over prices.

*Woolen Goods.*—The American Woolen Company is the leading factor in the woolen-goods industry in America, owning and operating many mills. Its capital is \$142,000,000. During the year 1924, its operations showed a deficit of \$6,944,000. Dividends on preferred stock were paid out of previously earned surplus. Dividends on common stock were suspended in September, 1924. The results of this big company are typical of results of smaller companies in the woolen and worsted industry.

*Cotton Goods.*—The cotton-goods industry found the year 1924 very much the same as the woolen industry did. The Amoskeag Company had a deficit in 1923 and suspended dividends in 1924. The B.B. and R. Knight and Company, Inc., of Rhode Island (makers of the "Fruit of the Loom" cotton goods) had, with its subsidiaries, a net loss in 1924 of \$4,148,110. It also failed to meet the interest on its bonded debt, and a protective committee for the bondholders came to the help of its management. The consolidated Textile Company (owner of Knight and Company), also owning mills in the South, showed a net profit in 1923 of \$54,073, and a net loss in 1924 of \$2,027,615 (not counting the Knight loss). Cotton mills could not, during 1924, buy cotton at prevailing prices, convert it into cloth, and persuade consumers to pay for this cloth such prices as would show any profit to manufacturers. The textile labor unions in New England accepted a wage reduction of 10 per cent.

*Coal.*—Bituminous-coal operators during 1924 generally lost money. The mines owned and operated by organized labor (Brotherhood of Locomotive Engineers) showed the same difficulty.

*Railroads.*—The Chicago, Milwaukee and St. Paul, one of the important lines of the country, went into bankruptcy during 1924. Its preferred stock fell from \$200 to \$10 and \$12; its common stock from \$175 to \$6.

### Questions

1. Cite in detail Argentina's experience with price fixing.
2. Define valorization.
3. Give Brazil's experience in valorizing coffee; coffee in world commerce; financing valorization; marketing the coffee; final effects.
4. Show relation of government price fixing to consumer welfare, Historical background. Cite prices in England in days of Edward II and Edward III.
5. Comment on the consumer's view that it is the farmer's "duty" to produce food, and the government's "duty" to keep down the cost of living. Explain Girdler's views here.
6. Government price fixing for wheat in the United States illustrated what principle?
7. What is meant by stabilizing prices? Comment on policy of "stabilizing" as proposed in Congress from time to time.

8. Is there any sound policy in sight for stabilizing prices? Explain carefully.
9. Does Cost of Production determine selling price? Should it? Illustrate: beef; milk; (Pearson, Anderson, and Warren formulas); wool (Tariff Board Findings); crop rotations.
10. Whose cost of production should be taken?
11. Show effect of cost of production on supply.
12. Summarize your conclusions on cost of production as basis of price.
13. Show proper use of cost of production information.
14. Define and illustrate collective bargaining. Three elements: compare with cooperative selling.
15. Show relation of collective bargaining to a "cost of production plus a profit" price.
16. Cite probable advantages of collective bargaining in livestock, grain, hay, cotton, poultry, fruit, vegetables.
17. Comment critically on the "fair price" question.
18. Show relation of "Supply and Demand" to price.
19. What makes hog prices? Causes and remedy of hog price fluctuations, according to United States Bureau of Agricultural Economics?
20. Compare agriculture and other industries in the matter of control of production and price. Is agriculture alone at a disadvantage here? (Cite oil; sugar; woolen goods; cotton goods; coal; railroads.)

## CHAPTER XV

### COMMODITY MARKETING. 1. GRAIN

The characteristic features of a good loaf of bread—one that will satisfy the customer and enable the baker to meet competition—are (1) volume—length and height with perfect shape, uneven bulking being a sure sign of uneven qualities of gluten; (2) color—whiteness of crumb with bloom; (3) porosity—the texture of the loaf should be uniform throughout, and relieve the closeness; (4) texture—it should be firm and not too solid, crumbiness indicates deteriorated gluten or excess of gliadin, (5) elasticity—it should retain or regain its shape under pressure and be relatively light; (6) crust—this must be of a reddish brown tint or clear yellowish red. It must not be of an opaque or leathery texture nor flake off; (7) flavor—it should be sweet to smell and taste. Strongest aroma given off just when loaf is fresh from oven. Should masticate crisply. This latter quality is a good indication of successful wheat blending.

The bloom and the color of the loaf is obtained from the flour.

But analysis of the flour is not sufficient for the baker. He has learned from long experience to look for certain physical properties which are of great importance to him, and to test in a very practical way for the hidden, but all important, property of "strength" and "quality of strength" which is wrapped up in some obscure manner in what is known as gluten. The gluten is of a gluey nature, and its elasticity enables it, under the pressure of the gas formed in the fermentation of the dough, to form the many vesicles which, when fixed under the influence of heat, give the familiar honey-combed appearance to the crumb of bread. While the quantity of gluten in a flour is important to the baker, it is the quality of the gluten that interests him most, for if its stability and elasticity are poor, the baking qualities of the flour are poor in proportion.

United States flours are of such varied character and have changed so much of recent years that their imports into the United Kingdom are falling off.

The Scottish Cooperative Wholesale Society had hoped to be able to secure wheat for their mills directly from the Saskatchewan wheat fields, and to this end established a small line of country elevators and started wheat raising themselves in one of the good-quality producing sections of Saskatchewan. They were, however, disappointed in this, for they could not make arrangements to preserve its identity.

Spillers' Industries Limited are erecting a very large storage elevator at Vancouver and securing a chain of country elevators on the prairies

partly in order that they may secure to themselves as far as possible wheat in its natural condition.

*Report of the Royal Grain Inquiry Commission, Ottawa, pp. 169-182, 1925.*

Up to this point the underlying principles of marketing have been discussed and illustrated. It is now in order to examine the marketing of particular commodities. The study of commodity marketing may be approached in two ways: first, from the standpoint of the importance of the commodity on the basis of its total value; secondly, from the standpoint of the commercial importance of the commodity. On the first basis, that of value alone, it would be proper to take up the study of commodities, in the following order, ranked according to their per capita farm value in the United States: (1) milk, \$20.31; (2) corn, \$15.62; (3) hay, \$10.87; (4) livestock slaughtered, \$10.43; (5) cotton, \$10; (6) poultry, \$7.82; (7) wheat, \$6.96. Viewed from the standpoint of commercial importance, it is necessary to rearrange these commodities, and add others. From this point on, therefore, commodities will be studied as they represent the following commercial problems: staples with world markets; staples with local markets; staples with local market plus world market for by-products; non-staples with purely local markets. This arrangement will include the seven commodities listed above, and also wool, tobacco and potatoes, fruits and vegetables. Grain is considered first, as a type of those staple commodities with strictly world markets.

The principal grain in the United States is corn. But the "grain trade" is concerned chiefly with wheat. This is because most of the corn is consumed on the farm where produced, whereas most of the wheat enters the channels of commerce. The oats crop, also, like the corn crop, is mostly consumed on the farm where grown. Rye and barley are of great commercial importance in those years when Europe is short of wheat or other grains and must call upon America for an extra amount of help. This chapter first considers very briefly the four grains, corn, oats, rye, and barley (the so-called coarse grains); it then discusses in some detail the marketing of wheat.

**Coarse Grains.**—The United States is the world's greatest corn producer, but not the greatest corn exporter. Argentina, Mexico, and Roumania are important corn producers. Although the United States produces fifteen times as much corn as Argentina, it exports only one-half as much. Argentina exports 66

per cent of its crop; the United States  $1\frac{1}{2}$  per cent. Eighty per cent of the United States corn crop is consumed on the farm, and much of this ultimately goes to market in the form of fat swine.

The various purposes for which the corn crop is consumed are shown in the following table:

TABLE X.—UNITED STATES CORN CROP  
How Utilized

Fed on farms	Per cent	Not on farms	Per cent
Hogs.....	40	In mills.....	6.5
Horses and mules.....	20	Fed to stock.....	5.5
Cattle.....	15	Other uses.....	3
Poultry.....	4	Exports.....	1.5
Human food.....	3.5		
Sheep.....	1		

The above table illustrates why corn does not have the commercial importance of wheat, although it has twice the total acreage and four or five times the total yield in bushels.

The oats crop may be compared to corn. Seventy per cent of the crop is consumed on the farm. The acreage is about 40,000,000 acres a year, and the yield about 1,000,000,000 bushels, subject to wide fluctuations. In 1921, an increase in acreage of 5 per cent brought a decrease in yield of 20 per cent. Only four states produce oats extensively for the market: Minnesota, Wisconsin, Illinois, and Iowa. Farther north, in Canada, much better oats are produced, but Canadian oats are dirty, and sometimes are frosted.

Rye and barley are secondary crops in the United States. Yet these two crops, both in the United States and Europe, are significant for the indirect effect they have on wheat prices, both being substitutes for wheat as human food. The United States rye crop represents an acreage roughly of 5,000,000 acres and a yield of 65,000,000 bushels. This is about one-twelfth of the Russian crop (pre-war), and about one-seventh of the German crop.

The United States barley crop runs about six or seven million acres, and yields about 160,000,000 bushels. Barley was formerly used extensively for brewing. Since the adoption of the



Prohibition Amendment to the Constitution, its use is limited substantially to feeding livestock. Corn, oats, and barley are substituted largely for one another as livestock feed. Hence, the prices of these three grains fluctuate in general together. About 50 per cent of the barley crop is consumed on the farm.

*Exports.*—When the United States is exporting a grain freely, it is said to be “on an export basis” as regards that grain. This means that the price in the foreign countries is actually high enough above domestic prices so that freight can be paid and grain shipped overseas with a margin of profit. The export demand is frequently for particular types and grades of grain, not for grain in general. The following table (which includes wheat also) illustrates the extreme fluctuations in the volume and value of this foreign trade:<sup>1</sup>

TABLE XI.—UNITED STATES EXPORTS OF GRAIN  
(Year Ending, Dec. 31)

	Bushels (000 omitted)			Value in dollars (000 omitted)		
	1918	1919	1920	1918	1919	1920
1. Wheat.....	111,177	148,086	218,287	260,613	356,898	596,975
2. Oats.....	114,463	55,294	12,878	98,222	46,435	12,338
3. Rye.....	7,632	32,898	57,070	15,616	61,786	122,240
4. Barley.....	18,805	37,612	17,854	30,565	53,832	27,165
5. Corn.....	39,899	11,193	17,761	69,269	18,624	26,454

	Bushels (000 omitted)			Value in dollars (000 omitted)		
	1921	1922	1923	1921	1922	1923
1. Wheat.....	293,268	208,321	154,951	689,813	279,656	192,015
2. Oats.....	4,302	15,987	18,574	3,732	7,985	9,282
3. Rye.....	45,735	29,684	51,412	92,734	32,898	47,513
4. Barley.....	20,457	22,400	18,193	25,184	16,614	13,592
5. Corn.....	68,911	176,386	94,064	60,031	115,862	75,031

<sup>1</sup> BOYLE, JAMES E., “The Grain Trade of the United States: Its Present Organisation and Future Outlook,” *Weltwirtschaftliches Archiv*, 20 Band, Heft 2, pp. 158–179, Kiel, Germany, April, 1924.

Similar fluctuations are found in the exports of flour. These exports range from 6,000,000 to 26,000,000 barrels a year, as will be seen by consulting Appendix II to this chapter.

Among the important elements of risk and uncertainty which are connected with this export trade is that of ocean freight rates. These rates are unregulated by governmental authority and hence fluctuate from day to day, depending upon various circumstances such as supply of bottoms, volume of traffic, combines and rings among shipping lines, and so on. The reader is referred to Appendix III, this chapter, for examples of actual ocean freight rates during a period of 4½ years. At this point it will be in order to turn to the marketing of wheat. The marketing of wheat begins with consumption and production.

**Wheat.**—During the past 40 years two fundamental changes have taken place in the United States in the milling of wheat and the making of bread. The little mill, with the old-fashioned mill stones, is gone. In its place is the large mill, turning out from 1,000 to 60,000 barrels of flour a day, by means of the steel-roller process. The second change is the coming of bakers' bread. The home-baked loaf of wholesome bread is largely displaced by the baker's loaf. Bake-shops use ever larger and larger machinery. Finally the \$100,000,000 bread corporation has arrived to supply the big cities with baker's bread made by the latest model baking machinery. This change in the consumption habits of the people in turn affected the production and the values of the wheats grown.

*Baker's Bread.*—The bakers make whiter bread than the home-made bread. This demand even led to the bleaching of flour by the millers in order to get the snowy whiteness. This made a loaf of chalky whiteness, of the whiteness of death itself. The bakers soon found that the harder wheats made stronger flour, and the dough of the stronger flour absorbed more water and made a larger loaf. This added to the demand for the hard wheats. Durum wheat, however, one of the hardest of the wheats, makes a yellow flour. It makes palatable and wholesome bread, but is nevertheless, shunned by millers on account of color. Soft wheats, once in universal demand by the housewife for bread, are now limited in their uses to pastries, crackers, cakes, and so on.

*Four Classes of Wheat.*—The United States produces, as mentioned in Chap. I four distinct classes of wheat. Three of these wheats, it will be noted, are inferior for milling and bread making, and hence are of lower market value. Hence progress in production has not been made as fast as the market has warranted. And when the increasing amount of dockage in wheat is remembered, it will be apparent that the initial marketing problem—production is not being solved. The greatest single advance in wheat production ever made by the United States was the introduction of that class of hard, spring wheat known as Marquis wheat. This idea came to us free of charge from the Dominion of Canada Cerealists, Dr. Charles E. Saunders, of the Central Experimental Farm at Ottawa. In the spring of 1903, he planted a single grain of this wheat. The following year there were 12 plants. Within 12 years these had multiplied to more than 250,000,000 bushels.

The chief use of wheat is to make bread. A Scotch baker, head of one of the large baking companies in Glasgow, was asked what he looked for in a good flour for bread making. His answer was:

We want first, color—a creamy whiteness without bleaching. Bleaching destroys the bloom. Second, strength—high gluten content with that quality which we describe as distensibility. It will stretch and not break or crack. High absorption—I want it to take up water and I want my bread to keep, not get stale quickly. Third, bloom—silky appearance and touch. Fourth, flavor and aroma—free from bad odors, nutty when baked. Fifth, starch—fine quality, not easily detected. Sixth, moisture content low. I want to add the moisture. It is very important that the delivery of the same brand of flour be uniform.

This miller referred to a loaf of bread made from Hungarian flour as illustrating all these principles. He made use of Canadian hard spring wheat flours for strength, and Australian flours for blending. This baker said:

Australian flour, is valuable on account of the superior creamy white color and for its bloom. We use it in the doughing stage to impart these qualities to our bread.<sup>1</sup>

<sup>1</sup> *Report of Royal Grain Inquiry Commission, Ottawa, 1925.*

More and more it is becoming necessary for millers to blend wheats in order to maintain flour standards. This is equivalent to saying that fewer and fewer producers grow wheat of the right quality to meet consumer demand. This is the background to our present grain trade.

It is now in order to consider some of the concrete problems in marketing wheat, including storage, credit, the price problem, the country elevator, the terminal market, and its general problems.

*Storage.*—The grain-storage facilities of the country are adequate in volume, but not entirely satisfactory as to distribution and location. The grain-storage capacity for the whole country is 1,000,000,000 bushels. The largest amount of grain actually in store at any one time, during the period of the United States Grain Corporation Control (Aug. 25, 1917 to June 30, 1920) was 480,000,000 bushels. There are 30,000 country elevators with an average capacity of 25,527 bushels each, giving a total country storage of 750,000,000 bushels. There are 413 terminal elevators with a total storage capacity of 272,000,000 bushels. The table in Appendix IV shows distribution of terminal storage. This table shows that while the average capacity of a terminal elevator is but 693,000 bushels, yet in some cases, notably Duluth, Buffalo, and Baltimore the warehouses are much larger. The largest terminal elevator in the United States (and the world), the Northwestern in Chicago, has a capacity of 10,000,000 bushels. This elevator is operated by a grain company which leases it from the railroad. Of the country elevators, 5,000 are owned by the farmers. The railroads own and operate 64 per cent of the seaboard elevators. State-owned elevators are almost unknown. North Dakota has one, in connection with the state-owned flour mill at Grand Forks. New York State has two in connection with the state-owned Barge Canal; one at Oswego on Lake Ontario; one at Gowanus Bay, Brooklyn. But the Barge Canal itself is not a financial success, despite its cost of \$200,000,000, and may be discontinued as a transportation route and converted into a hydroelectric power producer. Municipally owned terminal elevators have been constructed at four seaport cities, as follows:

MUNICIPALLY OWNED TERMINAL ELEVATORS

City	Operator	Capacity, bushels	Cost
New Orleans, La. . . . .	Board of Commissioners of Port of New Orleans .	2,622,000	\$2,773,378
Astoria, Ore. . . . .	Port of Astoria . . . . .	1,250,000	503,889
Portland, Ore. . . . .	Port of Portland . . . . .	1,033,850	1,400,000
Seattle, Wash. . . . .	Port of Seattle . . . . .	1,028,870	485,514

The two complaints about storage are: (1) the small and declining amount of public storage, particularly at Chicago (about 11,000,000 bushels, or 20 per cent of the total Chicago storage—the rest of the Chicago storage is private property mills, elevators, etc., not subject to use by the public); (2) the uneconomical distribution of storage—too much country storage, too much terminal storage, and not enough seaboard storage equipped to load grain to ocean steamers. The three principal Atlantic ports show the following elevators equipped to load grain to ocean steamers; in parallel columns are shown the three principal shipping ports of the Great Lakes and their loading facilities:

ELEVATORS EQUIPPED FOR LOADING BOATS

Atlantic ports		Great Lake ports	
New York . . . . .	3	Chicago . . . . .	22
Philadelphia . . . . .	2	Duluth-Superior . . . . .	13
Baltimore . . . . .	5	Ft. William . . . . .	24
	—		—
	10		59

Inadequate seaboard storage causes serious car shortage in heavy grain-moving times, because the cars themselves are then used for storage, and back up in long lines at the seaboard. This deranges all the other marketing facilities and disturbs the price itself.

*Credit.*—One-half the wheat crop usually flows to market within 90 days of harvest, or less. The farmer receives cash for

this grain. Most of this wheat goes into store, and will not be consumed and paid for by the ultimate buyers for many months. This creates the credit problem in the grain trade. This problem has been solved, however, by means of so-called "grain paper." This paper has long constituted a standard, liquid security upon which both local and city banks loan freely at the lowest prevailing commercial rates. Grain paper consists either of warehouse receipts showing definite amounts and grades of grain in an insured public warehouse, or it consists of bills of lading showing grain of definite weight and quality in cars en route to market. Official and accurate grading of grain has made it a standardized commodity. The Grain Exchanges offer facilities for future trading where grain is hedged against price fluctuations so that bankers have security of investment in grain paper. The usual method of financing is for banks in terminal markets to loan to grain commission firms, who in turn loan to country shippers. Thus the country elevator is financed by the commission man or men with whom it does business. Financing by local banks is increasing in importance.

*Price Problems.*—The function of a market is to register that price which will coordinate production and consumption. In this sense the equilibrium price is the correct price, the "fair price." Since many factors in both production and consumption are psychological, since many are unknown and unknowable, the price function is very difficult to perform in a satisfactory manner. The low-price wheat years, 1921 to 1923, illustrate this truth. Big world crops and poor demand led to low price. Three "remedies" were proposed for the low price. (1) The millers financed a big campaign to "Eat More Wheat." They sought to change the demand factor. (2) Agricultural Economists urged the farmers to grow less wheat. They hoped to change the supply side. (3) Many office-seekers and many farm-paper editors proposed to end or mend the present marketing system. They blamed the machinery of the market for the low price. Governor R. A. Nestos of North Dakota announced in *The Outlook* that, "Experience has taught us that the only way to secure fair prices is through orderly marketing."<sup>1</sup> Experience has taught that the flow of the grain to market is the least important price factor. A full study of the price problem involves an examination of the whole marketing process.

<sup>1</sup> Sept. 12, 1923.

Not to prolong this discussion unduly, the marketing processes at the country elevator and terminal market only will be considered.

*Country Elevator.*—The country-elevator manager receives the farmer's grain, weighs it, grades it, and pays cash for it, basing his price on the terminal market price and allowing for the freight differential. The wheat-pool elevators use a different method, as described below. The manager of the country elevator of the usual type may now consign this grain to a commission merchant, to be sold upon arrival. In fact, 71 per cent of the country elevators' grain is handled this way. Or he can sell it "To Arrive." This means that bids are received by wire from terminal dealers, at a definite price, grain to be shipped at a later date named in the bid. The shipments are commonly to go forward in 5, 10, or 20 days. Some "To Arrive" bids from Chicago, however, are for more-deferred shipment. The Minneapolis "To Arrive" bids allow 20 days to deliver grain at the terminal. Finally, the manager may sell his grain "on track," his station to some broker who is bidding for it by wire, or he may sell it to local millers. Local mills take 13 per cent; interior brokers 6 per cent; feeders, 2 per cent; 2 per cent is sold in miscellaneous ways, leaving 77 per cent of the grain which moves to terminal markets.

*Pooled Grain.*—Farmers in a wheat pool deliver grain at the local elevator and receive a certificate of weight and grade. The grain is later forwarded to the pool's central selling agency at the terminal, or the shipment is forwarded direct by the pool to some mill, exporter, or dealer. Payment for the grain is made in installments, two or three times during the year. Deductions are made for all handling costs and the net balance goes to the farmer. In case the farmer desires an advance payment on his delivery, he may have it, but since this money is borrowed, by the pool, he in turn is charged interest. Most of the wheat pools, however, allow farmers a storage payment for wheat held in the farmer's bin during the first 2 or 3 months of heavy marketing. On a rising market the farmer feels he has gained by marketing through a pool, for his price is the average price for the whole year. On a falling market, he feels he has lost, for the same reason. The average of wheat prices over a long term of years has already been given, showing whether or not it pays the farmer to hold grain (page 219).

*The Terminal Market.*—The terminal-market problems are, unfortunately, the most controversial. Yet the toll taken at the terminal market is relatively a very small one. In the public mind the practice of future trading and short selling and speculation on the organized exchanges is full of mystery and of potential evil. Yet the rules governing future trading are published in full every year and distributed widely in the volumes of the annual reports of the organized exchanges. In addition to this publicity there is now the Federal Government's Grain Futures Administration, and its daily, weekly, and monthly reports on the various aspects of the subject. The subject of future trading has already been discussed in its relation to risk insurance (pages 197–209) and hence will not be treated any further at this point.

*Weighing, Inspection, Grading.*—One of the most important market activities at the terminal is the weighing, inspection, and grading of the grain. These activities have been safeguarded and standardized, so that full protection is assured to both seller and buyer. The weighing is done by the state in some markets. In some markets it is still done by the grain exchanges. The Chicago Board of Trade is the outstanding example of weighing by the exchange. This weighing department employs 150 persons and weighs 600,000,000 bushels of grain a year (receipts and shipments). Grain exchanges in the following markets also have charge of weighing: Milwaukee, Omaha, Peoria, Buffalo, Baltimore, Philadelphia, New York, Boston, and San Francisco. Leading examples of state weighing are Minneapolis and Duluth, Kansas City and St. Louis.

Grain grading is now on a uniform basis throughout the United States, due to the United States Grain Standards Act of 1916. This abolished at one stroke all local and state grades for grain going into interstate or foreign commerce. This assures the foreign buyer that he is getting uniform grades, no matter at what port of shipment the grain is bought; that the cargo is not "plugged" or otherwise manipulated; and, finally, that he has recourse to a Board of Appeals in case a dispute arises over grades. The Federal government supervises the grading of all other agencies: it does the grading in case of appeals.

*The Grain Exchange.*—There are in the United States some 40 grain exchanges, large and small. The most important ones are at the following 14 cities: Chicago, Minneapolis, Duluth, St.



Louis, Kansas City, Milwaukee, Omaha, Peoria, Toledo, Los Angeles, San Francisco, Buffalo, Baltimore, and New York. The largest grain exchange in the United States and in the world is the Chicago Board of Trade. Its organization is typical of the other exchanges in America, and hence may be briefly described. The objects of this exchange are: (1) to maintain a commercial exchange; (2) to promote uniformity in the customs and usages of merchants; (3) to inculcate principles of justice and equity in trade; (4) to facilitate the speedy adjustment of business disputes; (5) to acquire and to disseminate valuable commercial and economic information; (6) to secure to its members the benefits of cooperation in the furtherance of their legitimate pursuits. In carrying out these six objects the Board of Trade furnishes a well-equipped building and a set of strict rules for trading, but does no trading itself. It furnishes two committees on arbitration to settle business disputes. It collects market news as well as price quotations, and turns these over to the press and the public.

The membership of the Chicago exchange is very diverse, representing every branch of the grain trade and all allied interests such as railroads and banks. About 25 per cent of the 1,600 members deal chiefly in cash grain; 25 per cent chiefly with future trading; another 25 per cent are brokers; 3 per cent are terminal elevators; about 50 members are "pit scalpers" (a type of small professional speculator). Memberships are also held by farmers' cooperative grain companies, by meat packers, feed dealers, exporters, flour millers, banks, maltsters, oats and corn products manufacturers, railroads, and steamships. Any non-member of the Board of Trade, of proper financial ability, can trade through a broker or commission merchant. In that sense the market is an open, competitive public market. The actual number of people who trade here (in person or through members) in any one day, in both cash and futures, varies from five or six hundred to four or five thousand. In a certain sense, therefore, it is an auction—a wide market. The three forms of trading are: cash grain; to arrive grain; future trading, or dealing in contracts. Future trading itself is of three general kinds: buying for actual delivery; buying or selling as a hedge or insurance; (*i.e.*, to avoid speculation); speculative investments in grain contracts (*i.e.*, what is generally known as pure speculation).

*Market News.*—The Board of Trade, as a typical grain exchange, performs one of the most important functions in gathering and disseminating market news. Every effort is made to kill false rumors, and to prohibit the spreading of rumors. Crop estimates and “crop reports” can be issued by only those members of the Board who are licensed after being found competent for this work. Hence there are only some five or six crop reporters among the membership. And their crop estimates quite uniformly come close to the Federal government crop estimates released monthly during crop seasons. Vast sums of money are spent by the Board of Trade to assemble speedily and accurately market information and facts from every corner of the world, and to disseminate these facts swiftly and cheaply. The telegraph and telephone have long been used. It was long the boast of one of the large grain firms in Chicago that through its leased telegraph wires and connecting telephones it could reach every country elevator in Iowa in 10 minutes. Since there are 801 elevators in Iowa, this is a good example of superior service. Now, by the use of radio broadcasting, these elevators, if they have receiving sets, can be reached in 10 seconds.

*Prices.*—The future price influences the cash price, but does not determine it. (Too often in recent years the cash price is at a premium over the future, this making hedging very incomplete coverage.) The cash price influences the future price, but does not determine it. Both are the results of certain present and prospective underlying market conditions. These conditions are made up of all those various factors which go to constitute the law of supply and demand, and no one man or group of men is able to control these conditions, although some of them may be influenced for a time.

The selling of the cash grain is frankly a bargaining process. The commission merchant as seller wants to get the highest possible price, in order to hold the trade of the country shipper. The buyer wants the lowest possible price. Buyers and sellers know one another intimately. This bargaining is an exhibition of salesmanship of a high order. These experienced traders jockey for advantage, higgles, bluff, stall, bargain. The buyer will see displayed on the tables samples of grain from 50, 500, or 1500 cars, as the case may be. The seller sees buyers from the local grain industries; buyers from large mills in other cities;

buyers from eastern feed and flour mills; buyers for export houses. Each trader must correctly "feel out" the strength of the buying and selling interest. For instance, a flour mill may be bidding for hard wheat, containing 12 per cent protein. Upon the next table is spread wheat of  $12\frac{1}{2}$  per cent protein: the miller wants it. The seller knowing the value of protein in wheat, sells the  $12\frac{1}{2}$  per cent at 8 cents over the 12 per cent. In this way the sales go. A car of No. 1 wheat is sold at 110 cents; a car of No. 3 near by, with more protein, sells for 115 cents. The Federal grades indicate the physical qualities of wheat, but not chemical and milling qualities. This leaves considerable room for individual bargaining over every car of cash wheat sold. Successful bargaining rests on three things here—experience, personality, and information. Personality and the psychological element play a part, since many men buy from their friends rather than from persons toward whom they have a feeling of indifference or dislike. Here as elsewhere in market-price determination, supply and demand set general price limits or boundaries, and within this ring, bargaining fixes the price. Statistics show that in every year when the world's wheat harvest is small, the price of wheat goes up; when the world's crop is large, the price goes down. The United States wheat crop, whether big or little, does not dominate world prices. This is the meaning of the phrase, "The Liverpool price sets the price of wheat for the world."

*Liverpool Price.*—Since England is the largest importer of wheat in the world, and since the crop and price statistics on the world's grain issued by George Broomhall of Liverpool are among the most complete and most reliable in the world, the Liverpool price is one of the outstanding indexes of the world as to wheat values. It is not true that the Liverpool price "fixes" the price for Chicago. It is just as true that Chicago "fixes" the price for Liverpool, since Liverpool prices follow Chicago as often as they lead Chicago. Liverpool is the best barometer of world conditions. It registers prices, but does not make prices. The largest single factor, for instance, in the world's high wheat prices of the 1924 harvest was the failure of the hard spring wheat crop in Canada. Another year, another factor may be of primary importance. But if one single barometer is to be taken, it is Liverpool.

The local wheat price is seen to be, therefore, a combination of world-price influences (so-called supply and demand influences) plus individual bargaining power.

*Trade Abuses.*—Prior to the Farmer's Elevator Movement there was one major abuse in the grain trade which not only injured the producers of the grain, but eliminated many of the dealers at the terminal markets. Indeed, for a time it appeared that even the competitive grain exchange itself would disappear, and leave each market in the hands of a monopolistic combination of a few powerful firms. The evil was the combination between the railroads and a few large dealers. By using the railroad rebate and by price-fixing, competitors were being forced to quit business or join the combination. This arrangement was used for some years for fixing grain prices at every country station, so that the farmers were receiving from 4 to 10 cents a bushel below market value for their grain. The farmers' elevators, now 5,000 strong, were organized to cure this trade abuse. They have succeeded in their purpose. This means a saving of approximately \$20,000,000 a year to the farmers on the grain shipped to Chicago alone. The farmers now participate directly in every branch of the grain trade and have a voice in remedying such trade abuses as appear from time to time. As now constituted, the grain trade is one of the most competitive businesses of the world. It is also true that since grain is now a thoroughly standardized commodity, with a wide market, subject to future trading and hedging, it is handled on a margin perhaps the lowest of any agricultural commodity. It is a good example of a business based on private initiative and individual effort, with enough participation by farmers' cooperative elevators to keep alive a severe but wholesome competition. The business goes to him who can perform the service best and cheapest.

*Wheat Pools.*—About the year 1920, a movement was started among wheat farmers for the more "orderly marketing" of their wheat. This led to the formation of wheat pools in 15 states, as follows: Oklahoma, Texas, Washington, Idaho, Oregon, Montana, North Dakota, Minnesota, South Dakota, Nebraska, Kansas, Indiana, Arizona, California, and Colorado. Oklahoma and Texas combined in one pool. The American Wheat Growers comprised the pools in nine northwestern states. A National Wheat Pool was attempted but not accomplished.

The aims of the pools are: To control the flow of the grain to market; to hold for higher price; to secure better credit and transportation accommodations; to secure more bargaining power; to raise the price level of wheat. Four of these pools suspended operations after the first 2 or 3 years (Idaho, Washington, Oregon, and Arizona). The cost of handling wheat through the pool varied from 8.5 to 28 cents per bushel.<sup>1</sup>

<sup>1</sup>*The London Times*, p. 18, Mar. 6, 1925. Adelaide, a leading Australian wheat authority stated this evening that the abandonment of the pooling system by South Australia, Victoria, and New South Wales is practically certain this season, as the whole principle has broken down in consequence of the farmers preferring to sell for cash in the open market to running the risk of cooperative selling with payments spread over 12 months. The amount of wheat pooled has declined substantially each year and the trustees are unable to carry on.

APPENDIX I  
FEDERAL GRADES FOR WHEAT

Effective, Aug. 15, 1924

It will be noted that foreign material in wheat which can be removed in the form of screenings constitutes dockage, and does not affect the grade. In practice, if a bushel of wheat, 60 pounds, is found to contain 6 pounds of screenings, the dockage is considered 10 per cent of this particular lot of wheat. The buyer, in such a case, would ordinarily deduct 10 per cent from the total weight of the lot, and pay only for the actual wheat. Dockage includes sand, dirt, weed seeds, weed stems, chaff, straw, grain other than wheat, and any other foreign material which can be removed readily from the wheat by the use of appropriate sieves, cleaning devices, or other practical means; also undeveloped, shriveled, and small pieces of wheat kernels. When wheat is graded the per cent of dockage is added to the grade designation.

There is a class of foreign material, other than dockage in wheat, which does lower the grade. This includes all foreign material which is in the wheat, but which is not separated from the wheat in the proper determination of dockage (except in the case of smutty wheat).

The Federal grades divide wheat into five classes, as follows:

1. Hard, Red Spring Wheat.
2. Durum Wheat.
3. Hard Red Winter Wheat.
4. Soft Red Winter Wheat.
5. White Wheat.

Class 1 is divided into three subclasses: (a) Dark Northern Spring, (b) Northern Spring, (c) Red Spring.

And in one special group:

- (x) No. 1 Hard Spring.

Class 2 is divided into three subclasses: (a) Amber Durum, (b) Durum, (c) Red Durum.

Class 3 is divided into three subclasses: (a) Dark Hard Winter, (b) Hard Winter (c) Yellow Hard Winter.

Class 4 is divided into two subclasses: (a) Red Winter, (b) Western Red.

Class 5 is divided into three subclasses: (a) Hard White, (b) Soft White, (c) Western White.

Each of the 14 subclasses is divided into six grades, as follows: No. 1, No. 2, No. 3, No. 4, No. 5, and Sample Grade.

Note.—The subclass Dark Northern Spring has seven grades, by reason of calling the top or fancy grade No. 1 Hard Spring.

The grade of the wheat is determined by the following factors:

Test weight per measured bushel.

Moisture content.

Damaged kernels.

Heat damage.

Foreign matter other than dockage—"unseparable foreign material."

Wheats of other classes.

Smell and taste (cool and sweet; musty, sour).

To illustrate. The class 1, Hard Red Spring, shall include all varieties of Hard Red Spring, and may include not more than 10 per cent of other wheats. The subclass (a) Dark Northern Spring, shall include wheat of the class Hard Red Spring, consisting of 75 per cent or more of dark, hard, vitreous kernels, and not more than 10 per cent of wheat of the variety Humpback. Dark Northern Spring, to grade No. 1, must have a test weight of 58 pounds per bushel; moisture test maximum limit of 14 per cent; damaged kernels, not over 2 per cent (including heat damage one-tenth of 1 per cent); foreign material other than dockage 1 per cent (including material other than cereal grains, one-half of 1 per cent); wheats of other classes 5 per cent (including Durum 2 per cent).

In addition to these five classes, wheat may be graded Mixed Wheat, Mixed Durum, Treated Wheat, Garlicky Wheat, Smutty Wheat, and Weevily Wheat.

Concerning the moisture content it may be said that Hard Red Spring Wheat may have 14 per cent moisture in grade No. 1; Durum the same; the other classes, 13.5 per cent. The moisture content in shelled corn runs from 14 per cent in No. 1 to 23 per cent in grade No. 6. This means that a large carload (2,000 bushels) of No. 6 corn would contain 25,760 pounds of pure water.

No. 5 hard wheats may have 16 per cent of moisture. A 1,500 bushel car of No. 5 hard wheat contains 14,400 pounds of pure water.

## APPENDIX II

### UNITED STATES FLOUR EXPORTS

In Thousands of Barrels (196 pounds)

1890.....	6,011	1902.....	18,328	1914.....	12,769
1891.....	7,946	1903.....	19,555	1915.....	15,680
1892.....	15,197	1904.....	11,543	1916.....	14,379
1893.....	16,620	1905.....	11,344	1917.....	13,926
1894.....	16,860	1906.....	14,324	1918.....	21,706
1895.....	15,269	1907.....	15,277	1919.....	26,449
1896.....	14,621	1908.....	13,013	1920.....	19,853
1897.....	13,600	1909.....	9,688	1921.....	16,800
1898.....	16,600	1910.....	8,370	1922.....	15,024
1899.....	18,500	1911.....	11,258	1923.....	16,309
1900.....	18,500	1912.....	10,622	1924.....	
1901.....	19,200	1913.....	12,278	1925.....	



## APPENDIX III

### EXAMPLES OF PRE-WAR OCEAN FREIGHT RATES ON WHEAT, NEW YORK TO LIVERPOOL<sup>1</sup>

(Cents per bushel)

1909	1911
July 1 to Oct. 18..... 3	July 1 to July 14..... 2½-3
Oct. 19 to Nov. 8..... 4	
Nov. 9 to Nov. 17..... 4½	July 15 to July 20..... 3
Nov. 18 to Dec. 6..... 5	July 21 to Aug. 12..... 3½
Dec. 7 to Dec. 15..... 4½	Aug. 14 to Aug. 23..... 4
Dec. 16 to Dec. 22..... 4	Aug. 24 to Sept. 5..... 3½
Dec. 23 to Dec. 29..... 3½	Sept. 6 to Sept. 11..... 5
Dec. 30 to Dec. 31..... 3	Sept. 12 to Oct. 11..... 4½
	Oct. 13 to Dec. 5..... 5½
	Dec. 6 to Dec. 18..... 6
	Dec. 19 to Dec. 30..... 7
	1912
1910	July 1 to Aug. 1..... 4
Jan. 3 to Jan. 21..... 3	Aug. 2 to Aug. 7..... 5
Jan. 28 to Jan. 31..... 2½	Aug. 8 to Aug. 21..... 6
Feb. 1 to Feb. 14..... 3	Aug. 22 to Aug. 27..... 7
Feb. 15 to Mar. 8..... 2	Aug. 23 to Sept. 8..... 8
Mar. 9 to Apr. 6..... 2½	Sept. 9 to Sept. 11..... 9
Apr. 7 to Apr. 23..... 3	Sept. 12 to Sept. 17..... 10
Apr. 25 to May 12..... 2½	Sept. 18 to Sept. 23..... 10-11
May 13 to May 26..... 3	Sept. 24 to Oct. 2..... 10
May 27 to June 30..... 2½	
	1914
Jan. 2 to Jan. 13..... 4	
Jan. 14 to Feb. 26..... 3	
Feb. 27 to Mar. 7..... 2½	
Mar. 9 to Apr. 11..... 3	
Apr. 13 to June 18..... 2½	
June 19 to July 1..... 3	

<sup>1</sup> Statistics furnished by the Armour Grain Company of Chicago.

## APPENDIX IV

### TERMINAL ELEVATORS IN PRIMARY AND SECONDARY MARKETS

	Number of elevators	Capacity, bushels
<b>Primary markets:</b>		
Chicago.....	67	55,805,000
Minneapolis.....	65	54,900,000
Duluth.....	27	33,075,000
Kansas City.....	37	23,885,000
Milwaukee.....	29	16,310,000
Omaha.....	20	10,600,000
St. Louis.....	45	9,850,000
Peoria.....	2	1,250,000
<b>Secondary markets:</b>		
Buffalo.....	23	28,250,000
New York.....	11	7,330,000
Toledo.....	14	5,660,000
Baltimore.....	7	9,950,000
Philadelphia.....	5	4,550,000
Cincinnati.....	17	2,955,000
Louisville.....	7	2,945,000
Indianapolis.....	14	2,655,000
Boston.....	3	2,500,000
<b>Total.....</b>	<b>393</b>	<b>272,470,000</b>
<b>Average capacity.....</b>	<b>693,000</b>	

## APPENDIX V

### BOUNTY ON WHEAT RAISED IN MAINE

"The legislature of Maine have at length aroused themselves to action upon this subject and passed an act paying a bounty upon wheat. Startled by the fact that we were paying out more than \$4,000,000 for breadstuffs, and knowing that the soil of the state was sufficiently fertile to produce bread enough for its inhabitants, they came to the determination of calling upon the farmers to wipe away the disgrace, and to call too, in such a manner, that they could not resist it. Now, brother farmers, what say to this? If you do not now exert every nerve to lift the state from her dependence upon the millers of New York, you ought to pine in penury and want."<sup>1</sup>

"It is so rare that any legislative body in this country attempts to aid the improvement, or to promote the interests of agriculture, that we feel reluctant to condemn any such efforts. But, nevertheless, we must dissent from the approbatory opinion of Judge Holmes, the enlightened and zealous editor of the *Maine Farmer*, as expressed in the foregoing editorial article in the last number of that paper. The bounty of 6 cents a bushel on wheat, and 10 cents the bushel for parcels of 20 bushels, though it may prove to be a heavy expense to the treasury, will operate but slightly as encouragement to increased product . . . But we believe that there is an indirect, yet a far more efficient as well as far cheaper, mode of reaching the end proposed. This would be by giving bounties or rewards for experiments (scientific and practical) calculated to discover whether there is not some radical defect in the soils of Maine, that unfits them for profitable wheat culture; and thence to arrive at the knowledge of the proper remedy wanting . . . The lands of the New England states in general are very unfavorable to the growth of wheat."<sup>2</sup>

#### Questions

1. Mention seven features of a good loaf of bread.
2. What is meant by the bloom? How obtained?
3. What is the nature and importance of gluten?
4. What is the rank of United States flours in England, and why.
5. Show place of pure Canadian wheats in British milling.
6. Give rank in order of importance (total value) of our seven leading agricultural products, and per capita value of each.
7. Compare commercial importance of these products.
8. Give examples of each of the following: staples with world markets; staples with local markets; staples with local markets plus world markets for by-products; non-staples with purely local markets.
9. What grains are called the coarse grains?

<sup>1</sup> JUDGE HOLMES, editorial in *Maine Farmer*, 1837.

<sup>2</sup> RUFFIN, EDMUND, editorial in *The Farmers Register*, p. 44, May, 1837.

10. What are the corn producing countries? Exporters?
11. How is the United States corn crop utilized?
12. Where is the oats crop produced? How utilized?
13. Give approximate acreage and yield for corn, oats, rye, barley. Relation of these to wheat.
14. Explain the term "on an export basis."
15. Cite statistics showing fluctuations in export demand for these five grains.
16. Which grain shows widest fluctuations, and why?
17. Cite statistics on flour export, and note wide fluctuations.
18. Cite changes in ocean freight rates.
19. Explain two fundamental changes in milling of wheat and making of bread. Results.
20. Are we solving our wheat-production problem?
21. Cite a achievement of Dr. Charles E. Saunders.
22. Illustrate the chief use of wheat.
23. Why is blending necessary?
24. Comment briefly on the grain storage problem: location; capacity; ownership; cost (per bushel) of municipally owned elevators; criticisms.
25. Explain in detail credit facilities in grain marketing.
26. What is the price-function of a market?
27. What is the part played by psychological factors in price determination?
28. Cite three "remedies" proposed for low wheat prices in 1921 to 1923. Cite R. A. Nestos; his diagnosis?
29. Explain at length functions and services of country elevator.
30. Compare handling of pooled wheat.
31. Compare terminal-market charges with charges at local elevator.
32. Show relation of Federal government to future trading.
33. Show how weighing, inspection, and grading are done.
34. Show relation of Federal government to grain grading.
35. What is a grain exchange? Number and location? Objects? Does a grain exchange buy and sell grain?
36. The membership of the Chicago Board of Trade represents what interest or interests?
37. Describe three forms of trading. Three forms of future trading.
38. Explain the market news service of the Board of Trade. Does this system promote accurate or inaccurate market news dissemination?
39. Do future prices control cash prices?
40. Explain clearly the relation between cash and future prices.
41. Place of bargaining in selling cash grain. Basis of successful bargaining? Relation of price to supply and demand.
42. What is influence of Liverpool price on United States wheat prices? Be specific.
43. Cite some trade abuses. Outcome.
44. Cite briefly the history of the United States wheat pools.
45. Name all the factors which enter into the Federal classes and grades of wheat.
46. Cite Maine's experience with wheat bounty, and critical comment by Edmund Ruffin.

## CHAPTER XVI

### COMMODITY MARKETING. 2. COTTON: WOOL

India muslins and silks are becoming the general wear of England. Fashion is truly termed a witch; the dearer and scarcer the commodity, the more the mode; 30 shillings a yard for muslins, and only the shadow of a commodity when procured.

*Old English Pamphlet, London, 1696.*

The late acts prohibiting the use and wearing of printed calicoes either in clothes, equipages, or house furniture, were, without question, aimed at improving the consumption of our woolen manufactures, and, in part had an effect that way. But the humour of the people running another way, and being used to, and pleased with, the light, easy, and gay dress of the calicoes . . . Linen printed in imitation of calico was put on the market.

*Old English Pamphlet, London, 1728.*

The fickleness of style, then as now, is shown in the chronicles of Queen Elizabeth's day.

. . . the phantastical folly of our nation (even from the courtier to the carter) is such that no form of apparel liketh us longer than the first garment is in the wearing, if it continue so long, and be not laid aside to receive some other trinket newly devised by the fickle-headed tailors, who covet to have several tricks in cutting, thereby to draw fond customers to more expense of money . . . And as these fashions are divers, so likewise it is a world to see the costliness and the curiosity, the excess and the vanity, the pomp and the bravery, the change and the variety, and finally the fickleness and the folly, that is in all degrees, insomuch that nothing is more constant in England than inconstancy of attire . . . In women also, it is most to be lamented, that they do now far exceed the lightness of our men (who nevertheless are transformed from the cap even to the very shoe), and such staring attire as in time past was supposed meet for none but light housewives only is now become a habit for chaste and sober matrons. What should I say of their doublets with pendant codpieces on the breast full of jags and cuts, and sleeves of sundry colours? Their galli-gascons to bear out their bums and make their attire to fit plum around (as they term it) about them. Their fardingals, and diversely coloured nether stocks of silk jerdsey, and such like, whereby their bodies are rather deformed than

commended? I have met with some of these trulls in London so disguised that it hath passed my skill to discern whether they were men or women.

HOLINSHED'S *Chronicle*, London, 1577.

Consumer demand, today, as in the days of Holinshed, plays an important rôle in the marketing of wool and cotton. In this chapter the principal facts about production and consumption of these two commodities are briefly given, followed by some of the more outstanding marketing problems and principles involved. Both commodities are world staples, yet the technique of the marketing of the two is quite different.

### I. COTTON

While cotton ranks fifth in value of our annual agricultural products, yet it is generally given first place in our agricultural commerce. It is a crop which cannot be consumed on the farm, and, therefore, 100 per cent of it moves into the channels of trade. About one-half the crop is exported, this part of the crop alone being worth about a half billion dollars. This makes cotton rank ahead of grain and flour exports in value (or close to them), and ahead of meat exports. Like wheat, cotton is an international crop; is a standardized, liquid commodity, with a price determined in the world's markets.

**Cotton Production.**—The geography of the world's cotton crop shows certain Surplus and certain Deficit areas. The principal producing areas, are in order:

1. *United States.*—The crop here is from ten to sixteen million bales (of 500 pounds) a year. The eight leading cotton states are Texas, Georgia, South Carolina, Oklahoma, Mississippi, Arkansas, North Carolina, and Alabama. Since the boll weevil has such a hold in the Old South, cotton production is spreading to the North and to the West, to uninfested territory. Thus southern Illinois and central California are assuming some commercial importance as cotton producers. The average yield of cotton per acre is 165 pounds. The acreage is about 36,000,000 acres—that is, roughly, three-fourths of the wheat acreage and one-third of the corn acreage.

2. *Asia.*—India has two-thirds of the United States acreage, and one-half of the United States yield. India, in other words, has a substantially lower yield than America (85 pounds per acre), and has also a shorter staple cotton of inferior type. China is an important producer and consumer of cotton. Its

total crop is about 4,000,000 bales; its commercial crop is estimated at 1,000,000 bales. We export cotton to China and import cotton from China.

3. *Africa*.—In Egypt (the Delta of the Nile) is found one of the important cotton areas of the world, on account of the superior quality and the long staple of the cotton grown there. Egypt has one-twentieth of the United States acreage; and twice the United States yield per acre. For the years ending June 30, 1921, 1922, and 1923, our total cotton exports were, respectively, 5,600,000 bales, 6,700,000 bales, and 5,400,000 bales. During the same period we found it necessary to import Egyptian cotton as follows: 87,000 bales; 221,800 bales; 316,000 bales. Finer, higher-priced fabrics require this superior type of cotton. The Sea Island Cotton of the United States (a similar type) grows in very restricted areas, and is on the decrease.

The Sudan is being developed as a cotton producer. Likewise, sections of South and East Africa (Kenya, Uganda).

4. *South America*.—Brazil is being developed as an important cotton-producing area. At present it produces about 2 per cent of the world crop. Peru, during the years 1921 to 1923, exported cotton to the United States in the following amounts: 22,700 bales; 34,900 bales; 20,700 bales. Like Egypt, Peru has a dry climate and hence the cotton is grown under irrigation. The lint is long and strong, goes on the market in good dry condition, and commands a high price.

5. *Australia*.—In parts of Australia there are cotton areas which are rapidly being expanded, particularly in Queensland. Artificial stimulation to the growing of the long staple here is given by the British Cotton Growing Association.

6. *Other Cotton-producing Countries*.—The International Institute of Agriculture, in its monograph on "The Cotton Growing Countries (1922)," reports cotton acreage and production in the following additional countries: Bulgaria, Greece, Italy, Malta, Argentina, Colombia, Ecuador, Guatemala, Guiana, Mexico, Paraguay, Venezuela, West Indies (20 islands), Afghanistan, Ceylon, Cyprus, Dutch East Indies, Indo-China, Japan, Korea, Persia, Asiatic Russia, Siam, Syria, Asiatic Turkey, Algeria, Angola, Belgian Congo, Erythrea, French Equatorial Africa, French West Africa, Gold Coast, Kenya, Mozambique, Nigeria, Nyasaland, Rhodesia, Somalia, Tanganyika, Togoland, Uganda, New Caledonia, New Hebrides.

China and Africa are the two "unknowns" as to total production. This is due to the prevalence of household industries, and family hand looms, so that the people almost universally wear cotton clothing, which does not represent "commercial cotton."

As yet the United States feels no serious competition of these various countries for the ordinary type of upland cotton. There is potential but not real competition. For the very long or very short staple, however, these lands are serious competitors.

**Consumption of Cotton.**—The principal consumers of cotton lint may be best indicated by the number of spindles available for weaving cloth in each country. On this basis it will be noticed that Great Britain holds the world's leadership.

TABLE XII.—COTTON-CONSUMING COUNTRIES (AT OUTBREAK OF WORLD WAR)

Number of Spindles			
Great Britain.....	55,576,103	Italy.....	4,580,000
United States.....	30,579,000	Latin America.....	3,100,000
Germany.....	10,920,426	Japan.....	2,250,000
Russia.....	8,950,000	Spain.....	2,200,000
France.....	7,400,000	Belgium.....	1,468,000
India.....	6,400,000	Switzerland.....	1,398,000
Austria.....	4,864,000	Scattering.....	2,499,000
		Total.....	142,186,308

The principal European markets are Liverpool, Bremen, and Havre. The principal United States markets are New York and New Orleans. In the United States there has been going on for many years a shift in the cotton-lint consuming region—the mills shifting from the North (New England) to the South. As the new mills are erected in the South, they install the latest types of machinery. The following statistics show the shift from North to South:

NUMBER OF SPINDLES		
	In 1860	In 1917
South.....	324,052	14,292,918
North.....	8,632,087	19,835,662



*Types and Grades of Cotton.*—Just as there are many types of cotton fabrics (from thick sail cloth, duck, automobile cords, to percales, gingham, lawns, dimities, etc.), so there are corresponding kinds of cotton fiber. The value and the use of the cotton depend primarily upon the length, strength, and fineness of the fiber. The factors that determine the grade and the factors that determine the value are almost but not quite the same. Cotton is classified: (1) according to grade; (2) according to length of staple; (3) according to character. The factors that determine the grade are these: (1) foreign matter or impurities such as leaf, dust, sand, water, and cut seed; (2) color; (3) efficiency of the ginning. The whiteness or color of the cotton is affected by the weather and the soil. Early pickings are generally white. Yellow tinged, yellow stained, and blue color are defects which are of decided importance in grading. Inefficiency in ginning may cause neps (small white dots) or gin-cut staple. Cut fibers make bunches or knots.

*Grade standards*, "universal standards," effective Aug. 1, 1924, have been promulgated by the United States Department of Agriculture for these nine grades of upland white cotton:

- No. 1, or Middling Fair.
- No. 2, or Strict Good Middling.
- No. 3, or Good Middling.
- No. 4, or Strict Middling.
- No. 5, or Middling.
- No. 6, or Strict Low Middling.
- No. 7, or Low Middling.
- No. 8, or Strict Good Ordinary.
- No. 9, or Good Ordinary.

Grades and colors of the universal standards for American upland cotton include blue stained, gray, spotted, yellow tinged, light stained, and yellow stained.

*Staple Length.*—The staple length of cotton is more important in determining value than is its grade. The general divisions are long and short staples. By custom the dividing line is  $1\frac{1}{8}$  inches; cotton of that length and longer is long-staple cotton, extra-staple cotton, staple cotton, extra staples, or staples. Shorter lengths are referred to as short-staple cotton or short cotton. An additional sixteenth of an inch in length of staple usually adds more to the market value of staple cotton than does the difference of a grade in its classification.

*Character Classification.*—Of almost equal importance with grade and staple in value determination is character. Character has to do with the strength, body, uniformity, and smoothness of the fibers. The cotton classer judges character by the feel, the "break," and the "drag." The body of the cotton is important in spinning. It is believed that the diameter and degree of spirality of fibers are elements of body.

*Linters.*—Linters comprise the short fuzz which adheres to the American Upland and many other species of cottonseed after the first ginning. This fuzz when removed is used mainly for stuffing mattresses, wadding, absorbent cotton, for mixing with shoddy, felt, low-grade yarns, and paper products. It is also used in making guncotton, smokeless powder, varnishes, celluloid, collodian, photographic films, and artificial silk. The yield of linters runs about 54 pounds per ton of seed.

*Marketing Problems of Cotton.*—After the farmer produces the cotton, he takes it to the near-by gin, where it is ginned and baled.<sup>1</sup> When he decides to sell the cotton, it is taken to the near-by trading center, where it is offered for sale. The country merchant or street buyer cuts a hole through the burlap into the side of the bale to obtain a sample. This is examined for the purpose of determining its grade. A price is offered which is based on the price registered in the large central market, less the profit to the merchant or street buyer and shipping charges to that center. The country merchant or street buyer ships the cotton to the larger cotton firms located at the large inland markets, or directly to the nearest port, where it is graded and classed into lots having the same grade, length, and strength of staple, etc., so as to meet the needs of the various consumers.

At this juncture, brokers representing spinners, exporters and other buyers, enter. The brokers, exporters, etc., knowing the special types of cotton which their clients have to obtain in order to be able to produce their special products, buy only the cotton which will fill the above needs. Inasmuch as certain regions which have well-known climatic and soil conditions produce cottons usually having a staple characteristic of the region, the brokers and exporters know the concentration points

<sup>1</sup>The following description of cotton marketing is from a Master's Thesis, "A Short History and Survey of Some Important Supply and Demand Factors in the Cotton Industry," by H. J. CHATTERTON, of Louisiana, graduate student, Cornell University, 1924.

which will usually have the cottons to suit their special needs. These brokers, exporters, and other buyers keep in constant telegraphic communication with the largest markets so as to obtain the latest news of the prices which are registered in the large exchanges, New Orleans, New York, and Liverpool. The prices offered for the cotton at these inland markets, of course, are the equivalent of what the cotton would be worth at these large markets, less the broker's commissions and transportation charges. If the cotton is bought by the spinner's broker, it will be shipped directly to the spinner, where it will be manufactured into the various products.

If, on the other hand, the cotton is bought by an exporter, it will be compressed in order to save shipping space and freight, and shipped to foreign ports. At the foreign ports the cottons are again reclassified in lots having the same grade, staple, etc. The spinners' brokers come to these ports, where they have the opportunity to buy the special types of cotton needed by their clients. The cotton may be delivered directly to the spinner, or may be stored in the large warehouses at these ports. Liverpool is the largest foreign cotton market in the world. It has 700 warehouses with a storage capacity of 250,000,000 bales.<sup>1</sup> See Appendix I to this chapter for amount and classes of cotton in store in Liverpool.

The above description of cotton marketing gives the general methods pursued, but there are many variations from the above plan. In recent years the producers in many places and states have been forming cooperative selling associations which are performing the functions of the local buyers as well as those of the dealers in the concentration points. These associations are now providing for the warehousing, grading, and classing of the cotton into lots of similar qualities so as to be able to deal directly with the spinners, brokers, exporters, etc. This change is a result on the part of the farmers of trying to put an end to some evil practices which had sprung up in the cotton trade, such as pooling out of the cotton territory by the large dealers, undergrading of the cotton, and failing to pay for extra length of staple. This change will have an educational value for the producers, as they will become better acquainted with the demands of the market.

<sup>1</sup> "European Reconstruction," *Manchester Guardian Commercial*, p. 1, Apr. 26, 1923.

As was stated above, all of the markets of the world are connected by means of communication so that traders of all kinds can keep informed as to the supply and demand in each market. Traders have found out that the best way to obtain this information is to keep in touch with the large future markets of the world, the largest of which are New York, New Orleans, and Liverpool, which act as clearing houses of information, and also serve as places for the sale and purchase of future contracts.

The future contract is a method which has been worked out on the part of producers, traders, and manufacturers to lessen the risks and to form a cheap means of insurance for future operations. It is on the future markets that the producers, traders of all kinds, and spinners register their estimation of what the price of cotton will be at a future date. These estimates are based on all the information which is available at the time on the supply and demand factors of the entire world. The future markets may be used by speculators for speculative purposes, but ordinarily cotton producers and manufacturers use them for the purpose of hedging their operations against loss. Thus a cotton producer who wishes to insure himself against loss as a result of a drop in price may sell a "hedge" against the crop he is producing; while, on the other hand, a manufacturer wishing to insure himself against a rise in price of cotton he wishes to secure to fill his orders, buys a "hedge" on cotton. The country buyers who wish to secure only the commission for buying the cotton, have their brokers sell hedges against the cotton as fast as they buy. Then as soon as their "spot" cotton is sold, they buy back the hedge. This insures them against loss and enables them to make their commission on all cotton handled.

From the above it will be seen that there is a close relationship existing between the cash and future prices for cotton, and this accounts for the fact that traders keep in such close touch with the future markets. Thomas Ellison as quoted on page 197, showed the significance of future trading and hedging in lowering costs of selling American cotton in England.

*Cotton Pools.*—Unlike the wheat growers, the cotton growers faced trade abuses for many years without organizing successfully to improve conditions. Lack of local warehousing and grading, and lack of credit, were two weaknesses in the system. The chief trade abuse, however, was the variation in price of the same grade in the same market the same day. Premium was not

paid for long staple.<sup>1</sup> In 1920, the American Cotton Association made concrete suggestions for organizing, including by-laws and contracts for both local and central organizations. The first state to organize was Oklahoma. In the year 1921, an association, state-wide, non-stock, non-profit, in character, began the marketing of the crop. Individual members join the central association, paying a fee of \$10 and sign a contract binding for 7 years, and requiring the delivery of all cotton to the association, and providing penalties for breach of contract. A sign-up of 300,000 bales of cotton was obtained before the association began to function. A separate corporation, with capital stock, was formed to provide warehouse facilities. The cotton pool, therefore, was able to furnish storage, grading and classing of the cotton, and credit. Sales are pooled for the year so that all farmers receive the same price for the same grade. The price received is, of course, the average of the whole year, so that the advance in price in the spring, if any, all goes to the farmer; or, conversely, the decline, if any, is borne by the farmers.

## II. Wool

Wool is similar to cotton in three ways: it is non-perishable; it is highly graded and standardized; it is a matter of international commerce. It is unlike cotton in two respects: it is not traded in in America or any organized exchange; it is a deficit commodity, one-half our total consumption being imported. It will be recalled that one-half our cotton crop is exported. A brief description will now be given of the production, consumption, and marketing of wool.

**Wool Production.**—The world's production of wool is about one billion pounds. The number of sheep and the volume of wool are both slowly decreasing throughout the world. This is probably due to the fact that sheep raising goes with the frontier. In the United States, the center of sheep production has shifted from the Atlantic seaboard, westward, to the mountain states. Now 65 per cent of our sheep are found in 12 range states. Michigan, Missouri, and Ohio are important examples of states with farm flocks. Australia and New Zealand are the world's

<sup>1</sup> These abuses were pointed out by the U. S. Department of Agriculture. See *Agr. Bull.* 36, "Studies of Primary Cotton Market Conditions in Oklahoma;" also *Dept. Bull.* 457, "Relation between Primary Market Prices and Qualities of Cotton."

greatest wool-producing regions, supplying over 25 per cent of the world's wool. South America ranks second, with its two producing regions, Argentina and Uruguay. South Africa is one heavy producing region which shows a tendency to increase.

In round numbers the United States wool clip is 300,000,000 pounds, and the consumption 600,000,000 pounds. The United States ranks third as a wool producer.

**Wool Consumption.**—Wool is “consumed” by the mills. The mill demands wool which will produce the type of fabric it is making; these fabrics vary from coarse, heavy rugs and carpets, to the finest, sheerest materials for women's apparel. Wool, therefore, is divided into market grades. The value of the wool is affected by four physical factors: diameter of fiber ( $\frac{1}{350}$  to  $\frac{1}{3,000}$  inch); length of fiber (1 to 12 inches); shrinkage (35 to 80 per cent when scoured); spinning properties (length, diameter, elasticity, and pliability). “The finer the fiber, the longer the fiber, the lighter the shrinkage, and the better the spinning properties, the greater is the value of any particular lot.”

The United States is the world's largest consumer of wool. The other principal wool-manufacturing countries are Great Britain, France, Germany and Belgium. The United States and Great Britain are both large producers and consumers of wool, and they are the only two countries which do these two things. Most of the world's wool is, therefore, produced in parts of the world far distant from points of consumption. From this situation arises international trade in wool, with the large problems of storage, transportation, credit, grading, risk bearing, sale.

**Wool Standards.**—Wool is a highly standardized commodity. It is divided into three classes and seven grades, as follows:  
Classes of Wool

1. Fine (delaine).
2. Clothing (woolen cloth).
3. Combing (long fiber).

Grades of Wool (United States Wool Standards)

1. Fine.
2. One-half blood.
3. Three-eighths blood.
4. One-quarter blood.
5. Low one-quarter blood.
6. Common.
7. Braids.

Below these seven grades come the Rejects, including: (1) burry; (2) seedy; (3) chaffy; (4) cotted; (5) dead; (6) merrin; (7) kempy; (8) damaged; (9) black, gray, or colored; (10) wrapped with sisal twine.

**Wool Auctions.**—The wool market, in its international aspects, includes first of all those great periodic wool auctions held in Australia and New Zealand, South Africa, and in England. The auctions in London, which begin in the early spring (about the middle of March) are the best barometers of wool values. Preceding these auctions the woolen mills have had their exhibits and openings to display new styles and feel out the consuming demand for wool fabrics—to determine whether prices are to be higher or lower or stationary. The bidders at the auctions have, therefore, behind them the estimate of demand. Speculators also enter the market who have their own ways of forecasting demand and values. The wool auction is an example of a market where the supply is much better known than the demand. The physical volume of wool at the auction, however, is not the “supply,” since many sellers withdraw their lots when prices do not suit. Thus a wool auction may offer to buyers wool clips of the current year, and some clips 1 or 2 or more years old.

In the United States, Boston constitutes the principal centralized market for wool. The buyers are chiefly mills (that is, actual consumers); some speculators participate. But not enough to constitute a “wide market.” Thus in a recent summer the American Woolen Company mills (our largest consumer of wool) shut down for six weeks. This had a very marked influence on price. Wheat and wool may be contrasted as to their “wide” and “narrow” market characteristics. During the deflation of 1920, the Michigan farmers found their farm price for wheat drop from \$2.50 to \$1.50; their farm price for wool from 65 to 4 cents. Indeed, for a time, wool was unsalable at any price. There were no organized exchanges where “speculative investments” in wool could be made by the public.

**Local Wool Markets.**—Farmers and sheep ranchers have various ways of disposing of the clip. The fleeces in Ohio, Michigan, and the East generally, were sold for many years to local buyers. In recent years the wool pool (as described below) offers an outlet. “Territory” wools, that is wool from the range states of the West is sold in part by contract. It is an example of “future trading” without the use of an organized exchange.

Wool buyers visit the ranches, bargain with the sheep owners, and purchase an entire clip many months before shearing time. An advance payment (similar to the "margin" on the exchanges) is made. Much wool is consigned to commission houses in the larger cities, where it is sold for growers' account to the buyers from mills.

*Wool Pools.*—During the World War the Federal government fostered the marketing of wool through pools. This assured the assembling of larger volume at convenient shipping points, and the grading of the commodity before it was put on the market. Taking the New York Wool Pool as a type of the many pools now in operation, its main features may be briefly described. Sheep growers first join a local cooperative association, confined to their own county. The county locals federate into a state central pool, the New York State Sheep Growers Cooperative Association. The pool furnishes storage, credit, grading, and salesmanship. The woolen mills from the start extended cooperation and encouragement. The mills prefer well-graded and conditioned wool. Members of the pool who need cash receive an advance amounting to about 50 per cent of the value of their wool. The interest on these borrowed funds runs about 6 per cent. There are two seasonal pools, May 1 and Sept. 1. Wool sacks, paper twine, and other supplies are shipped by the pool on request. One achievement of the wool pool is to force competition upon the local wool buyer who is picking up ungraded clips without due regard to premium for quality. The major result of the pool is to put on the market a better standardized and graded product and to secure thereby better prices. The cost of grading, standardizing, and all other pool services is 4 cents a pound for all wool handled. The price realized is believed to be advanced, however, at least 8 cents a pound by reason of this service. In other words, the farmers have a net return of 4 cents a pound over the old method. In addition, they are educated about markets and consumer demand—and can shape their production accordingly. By the year 1925, wool pools had been organized in the following 14 states: Arizona, California, South Dakota, Kentucky, Idaho, Kansas, Michigan, Montana, New York, Ohio, Oregon, Tennessee, Virginia, and Washington.

*Shrinkage.*—Wool from the sheep's back contains much foreign material in addition to the natural grease. Sheep on the mountain and desert ranges have considerable sand in the wool. When



this wool is cleaned, it often shows a shrinkage of 65 or 70 per cent in weight. On clean pastures the shrinkage will often run as high as 40 or 50 per cent. Some of the wool pools, such as the Pacific Cooperative Wool Growers, perform the service of scouring wool for the members. Eastern mills however, prefer to do their own scouring.

## APPENDIX I

The following statistics illustrate the great variety of types of cotton which are in demand in a great consuming market; it also illustrates the large number of countries which supply cotton to this market. These statistics are furnished by the International Institute of Agriculture, Rome.

### STOCKS OF COTTON IN LIVERPOOL, JULY 29, 1921 In Bales

<b>American descriptions:</b>	
Sea Island and Florida Sea Island.....	1
Upland and bales.....	153,657
Mobile.....	478
New Orleans.....	132,219
Texas.....	387,730
California and Arizona.....	1,236
Mexico.....	3,877
American linters.....	253
<b>Total American.....</b>	<b>679,451</b>
<b>Brazilian descriptions:</b>	
Pernambuco.....	17,345
Maceio.....	2,011
Parahyba.....	6,156
Rio Grande.....	479
Ceara, Aracaty, etc.....	3,375
Maranbam.....	416
Mossoro.....	100
Sao Paulo.....	6,074
Brazilian linters.....	84
<b>Total Brazilian.....</b>	<b>36,040</b>
<b>Egyptian descriptions:</b>	
Egyptian.....	45,883
Sudan.....	18,200
Tokar, etc.....	324
Egyptian linters.....	324
<b>Total Egyptian.....</b>	<b>64,407</b>

COMMODITY MARKETING

299

STOCKS OF COTTON LIVERPOOL, JULY 29, 1921  
In Bales. (Continued)

<b>Peruvian descriptions:</b>	
Peruvian, rough .....	35,418
Peruvian, moderate rough .....	17,429
Peruvian, smooth .....	37,667
Peruvian Sea Island .....	89
Peruvian Mita fifi .....	20,080
Peruvian Tanguis .....	53,928
Ecuador .....	3,271
Peruvian linters .....	421
<b>Total Peruvian .....</b>	<b>168,303</b>
<b>West Indian, etc., descriptions:</b>	
West Indian, etc .....	7,764
Colombian .....	464
Venezuelan .....	654
Haitian .....	111
San Domingo .....	0
Nicaraguan .....	460
Paraguayan .....	0
Argentine .....	1,363
South Sea Island .....	88
<b>Total West Indian, etc .....</b>	<b>10,904</b>
<b>African descriptions:</b>	
African, West .....	39,242
African, East .....	32,937
African, South .....	241
<b>Total Africa .....</b>	<b>72,420</b>
<b>East Indian descriptions:</b>	
Surat, Surtee, Broach .....	37,232
Oomra, Khandeish, etc .....	
Tinnevelly and Cambodia .....	1,763
Westerns, Northern, and Coconada .....	115
Bengal and Scinde .....	778
Rangoon .....	10,830
Assam .....	9
<b>Total East Indian .....</b>	<b>50,727</b>

300      *MARKETING OF AGRICULTURAL PRODUCTS*

STOCKS OF COTTON LIVERPOOL, JULY 29, 1921  
In Bales. (*Continued*)

Sundry descriptions:	
China, etc .....	1,651
Cyprus .....	0
Australian .....	0
Caucasus .....	1,308
Smyrna .....	0
	2,959
<hr/>	
Total stock .....	1,085,211
Per cent from United States .....	62½

## APPENDIX II

The British cotton interests, becoming alarmed at the uncertainty of the world's cotton supply and the dependence upon one country (the United States), organized the British Cotton Growing Association in 1902. The objects were to stimulate the growing of pure varieties of cotton within the Empire. Funds are secured by a tax of 6 pence per 500-pound bale of cotton used by British spinners. In its eighteenth annual *Report* this association states: "It is now certain that within the next few years large quantities of suitable cotton will be produced within the Empire, and those new areas which at the present time give the greatest promise are the Sudan, Northern Nigeria, and Uganda."

The following statistics are taken from the *Report to the Board of Trade*, page 16, by the Empire Cotton Growing Committee, presented to Parliament by Command of His Majesty, London, 1920.

302      *MARKETING OF AGRICULTURAL PRODUCTS*

THE WORLD'S COTTON SUPPLY AND THE BRITISH EMPIRE'S SHARE IN IT  
(PRE-WAR FIGURES), SHOWING GRADE AND QUALITY; WHERE GROWN;  
AMOUNT; PER CENT PRODUCED WITHIN BRITISH EMPIRE  
(B indicates British)

Grade and quality	Where grown	World's crop, bales of 500 pounds	Per cent British
1. Best Sea Island .....	Islands, South Caro- lina .....	8,000	33
	West Indies .....	4,000 B	
2. Sea Islands .....	Florida and Georgia ..	12,000	89
	West Indies .....	70,000	
Best Egyptian .....	Egypt .....	2,000 B	70
		550,000 B	
3. Egyptian .....	Egypt .....	622,000	2. 5
	Sudan .....	700,000 B	
Staple American .....	Mississippi Delta .....	20,000 B	64
	East, West, and South Africa .....	200,000	
Peruvian .....	Peru .....	40,000 B	70
		125,000	
4. American .....	United States .....	1,085,000	70
	Mexico .....	15,000,000	
	Brazil .....	150,000	
	Russia .....	300,000	
	West Africa .....	500,000	
	Levant .....	15,000 B	
	India .....	100,000	
	China, Korea .....	400,000 B	
5. Indian, etc .....	India .....	250,000	2. 5
	Russia .....	16,715,000	
	China .....	4,500,000 B	
Totals .....		750,000	64
		1,800,000	
Totals .....		7,050,000	24. 5
		25,484,000	
		6,231,000 B	

This table shows the large amount of the lower-grade cottons grown in British territory.

## Questions

1. Comment on old English ideas of Indian muslins and calicoes; English laws favoring English woollens; results.
2. According to Holinshed, what was the influence of consumer demand on English dress?
3. Explain rank of cotton from commercial standpoint.
4. Give significant facts on cotton production; producing areas and volume; place of United States among its competitors (quantity, quality).
5. Why is the United States an importer of cotton?
6. What two regions are important "unknowns" in cotton production? Explain in detail work of British Cotton Growing Association; quantity and quality of British-grown cotton.
7. Show where cotton is consumed. Principal European markets. Shift in United States consuming centers.
8. Explain in detail the types, grades, and characters of cotton. "Universal Standards."
9. Show relation of value to grade; to character; to length.
10. Define linters.
11. Set forth in detail the usual marketing steps in connection with cotton.
12. Show place of Liverpool in cotton storage. Cite statistics.
13. Show place of cooperative marketing in selling cotton.
14. Place of future trading in cotton marketing.
15. Give brief account of cotton pools.
16. Give commercial comparison of wool and cotton in five respects.
17. Show in detail world's production of wool.
18. Show wool production and consumption in the United States.
19. Demand for wool is for which types of wool?
20. Explain wool standards and grades.
21. Explain place of the auction in marketing wool.
22. Is the Boston wool market a "wide" market? Explain and illustrate.
23. What is the local market for wool?
24. Place of wool pools in selling wool; New York pool; cost and services. Compare Ohio wool pool.
25. Explain shrinkage; amount; causes.

## CHAPTER XVII

### COMMODITY MARKETING. 3. HAY

The total area devoted to hay and fodder crops in 1919 was a little over 82,000,000 acres and the production about 107,000,000 tons, according to the census . . . The leading states in hay production, in 1919, were New York, Minnesota, Iowa, Nebraska, Wisconsin, and Kansas in the order named. These states produced approximately one-third of the total hay crop of the United States. In the feeding of hay the waste is from 10 to 15 per cent . . . Alfalfa as a hay crop is exceeded in total tonnage produced only by timothy and clover mixed, but owing to its high feeding value, alfalfa leads the hays in the number of animal units it will support. The crop of 1919 was sufficient to support (theoretically) 3,771,000 animal units for 1 year . . . The clovers rank fourth among the forage-producing crops of the United States. They will (theoretically) support 3,364,000 animal units for 1 year . . . Timothy is by far the most important perennial hay grass in American agriculture, producing each year more than twice as much hay as all other tame grasses (not legumes), both annual and perennial, and including the small-grain hays . . . The timothy crop alone will theoretically support for 1 year 3,184,000 animal units. One of the most important factors in the widespread popularity of timothy is its excellence as a market hay.

*Yearbook, U. S. Dept. Agr., 1923.*

The first and most important step in the marketing of hay, as of other crops, is production. Hay being a non-cultivated crop, it is certain to contain much foreign material in the marketed product. It is a very bulky commodity. It is grown for the most part for home use only. Hence, it is that while hay ranks third in value among our farm crops, it is not a relatively important article in domestic commerce, and almost negligible in foreign commerce. This chapter will consider some of the many problems of hay production, consumption, and marketing.

**Hay Production.**—In the United States there are three centers of hay production, New York State, the Middle West, and California. The yield varies so much from year to year that it is difficult to say which state ranks first as a hay producer.



The statistics for the years 1921 and 1922 ran as follows:

1921		1922	
State	Tons	State	Tons
1. California.....	5,003,000	1. New York.....	6,813,000
2. New York.....	4,895,000	2. Wisconsin.....	5,553,000
3. Iowa.....	4,693,000	3. Illinois.....	5,285,000
4. Wisconsin.....	4,136,000	4. California.....	5,059,000
5. Ohio.....	4,081,000	5. Ohio.....	4,892,000

The word hay has different meanings in different parts of the United States. The census reports classify hay as timothy alone, timothy and clover mixed, clover alone, alfalfa, millet, Hungarian grass, other tame grasses; wild, salt, or prairie hay and grains cut for roughage. The most significant change in hay production during the past 30 years is the heavy increase in the production of alfalfa. The other hays show a decrease. The United States hay crop varies from 70,000,000 to 100,000,000 tons. According to the Federal census, hay sold by the farmers amounts to but 14.5 per cent of the crop, the balance being consumed on the farm.

Hay is a crop peculiarly subject to injury. For the 11 year period, 1909 to 1919, the average annual loss was 20.4 per cent of the crop. Of this 18.4 per cent was due to the weather; other causes were plant diseases, insect pests, animal pests, defective seed. Hay, to have high market value, must be cut and cured under exactly right conditions. This is true of alfalfa, and notably true of timothy. In timothy good color is of first importance, and color varies with the percentage of brown leaf surface. This percentage changes rapidly in the maturing crop; sometimes in 2 days the quality of hay will drop a whole grade. It is, therefore, extremely important for the farmer to cut his hay at the right time. If cut at exactly the right time, other troubles face the farmer. If the hay lies too long in the hot sun it will "burn," that is, acquire a dead, dry appearance as of old hay. If rain falls on it, it may mold or darken in color. If baled or put in the barn when too damp, it will heat and mold. If it has not been exposed to the sun long enough, the same thing may happen.

A summary of the facts already presented indicates that hay is a non-cultivated crop; is an extremely variable crop in yield, with forces other than those of man controlling in major degree its variations; is usually raised for home use only; and is, in nearly all cases, raised as a side line to other crops or stock enterprises. Can it be expected that farmers will lavish on it the skill and care needed to produce the very choicest product? If such expectation is unwarranted, then most assuredly the hay marketing process gets a very bad start in that it deals with a product uncertain alike in its production, curing, and in the interest manifested in it.<sup>1</sup>

**Consumption.**—In spite of the fact that hay is a bulky commodity, much of the 14½ per cent that leaves the farm is shipped long distances to market, the chief deficit areas being New England and the South. Hay as far west as Michigan goes by rail to New England. New York hay goes by rail to the far South—Georgia and Florida. Alfalfa hay from California goes by boat to New York City—a distance of several thousand miles.

The following hay statistics illustrate the long shipments that are sometimes made:

WHERE NEW YORK HAY SURPLUS GOES	
	PER CENT
To New England.....	31.4
South (South of Maryland).....	31.2
New Jersey.....	16.1
New York City.....	11.4
New York State.....	4.6
Pennsylvania.....	3.7
Maryland.....	1.2
Delaware.....	0.2
District of Columbia.....	0.2
	100

Alfalfa shipments from California to New York City in 1921 amounted to 10,000 tons.

The chief uses of market hay are feed for livestock in the stockyards, feed for dairy cattle, feed for draft horses in the city, and feed for horses and mules that work about mines, construction camps, lumber camps, and so on. Since the old-fashioned livery stable has almost disappeared, this field of demand is very small.

<sup>1</sup> KENDRICK, M. S., "The Marketing of Hay in the United States," *Doctoral Dissertation*, Cornell University, 1924.

*Size of Bale.*—Markets have their own peculiarities of demand. For instance, Boston and New York prefer hay in large bales (approximately 200 pounds); the South, on the other hand, demands the small bale (75 to 100 pounds). The following quotation from a trade paper is a striking example of the big premium paid for the large bale in the New York market at certain times:

The market has made a further decline since our last report. The highest grades of large-baled hay are still in light supply, but there is a continued surplus of small bales which are being urged for sale at very irregular prices. The gap between large and small bales has reached unusual proportions; on even grades small bales are frequently discounted from \$4 to \$5 per ton under like qualities in large bales; and on some of the medium grades the discount is even greater, in instances amounting to \$6 and \$8 a ton . . . Very few bales of strictly No. 1 hay in large bales have arrived this week.<sup>1</sup>

*Marketing Problems of Hay.*—The farmer has four ways of marketing his hay: (1) feed it to his animals and sell the animals or their product; (2) sell it to neighbors who are short; (3) sell to the local hay buyer and shipper; (4) ship the hay himself to a commission merchant or other type of receiver. The last two methods only are of importance from the standpoint of the hay market.

Local hay shippers are usually engaged in other lines of activity, such as dealing in grain, feeds, etc., so that they may be employed at all seasons of the year. A few local hay dealers are exclusively hay buyers and shippers. As a rule, there is very little real competition at country points. Where there are two or more dealers they sometimes have "understandings" about the maximum price. Outside buyers sometimes come into the local market; some are only fly-by-night speculators; some are agents of well-established city firms. One difficulty with shipping hay from local point direct to city markets is the lack of uniformity of grade of hay in the car. The fourth method of selling hay—direct shipment by farmer to city—is not common, because the farmer has not the necessary knowledge of the requirements of the different markets—their grade and size-of-bale preferences, the business and financial standing of the scores of terminal-market receivers. By selling to local buyers the farmer knows exactly what price he is receiving, gets his

<sup>1</sup> *Price Current Grain Reporter*, Chicago, Ill., p. 49, July 23, 1919.

cash upon delivery of hay, and has no wait or worry about discovering a distant market.

The country shipper may sell through a broker, or by wire direct to consuming buyers or to other dealers, or he may consign to a hay commission merchant. Unless a country shipper has large storage facilities, however, he cannot build up a line of customers and then serve their needs continuously. For this reason the aggressive country shipper owns large local storage facilities. This allows him to make up carloads of evenrunning lots. There are a number of large terminal markets to which hay may be shipped, such as Kansas City, St. Louis, Chicago, Cincinnati, Omaha, Memphis, Boston, New York, Baltimore, and so on. In these markets some receivers buy the hay outright; some handle it on commission, that is, find other buyers for it. Some markets, like Kansas City, are shipping and distributing markets; others, like New York and Chicago, are consuming markets. In 1920, Chicago reconsigned 17 per cent of its receipts; Kansas City, 80 per cent. In Kansas City, therefore, there are no terminal warehouses for storing hay; inspection is made at the car door by "plugging" (that is, pulling out of the car some 25 or 30 bales and piling them up alongside the car). In New York, Boston, and Baltimore there are warehouses in which the hay is displayed for sale.

Terminal-market charges vary from city to city; the commission for selling varies from 75 cents to \$2 a ton (*i.e.*, from \$9 to \$24 a car of 12 tons). The weighing charges vary, the common fee being \$1. The inspection fee runs about 75 cents a car. In Kansas City the inspection fee is 50 cents, and the plugging fee 75 cents. If cars are held over 2 days there is a demurrage charge.

Selling through a broker, or by telegraph or telephone is made a matter of risk and uncertainty because of the almost superhuman difficulty of grading hay.

*Grading.*—One of the last commodities to be subject to Federal grades is hay. This is because of the difficulty of making a "scientific" grade which would be usable as a "commercial" grade. The hay trade itself grappled with the problem of commercial grades for a period of some 30 years, and made very little real progress in solving it. In 1894, Willis Bullock, editor of the *Hay Trade Journal*, Canajoharie, N. Y. started a movement, later successful, to organize the National Hay Association. The

minutes of the meeting of this body from 1895 to 1925 show one long wrestling with the grade problem. Finally, after much study in both field and laboratory the Federal government promulgated a set of grades for hay. Color has an important place in these grades, but color depends largely upon the percentage of brown-leaf and brown-stem surface relative to green-leaf and green-stem surface. Also consideration is given to mixtures of other materials with the hay. The United States Hay Grades consist of five classes and usually four grades in each class.

The five classes are:

- I. Timothy hay.
- II. Clover hay.
- III. Timothy and Clover Mixed hay.
- IV. Mixed Grass hay.
- V. Timothy and Grass Mixed hay.

Timothy hay (class 1) is divided into four grades and "sample grade." The requirements for United States No. 1 Timothy are: Shall be cut not later than when in full bloom and may contain not more than: 40 per cent of brown-leaf surface, 2 per cent of brown or bleached heads, or 5 per cent of bleached or off-colored stems.

It is not feasible to prepare type samples of hay, as is done for grain, cotton, and wool, because the condition of the sample would rapidly change, particularly in color. Thus a type bale of hay 6 months after it was prepared would not look like the bale at the time of its preparation.

*Transportation.*—Hay is one of the bulkiest types of freight hauled by a railroad. Owing to its low value per pound, the freight rate must be much lower on a ton of hay than on a ton of wheat or cotton. Again, hay is an expensive commodity for the railroad to handle through big city terminals, where space is precious. The roads, in order to prevent congestion of terminals, particularly New York City, sometimes issue embargoes against hay shipments. During these embargo periods shippers must receive permits from the roads, before any hay is rolled to the city.

*Price.*—The price of hay is a very fluctuating one. Hay is a highly speculative commodity—that is, there are many risks, involved in handling it. Rejection disputes at terminal markets, or at consuming markets in the South are extremely com-

mon, due to disagreement or misunderstandings over grade and class. The spread in price, on the same grade, same day, between large cities is very notable. This is due in large part to the different interpretation and use of the grade names in publishing hay quotations. For this reason it is difficult to compare hay prices in Boston and New York, or in Philadelphia and Baltimore, or Kansas City and St. Louis.

Gluts frequently occur in the hay market, but practically all gluts are of low-grade hay. Very rarely does any market receive an excess of high-grade hay. In the appendix to this chapter are given typical hay quotations from the Federal government's weekly paper, *Crops and Markets*, showing how big a drag is the poor hay on the market.

**Cooperative Marketing of Hay.**—Hay is an outstanding example of a crop in which good quality is easy to sell at a good price; poor quality hard to sell at a profitable price. In other words, here is a case where 90 per cent of the marketing problem is clearly to be solved on the farm. Many attempts to sell hay cooperatively have been made, but few have proved successful. The four chief reasons for failure have been:

1. *Quality.*—The local association has not had a standardized product of good quality, and of uniform quality, or of any standard quality whatever. This has in turn made impossible a wider and better distribution, or better marketing, or better bargaining power.<sup>1</sup>

<sup>1</sup> To illustrate further, the following statement is quoted from a letter of a Federal hay inspector in North Carolina to a research worker in New York State, under date of Apr. 27, 1925:

"I have made a rather comprehensive survey of the class and grade of hay shipped into North Carolina this past year, and knowing you are interested in grading and standardization of this commodity, I wish to call your attention to a condition that exists in your state. Quite a bit of the hay received in North Carolina is shipped from the State of New York. Practically all of this hay is bought for timothy, whereas the greater part of it is a light grass mixed and contains from 30 to 50 per cent of grass. This hay, which contains a large percentage of grass, is quoted on the leading markets in the country from \$2 to \$3 per ton cheaper than the corresponding grades of timothy, and it seems as if this particular class of hay is being unloaded on us.

"I have been thinking for some time to take this matter up with someone who has charge of the hay standardization and grading in New York and see if steps could not be taken whereby the purchaser of hay could be assured of getting the class and grade which he bought. That is, if an order is

2. *Volume.*—Many local associations have not had volume of business enough to justify hiring manager, bookkeeper, and other help.

3. *Storage.*—Most locals have not met the storage problem. Successful private dealers own storage at strategic points.

4. *Poor Management.*—The small cooperative, with small volume of business, has had cheap and ineffective management. Such management cannot compete with the established private dealers.

Private dealers, of the progressive type, show a willingness to cooperate with farmers in producing better hay and in producing hay better.

The Alfalfa Growers of California, organized in 1918, reorganized in 1920, succeeded in marketing large quantities of hay on the Atlantic seaboard, shipping this hay by the Panama Canal. During the year 1924, rail freight on hay from Ithaca, N. Y., to New York City (300 miles) was \$6.49 a ton: from San Francisco to New York by water it was \$8 a ton. From Chicago to New York it was \$12; from Kansas City to New York, \$18. Hence on the higher grades and higher-priced hays, the freight charge on California alfalfa was not a serious handicap. This alfalfa had a specialized use in and near New York City, and did not compete seriously, therefore, with the New York hay crop. The chief difficulty experienced by the California cooperators, with their bright-colored, irrigated-land hay, was to keep up the quality of the hay in order to justify this long shipment. Irrigated hay is brighter than hay subject to rain and dew. Hence, the California hay was worth about \$5 a ton more than the New York grown alfalfa. Much of this hay is bought f.o.b. ship San Francisco by wire from New York. Quality makes possible wider, better, and cheaper distribution. Where hay is merely a side line with a farmer, however, he usually does not want to bother very much about quality or marketing.

---

placed for timothy hay, that he will actually receive this class of hay and not a hay containing a large percentage of grass.

“My personal opinion is that a shipping point inspection on this commodity would solve the problem. By a shipping-point inspection, I mean the certification of the class and grade by some one licensed by the State and Federal Departments.”

(Signed) R. B. ETHERIDGE, Federal-State Hay Inspector.

## APPENDIX I

The following representative quotations are all taken from *Crops and Markets*, published weekly by the United States Department of Agriculture. They are fairly typical of weekly comment in this official paper 52 weeks in the year, every year. They illustrate the market demand for good quality hay, the scarcity of good hay, and the surplus of poor hay. The date of each quotation is indicated.

*October 18, 1924.*—The hay market averaged steady. A bumper tame-hay crop is the department's estimate. Low-grade hay continued to move with difficulty even at reduced prices. The timothy market was quiet with offerings ample for trade needs. The alfalfa market was steady with slightly improved demand. Heavier receipts caused an easier tone in the prairie markets.

*October 25, 1924.*—The hay market was quiet to dull. Low grades were not wanted, and some consignments of this hay resulted in heavy losses to shippers. Timothy was quiet to dull with receipts at most markets more than equal to buyers' needs. The alfalfa market was steady with slightly more active demand. Prairie ruled steady to dull.

*November 1, 1924.*—The hay market was quiet to dull. Receipts at the principal markets increased and demand was only fair. Poor hay of all kinds was not wanted. Timothy was dull to draggy.

*November 8, 1924.*—The hay market was draggy. Receipts were ample for buyers' needs and poor hay was not wanted. Mild weather restricted demand. The timothy market was slightly easier. Alfalfa was weaker as demand fell off. Prairie was barely steady on the better grades while the poor grades were very hard to move.

*November 15, 1924.*—The hay market was weak. Open weather reduced hay consumption and demand was light. Low grades were especially dull and sold at heavy discounts. Timothy was draggy. Alfalfa was dull with very light demand. Good-quality prairie moved slowly while low grades were almost unsalable.

*December 6, 1924.*—The hay market was dull. Mild weather restricted consumption in most sections. Prices held steady on account of reduced offerings. Low grades continued to make up the bulk of the receipts and were hard to sell even at price concessions. Timothy was quiet with offerings slightly larger than trade needs. Alfalfa held steady with more active demand. Good-quality prairie was practically unchanged.

*December 13, 1924.*—The hay market was slightly firmer. Colder weather resulted in increased consumption of hay, and trading was more active. Offerings of good hay were light and sold readily, but arrivals of medium and low grades were in excess of market needs.

*January 31, 1925.*—The hay market was easier. Increased receipts caused a slight decline in prices. Prices averaged lower than a year ago. Best grades continued scarce and moved more readily than the lower grades.



*February 7, 1925.*—The hay market was dull and easier. The liberal receipts were in excess of buyers' needs and there were unsold cars at several markets. Offerings of top grades were light and this quality hay held practically steady, but low grades were plentiful and moved at wide discounts.

*February 14, 1925.*—The hay market was steady to firm. Receipts fell off on account of reduced prices, together with bad roads in some sections, but the demand was slack as buyers' needs had been largely supplied by the recent heavy run. Low grades were plentiful and were hard to sell, even at wide discounts.

*February 21, 1925.*—The hay market was quiet. Dealers' stocks were large and receipts were ample for trade needs. Demand was slack as mild weather was restricting consumption. Top grades were scarce and sold readily, but low grades were clogging the markets and moved only at wide discounts. Timothy and prairie were barely steady while alfalfa was weaker with heavy receipts of the lower grades.

*March 28, 1925.*—The hay market was draggy. Receipts were moderate but equal to the slack demand. Poor hay was being crowded upon the markets, although the prices received for low grades were unsatisfactory. The best grades sold readily. Southern takings of alfalfa were falling off on account of the development of the pastures. Timothy was barely steady. Alfalfa and prairie were easier.

*April 4, 1925.*—The hay market was draggy. More hay remained to be marketed than a year ago. The demand was centered on the light offerings of the best hay while the low grades were practically unsalable at many markets. Receipts were fully equal to the limited demand although offerings at some markets fell off with the opening of farm work.

#### Questions

1. Which is the most important hay crop in the United States? What do you mean by important?
2. Why is hay relatively unimportant in commerce?
3. Cite significant facts concerning United States hay production: leading hay states; meaning of word "hay;" changes in production.
4. Explain the great amount of injury to hay. Relation of injury to time of cutting.
5. Summarize main points in hay production which affect marketing and price.
6. Cite leading facts as to hay consumption; place; where New York hay is consumed; chief uses.
7. Show relation of size of bale to price.
8. Show four ways for marketing farmers' hay.
9. Explain in some detail the service of the country shipper; types of; competition; advantages and disadvantages to the farmer.
10. Locate the large terminal markets. How is hay handled in each of these? Commission charges; other charges; broker versus commission merchant.
11. Show grading problem in hay; evolution of commercial grades (work of Willis Bullock); evolution of Federal grades. Classes and grades.

314      *MARKETING OF AGRICULTURAL PRODUCTS*

12. Explain significant facts as to transportation and freight rates on hay.
13. Explain fluctuations in price of hay. In what sense is hay a speculative commodity?
14. Comment on hay gluts, and show what grades cause the gluts. Cite market reports.
15. What success is had in cooperative marketing of hay? Why is this? Four reasons.
16. Cite letter of hay inspector in North Carolina concerning quality and grade of New York hay shipments.
17. Give facts concerning Alfalfa Growers of California; transportation costs; quality; success.

## CHAPTER XVIII

### COMMODITY MARKETING. 4. MILK

Clean and safe milk never has been nor never will be realized by the mere application to milk production of so-called economic efficiency . . . Nine principles are involved in this question of clean and safe milk. Three are applied to production, three to collection, and three to supervision.

First: to the dairyman must be offered education, encouragement, and endorsement. Education if fundamental and, as applied to the produce, is most important. The production of clean milk is discouraging business because the problems of detail are renewed every day and the dairyman must needs have encouragement. He should also receive endorsement or certification by an authorized and responsible board of control.

Second: to the collection and handling of milk then must be applied cleanliness, caution, and control. Cleanliness and caution and control, not simply through legislation or ordinance, but by a contract control of method.

Third: the supervision must include the principles of hygiene, biology, and prophylaxis. Hygiene as appears at every step of production, analytical control which includes chemical and bacteriological investigations, and prophylaxis as it relates to bovine affections pathogenic for man, and to persons handling and distributing the milk, who may become careless of disease.

CORR, HENRY L., *Proc. Amer. Assoc. Med. Milk Comm.*, p. 4, 1915.

The marketing of milk, particularly in the great metropolitan districts, is an economic, legal, political, and public-health problem. It is economic for the same reason that all marketing is economic. It is legal, because methods of price fixing by producers have so often been called in question before the courts. It is political because city office-seekers, especially city attorneys, make a campaign issue of the proposed war on the "milk trust." From the consumer standpoint milk is and must ever remain a public-health question of extreme importance. This chapter considers some of the problems connected with milk production, consumption, and marketing.

**Milk Production.**—Milk is now recognized as one of the best foods, and consequently the widespread campaigns to "Use

More Milk" have increased its consumption and production. For the 16-year period, 1890 to 1905, the number of milk cows in the United States remained at a standstill, although the population increased over one-third. In the decade 1910 to 1920, the number of milk cows increased about 15 per cent, or at the same rate as the population. The yield per cow increased during this period, so that the actual milk supply per person was increasing. By the year 1920, there were 25,000,000 dairy cows, producing 100,000,000,000 pounds of milk per year. This is 2½ pints per day per person. The cow population centers in those regions (1) where hay and feeds are cheap, or (2) near the large metropolitan areas which consume much whole milk. These "market milk" regions are found in New York, New England, Pennsylvania, and Ohio. The surplus of milk produced in the Middle States reaches the distant market in the form of manufactured products, butter and cheese ranking first in importance. Butter production has centers in the North Central States, the Mississippi Valley, and on the Western coast. Minnesota ranks first as a butter producer. Cheese production centers in Wisconsin, about two-thirds of the domestic supply being made there. Condenseries for making condensed and evaporated milk are centered in 31 states, the following states being the most important: Wisconsin, New York, Michigan, Pennsylvania, Illinois, Washington, California, and Ohio. The other by-products of milk of market importance are casein, ice cream, milk chocolate, milk powder, condensed or dried buttermilk, milk sugar.

The geography of milk production, based on the number of milk cows, is shown by the following statistics (*Yearbook, United States Department of Agriculture, 1922*). The list of the 11 leading states, in order, shows that with the exception of states with great cities, milk production is centered in the Middle West.

Principal milk states	Milk cows	Principal milk states	Milk cows
1. Wisconsin.....	2,195,000	7. Pennsylvania.....	1,071,000
2. New York.....	1,695,000	8. Ohio.....	1,048,000
3. Minnesota.....	1,578,000	9. Michigan.....	967,000
4. Illinois.....	1,125,000	10. Missouri.....	769,000
5. Iowa.....	1,115,000	11. Kansas.....	709,000
6. Texas.....	1,073,000		

*Seasonal Production.*—The production of milk like the production of eggs and many other agricultural crops, is seasonal. The heavy production of milk comes in the early summer—usually May, June, and July. The flow of milk corresponds to the condition of pastures. If pastures dry up in August, September, or October, the flow of milk shrinks accordingly. Using New York State as a typical dairy state for market milk production, and taking 100 as the “normal” monthly flow (*i.e.*, one-twelfth of the year’s total milk), the actual flow of milk to the milk plants of the state in the year 1923 was as follows:

NEW YORK MILK PRODUCTION IN 1923 SHOWING MONTHLY VARIATIONS  
IN SUPPLY

(One-twelfth of Year’s Supply, 100)

January.....	72.0	July.....	134.4
February.....	69.6	August.....	106.8
March.....	90.0	September.....	94.8
April.....	106.8	October.....	91.6
May.....	135.6	November.....	72.0
June.....	154.8	December.....	72.0

Since the consumption of whole milk does not fluctuate with production, this drastic maladjustment of production to demand must be taken care of by means of manufacturing milk by-products, and then by storage and sale in domestic and foreign markets.

*Milk Consumption.*—Most of the milk produced is consumed in some manufactured form. To have enough fluid milk, a surplus must be produced. This makes the problem of selling the fluid milk (whole milk, market milk) a more difficult one. Market milk requires much greater care, labor, and expense to produce than milk used for other purposes, and generally sells for a higher price. But in the marketing process, since milk is consumed in various forms, the price obtained for whole milk depends in large part on the “surplus” going into these various manufactured forms, and these milk products, in turn, are both exported and imported. In other words, milk a perishable product, has both a domestic and an international market.

*Utilization.*—How is milk utilized? The two general uses may be classified as for household and for manufacturing purposes. Manufactured milk takes some 10 or 12 different forms. These facts are set forth in statistical form in the tables below for the years 1919, 1920, and 1921.

TABLE XIII.—UTILIZATION OF MILK—ALL PURPOSES, 1919 TO 1921

Use	1919		1920		1921	
	Whole milk used, thousand pounds	Per cent	Whole milk used, thousand pounds	Per cent	Whole milk used, thousand pounds	Per cent
Household purposes.....	38,619,000	42.9	39,090,000	43.6	45,143,000	45.6
Manufacturing purposes.....	45,439,000	50.4	43,676,000	48.7	46,493,408	47.0
Fed to calves.....	3,500,000	3.9	4,202,000	4.7	4,260,000	4.3
Waste, loss, etc.....	2,500,000	2.8	2,689,000	3.0	2,905,868	3.0
Creamery butter.....	18,375,000	20.40	18,135,000	20.22	22,153,698	22.41
Farm butter.....	14,385,000	15.97	14,175,000	15.81	13,650,000	13.81
Cheese—all kinds.....	4,200,000	4.66	3,624,310	4.04	3,558,380	3.60
Condensed and evaporated milk.....	4,813,000	5.34	3,945,038	4.40	3,660,408	3.70
Powdered milk.....	72,000	0.08	82,672	0.09	33,944	0.03
Powdered cream.....	12,000	0.01	5,871	0.01	2,470	0.00
Malted milk.....	40,000	0.04	43,373	0.04	34,434	0.03
Sterilized milk canned....	4,500	0.00	5,623	0.00	5,074	0.00
Milk chocolate.....	.....	.....	60,000	0.06	40,000	0.04
Oleo.....	87,000	0.09	24,256	0.03	.....	.....
Ice cream.....	3,450,000	3.83	3,575,000	3.99	3,355,000	3.40

It will be noted from the above statistics that the household consumption of milk utilizes about 45 per cent of the supply. Butter utilizes about 35 per cent. About the same per cent is used for cheese as is used for ice cream. Compared with our European neighbors, Americans are not a cheese-eating people. While Americans consume one-sixth of 1 ounce of cheese per day per person, the Swiss consume  $\frac{7}{6}$  ounces per day per person. The Irish consume twice as much per capita as the Americans. Denmark consumes three times as much cheese as the Americans, and also more butter per capita. Our butter consumption is 1 ounce per day per person, or about 18 pounds per year.

*Foreign Trade.*—Cheese and butter are both exported and imported by America. More cheese is imported than can be exported, many Americans preferring the taste of various foreign cheeses, such as Rocquefort, Camembert, Swiss, etc. Butter is imported in some years in large quantities, but over a period of years our net balance shows exports exceeding imports. Owing to depression in foreign exchange, or to need of making heavy purchases of feeding stuffs in America, the Danes sometimes ship large quantities of butter to the United States at

certain seasons of the year. This trade is an exceedingly fluctuating one, however, as is shown in statistics given below. America is a heavy exporter of condensed milk. This type of milk business, however, shows erratic changes in consumer demand. But when the three forms of milk are considered—cheese, butter, and canned milk—our exports of milk products greatly exceed our imports in volume and in value. The chief butter-exporting countries are located, some in the northern, some in the southern hemisphere. The country in the southern hemisphere has its heavy producing season in our winter, when our butter prices are highest. This gives them more power as competitors.

The leading butter-exporting countries are: Australia, New Zealand, Argentina, Canada, Denmark, Netherlands, and United States. Before the war big exports were shipped by Russia, Finland, France, and Sweden.

The leading butter-importing countries are: United Kingdom, Belgium, France, and Switzerland. This trade, however, is very erratic in volume. Before the war Germany ranked next to the United Kingdom as an importer. From 1914 to 1920 Germany imported no butter at all.

TABLE XIV.—IMPORTS OF BUTTER AND BUTTER SUBSTITUTES INTO THE UNITED STATES, POUNDS  
(Calendar Years)

From	1918	1919	1920
Denmark.....	17,000	72,000	19,935,000
United Kingdom.....		1,000	4,000
Canada.....	1,152,000	9,438,000	9,236,000
Argentina.....	1,000		4,049,000
New Zealand.....			645,000
Other countries.....	13,000	8,000	2,582,000
Total.....	1,655,000	9,519,000	37,454,000

BUTTER EXPORTS FROM THE UNITED STATES, POUNDS  
(Calendar Years)

1918	1919	1920
26,194,000	34,556,000	17,483,000

These tables illustrate the fluctuation in the volume of our foreign trade in butter. The following table illustrates the same principle concerning canned milk, of which America is an exporter.

TABLE XV.—CONDENSED, EVAPORATED, AND POWDERED MILK EXPORTS FROM THE UNITED STATES, POUNDS  
(Calendar Year)

1919	1920	1921
852,865,000	414,250,000	299,168,000
Year Ending June 30, Pounds		
1920 to 1921	1921 to 1922	1922 to 1923
266,506,000	288,629,000	119,956,000

The canned-milk industry may almost be classed with those "war babies" in manufacturing lines, which grew rapidly under war conditions but languished equally rapidly under peace conditions. The effect of this decline on the price of the whole milk was severely felt by the American dairymen.

*Whole Milk.*—Finally, there is the export and import of whole milk. Since the United States has a land border of over 4,000 miles, there is a constant import and export trade of small dimensions in whole milk. Canada on the north is growing rapidly as a dairy country, and so the milk trade to and from Canada is, under certain conditions and in certain regions, of marked importance. That part of Canada which borders on New York or Vermont is a dairy district. Shipments of milk and cream from the Province of Quebec to New York City are substantial in amount. Ontario ships some milk to Buffalo, and British Columbia into the State of Washington. The principal shipments are in the form of cream.

CANADIAN EXPORTS OF MILK TO THE UNITED STATES  
(In Gallons)

	1922	1923
Milk.....	856,039	2,191,395
Cream.....	1,712,241	2,733,866



Total in terms of whole milk (cream  $\times$  11) and expressed in pounds:

	167,370,865	278,918,328
Value	\$2,983,238	\$5,075,576

*Balance of Trade, Dairy Products.*—Our net balance of trade in milk products, expressed in terms of milk, can be seen by examining the graph below (Fig. 13).

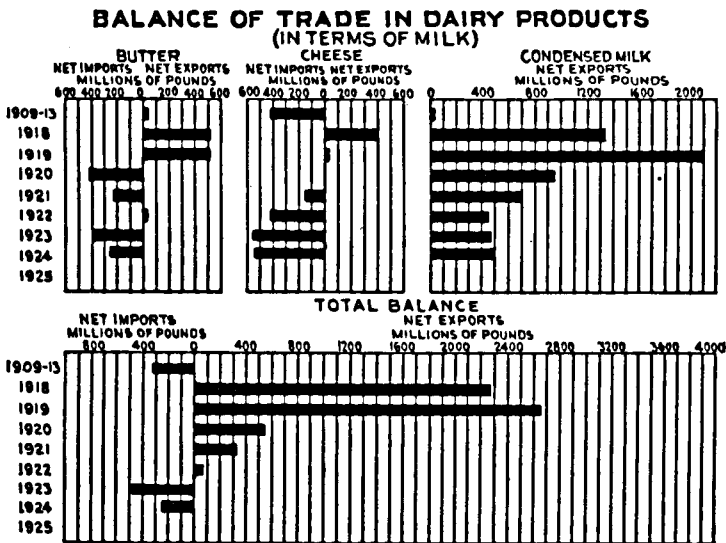


FIG. 13.—Exports and imports of dairy products and their net balance, for thirteen years. Butter shows very irregular fluctuations in net balances. In cheese, imports predominate. The exports of condensed milk are so heavy as to make our net trade in dairy products one of large exports. (Graph from Yearbook, U. S. D. A., 1922.)

*Summary.*—The consumption of milk for household purposes in country and city, the domestic demand for butter and other milk products, the foreign demand for American milk products, and finally the American demand for foreign milk and milk products, are all factors of importance in milk consumption. They are factors on the “demand” side of the market, which must be considered when the question of the supply and demand, or the market price of milk is under discussion. City health and milk

ordinances are requiring cleaner and cleaner milk. This in turn is having the effect of increasing milk consumption, as was discussed in Chap. II of this book.

**Marketing Problems of Milk.**—One of the oldest and most successful types of cooperative marketing is that of milk marketing in the by-product forms of butter and cheese. Minnesota, the state that leads in butter production, also leads in cooperative creameries. Wisconsin, which leads in cheese production, also leads in cooperative cheese factories. While this form of cooperation, based on the local association, is several decades old, yet the cooperative marketing of whole milk is a very recent movement. At the present time, however, whole milk represents the field where the "farmer's voice" is most often heard in the price making of the product. The various marketing problems including price, will now be briefly considered.

*Transportation.*—Transportation by rail is of increasing importance for all the large cities, since milk is transported long distances. Chicago draws milk from farms 200 miles away; New York from 400 miles. With the introduction of the "thermos" tank car milk may be brought 1,000 miles or more. The physical requirements are—maintenance of low temperature from the time the milk leaves the farm till it reaches the city; cleanliness. New York City may be taken for an example. Milk trains leave the up-state milk station in time to reach the Jersey terminal by eleven o'clock at night or midnight. The milk cans have blocks of ice among them and on top of them, so that the milk in midsummer arrives cold. It is met at the city platform, transferred at once to wagon or truck, again covered with ice, and transported over the streets to the distributors' milk plants. Here the milk is pasteurized, cooled, bottled, and placed in boxes in the retail delivery wagons. Finely broken ice is put over the milk, and the milk driver starts on his delivery route. This final haul begins about three o'clock in the morning. By the early hours of the morning the milk in clean, sealed bottles, is left at the consumer's home.

In smaller cities, milk is picked up in the country by automobile trucks and hauled direct to the city milk plants.

*Storage, Inspection, Grading.*—Fresh milk is a highly perishable product, not subject to storage; neither is it subject to inspection, except such as the city Milk Ordinance or rulings of

the City Health Department may require. This is strict in some cities (notably New York) and lax in others. Most of the milk, however, is manufactured into forms which are subject to inspection and storage for long periods of time. The United States Department of Agriculture issues monthly reports of the amounts of dairy products in storage. Storage of butter is seasonal, corresponding to the flow of milk. Heavy movement into storage is in May and June, and sometimes later; movement out of storage usually runs from November to April. In the 1921 to 1922 season, the May 1 storage holdings of butter were down to 5,000,000 pounds. By September these holdings had increased to over 90,000,000 pounds. From this point they gradually fell till the following May, going back to about 5,000,000 pounds again. Most large city markets maintain their own inspection departments for butter. Of increasing importance in value, however, is the United States food products inspection service. The Department of Agriculture now provides for butter inspection at New York, Chicago, Philadelphia, Boston, San Francisco, and Washington. Inspection is made upon request of any one having a financial interest in the butter. The applicant pays a small fee, ranging from \$1 minimum to \$3 for a car. On the butter score cards the distribution of points is as follows: Flavor, 45; body, 25; color, 15; salt, 10; package, 5; total, 100 points. Thus "92-score" butter is good butter. Grading requires experience, ability, and skill, since so much depends on human judgment, on the mere senses of smell and taste.

The Department of Agriculture says:

Of the various factors, which go to build up a permanent demand for dairy products, quality stands preeminently in the foreground. Consumptive demand is affected by high price levels, but within reasonable limits the consumer's preference is for the best. Production of quality products, however, not only caters to the most profitable classes of trade, but it also encourages a greater use of the product. The natural tendency of the consumers to "eat more because it is good" is just as true of dairy products as it is of other foods, and producers of highest-grade foods, therefore, share in an increased demand as well as a higher price. The willingness of consumers to pay for quality is illustrated by the spread between 88- and 92-score butter on the New York market. There have been differences amounting to as much as 15 cents a pound in favor of good butter over poor butter, with the average difference

over 5 cents a pound. The lower returns to producers of low-grade butter is obvious.<sup>1</sup>

**Price Problem.**—With the development of organization and cooperative marketing among dairymen there has come also the element of collective bargaining over price, sometimes peaceful, sometimes otherwise. The recent “milk wars” in Dresden, Berlin, London, Chicago, New York, and elsewhere show that the problem is by no means a local one. Farmers’ milk strikes, milk wars, milk price wars, in one form or another, have been numerous in the United States in the last few years.

*Chicago Milk War.*—The first powerful farmers’ bargaining associations naturally but unnecessarily aroused misgivings on the part of city consumers, and in many cases were charged with coming into collision with the antitrust laws or antiprice fixing laws. The Chicago Milk Producers’ Association was among the

<sup>1</sup> *Yearbook*, U. S. Dept. Agr., pp. 372, 373, 1922. Note also the following editorial from a leading dairy paper:

#### GOOD CHEESE INCREASES CONSUMPTION

We have often urged the production of better quality milk that a better and more uniform grade of cheese could be made. It would be an easy matter to double the cheese consumption in this country if the people could get the kind of cheese they like. In Humboldt County, Cal., there is produced a high-quality cheese. The consumption there is twice as large as the average consumption in the United States. Increased consumption of cheese in Humboldt County is attributed wholly to a better quality of cheese produced in that section.

One of the reasons why we favor cooperative marketing of cheese is that it will bring the producers in closer contact with what the market demands and would be extremely valuable to the dairy industry. The making of good cheese begins on the farm, where the milk is produced, for science has yet to unfold a method of making cheese that will produce high-quality cheese from poor milk.

We doubt if the quality of cheese in the past 10 years has improved. The desire in many instances to increase the production of cheese per hundred pounds milk has without question lowered its quality. Instances are on record where farmers are producing a good quality of milk and the cheesemakers are turning out an inferior product because they attempt to obtain a large overrun. It is well for any cheesemaker to be on the lookout for losses, but it is a shortsighted policy when men attempt to incorporate excess moisture in the cheese for the purpose of getting a little higher yield.

One of the best ways to increase the consumption of cheese is to produce a better quality, and the experience in Humboldt County, Cal., shows clearly that with the right kind of cheese its consumption will be doubled.

Editorial, *Hoard's Dairyman*, Mar. 13, 1925.

earliest and strongest of these farmers' organizations, numbering 16,000 members, and having a substantial monopoly of the Chicago milk supply. They held a successful milk strike in April, 1916, and forced the dealers to treat with them. The farmers' leaders were indicted, charged with violation of a criminal statute. After a long trial, and the expenditure of \$100,000 for cost of litigation, the farmers were acquitted. At this time in four other metropolitan markets farmers were under similar indictments, but in no case were the farmers found guilty of illegal price fixing, of violation of the antitrust act, or any other crime. In 1917, the Chicago farmers adopted the Pearson cost-of-production formula as a basis of price-fixing. This indicated a price of \$3.71 per hundredweight in November, 1917, a price which the dealers refused to pay. A second milk strike was declared. The Federal Food Administration appointed the Chicago Milk Commission to fix prices. This commission adopted a "ratio" formula, supposed to represent "cost of production plus a fair profit." The formula was ill-applied, and lowered the price of milk while other prices were rising. On this basis the November, 1917, price was fixed at \$3.13; December, \$3.20; January, \$3.15; February, \$3.07; March, \$2.83; April, \$2.49; May, \$2.04 June, \$1.80. This method did not prove a success. Later the farmers formed a subsidiary corporation to market their milk. There followed a period of confusion and internal dissension. The situation was further disturbed by the use of improved transportation, whereby the railroads were able to double and treble the Chicago milk area by reaching a little farther out into cheese territory in Wisconsin.

*Other Milk Wars.*—Among the more important milk strikes or milk wars may be listed these: Cleveland, Ohio, 1919. Seven farmers were thrown in jail. They were released on bail and later found not guilty of violating any law. San Francisco, 1920. A strenuous effort was made here by the legal department of the state to convict farmers of a crime for "price fixing." The farmers were not convicted. Other milk wars were: Kansas City, July, 1920; Spokane, May, 1921; Fort Worth, March, 1922; Sioux City, July, 1922; San Francisco, November, 1922; Oakland, California, December, 1924, New York, 1916 and 1919. The New York difficulty will be briefly explained.

*New York Milk War.*—The largest organization of milk farmers in the United States is the Dairymen's League of New York. It

comprises some 60,000 members, residing in the "milk shed" area of New York, mostly in New York State and Pennsylvania, with some members in three other states. As first organized the League was an educational body; it became a price-bargaining body in 1916. The distributors of milk in New York City refused to bargain with it or recognize it in any way. Then came a milk strike. The farmers won. The dealers dealt with the League, and the price of milk was fixed by the Warren Cost-of-Production formula. After 3 years this method of price determination ceased to satisfy the dealers, because they were taking all the milk delivered, paying for it at whole milk prices, distributing and selling to consumers part of it as whole milk, and selling the balance (an ever-increasing "surplus") as by-products at a price below whole milk prices. The trouble came to a head in January, 1919, when the dealers refused to deal with the League. Another milk strike was declared. The League proved that it had a substantial monopoly of New York milk supply. A compromise victory resulted; dealers were to continue to trade with the League; the League was to abandon the cost-of production formula. At this juncture the League decided upon a milk pool.

**Milk Pool.**—The League, when it saw that the surplus problem was causing friction between it and the dealers, and was forcing prices lower after a period of 5 years of rising prices, decided to come to grips with this surplus question. Beginning in 1921, the League took title to all milk delivered to it, and ceased to be a mere bargaining body. It sold the dealers all the whole milk they wanted. The balance—the surplus—the League processed in its own plants, and put on the world's markets at the current market prices, just as other competing manufacturers were doing. Canned milk, ice cream, cheese and butter were the chief products. Farmers in the pool got the same price for the same grade of milk, regardless of the use made of their milk. The farmer in a strictly whole-milk district thus got a slightly lowered price; the farmer in a condensery area got a slightly higher price. The League claimed, and perhaps correctly so, that the whole price level of milk was raised so that the whole-milk producer was better off than in the "old days," when he was given a milk contract by the dealers and told to "sign on the dotted line." At any rate, the farmers had some "voice" in marketing their product, when before they had been passive

and inarticulate. The League, unfortunately, entered manufacturing on a large scale at the price-peak period. Canned-milk exports rapidly fell off. The League found itself, in the course of the next 4 years, in possession of 144 plants in operation; a number not in operation; and an investment of about \$8,000,000 in these plants or their equipment. It found its sales of fluid milk were \$50,000,000 a year; of milk products, \$25,000,000. It found that the "surplus" was more than 51 per cent of the milk, and consequently the manufacture and sale of milk by-products was a mistake. The farmers who remained out of the pool, being able to sell whole milk for whole-milk uses at whole-milk prices, were at a price advantage over the League members, who were investing heavily in manufacturing plants, and selling over half their milk in the form of lower-priced by-products.

*Change of Plans.*—In January, 1925, the League announced:

The association is in process of changing from a surplus organization to a fluid milk organization, which means a higher net return in the pool check for every League farmer.<sup>1</sup>

The new policy was initiated by disposing of five of the League's larger manufacturing plants. The Dairymen's League, to sum up, has had three stages of dealing with the Surplus and Price problem: (1) A price-bargaining association, not owning or controlling the milk. Aim, to persuade rather than compel the dealers to pay good prices. Dealers took all the milk. (2) A pool, controlling the milk by means of contracts with members; with ownership of manufacturing plants for handling surplus milk; pool to take the surplus, manufacture and merchandise it; dealers to take only whole milk. Aim, to have and use power to compel dealers to pay League prices. (3) A bargaining association. Dealers to take care of both whole milk and surplus.

*Various Surplus and Price Plans.*—It would prolong the discussion unduly to analyze the particular price plans of each of the large city milk markets. In almost every case the city's plan has been modified or completely changed at least once. The various plans for disposing of surplus and fixing the price may be grouped under these two heads:

1. Dealers take the surplus, process it, and merchandise it.
  2. Farmers take the surplus, process it, and merchandise it.
- Plan I. may be subdivided, since dealers have different ways of

<sup>1</sup> *Dairymen's League News*, p. 1, Jan. 30, 1925.

paying for the surplus in different cities. There are three general plans here, omitting their minor variations:

1. Dealers take all milk delivered to them and pay flat price.
2. Dealers take all milk delivered, and pay two prices at end of month: (1) whole-milk price for milk sold to consumers as whole milk; (2) lower price for the surplus which was manufactured for dealers into milk products.

3. Dealers take all milk delivered, and pay sliding-scale prices or it. Basic price for months of normal production. Lower price for excess or surplus over base, produced in flush summer months. Premium for shortage below basic quantity, produced in winter months. This plan penalizes farmers for producing surplus, rewards farmers for winter production. Examples:

*Pittsburgh.*—The city of Pittsburgh, up to the year 1922, was the outstanding example of plan I, subplan I. The dealers took all the milk and paid a flat price for it. The bargaining over price was done in a representative conference of dealers, farmers, and consumers, with the "milk arbitrator" of the State of Pennsylvania present to provide frank and open discussion and smooth out difficulties, and, most important of all, to prevent the factors of jarring human personalities from wrecking the economic negotiations. The milk flow increased; the surplus became a serious problem. A pooling plan was adopted May 1, 1922. Distributors now take all the milk. Milk falls into three classes and is paid for accordingly: Class I, milk marketed as milk; Class II, milk marketed as cream; Class III, milk marketed as butter. The working of the pool price can be illustrated by taking the sale of 500 pounds of milk, at the following prices: Class I, 300 pounds at \$3.61 per hundredweight; Class II, 150 pounds at \$3.09; Class III, 50 pounds at \$2.59. The total price is \$16.77, and the average price per hundredweight is \$3.35, the base price. The farmers' organization labors to influence or control surplus by a sliding scale of prices—lower in summer, higher in winter.

*Detroit.*—The Michigan Milk Producers' Association was organized in 1916 in an effort to secure a voice in price determination. The officers asked the governor of the state to appoint a milk commission. This was done, the members consisting of producers, distributors, and the "consumers" (one college professor, the city health officer, one labor union representative, and one woman's club representative). As long as other prices



were advancing, or until 1920, all were satisfied with the higher prices set for milk. The producers and distributors could not agree with the prices of the commission in 1920, and then the commission ceased to operate. The farmers then changed the price system. The dealers now take only the whole milk needed for their trade. The farmers manufacture the surplus at their own plants at Adrian. Producers' committee meets monthly with equal number of distributor's committee. Bargaining fixes the price. Factors considered are: competition, cost of production, general market condition, public clamor for reduction of milk prices, surplus, conditions in the country. The "base system" is used, that is, production during last 6 months of year is base to represent fluid-milk quantity. The balance taken by dealers is surplus, paid for on basis of 92-score butter price for 3.5 per cent milk, plus 20 per cent.

*Twin Cities.*—The Twin Cities Milk Producers' Association (Minneapolis and St. Paul) own and operate plants for caring for surplus. Whole-milk price is based on cheese and butter price, plus a sliding-scale seasonal differential ranging from 40 to 90 cents. This association began like the Dairymen's League, as a pure bargaining association.

*Philadelphia.*—The Philadelphia market employs the "base system." The period October-November-December, 1921, was considered the base for quantity. The average amount of milk delivered by each producer was determined for this period. This was his basic quantity, and for this amount he received the basic price. For the other 9 months he received the basic price for the following percentages of this amount of milk:

	PER CENT		PER CENT		PER CENT
January.....	100	April.....	100	July.....	110
February.....	100	May.....	100	August.....	110
March.....	100	June.....	100	September.....	115

The quantity above the basic quantity (*i.e.*, the surplus) is paid for on a sliding-scale butter price basis. This price is lower than fluid-milk prices. In other words, the farmer penalizes himself by delivering a surplus. The dealer takes all the milk.

*Summary.*—The dairy farmers are organized at most of the big markets. They have a voice in price making. They get all their milk is worth. With a substantial monopoly power, they are not able to get, for any length of time, more than the

milk is worth. The surplus operates as a barometer, indicating whether lower or higher prices are justified. The farmers, by controlling the surplus, do not thereby keep it off the market and so raise prices. It goes to market in the form of butter, cheese, canned milk, and so on, and these influence the price of whole milk. The price problem is not solved, then, by the farmers' becoming their own manufacturers. The price of milk in New York compared with other prices during 4 years of Dairy-men's League powerful price-bargaining proves this point. The following graph shows that milk prices, in spite of milk strike, pooling, and manufacturing of surplus, followed the trend of all commodity prices (Fig. 14).

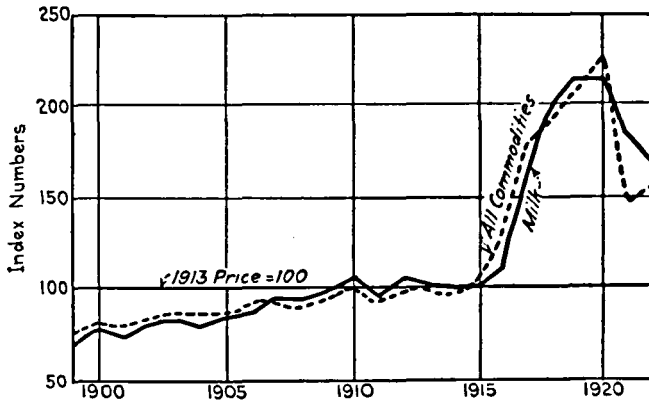


FIG. 14.—Prices of milk compared with average price of all commodities, New York City for the four years 1919–1922. The trend of milk price follows very closely the all-commodity price level. Milk price rose more slowly during the war, and fell more slowly after the war. There was a lag in both the rise and the fall.

Shall farmers own and operate milk plants for manufacturing "surplus" milk products? Or shall they discourage the production of the surplus by price penalties? Manufacturing brings them into competition with Denmark, Canada, New Zealand, Australia. The history of the milk pool and milk-marketing organizations proves that the farmers need, first of all, a strong bargaining association. The claim is sometimes made that the Milwaukee milk market is the most satisfactory from the farmer standpoint. Here the farmers are only bargainers, the dealers taking the surplus. Whether farmers can become

successful manufacturers of milk products in the United States is open to debate.

### Questions

1. Will the principles of "economic efficiency" guarantee the consumer clean and safe milk?
2. Nine sanitary principles involved in this problem.
3. Show the fourfold nature of the milk-marketing problem.
4. Give facts of milk production: number of milk cows 1890 to 1920; yield; principal milk states in order; butter; cheese; canned milk.
5. Give statistics showing seasonal nature of milk production. Explain causes.
6. Does consumption fluctuate with production?
7. Give significant facts concerning milk production; form in which utilized and per cent; per cent which is "surplus;" our daily per capita milk and butter consumption.
8. State important facts concerning our foreign trade in dairy products; cheese and butter; canned milk; our net balance of trade; our competitors; our customers; fluctuations in this trade; which part of this trade was a "war baby?"
9. Explain amount and significance of our foreign trade in whole milk.
10. To what extent is cooperative marketing used in selling milk and milk products?
11. Set forth briefly the transportation problems in milk marketing.
12. In what sense do we have problems of storage, inspection, and grading in connection with milk marketing?
13. What is meant by 92-score butter?
14. Show relation of quality to demand in dairy products. Compare statement of U. S. Department of Agriculture and leading dairy paper.
15. To what extent has the price problem led to so-called milk wars? Illustrate in detail some of the more important cases. What important principles illustrated by the New York experience?
16. Why is the "surplus" such a serious problem?
17. Give two general surplus and price plans.
18. Give the various subdivisions of these plans, as now in operation.
19. In some detail give the Pittsburgh plan. Same for Detroit.
20. Give the Twin City plan. In this connection give once more the gist in the Milwaukee-Twin City dispute (pages 183-185). State your own conclusions in the matter.
21. Give Philadelphia plan.
22. Do farmers solve the price problem by becoming their own manufacturers of surplus?
23. To what extent does the fluid-milk price follow the general-price level?
24. What is your suggestion for a milk-price plan?

## CHAPTER XIX

### COMMODITY MARKETING. 5. LIVESTOCK

(London's Meat Trade 80 Years Ago)

The great market for cattle in England, perhaps the greatest in the world, is at Smithfield, in London. This market is principally for fat cattle, sheep, and cows. It is held weekly, in the center, and in one of the worst-crowded parts of this great metropolis . . . The market opens at daylight, at all seasons of the year, and closes at three o'clock in the afternoon, at which time everything, sold or unsold, must be removed . . . The cattle, as far as the accommodations will admit, are tied by the horns or neck to long railings . . . In respect to the supernumerary animals or those for which, for want of room, no tying-place is to be had, they are often driven into small circles, and, by a great deal of severity and cruelty they are made, after being dreadfully beaten over the head and eyes, to stand with their heads turned in towards the center of the circle . . .

In the sale of sheep and cattle the business is always transacted through an accredited and established salesman, who has his regular commission upon every animal sold . . . for the sale of an ox of any value 4 shillings, or about 96 cents; of a sheep 8 pence or 17 cents . . . The state of the market, the current demand, the supply to be expected, together with the stock of the dead-meat market, and what supplies of meat already killed are to be expected, are all matters to be taken into consideration. These are all inquired into, and well known to a thoroughly intelligent and experienced salesman, but are very imperfectly understood by any other persons than those who make it their constant business to become acquainted with them.

COLMAN, HENRY, "European Agriculture and Rural Economy," vol. I, p. 304, London, 1849.

**Livestock Production.**—If the geography of the meat supply is studied, it will be observed that the United States is the world's greatest producer and consumer of meat and the world's leading exporter of meat. The movement of our livestock population, 1850 to 1920, has been rapidly westward. In 1850, the centers of population of people and of livestock were about the same. In 1920, the center of population of people was in Indiana, the same state in which it was in 1890, 1900,

and 1910. At the 1920 census, however, the center of population of swine had reached the Mississippi River; cattle, western Kansas; sheep, western Nebraska. This means that the center of population of livestock is hundreds of miles from the center of human population, and the marketing problem is affected accordingly.

Production, in the sense of flow to market, is seasonal, due to the fact that calves and pigs are born in April more than any other month; also this flow to market shows daily, weekly, monthly, and yearly fluctuations, due to a variety of causes. This seriously affects the market supply. Examine first the daily receipts at Chicago.

Table XVI gives daily receipts of cattle and hogs at Chicago for the month of December, 1924, with monthly totals for the corresponding month in 1921, 1922, and 1923. It will be noted that daily hog receipts fluctuated between a high point of 122,749 head and low point of 10,614 head—a variation of 1,200 per cent on the basis of the low day. Cattle receipts fluctuated between 34,538 and 422, a variation of over 8,000 per cent. Cattle receipts are bunched on Monday, and are small on Thursday, Friday, and Saturday. Hog receipts are bunched on Monday and Thursday. Thirty per cent of the hog receipts for the 26 market days arrived on Mondays. Only 3.7 per cent arrived on Saturdays. Less than 1 per cent of the cattle arrived on Saturdays; 41 per cent arrived on Mondays.

The table also illustrates the variations in weekly receipts. If a study is made of monthly receipts over a long series of years, equally striking fluctuations are noticeable. Hogs show much wider monthly fluctuations than do cattle. In 1924, 46 per cent of the Chicago hog receipts arrived in the 4 months January, February, November, and December. During the lightest month, September, the receipts were but 5 per cent of the year's total. During the heaviest month, December, the receipts were 14 per cent of the year's total.

Annual receipts show similar wide swings, both in cattle and hogs. The table shows yearly receipts of cattle and hogs at Chicago for the period, 1900 to 1924. It will be noted here, for instance, that the flow of cattle to market showed strange variations. In the year 1900, receipts were 2,729,000; in 1918, they were 3,790,000; in 1921, they were 2,793,000. Compare the following increases and decreases: receipts in 1905

TABLE XVI.—DAILY RECEIPTS OF CATTLE AND HOGS AT CHICAGO, DECEMBER, 1924

Showing Fluctuations in Daily Receipts

	Cattle	Hogs		Cattle	Hogs
1	33,235	91,289	17	10,333	39,496
2	16,847	69,092	18	10,477	46,314
3	14,009	51,750	19	4,627	51,704
4	11,431	87,230	20	846	13,933
5	4,762	74,320	21	Sunday	
6	1,017	10,614	22	18,655	71,780
7	Sunday	.....	23	14,699	57,313
8	34,538	82,015	24	7,015	26,999
9	14,140	46,099	25	Holiday	
10	17,483	39,829	26	7,085	47,148
11	17,542	72,766	27	933	12,988
12	5,669	62,619	28	Sunday	
13	422	16,274	29	21,845	69,461
14	Sunday	.....	30	20,688	67,503
15	28,848	122,749	31	10,754	43,455
16	7,607	61,219			
Total, December, 1924.....				335,607	1,436,029
1923.....				275,849	1,169,059
1922.....				276,710	923,449
1921.....				221,959	875,320

were 3,410,000; in 1915, 2,263,000; next year they jumped to 2,730,000; next year they jumped another half million (to 3,209,000); next year another half million—to 3,790,000 (in the year 1918). This point was the maximum ever reached in Chicago up to the year 1925. Following 1918 the receipts fell off 1,000,000 head in 3 years. In hog receipts similar gyrations occurred. In 1900 the hog receipts were 8,109,000. Twenty years later in 1920, they were 7,526,000. In 1910, they were 5,587,000. But in 1923, they were 10,460,000.

TABLE XVII.—YEARLY RECEIPTS OF CATTLE AND HOGS AT CHICAGO,  
1900 TO 1924

Showing Fluctuations in Yearly Receipts (000 omitted)

	Cattle	Hogs		Cattle	Hogs
1900.....	2,729	8,109	1915.....	2,263	7,652
1901.....	3,031	8,290	1916.....	2,730	9,188
1902.....	2,942	7,895	1917.....	3,209	7,169
1903.....	3,432	7,326	1918.....	3,790	8,614
1904.....	3,259	7,239			
1905.....	3,410	7,726	1919.....	3,002	8,672
1906.....	3,329	7,275	1920.....	3,107	7,526
1907.....	3,305	7,201	1921.....	2,793	8,148
1908.....	3,039	8,131	1922.....	3,163	8,156
1909.....	2,930	6,619			
1910.....	3,053	5,587	1923.....	3,157	10,460
1911.....	2,932	7,103	1924.....	3,203	10,443
1912.....	2,652	7,181			
1913.....	2,513	7,571			
1914.....	2,238	6,618			

The years of heavy receipts at market do not mean, necessarily, the years of low price; nor do the years of low receipts mean the years of high price. This lack of coordination between receipts and prices indicates that the consumer demand for meat often plays a more important part in price making for livestock than do the receipts ("supply") of livestock. It is, of course, the equilibrium of these two forces which is effective.

*Flow to Market.*—The flow to market of cattle and hogs is closely related to two factors: (1) date of birth; and (2) natural conditions fixing the limits of the grazing season and the availability of feedstuffs. Stock-feeding operations are, however, capable of considerable readjustment. A more even flow to market is desirable and possible. This would allow the carriers a better distribution of their stock cars, and the packers a more uniform employment of their labor force and equipment. The correlation between birth of animals and date of slaughter is shown by the following table:

TABLE XVIII.—MONTHLY RATIOS OF BIRTHS AND SLAUGHTER, PER CENT  
CATTLE AND HOGS  
United States

Month	Cattle		Hogs	
	Births, per cent	Slaughter, per cent	Births, per cent	Slaughter, per cent
January.....	4.9	8.7	3.6	12.3
February.....	7.2	6.9	6.2	9.6
March.....	14.6	7.1	16.0	8.3
April.....	19.0	6.9	21.6	7.3
May.....	16.0	7.3	15.2	8.5
June.....	8.8	7.5	7.2	8.6
July.....	4.6	7.9	3.8	6.8
August.....	4.0	8.5	4.4	5.5
September.....	6.2	9.3	9.1	5.2
October.....	6.1	10.6	6.5	7.2
November.....	4.9	10.1	3.8	9.1
December.....	3.7	9.2	2.6	11.6
Total.....	100	100	100	100

Production shows wide variations as to the time of production, as the preceding table shows. It also shows extreme variations as to the quality of the meat animals produced. Thus for a typical week, *Crops and Markets* reported cattle prices ranging from \$6.50 to \$12.50 per 100 pounds, with a scarcity of the best grades; hogs showed a range of \$9.50 to \$11 a hundredweight.

**Consumption.**—The United States beef supply is now consumed at home. Pork and lard still enter largely into export trade. In the year 1922, the United States furnished about one-third of the world's export trade in meat, while our nearest competitor, Argentina, furnished a little over one-fourth. Prior to 1895, the United States was also the greatest beef exporter, furnishing 70 per cent of the trade. Argentina now leads in beef export, due to its sparse population, good climate, and big cattle ranges. The meat products exported from the United



States, however, are still a big item of commerce. In 1923, over 2,000,000,000 pounds of meat and meat products were exported, 95 per cent of which consisted of pork and lard. This was three-fourths of the world's trade in pork products. About 10 per cent of our pork and about one-third of our lard were exported. Our competitors are Canada and Denmark. Great Britain and Germany are our two greatest consumers. Great Britain is our principal foreign customer for bacon and ham, and also takes about one-fourth of our lard exports. Germany buys American lard, taking more than one-third of our total exports. Germany also buys fat pork. Mexico, Cuba, and the Spanish-American countries are also consumers of American lard. During years of big production, our exports are large. In this way the export market acts as shock-absorber for the American hog producers, and helps maintain prices. The fluctuations in American demand for meat as between kinds of meat, cuts of meat, as between seasons of the year, and as between sections of the country, have already been discussed in the preceding chapters on consumption. At this point some of the marketing problems in meat production and consumption will be considered.

**Marketing Problems of Livestock.**—Producers of livestock have three general methods of marketing:

*Farm-prepared Meats.*—Investigations conducted by the U. S. Department of Agriculture show that one-tenth of the beef cattle, about one-third of the hogs, and one-twentieth of the sheep and lambs, are slaughtered on farms and ranges.

*Local Butchers and Packers.*—In the extreme eastern, southern, and western sections of the country, there is a much-observed custom of selling to a local butcher. This is particularly important for beef and culled dairy cows. Corn-fed beef from the central packing houses, however, being superior to most of this beef in quality, is able to compete successfully with local beef. The refrigerator car and branch-house service of the larger meat packers makes possible fresh beef from prime beef steers in any part of any state in the Union. Municipal abattoirs in Houston, Tex., Grand Forks, N. D., and a few other cities, furnish sanitary places for local slaughter. Many local slaughter houses, however, are inadequately furnished with ordinary sanitary equipment and inspection service. For the United States as a whole, Federal investigation shows that one-third of

the beef cattle, about one-twelfth of the hogs, and one-eighth of the sheep and lambs, are sold for local slaughter.

*Public Stockyards and Packing Centers.*—The largest single factor in the marketing of meat animals in the United States is the system of centralized livestock markets. It has now become customary to speak of the "big packers" and the "small packers." At the time of the *Garfield Report* on the "Beef Industry (1905)," there were the "Big Six;" at the time of the *Report of the Federal Trade Commission* on the "Meat Packing Industry (1919)," there were the "Big Five." By 1923, there were the "Big Four." One of these companies successfully passed through a period of refinancing during the year 1924, but it appeared for a time that there would be left in the field a "Big Three." The American Institute of Meat Packers consists of some 200 packers, large and small. The census reports some 1,300 meat-packing establishments; 300 of these do a business of over \$1,000,000 each annually. Federal estimates show that about one-half the beef cattle, about two-thirds of the hogs, and four-fifths of the sheep and lambs marketed, pass through the large central markets.

*Central Markets.*—With shift of livestock production westward came a corresponding growth of the great central markets. Cincinnati as the great packing center lost its primacy; there developed four dominating markets, the smallest of which is larger than any other market in the world. These markets are Chicago, Kansas City, St. Louis, and Omaha. Market papers usually quote receipts and prices on three additional markets, St. Joseph (Mo.), Sioux City (Iowa), and St. Paul. In addition to these great livestock markets and packing centers, there are the following large packing markets: (1) West—Indianapolis, Milwaukee, Cincinnati, Ottumwa, Cedar Rapids, Cleveland, Wichita, Detroit, Fort Worth, Oklahoma City, Pittsburgh, Austin, Sioux Falls, Mason City (Iowa), Waterloo (Iowa), Los Angeles, San Francisco, Seattle, and 101 other places of some importance. (2) East—Boston, Buffalo, Newark, New York, Jersey City, Philadelphia, Baltimore, and 18 other points of some importance.

*Meat Packing a Large-scale Industry.*—Meat packing is both a large industry and a large-scale industry. According to the 1920 census, the leading manufacturing establishments of the United States, ranked in order of the value of their product, were as follows:

Name	Value of product
1. Slaughtering and meat packing.....	\$4,246,290,614
2. Iron and steel, steel works, rolling mills.....	2,828,902,376
3. Automobiles.....	2,387,903,287
4. Foundry and machine-shop products.....	2,289,250,859
5. Cotton goods.....	2,125,272,193
6. Flour and grist mill.....	2,052,434,385

These statistics prove the economic supremacy of the meat-packing industry. Meat packing is a large-scale industry, since the four "Big Packers" kill 70 per cent of the livestock slaughtered by all packers engaged in interstate commerce. This furnishes an economical method of getting the livestock of the West to the consumers of the East. Large-scale production has five advantages: (1) division of labor; (2) utilization of by-products; (3) better transportation, routing, and distribution; (4) inspection by Federal authorities, not feasible at small plants; (5) side lines handled economically with same equipment. Refrigerator cars hauling meat also carry eggs, poultry, butter, etc.

*Transportation.*—There are two transportation problems in the marketing of livestock and meat—the initial shipment of livestock to the central market, and the shipments of the fresh and cured meats and meat products to point of final consumption. Consider meat transportation first. The large packers were the first to put into use the refrigerator car. These cars were first built and operated experimentally by the packers. Eventually a large number of these privately owned cars were put into use in connection with the meat-packing business. While there has been, and still is, some controversy over the wisdom of permitting packers to own this important factor in transportation, the packers have thus far made good their claim of cheaper, wider, and better distribution of products by means of the private car lines. By sending the private refrigerator cars to their own icing station, and to their branch houses for unloading, they secure faster, prompter, and more dependable service. The criticisms of this service have come from competitors who hold, not that this is poor service, but that it is a superior service with which it is hard to compete.

In transporting livestock by rail, criticisms have centered about the freight rate, the speed of stock trains, the delay in receiving cars, loss and damage in transit, and shrinkage in transit. Into the rate controversy it is not wise to enter here. The shipper ought to know the rate, and also the minimum weights per car and car lengths. In the principal livestock shipping states about 10 per cent of the shippers complain that they do not get cars promptly; about 25 per cent complain that they do not get good train service. Under the Federal 28-hour law, livestock on trains which cannot reach the destination in 36 hours must be unloaded, fed, and watered. Railroads which have heavy long-distance shipments provide feeding-in-transit stations for this purpose. The charge for this service varies. The loss and damage claims on livestock amounts to very large sums. In 1 year these claims amounted to about 5 per cent of the revenue on this class of business. According to the Interstate Commerce Commission, the following are the chief causes of loss and damage:

TABLE XIX.—CAUSES OF LIVESTOCK LOSS AND DAMAGE IN TRANSIT  
Claims Paid

Causes	Per cent	Causes	Per cent
Delays.....	38.76	Fire.....	1.57
Unlocated damage.....	21.14	Concealed damage.....	0.11
Rough handling of cars...	19.28	Robbery.....	0.08
Wrecks.....	8.70	Improper ventilation....	0.02
Errors of employees.....	3.54	Concealed loss.....	0.01
Unlocated loss.....	2.74		
Improper handling and loading.....	2.17		
Defective equipment.....	1.88		
	—	Total.....	100

According to these statistics 73.73 per cent of the claims paid were due to carriers; 2.17 per cent to shippers; and 24.1 to either, according to circumstances. The Bureau of Animal Industry made a study of the shrinkage in weight of beef cattle in transit, and found that the class of cattle and the length of the haul were the important variables, the shrinkage ranging from 2 to 7 per cent. In recent years an active campaign has been carried on to

reduce the death rate among animals en route to market, and to reduce damage due to cut hides and bruises of the flesh, due to severe whipping and beating. The shipper is being taught to cooperate more closely with the carrier by ordering cars well in advance, and to see that the car is properly bedded with straw, sand, sawdust, hay, or other suitable bedding. Carriers usually permit one caretaker for one car of stock to ride free on the stock trains.

*Stockyards.*—Livestock arriving at a central market is delivered by the carrier to the stockyard company; employees of this company unload the stock and place it in a pen. The stockyards company performs indispensable market functions: receiving of livestock; furnishing shelter, feed; quarantine service; weighing; delivery to buyers; loading of livestock on cars when bought for further shipment by rail; furnishing of offices, buildings, and other physical equipment. For these services charges are made, and deducted from the price paid to the producer. Stockyard companies do not buy or sell stock.

*Credit.*—Although the livestock business is strictly cash at the terminal market, yet at both the producer's and the packer's ends it is largely a credit business. The packers buy the livestock and pay cash. They sell the meat on credit. The producer, in turn, has probably borrowed money at a country bank, or through a city cattle-loan company, in order to finance his feeding operations. Liberal provisions have been made through Federal legislation for financing the producer with either short-time or intermediate credit, as his needs require. Packer financing for short-time turnover is a matter for the commercial banks. An average day's business in Chicago means a run of 30,000 hogs, costing \$500,000 and 10,000 cattle, costing \$1,000,000. Cash outlay for the day is \$1,500,000. It will be something like 30 days or more till the packers can sell meats and collect payment to reimburse themselves for this outlay. "Packers' paper" in the form of notes or other commercial paper, however, is a standard, liquid security, and sells at the rates prevailing for loans of this type.

*Price.*—Owners of livestock, according to the rules of all livestock exchanges, may sell their own stock direct to the buyers who visit the pens, or in any other way they see fit. Yet in practice the selling is almost universally done through an agent known as a commission merchant. His commissions are fixed

by the rules of the exchange. The commission merchant, by his experience, knows the various buyers and the type of demand they represent. There are five types of buyers to constitute competition in bidding.

1. *The Packers.*—The packers buy enough to meet their market requirements and fit the capacities of their plants. They are able to use every class and grade of livestock for some purpose. They are, of course, the principal buyers and for that reason they are sometimes said to “dominate” the market. Yet there is enough competition to prevent them from dominating the market, although they are the chief factors on the buying side. A survey made in 1921 at 12 large markets, showed that 69 per cent of the total receipts were slaughtered at those points, and 31 per cent taken by other buyers.

2. *City Butchers.*—In every city there are many retail meat markets, owned and operated by local butchers. These butchers buy many live animals. Small lots of livestock, two or three head lots, find their chief demand from such butchers. In large centers of population these retail meat-market men do a considerable part of the buying.

3. *Order Buyers.*—Order buyers buy fat livestock for packers located at a distance from the market on which they operate. Some markets (like Sioux Falls, S. D.) receive shipments far in excess of local packing requirements. Buyers are present who execute buying orders for packers in other centers. Hence the name “order buyers,” for they buy only on orders. The effect of their buying is to support prices in markets which would otherwise get out of line with general market conditions.

4. *Speculators: Scalpers.*—The buyers who buy livestock on the central market for the purpose of selling it again at higher prices are called speculators or scalpers or traders. Their profits (or losses) are purely speculative. The value of the speculator’s services here is much debated by farmers, commissionmen, and packers. The packers object to the speculator on the ground that he picks up the “bargains” and tends to force prices up. Speculators are likely to operate on days of heavy receipts when prices are weak; they expect to hold a day or two and sell when receipts are light.

Commissionmen believe the speculator helps the market by buying when prices are breaking; this supports the price; it also makes competition for the packers.

The speculator performs one service in addition to price speculation; he buys mixed lots of hogs (particularly on the Chicago market), of all classes and grades. He sorts them and makes them into uniform lots which command higher prices at the hands of the packers. The farmers criticize the speculator for being another "middleman" taking toll. But the service of sorting and selling in uniform classes and grades is a service which is worth more than it costs the farmer.

5. *Buyers of Stockers and Feeders.*—Much livestock coming to market is not "finished," that is, is not ready for slaughter. Many cattle, sheep, and hogs, are bought by feeders, shipped back to the country, and fattened. Then the corn belt needs more livestock than it produces. Grass-fed sheep and cattle are frequently too thin for slaughter. This "stocker and feeder" stuff is bought by farmers and fattened on corn. Markets now handling large numbers of stocker and feeder cattle are Kansas City, Omaha, Chicago, St. Paul, Sioux City, Denver, and Fort Worth. Now that hog cholera is subject to control by vaccination, stocker and feeder pigs are also shipped back to farms. The leading markets for this business are St. Paul, Kansas City, St. Louis, and Fort Worth, while other markets also do an important business.

The five competing buyers, then, are packers, city butchers, order buyers, speculators, handlers of stockers and feeders.

*Grades.*—Owing to the inherent difficulties involved, there are no official grades of livestock. But there are market grades recognized by the trade and used in the trade papers in reporting prices. Animals fall into three different divisions and subdivisions as follows: 1, kind; 2, class; 3, grade. Kind indicates the species—whether cattle, sheep, hogs. Class refers to the subdivision of use to which animal will be put—such as beef steer, butcher stock, canner. Grade has reference purely to quality. There are five grades, according to market usage:

First grade—Prime.

Second grade—Choice.

Third grade—Good.

Fourth grade—Fair.

Fifth grade—Common.

The main classes of cattle are beef steers (*i.e.*, killed for beef); butcher stock (cows, heifers, stags, and bulls, suitable for local butcher's trade); canners (old cows, some heifers, bulls, stags,

calves, too poor and thin for beef; good for canning); cutters (those partly used for canning, partly used for beef, particularly round steaks and loins); veal calves; stockers and feeders; milkers and springers (cows already in milk or soon to freshen).

The main classes of hogs are prime heavy; butcher hogs; packing hogs; light hogs; pigs; stocker and feeder pigs.

*Price Determination.*—Meat is a perishable commodity. Much of the carcass is, and must be, sold as fresh meat. It cannot, therefore, be withheld from market for long periods. Certain products, such as ham, lard, bacon, on the other hand, may be held many months. If attention is directed to the general factor of

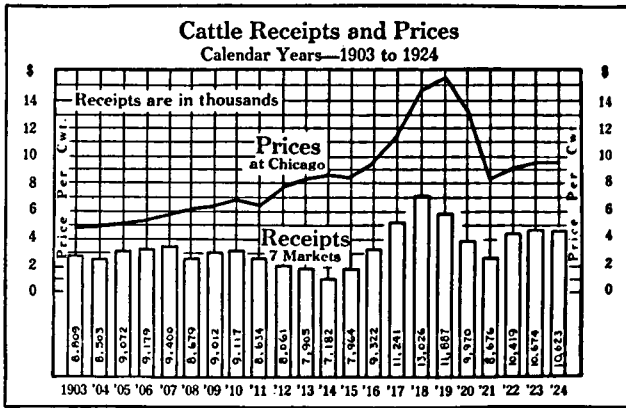


FIG. 15.—Correlation of receipts and prices, cattle, for 22 years. It will be noted that the "supply" (the receipts) do not govern the price movement. The demand must be taken into consideration. (Reproduced, by permission, from *Swift & Company 1925 Year Book.*)

supply and demand, it is at once apparent that the demand for meat from day to day and week to week is uncertain, and is not subject to control by the packers or any other concerted influence. And conversely, the flow of livestock to market is chaotic and uncoordinated with the demand for meats. See Figs. 15 and 16. The packers and other buyers are, therefore, bargaining over price between these two variables. All livestock coming to market is bought at some price. All meat produced is sold at some price. While there are here, as elsewhere, certain bargaining advantages going to the party possessing most skill or knowledge or reserve power, yet the actual price level is set by



the general economic conditions of supply and demand. The 1925 *Yearbook* of one of the big packers reports a loss of \$8,000,000 in the year 1921, due to selling meat at less than the livestock had cost.<sup>1</sup> The packer was not able to control the price of either the livestock bought or the meat sold.

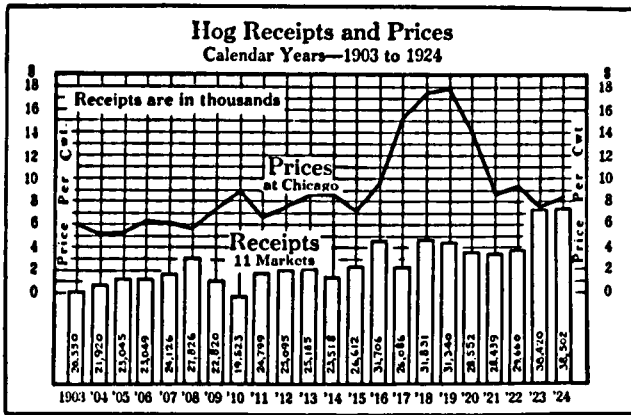


FIG. 16.—Correlation of receipts and prices, hogs, for 22 years. It will be noted that the "supply" (the receipts) do not govern the price movement. The demand must be taken into consideration. (Reproduced by permission, from Swift & Company 1925 Year Book.)

**Cooperative Marketing of Livestock.**—Cooperative commission houses have been established in all the large markets. They do not belong to the exchange and are not subject to its rules. They charge the same commissions as are fixed by the exchange, but return a part as a patronage dividend to their shippers.

**Livestock Shipping Associations.**—Farmers' local cooperative shipping associations now have an annual business of about \$250,000,000, and hence rank with grain and dairy products as among our most important cooperative marketing associations. They are the simplest type of cooperatives; less than half are incorporated; only 8 per cent have contracts with their members. There are about 1,600 of these associations in the United States, Iowa and Minnesota being the leading states as to numbers. In June, 1924, their numbers were as follows: 334 in Iowa, 302 in Minnesota, 145 in Illinois, 139 in Wisconsin, 102 in Missouri, 92 in Indiana, 88 in South Dakota, 82 in Michigan, 66 in Ohio,

<sup>1</sup> 1925 *Yearbook*, p. 34, Swift and Company, Chicago, Ill.

62 in North Dakota, 24 in Nebraska, 24 in Kansas, 13 in Montana, and 69 in all other states. About one-third of the associations were formed in the years 1919, 1920, and 1921. A few earlier ones began in 1905. They have an educational value, showing the producers the demands of the central markets. They result in better production and better prices.

**Government Regulation.**—In two ways the Federal government is regulating the livestock and meat industry. One is for public health; the other is economic in nature.

To safeguard public health, animals are slaughtered under the most rigid inspection. The *ante-mortem* inspector culls out diseased animals, or animals under suspicion of being unfit for food. They are given close scrutiny. If further tests show them unfit, they go to the fertilizer tank. If fit, they may be slaughtered. The *post-mortem* inspection of the carcass, during or after the slaughtering process, covers (1) the lymph glands of head and neck; (2) the internal organs; (3) all surfaces. Carcasses found free from all abnormal conditions harmful to food products, are stamped "United States Inspected and Passed." Animals shipped out alive for further feeding, are likewise subject to rigid inspection and quarantine requirements. Hogs must be vaccinated for hog cholera, and be dipped or sprayed with disinfectant; cattle and sheep are dipped and otherwise treated, as needed.

The Packers and Stockyards Act of Aug. 15, 1921, gave the Secretary of Agriculture power to supervise the operations of packers and stockyards and "market agencies;" also power to issue rules and regulations. The Act declares it unlawful for packers to engage in unfair, discriminatory, and deceptive practices tending to restrain trade or create a monopoly, or manipulate or control prices. Rates charged by stockyard companies are to be "just, reasonable, and non-discriminatory."

#### Questions

1. Give a word picture of London's cattle market 80 years ago.
2. Why did farmers at that time use salesmen rather than "direct marketing?"
3. Give significant facts as to geography of meat supply. Cite centers of population, market significance.
4. Show causes and extent of fluctuations in flow of livestock to market; daily; weekly; monthly; yearly.
5. Show relationship between receipts and prices? Cite statistics.
6. Is there any method of stabilizing "flow" to market?

7. Show fluctuations in quality of meat produced.
8. State main facts about meat consumption: United States beef and pork products; export demand; our competitors and our customers.
9. Show three general methods of marketing livestock.
10. Show percentage of each meat marketed by each method.
11. What is the largest single factor in the marketing of meat animals in the United States?
12. What is meant by the "Big Six," the "Big Five," the "Big Four?"
13. What is the American Institute of Meat Packers?
14. Explain the evolution of the great central livestock markets.
15. In what sense is meat packing a large-scale industry?
16. Show five advantages of large-scale production.
17. Explain the transportation problems in marketing livestock and meat  
How well solved?
18. Should packers own private car lines? Their reasons?
19. What is the Federal 28-hour law?
20. Show amount and causes of loss and damage in transit?
21. Suggest ways and means of reducing losses in transit.
22. What services are performed by stockyard companies?
23. Show in what ways the livestock business is cash and in what ways a credit business.
24. How is credit furnished?
25. Name five types of buyers of livestock at the terminal market: services of each.
26. To what extent is there competition, and to what extent market "domination?" Be specific.
27. What is the effect of the speculator here on the farmer's price?
28. Are there official grades for livestock? Reasons?
29. Explain these commercial terms: kind; class; grade. Give the five commercial grades.
30. Show relationship between price and supply and demand. Relationship of so-called packer control and price. Facts as to packer profits and losses.
31. Give place of cooperative marketing of livestock. Two aspects. Form of organization. Success.
32. In what two ways does the Federal government regulate the livestock and meat industry?

## CHAPTER XX

### COMMODITY MARKETING. 6. EGGS

The early method of marketing eggs from the farm was to bring them to the country merchant who received certain farm products in trade for groceries, dry goods, or other wares for sale in the store. This method proved very helpful to the average farmer under pioneer conditions . . . The most striking fact relating to the care of poultry and eggs under this earlier type is the utter lack of attention given to it . . . It was not regarded as a man's job, but was usually left to the housewife or children . . . During those early years the risk involved in handling eggs was very great. In disposing of eggs commission men were constantly confronted with complaints from city retailers on account of the quality of the eggs furnished. On the other hand, the country merchant was dissatisfied because of the low price received . . . We have noted how the commission man was the sole intermediary for shipments to primary markets during earlier years. As the field of buying and selling gradually widened, however, with improvements in transportation and cold storage, and as the resulting conditions of marketing became relatively more secure, another class of middlemen—the jobber or cash buyer—was attracted into the business . . . Jobbing has well nigh displaced the business of commission merchants in the primary markets of the central West.

THOMPSON, C. W., "Studies in Egg Marketing," *Univ. Minn. Agr. Exp. Sta., Bull.* 132, April, 1913.

While the egg is one of the most fragile and perishable of all farm products; yet it forms a very substantial item in both domestic and foreign commerce. England, for instance, imports eggs from countries many hundreds, and even thousands, of miles distant. The United States, an egg-surplus and an egg-exporting country, imports certain types of eggs from China and Australia. The United States puts on the market 50,000 cars of eggs a year. Few people realize, unless they have studied the question, that our annual poultry and egg crop has more value than our wheat crop. This is because poultry is a side line on so many farms.

**Egg Production.**—On 6,000,000 farms in the United States are found 474,000,000 chickens, producing 24,000,000,000 eggs

a year. Since these astronomical figures are hard to comprehend, the matter may be stated this way: There are now four chickens per capita, and these chickens lay 210 eggs a year for every person in the United States. Each person must consume four eggs a week to have his exact portion. According to best estimates, however, 10 per cent of our eggs are consumed in New York City.

Where are the eggs produced? They come from farm flocks or from poultry farms. The farm flocks are, generally speaking, in the corn belt, and the poultry farms are on the Atlantic seaboard and in California. On the Pacific coast the climate is especially favorable for egg production. The center of this industry is at Petaluma. The flocks are of large size, many containing from 10,000 to 20,000 hens, and one having 40,000. Ranches producing eggs do not hatch any chickens themselves. Chicks are bought from large commercial hatcheries. Egg production is conducted scientifically on the factory plan. These California eggs are marketed in San Francisco and New York, but not in Chicago, Chicago being the center of a surplus area. Large poultry farms are found about Boston, New York (on Long Island), in New Jersey, and in Philadelphia. In spite of these great poultry farms, however, the bulk of the market eggs still come from the miscellaneous and heterogeneous farm flocks.

In the year 1909, Missouri led in egg production; in 1919, Iowa. The two Federal censuses showed some interesting shifts in egg production, but with states in the Middle West on the whole showing substantial increases. The statistics are given in the following table:

TABLE XX.—LEADING EGG STATES ARRANGED IN ORDER OF 1909 AND 1919 PRODUCTION

1909 production		1919 production	
State	Millions of dozens of eggs	State	Millions of dozens of eggs
Missouri.....	111.8	Iowa.....	120.7
Iowa.....	109.8	Missouri.....	117.2
Ohio.....	100.9	Illinois.....	105.8
Illinois.....	100.1	Ohio.....	102.4
Kansas.....	81.7	Indiana.....	83.1
Indiana.....	80.8	Kansas.....	76.1
Texas.....	77.7	Pennsylvania.....	76.0
Pennsylvania.....	74.7	Texas.....	70.6
New York.....	72.3	California.....	64.1
Michigan.....	59.9	New York.....	62.2
Minnesota.....	53.8	Minnesota.....	60.2
Wisconsin.....	50.6	Michigan.....	56.0
Nebraska.....	46.9	Wisconsin.....	53.2
Oklahoma.....	56.0	Nebraska.....	49.1
Kentucky.....	44.3	Tennessee.....	48.7
Tennessee.....	42.0	Oklahoma.....	45.4
California.....	41.0	Kentucky.....	42.2
Virginia.....	35.1	Virginia.....	36.6
Arkansas.....	27.1	South Dakota.....	30.4

Most eggs are produced where population is relatively sparse. This gives an egg surplus which must find consuming markets over a thousand miles away. A study of the following table will show that New York's egg supply (with the exception of 10 per cent from New York and Pennsylvania) comes largely from Illinois, Iowa, and Indiana. Chicago in turn, calls upon Missouri; Philadelphia upon Illinois; and Boston upon Illinois.

TABLE XXI.—NUMBER OF CASES OF EGGS RECEIVED AT THE FIVE PRINCIPAL MARKETS FROM DIFFERENT STATES DURING 1922. (U. S. D. A.)  
A Carload of Eggs Consists of Approximately 400 Cases

Origin	New York	Chicago	Phila- delphia	Boston	San Fran- cisco	Total
Alabama.....	7,038	405	2,586	0	0	11,019
Arkansas.....	8,825	13,604	5,800	0	0	28,229
California.....	354,068	0	0	0	822,913	1,176,981
Colorado.....	0	5,509	0	0	0	5,509
Connecticut.....	4,429	0	0	0	0	4,429
Delaware.....	51,506	0	46,200	0	0	97,706
District of Columbia.....	9,422	0	25	0	0	9,447
Georgia.....	2,391	0	0	0	0	2,391
Idaho.....	0	0	0	0	2,390	2,380
Illinois.....	1,378,846	310,494	273,784	709,510	0	2,672,634
Indiana.....	726,323	9,312	149,119	320,303	0	1,205,057
Iowa.....	921,046	843,515	70,921	141,971	0	1,977,453
Kansas.....	221,820	532,362	47,928	83,347	0	885,466
Kentucky.....	143,380	17,645	14,829	20,040	0	195,894
Maine.....	0	1,600	0	98,734	0	100,334
Maryland.....	83,611	0	67,546	78	0	151,235
Massachusetts.....	8,574	0	2,458	24,039	0	35,071
Michigan.....	99,713	18,030	145,183	42,482	0	305,408
Minnesota.....	217,004	461,594	62,639	108,021	0	849,258
Mississippi.....	3,713	11,553	11,128	0	0	26,394
Missouri.....	437,520	1,045,189	152,184	99,680	0	1,734,582
Montana.....	0	893	0	0	0	893
Nebraska.....	37,517	352,119	14,823	19,048	0	423,507
New Hampshire.....	0	0	0	38,463	0	38,463
New Jersey.....	134,279	0	2,223	0	0	136,502
New York.....	490,801	784	17,448	40,091	0	549,124
North Carolina.....	4,141	0	801	0	0	4,942
North Dakota.....	0	22,948	425	386	0	23,759
Ohio.....	514,248	1,648	148,800	108,429	0	773,125
Oklahoma.....	15,430	103,382	2,805	7,107	0	128,724
Oregon.....	14,911	0	0	0	7,280	22,191
Pennsylvania.....	265,014	1,404	146,912	4,893	0	418,223
Rhode Island.....	2,648	0	0	1,234	0	3,882
South Dakota.....	30,066	404,742	14,270	9,349	0	458,427
Tennessee.....	251,241	25,710	61,015	7,234	0	345,200
Texas.....	65,036	22,192	10,934	0	0	98,162
Vermont.....	0	0	0	37,170	0	37,170
Virginia.....	64,604	0	143,880	0	0	208,484
Washington.....	143,175	3,200	600	0	5,357	152,332
West Virginia.....	6,842	0	26,666	0	0	33,508
Wisconsin.....	53,681	473,819	28,853	10,999	0	567,352
Canada.....	12,829	0	0	2,748	0	15,577
Miscellaneous <sup>1</sup> .....	34,469	158	34,152	34,798	0	103,577
<b>Total.....</b>	<b>6,821,079</b>	<b>4,683,901</b>	<b>1,706,937</b>	<b>1,970,154</b>	<b>837,930</b>	<b>16,020,001</b>

<sup>1</sup> Under miscellaneous is included small daily shipments received from different states.

The long haul of fresh eggs to big markets creates a serious transportation problem for the carriers. By means of the modern refrigerator car, however, the eggs are kept from any considerable deterioration.

When are eggs produced? Eggs are a seasonable product, half the year's supply being produced in 3 months—from the middle of March to the middle of June. Cold storage is necessary to take care of the surplus. Winter production of eggs is slowly increasing. The use of electric lighting on many poultry farms has an appreciable effect in increasing the winter supply of fresh eggs. But the burden of equalizing supply throughout the year to meet the 12 months' demand falls on the wholesalers and storsers of eggs in cold storage. The best eggs of the year are the spring eggs. A part of these move into immediate consumption through regular channels. The rest are carefully candled, packed in new cases of clean white wood, with new fillers and flats, and placed in cold storage. There they are held till fall and winter, when there is an egg shortage. Eggs thus packed for storage in new cases of odorless white wood, new fillers and flats, are called "storage packed," and sell for better prices than ordinary packed or so-called "refrigerator eggs." Seasonal production and seasonal flow into cold storage are represented in the following graph, and also the stabilizing effect on price of such storage:

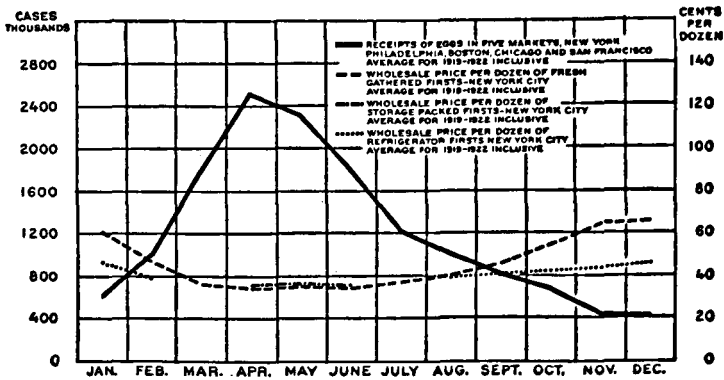


FIG. 17.—The price of eggs rises as receipts fall off and falls as receipts increase. Storage-packed eggs bring a slightly higher price, due to the better packing. The price of refrigerator eggs rises and falls with the price of fresh eggs, but within a narrower range. (*U. S. D. A. Farmers Bulletin, No. 1378. "Marketing Eggs."* By Slocum, Robert R., March, 1924.)



**Egg Consumption.**—With the improvement in the quality of the egg has come an increase in consumption. In no other class of food, unless it be fish and milk, is deterioration, under certain conditions, so rapid and so deleterious to health. And it is equally true that eggs, like milk, are one of the best forms of food—under right conditions. The wide range of quality of eggs on the market is indicated by the day-to-day price quotations in the trade papers. To illustrate: Take a typical day as reported in the *Producers' Price Current* (of the Urner-Barry Company of New York—a market news agency whose quotations merit confidence). Prices ranged from 34 to 70 cents a dozen as follows:

	CENTS	
Jersey and other near-by hennery whites		
closely selected extras.....	69	to 70
Near-by and near-by western hennery		
whites, average extra.....	67	to 68
Pacific coast whites, extras.....	66½	to 67½
Near-by whites, medium.....	62	to 64
Firsts.....	59	to 61
Pacific coast pullets.....	57	to 59
Seconds.....	55	to 58
Dirties, No. 1.....	46	to 48
Mediums.....	45	to 48
Refrigerator firsts.....	45½	to 46½
Checks.....	41	to 43
Refrigerator checks.....	34	to 36

**Losses.**—The losses due to shipping bad eggs are enormous. These losses are very largely due to careless production methods on the farm. A Minnesota bulletin records three shipments of eggs, and found the grades and losses to be as follows:

FIRSTS, PER CENT	SECONDS, PER CENT	CHECKS, PER CENT	ROTS, PER CENT
67	19	8	6
73	10	10	7
86	7.5	1.5	5

The Minnesota studies showed a loss of 17 per cent due to poor quality of eggs. A New Jersey study (in the year 1919) reported an 18 per cent loss on egg shipments, as follows:

	PER CENT		PER CENT
Dirty eggs.....	2	Shrunken or old.....	5
Breakage.....	2	Rotton.....	2.5
Chick development.....	5	Moldy, bad flavor.....	1.5

*Grades.*—The grades of eggs are known as “commercial grades,” since they are the grades fixed by the trade itself. In practice this means that the New York Mercantile Exchange (an organization composed mostly of wholesale dealers) has formulated grades for that market; the Chicago Mercantile Exchange for that market; and so on for all the large markets; also that the National Poultry, Butter, and Egg Association has formulated a set of grades. These grades are not uniform. In all markets, however, the two divisions are made: (1) class; (2) grade. There are three classes recognized by the national association, namely: (1) freshly gathered eggs; (2) storage-packed eggs; (3) refrigerator eggs. Grades are based on quality, cleanliness, size, and loss per case. In New York there are eight grades recognized, as follows:

- |                  |                   |
|------------------|-------------------|
| 1. Extras.       | 5. No. 1 dirties. |
| 2. Extra firsts. | 6. No. 2 dirties. |
| 3. Firsts.       | 7. No. 1 checks.  |
| 4. Seconds.      | 8. No. 2 checks.  |

The tolerance of loss varies from grade to grade. Loss is due to all rotten, broken (leaking), spots, frozen yolked, frozen (split), hatched (blood-veined), and sour eggs. It will be noted that eggs grading “Firsts” are really third-grade eggs. But since no two eggs are exactly alike, it is extremely difficult to work out laboratory grades for eggs which would be workable under commercial conditions.

The consumers’ preference for brown eggs in Boston and white eggs in New York has already been discussed in Chap. II, also the fluctuation in demand. This color preference, it must be added, is disappearing.

*Foreign Trade.*—Foreign trade in eggs means two things to the United States: foreign buyers or consumers of our eggs; foreign producers who compete with us by shipping eggs into the United States. There is a high tariff on eggs, yet there is a certain amount of importation. The Chinese egg comprises the chief import, but this egg can hardly be said to compete for table use with American fresh or refrigerator eggs. It is used mostly for industrial purposes. The following table shows exports and imports for a period of years, with fluctuations and the net exports:

TABLE XXII.—FOREIGN TRADE IN EGGS AND EGG PRODUCTS FOR 5 YEARS,  
IN DOLLARS

	1917	1918	1919	1920	1921
<i>United States egg imports:</i>					
Eggs.....	\$ 314,419	\$ 263,227	\$ 394,629	\$ 618,000	\$ 923,000
Egg albumen.....		503,154	6,061,114	4,593,000	1,160,000
Egg yolks or frozen eggs.....	3,559,504	2,459,552	8,469,987	7,234,000	2,167,000
Total.....	\$3,873,923	\$3,325,933	\$14,925,730	\$12,445,000	\$ 5,250,000
<i>United States egg exports:</i>					
Eggs.....	\$7,270,543	\$8,428,214	\$18,812,231	\$13,569,000	\$10,811,000
Egg yolks.....	101,112	718,066	131,747	132,000	156,000
Total.....	\$7,371,655	\$9,146,280	\$18,943,978	\$13,701,000	\$10,967,000
Net exports.....	\$3,497,732	\$5,820,247	\$ 4,018,248	\$ 1,256,000	\$ 5,717,000

**Marketing Problems of Eggs.**—The marketing problem for eggs is constantly undergoing changes as production methods become better standardized. The “middleman’s toll” is decreasing, just as better, cleaner, fresher, more uniform and infertile eggs are being delivered by the producers; as candling takes place nearer point of production; and as transportation, storage and credit services are cheapened.

**Transportation.**—Car-lot shipments of eggs are cheaper than “l.c.l.” (less than car-lot) shipments. Train-lot shipments are faster, hence better and cheaper, than car-lot shipments. Long-distance shipments are made in refrigerator cars. Local shipments are usually made either by automobile truck or by express cars attached to regular passenger trains. These short hauls usually expose the eggs to great heat in the summer months, and hence to deterioration.

**Storage.**—The holding of eggs in cold storage is a fundamental marketing service, entirely legitimate and highly beneficial to both producer and consumer. In his period of heaviest surplus production the farmer finds a strong buyer in the storer of eggs. While the stored eggs amount to hundreds of millions of dozens, yet only about 12 per cent of the egg crop is stored. By removing the pressure of this surplus in the spring, prices to the producer are supported. By adding this surplus to the market in the winter the brake is put on a rising market. Cold storage, therefore, makes prices higher when farmers are selling;

it keeps prices down when farmers are not selling. Storage is the great stabilizer of price. The egg which goes into storage in good condition comes out of storage in good condition. The spring egg possesses excellent keeping qualities and is distinctly better than the August egg. Hence most storage eggs are spring eggs.

*Types of Dealers.*—Eggs pass through the hands of four types of middlemen, generally speaking, on their way from farm to city consumer, as follows: (1) huckster or the country store; (2) shipper or broker or wholesale receiver; (3) jobber or hotel-supply house; and (4) retail store. If the farmer has less than one case of eggs (30 dozen) he will likely turn them over to the huckster (the country pick-up man) who calls at his door, or take them himself to the country store. If he has one or more cases, he will likely sell them to a shipper, or ship them himself direct to a city receiver—a commission merchant or a wholesale buyer. The commission merchant was (and is) necessary in those cases where uncandled, ungraded, mixed lots of farm eggs arrive direct from country stores or hucksters. In some markets, however, such as Minneapolis, the commission merchant for eggs has disappeared, because a better egg, involving less risk, is marketed through jobber or broker. This has reduced the charge from about 10 to 2 per cent. The jobber enters the market and buys to meet the needs of his retail customers, with their individual and specialized requirements. The retailer is the last link before final consumer is reached. The shipper, owning an egg business at country shipping points, may move the eggs through a broker to a wholesaler. The storer of eggs may be a regular wholesaler, shipper, or jobber. Chain stores are retailers, but they buy in such volume that they rank with the large wholesaler. These various channels of distribution make the egg business a genuinely competitive one. A new method of selling now coming into use in New York City is the egg auction.

*Egg Auction.*—The egg cooperative-marketing association of the Pacific states—California, Oregon, and Washington—made arrangements to market part of their supply by means of a public auction in New York City. This was, of course, an innovation in the egg trade. It was recognized, however, that a highly standardized product like the Pacific white egg lends itself readily to this form of marketing. In November, 1922,

the Pacific Coast Cooperative Poultry Producers' Association, through their Pacific Egg Producers' Cooperative, Inc., began the egg auction. A large number of buyers congregate together in the auction room. There is competition in bidding. Supply and demand factors register their due influence on price. The Pacific Egg Producers represent 8,000 growers, with 5,000,000 hens. The eggs are infertile. The eggs show exceptional uniformity, due to high degree of standardization of the breed and the methods on the Pacific coast. During 1923, the Pacific Egg Producers sold 51 per cent of all the shipments from the entire Pacific coast to New York—or about 10 per cent of New York's total egg receipts. This auction was inaugurated with an expert in poultry husbandry as sales manager. Among the new trade practices introduced by this auction were the granting of trade discounts (1 to 8 cents per case) to regular weekly customers, and the privilege of bidding at the auction over the telephone. On some occasions as high as 20 per cent of the sales were made over the telephone. The relation of the Pacific Egg Producers' Cooperative, Inc., to credit is indicated by the following incident. A small amount of working capital, about \$20,000, was advanced to the auction agency by the member association at the beginning of 1923, but this sum proved wholly inadequate. A scheme had to be worked out to borrow from the banks to pay drafts drawn by some of the associations against their shipments. Arrangements were made with the Bank of America to borrow, first \$100,000, then \$150,000, and later up to \$200,000 on trade acceptances. These trade acceptances are orders or drafts drawn by the member associations, against their shipments, drawn on and accepted by the auction agency, and then discounted by the bank. This is one of the cheapest forms of commercial credit known. The egg auction is used to a limited extent, by certain regular dealers in New York City. The status of the auction is uncertain.

*Egg Exchanges.*—Some city markets are unorganized; others are organized into so-called exchanges, such as the Mercantile Exchange, Chicago, the Mercantile Exchange of New York. Most egg exchanges are organizations of dealers for purposes of formulating rules, usages, etc., which facilitate trading, lessen trade disputes, and in general lay down standards and grades. In the very largest markets, however, some trading is actually done on the exchange floor. There is a blackboard in front on

which is posted the name of the seller, his offering price, the name of the buyer, his bid (buying price), and the actual price at which trades are made. This blackboard is named the Call Board. Only a few transactions are actually made and recorded each day, but they serve as an indicator or barometer of price levels. Most of the trading is then done by private bargaining "on the street," that is, in or about the various offices of the dealers.

*Future Trading in Eggs.*—In both New York and Chicago provisions have been made for future trading in eggs on the Mercantile Exchange. For the rules governing this trading the reader is referred to the printed publications of these two exchanges. Hedging is made possible, as likewise, of course, speculation in egg contracts. The storer of eggs, however, if he so desires, can shift the speculative risks to those who are looking for this sort of speculative investment.

*Merchandizing Methods.*—The three principal ways of selling eggs are: (1) case count; (2) loss off; and (3) by weight.

Buying and selling eggs by weight has frequently been recommended in the United States, but not often tried. It is contrary to consumer habits. Yet weight is a better index of quantity than mere count. One of the early egg cooperative-marketing associations, that of Dassel, Minn., employed the system of paying by weight. The dozen, however, as a unit for retail egg trading, and the case (30 dozen) as the unit for wholesale trading, seem too firmly rooted to be changed. In other countries eggs are frequently bought by weight. All Danish eggs are purchased on the basis of weight. In the *Model Regulations for Cooperative Egg Societies*, issued by the Department of Agriculture of the Union of South Africa in 1919, the regulation is found, "Eggs will be paid for by weight."

The case-count system is the traditional method in the United States, all the way from farmers, country store, wholesaler, on through to consumer. It means buying and paying for 12 eggs as a dozen eggs.

The loss-off system came into use, to a limited extent, as early as 1910, as a result of activities of public-health bodies. It became illegal to ship bad eggs. Thus the Bureau of Chemistry, United States Department of Agriculture, from time to time issues the following (or similar) notices:

It is illegal to ship bad eggs! All shipments of eggs should be carefully candled, immediately previous to shipment, and all bad or doubtful eggs removed and destroyed. Careful attention to this requirement will insure against your eggs being seized and prevent possibility of your being prosecuted under a Federal law.

Despite this regulation, about 2 eggs out of every dozen from farm flocks are unfit for human consumption when reaching the city market. The loss-off system means that the eggs are bought (at country store, by shipper, or by others) on the basis of good eggs only. It is much like the "dockage" system in wheat buying. This system was put into effect at country points in Kansas in 1910, through pressure from the State Department of Health. In 1912, Minnesota adopted the loss-off system. In eastern Canada, the system was put in effect in certain markets in 1916. The loss-off system penalizes the producer of bad eggs and rewards the producer of good eggs. The case-count system does just the opposite.

**Cooperative Marketing of Eggs.**—Eggs are a side line on the ordinary farm (where most market eggs are produced), and hence there has been but little progress made in cooperative egg marketing in the grain belt. Here and there may be found an "egg circle," and in some cases there are flourishing egg cooperative marketing enterprises in connection with creameries. In the specialized egg centers, particularly those of the Pacific coast and Utah, the cooperative marketing of eggs is on a firm business basis.

In the year 1916, cooperative egg marketing in California got a successful start. The three large-scale associations are: Poultry Producers of Central California; Poultry Producers of Southern California; Poultry Producers of San Diego. These three joined with the two northern associations (Washington Cooperative Egg and Poultry Association; Pacific Cooperative Poultry Producers of Oregon), to form the auction agency of New York City, the Pacific Egg Producers Cooperative, Inc. The large egg production on the Pacific coast had created a condition of "overproduction" or "underconsumption." By means of the cooperative-marketing agency, the standardized, high-quality eggs were sold on the markets of the Atlantic seaboard, where there was a big egg deficit. The joint agency performs other services than selling. Eggs are stored in warehouses in New York, Brooklyn, Jersey City, Buffalo, Syracuse, Spring-

field, Mass. Worcester, Mass., and Boston. The handling of these eggs falls upon the agency.

Other activities of these cooperative agencies of the Pacific coast may be listed as follows:

1. *Storage in Transit*.—Authority was secured from the carriers to use "storage in transit" at Buffalo, without increasing through-freight rate.

2. *Freight Rate*.—Application was filed with Interstate Commerce Commission to reduce trans-continental rate on eggs from \$2.60 to \$2.15 per 100 pounds.

3. *Truck Service*.—Some of the long-distance hauls in California are now made by motor truck (*e.g.*, Santa Cruz and Modesto districts to San Francisco and Oakland).

The two outstanding achievements may be reduced to the two words—quality and distribution.

#### Questions

1. Show briefly evolution of egg marketing in Minnesota.
2. What speculative feature in this business was greatly reduced? How? Effects?
3. Importance of eggs in commerce? Car-lot volume in United States?
4. Explain geography of egg production in the United States—place, quantity, and quality. Leading states.
5. Why are Pacific coast eggs not marketed in Chicago? Why marketed in New York? Where do these cities get their eggs, and why?
6. Distinguish between farm flocks and poultry farms.
7. When are eggs produced?
8. Define "storage-packed" eggs; refrigerator eggs.
9. Show relationship between production, storage, and price.
10. Show changes in egg consumption and causes.
11. State and explain the day's price range on eggs in a typical market.
12. Show extent and causes of losses in egg shipping.
13. What is meant by the term "commercial grades?"
14. Give the usual classes and grades.
15. Give significant facts concerning our foreign trade in eggs, and the net balance of this trade.
16. What are your conclusions about the "menace" of the Chinese egg? Is it Chinese competition, California competition, or Missouri competition which most affects the New York and New Jersey egg producers? Be specific.
17. Why is the "middleman's toll" on eggs decreasing?
18. Bring out significant facts about egg transportation.
19. Is the storer of eggs a "food hoarder?" Services of cold storage of eggs. Effects on farm price for eggs; on city price.
20. Name and describe four general types of egg dealers.



21. Under what conditions are eggs handled by brokers rather than commission merchants? Effects on costs?
22. Explain the egg auction, and show what place it has in egg marketing. History. Success.
23. Define "egg exchange;" show where used, how, and success of.
24. Show place of future trading in egg marketing.
25. Explain and discuss selling of eggs by: (1) case-count system; (2) loss off; (3) weight. Which do you favor and why?
26. Show progress made in cooperative marketing of eggs? Reasons? Results?

## CHAPTER XXI

### COMMODITY MARKETING. 7. APPLES: PEACHES

Growers in the Pacific Northwest market the fruit through various agencies, the most important being the cooperative selling organizations, local dealers, traveling cash buyers and common merchants.

The cooperative method generally consists of collective selling by hired representatives of one or more groups of producers, and practically every type of cooperative organization has been in operation. Local associations are formed, consisting of a single group of growers, who employ a manager to transact their business and sell their output. Federations of local groups also are formed, the managers of the local units acting merely as intermediaries between the central organization and the local unit. The central organizations practically control sales, collections, inspections, and advertising, thus facilitating standardization and specialization.

Local dealers purchase the fruit from growers, buying outright for cash or on contract. In some sections local merchants have developed a merchandizing department and advance supplies and equipment to growers whose fruit they buy or handle on consignment.

A limited amount of fruit is handled on a strictly consignment basis by resident dealers. Such dealers often operate packing houses where the fruit is graded, sized, and packed for a certain fixed charge per box, which includes box shook, materials, and labor. Cash sales to traveling or to resident buyers who represent firms in permanent markets, are common. Some of these representatives also act as growers' agents and accept shipments on consignments.

Direct sales or sales through brokers to firms in consuming centers are usually made on an f.o.b. basis. Particularly was this true during the fall of 1919, when many of these firms contracted with northwestern shippers for future delivery. Various conditions make it necessary or desirable to roll a large number of loaded cars unsold. Usually these tramp cars are destined to territories that seem to promise the best returns, and generally are sold when near to a market. Many of these sales are made through brokers.

By-product plants are rapidly developing and are taking more and more of the inferior and cull fruit, thus making possible a higher standard of grades and larger net returns to the producers.

KITCHEN, C. W., SEIFERT, E.M. and HALL, MARY B., "The Distribution of Northwestern Boxed Apples, *U. S. Dept. Agr., Bull.* 935, pp. 7 and 8, Mar. 14, 1921.

Fruit distribution illustrates many of the important principles of marketing. Apples, peaches, and oranges constitute the three

major native fruits entering into commerce in the United States. Apples, however, have about three times the value of either one of the others. The orange crop, being so highly specialized and grown in so few counties, is omitted from consideration in this chapter. Fruit growing is a type of agricultural production in which the acreage cannot be suddenly increased or decreased from year to year. Once the young apple orchard is planted, it needs 10 years to come into full bearing. It should be at maturity in 40 years. To increase or decrease production (in quantity and quality) the farmer can spray and prune his trees, or neglect to do this: then he must let the weather do the rest. This means very wide fluctuations in production from year to year, irrespective of any price changes which have occurred. Over a long period of years, however, the most striking thing about apple and peach growing is the shifts in production which have taken place.

#### I. APPLES

**Apple Production.**—In considering the geography of the apple crop, the questions may be asked: Where, when, and how much is produced? Brief comment will be made on the place, volume, and season of production.

**Place.**—Apples are grown in each of the 48 states, with considerably more apples in the northern tier of states than in the southern. Farm orchards, however, have very little commercial significance. Commercial apple production is centered in a few well-defined regions, such as New York, the Virginia-Maryland-Pennsylvania district, Missouri, Arkansas, California, and Washington-Oregon district. Small centers are found in Colorado, Idaho, Ohio, and Michigan.

In the table given below—which should be carefully studied—are shown several remarkable shifts in apple production. The writer is unable to explain why Missouri, once holding the primacy as an apple-producing state, should have cut its acreage in 20 years to one-fourth, or why Kansas should have cut its acreage in the same period to less than one-seventh. Nebraska, Iowa, Tennessee, and Kentucky show heavy cuts; so do Pennsylvania and New York. For the whole United States, the shrinkage in number of trees in 20 years was 45 per cent. The states registering substantial gains, meantime, are Washington and Oregon (see Table XXIII below). One thing is apparent, apple growing, like apple marketing, is a highly speculative business.

TABLE XXIII.—APPLES—NUMBER OF TREES

	Trees of bearing age			Trees not of bearing age	
	1900	1910	1920	1910	1920
Maine.....	4,184,781	3,476,616	2,833,304	1,045,123	512,217
New Hampshire.....	2,034,398	1,240,885	721,130	207,289	227,933
Vermont.....	1,675,131	1,183,529	712,594	219,833	254,029
Massachusetts.....	1,852,046	1,367,379	1,218,870	355,868	791,771
Rhode Island.....	213,598	152,000	173,110	54,560	71,375
Connecticut.....	1,167,312	798,734	692,500	211,830	266,405
New York.....	15,054,832	11,248,203	9,636,698	2,828,515	2,932,281
New Jersey.....	1,810,793	1,053,626	1,149,776	519,749	811,256
Pennsylvania.....	11,774,211	8,000,456	6,988,594	2,501,185	2,628,053
Delaware.....	567,618	429,753	816,109	263,813	308,487
Maryland.....	1,824,183	1,288,482	1,651,936	660,685	766,264
Virginia.....	8,190,025	7,004,548	7,385,277	3,435,591	2,857,007
West Virginia.....	5,441,112	4,570,948	2,049,862	2,772,025	1,735,126
North Carolina.....	6,438,871	4,910,171	3,474,821	1,835,337	1,304,588
South Carolina.....	694,700	581,767	377,557	269,044	181,101
Georgia.....	2,359,975	1,878,209	1,515,505	822,327	806,731
Florida.....	8,219	8,180	No report	5,968	1,490
Ohio.....	12,952,625	8,504,886	5,970,410	2,438,246	2,047,687
Indiana.....	8,624,593	5,764,821	3,427,816	1,916,974	929,100
Illinois.....	13,430,006	9,900,627	5,113,063	2,548,301	1,825,886
Michigan.....	10,927,899	7,534,343	5,615,905	2,253,072	2,050,229
Wisconsin.....	2,557,265	2,430,232	2,321,860	1,408,726	825,258
Minnesota.....	875,905	1,380,306	1,596,264	1,571,816	637,187
Iowa.....	6,869,588	5,847,034	2,996,469	1,914,325	767,351
Missouri.....	20,040,399	14,359,673	5,162,850	3,624,833	1,585,823
North Dakota.....	2,351	15,941	26,157	70,023	19,644
South Dakota.....	165,301	274,862	255,637	460,547	136,082
Nebraska.....	3,877,329	2,937,178	961,313	967,133	401,788
Kansas.....	11,848,070	6,929,673	1,508,042	1,116,316	618,142
Kentucky.....	8,757,238	5,538,267	3,742,936	2,106,297	1,427,408
Tennessee.....	7,714,053	4,838,922	3,181,659	2,117,246	1,032,490
Alabama.....	2,015,711	1,468,436	1,044,397	737,680	422,646
Mississippi.....	705,796	427,562	269,862	425,323	216,686
Louisiana.....	138,833	93,304	47,037	96,544	44,175
Texas.....	1,484,846	1,138,852	468,027	1,127,573	236,485
Oklahoma.....	2,054,894	2,955,810	1,417,911	2,060,384	428,502
Arkansas.....	7,486,145	7,650,103	4,074,870	3,940,089	877,376
Montana.....	530,976	696,753	1,059,198	1,308,066	69,328
Wyoming.....	9,234	27,773	50,302	84,024	34,197
Colorado.....	2,004,895	1,688,425	1,777,737	1,972,914	183,315
New Mexico.....	483,157	542,528	687,799	914,254	167,097
Arizona.....	45,996	62,027	70,273	53,884	35,977
Utah.....	715,778	517,039	726,471	789,260	80,304
Nevada.....	83,393	74,454	46,612	18,868	9,265
Idaho.....	982,349	1,005,668	2,380,523	1,539,896	144,088
Washington.....	2,735,824	3,009,337	7,964,167	4,862,702	755,898
Oregon.....	825,898	2,029,913	3,315,093	2,240,636	500,322
California.....	2,878,169	2,482,762	3,128,386	1,054,107	1,143,947
Total.....	201,116,321	151,321,186	111,802,767	65,791,848	36,195,085

The statistics in Table XXIII indicate that there is a big net decrease in the number of trees of bearing age and in the number of trees of non-bearing age. The principal competing countries in the world's export apple trade, which are increasing their acreage, are Canada, Australia, New Zealand, and Tasmania. The Australasian crops come to market in April, May, and June. The United States export trade (varying from four to twenty million dollars a year) faces this competition in apple production, not to mention the competition of fruits which are substituted for apples.

*Volume.*—There are very marked fluctuations in the total apple crop of the United States from year to year. Statistics on volume give "total crop" in bushels; the "commercial crop" in barrels. Our high record year for total crop was in 1914—253,000,000 bushels. Using the years 1909 to 1913 as the base, it is found that during the 33 years, 1889 to 1921, the yield was above the average 15 years, and below the average 18 years. The high yielding years were 1896, 1904, 1906, 1912, 1914, and 1920. Twelve states produce 70 per cent of the total crop. Turning now to the commercial crop, it is found that five states produce 50 to 72 per cent of the crop, and these are states using modern methods of production, grading, packing, and marketing.

Reliable estimates of the commercial crop have been compiled for only the past few years. These estimates are as follows:

TABLE XXIV.—COMMERCIAL APPLE CROP OF THE UNITED STATES, IN BARRELS

1916.....	26,747,000	1920.....	33,905,000
1917.....	22,341,000	1921.....	21,557,000
1918.....	24,743,000	1922.....	31,495,000
1919.....	26,159,000	1923.....	34,303,000

Expressed in another way, there are about 80,000 carloads of apples shipped in a good apple year. The total crop tends to decrease, while the commercial crop tends to increase.

*Season.*—The apple crop is seasonal both as to time of production and time of consumption. The early summer varieties, common in farm orchards, are not commercial apples. The apple-picking season is the late summer, early fall, and late fall. Thus the 12 leading varieties of apples grown in the United States are as listed below (in the order of their volume), and each variety reaches its best period of consumption at a different

time: (1) Baldwin (November to May); (2) Ben Davis (February to June); (3) Northern Spy (December to March); (4) Winesap (February to June); (5) Rhode Island Greening (October to March); (6) Jonathan (November to December); (7) Rome Beauty (December to April); (8) Early Harvest (July to August); (9) Grimes' Golden (November to February); (10) Wealthy (July to October); (11) York Imperial (October to March); (12) Maiden Blush (August to September).

**Apple Consumption.**—When it comes to meeting final consumer demand the apple must compete with other fruit. And the competing fruits are generally much better standardized and graded. Competition with oranges may be illustrated by the market situation in December, 1923. Dispatches from the northwest apple area stated that California oranges were selling at less than the best grades of apples and had temporarily checked any further sales of these apples. Competition again appears in the export trade. The apple season of 1923 to 1924 was extremely disastrous. In May the growers' apples in storage were selling for about half the price the growers had been offered the preceding October. Foreign demand for American apples failed to absorb the surplus. Foreign buyers had not only Australian apples, but various other fruits from other sections from which to choose. In the United States markets, particularly in the large cities of the East, the competing fruits are bananas, oranges, grapefruit, and peaches. In the table below are given statistics showing the relative amounts of these fruits received in Boston for 2 years. It will be noted that the consumption of bananas exceeds the consumption of any other fruit, and is much larger than apples and peaches combined.

TABLE XXV.—FRUITS RECEIVED BY BOSTON.<sup>1</sup> CARLOADS

	1923	1924
Banana.....	5,915	6,609
Orange.....	4,650	4,427
Grapefruit.....	1,542	1,410
Apple.....	2,928	2,761
Peach.....	992	1,202
All other kinds.....	10,366	10,415
Total fruits.....	26,393	26,924

<sup>1</sup> GOODWIN, D. H., "Receipts and Sources of Boston Food Supply," Mass. Dept. Agr., Bull. M. 14, p. 14, February, 1925.

This table shows that neither apples nor peaches constitute an important source of fresh-fruit supply for Boston, apples running about 11 per cent and peaches about 5. Nothing but better quality can meet such competitive conditions. These conditions are typical of the principal apple markets. The above table omits entirely canned fruits and dried fruits, which both compete with apples at the breakfast table. Watch the national magazines for "apricot weeks," "raisin Wednesdays," "eat more prunes" drives, etc.

*Exports.*—The export trade in apples has had a substantial growth since 1896, both in volume and nature of exports. At the earlier date dried apples were about one-half the business; later ripe fruit constituted the bulk of exports.

*Grades.*—Important apple-shipping states have apple-grading laws. The cooperative apple-packing houses have, in addition, their own private brands and trade names. Finally, on Aug. 15, 1924, United States Grades for barreled apples were promulgated by the Department of Agriculture. The Federal grades are permissive, not mandatory. In some states, however, such as Massachusetts, the state grades are compulsory. The Massachusetts law states that all apples in closed packages, packed or repacked in Massachusetts, and intended for sale either within or without the state, must be graded and branded. The four Federal grades are as follows: (1) U. S. Fancy; (2) U. S. No. 1; (3) U. S. No. 2; (4) U. S. No. 3. These grades take into consideration color, firmness, maturity, decay, damage from dirt or spray burn, foreign material, skin punctures, sun scald, bruises, hail, disease, insects, etc. The size does not affect the grade, but the package must be plainly marked indicating size within quarter inches, such as  $2\frac{1}{4}$ -,  $2\frac{1}{2}$ -inch, etc.

*Marketing Problems of Apples.*—The methods of production of apples give rise to many marketing problems, some general in their nature, others peculiar to that industry. The shift of apple growing to the Pacific northwest emphasizes first of all the transportation problem.

*Transportation.*—The carrier's problem is to supply, all of a sudden, a large and uncertain number of refrigerator cars. The gravity of this problem was illustrated by the \$5,000,000 lawsuit of the Wenatchee apple shippers against the Great Northern and other carriers in the season of 1922 to 1923, for alleged losses due to inability of roads to furnish cars. About 14,000 carloads

of apples were picked during September, October, November, and early December. The growers claimed that at the end of October 9,500 cars had been offered for shipment, but only 3,000 cars moved. There is a second problem faced by the carriers in the rush season of moving apples and peaches, namely the delay in unloading cars at terminals. To illustrate, in the fall of 1923, the Interstate Commerce Commission sent out a circular letter to the apple trade, including the International Apple Shippers Association, calling attention to delay in unloading cars, and requesting cooperation of trade during period of heavy demand, in preventing unnecessary shortage of refrigerator cars. The demurrage charge was proving too low to force dealers to release cars promptly. The carriers make careful estimates, long in advance of the need of refrigerator cars to move the apples and peach crops. The growers can greatly facilitate and improve this work by cooperation with carriers. The following table shows the fluctuations in production and hence in transportation needs in typical commercial apple regions:

TABLE XXVI.—APPLES—COMMERCIAL CROP, SHOWING YEARLY CHANGES IN REQUIREMENTS FOR REFRIGERATOR CAR SERVICE  
In Thousands of Barrels

	1919	1920	1921	1922
Pennsylvania.....	759	1,547	221	1,216
Virginia.....	1,653	1,989	80	1,400
Arkansas.....	1,100	724	16	520

*Storage.*—There is now in existence adequate common storage, cold storage, and warm storage, to take care of the commercial crop, but it is not all located where most needed. Who should own this storage, and where should it be located? These questions are subject to debate. Since the apple crop needs storage for only a fraction of the year, it is a common practice for growers' associations to rent storage space as needed, rather than own and operate storage. Such storage is located alongside a railroad, in the apple-producing district. Wholesalers who buy apples and other fruits at the terminal markets, or distributing centers



in the interior, provide their own storage. This gives them strategic advantages in selling. Storage is necessarily speculative in nature in the sense that prices may drop or may rise as the season advances.

When the prices for the 20-year period, 1893 to 1913, are considered, it is seen that it did not pay to store fall and early winter apples. Winter apples, properly handled, showed a margin of profit in storing. Using the 10-year period 1904 to 1913 for New York storage of barreled apples, the total storage costs were, on Jan. 1, 48.1 cents per barrel; on Mar. 1, 67.3 cents; on May 1, 81.4 cents.

**Merchandizing Methods.**—Apples are usually shipped from the local stations in bulk, box, or barrel. Bulk shipments now are limited substantially to orchard-run, ungraded lots. Poor apples may justify this crude form of marketing; good ones do not. The New York and Virginia-Maryland producers market their crop in barrels. This is an old, well-established custom with them. It meets the requirements of exporters and certain domestic consumers, particularly the hotel and large-restaurant trade. The Pacific northwest packs in boxes. This meets the consuming demand of most ordinary retail grocers, fruit stands, etc. Wholesalers find it more convenient to handle boxes than barrels. In the opinion of the writer the barrel is too big a package. Indeed there has been considerable discussion in recent years in favor of a smaller box pack, so that the consumer would buy apples by the box. The present box pack is substantially one-third of a barrel, or roughly, 1 bushel. Consumers are turning to package goods, but a 1 bushel package is a little large for the city pantry or kitchenette.

**Cooperative Marketing of Apples.**—The marketing of apples by growers' cooperative associations has met with an encouraging degree of success. The difficulties and the advantages may be listed. The difficulties, and the failures so far as they have occurred, have come chiefly from these sources: (1) methods of promotion and organization. Big "drives" and sign-up contract campaigns have sometimes herded in a group of farmers lacking both in an understanding of the enterprise and in the spirit of cooperation itself. (2) Methods of management. Too much overhead expense. Too much speculation for rise in price. Ineffective use of equipment. Lack of quality output. Incompetence. (3) Too many varieties of apples. Savings and economies are

difficult, if not impossible, where there is too much diversification in the production of apples. Two examples of this difficulty may be cited; namely, the Sebastopol Apple Growers Union of California, and the Western New York Cooperative Fruit Grower's Packing Association. In the season of 1921, the California growers had 40 varieties, 23 of which were in less than carload lots. Eight varieties were less than 100 boxes each. The New York cooperative packing houses had over 80 varieties the first season; 121 varieties the second season, over 200 varieties the third season.<sup>1</sup>

The principal achievements of the apple cooperative marketing associations have been as follows: (1) standardization and grading; (2) better and wider distribution; (3) better prices; and (4) better transportation, better storage, and better merchandizing. Car-lot shipments have given savings in freight. Volume of business has lowered packing costs. Quality product is

<sup>1</sup> The forty leading varieties in the 1921 to 1922 season amounted to 120,522 barrels. Of this amount 70 per cent were of one variety. Of the 81 miscellaneous varieties, the total shipments were 949 barrels. The following statistics show the 40 leading varieties in volume (in barrels) and the 81 varieties, without volume:

*A. Forty Major Varieties:*

Variety	Volume	Variety	Volume	Variety	Volume
Baldwin.....	84,945	Golden Russet.....	230	Bellflower.....	122
R. I. Greening.....	6,696	Rome Beauty.....	228	Swaar.....	121
Roxbury Russet.....	5,909	Fall Pippin.....	225	Ribbaton Pippin.....	111
Northern Spy.....	3,857	Hendrick Sweet.....	218	Sutton Beauty.....	110
Ben Davis.....	3,599	Cranberry Pippin.....	184	Rambo.....	107
Wealthy.....	3,123	Alexander.....	183	Gano.....	86
Tompkins King.....	2,472	Jonathan.....	183		
Hubbardston.....	1,287	Seek-no-further.....	169		
Tolman.....	877	Pippin.....	166		
Twenty Ounce.....	806	Bottle Greening.....	150		
Spitzenburg.....	741	Snow.....	149		
Maiden Blush.....	686	N. W. Greening.....	140		
Stark.....	557	Holland Pippin.....	134		
McIntosh.....	399	Boiken.....	129		
Wagener.....	378	Detroit Red.....	129		
Gravenstein.....	310	Ontario.....	125		
Gillflower.....	309	Carson Red.....	124		
<b>Total.....</b>				<b>120,522</b>	

building up consumer confidence and demand. The Pacific northwest, by utilizing the standardized pack of the cooperative apple producers' associations, was able to move the enormous volume of 30,000 cars of the 1919 to 1920 season, into 2,567 cities and towns in 47 of the 48 states, in eight provinces of Canada, and in Cuba. Effectiveness in securing wide distribution is strikingly illustrated by the further fact that carload shipments were made into the heart of the commercial apple district of New York State, and even into the little towns containing cooperative apple-packing plants, such as these three: Burt (25 cars); Hilton (37 cars); Lockport (70 cars). For a further example of successful distribution, see the Appendix to this chapter, showing how 803 cars were sent into 104 towns and villages of North Dakota. Finally, it may be said in favor of cooperative marketing, it educates the producer concerning consumer demand, and so leads to better production methods, and in time, it is hoped, to

---

*B. Eighty-one Minor Varieties:*

A. Brandy	Hog Island Sweet	Red Streak
Arkansas Black	Hulbert	St. Lawrence
Baker Sweet	Hyde King	Salome
Beauty of Kent	Jeffries	Scotts Winter
Belle Bond	Jersey Sweet	Senator
Bittersweet	Jewett Red	Smoke House
Beach Twig	King David	Sour Sweet
Blenheim	Lackawaxen	Steel Red
Blue Pearmain	Lady	Stearns
Bismarck	Lady Sweet	Sweet Greening
Boston Russet	Longfellow	Sweet Russet
Canada Russet	Mann	Strawberry
Calvert	Mother	Twenty-ounce Pippin
Coopers' Market	Munsey Sweet	Unknown
Crab	Natural Fruit	Valentine
Dutchess	Newton Pippin	Vandever
English Streak	Nonpareil	White Graft
Grand Duke	Paradise Sweet	Winesap
Fall Gentian	Parker	Winter Banana
Fall Greening	Peck's Pleasant	Winter Pippin
Flower of Tennessee	Pewaukee	Winter Sweet
French Spitzenberg	Perfect	Winter Strawberry
Gloria Mundi	Porter	Wolf River
Golden Sweet	Pound Sweet	Yellow Transparent
Greasy Pippin	Pumpkin Sweet	York Imperial
Grimes Golden	Priestly	York Pippin
Haas	Red Sweet	

better coordination of production to consumption. It gives the producer some price influence, but no price control.

## II. PEACHES

Peach marketing problems are similar to those of apples, except for the greater element of perishability in the case of peaches.

**Peach Production.**—An average peach crop for the United States is 45,000,000 bushels. Peach production over a period of 10 years shows even more abrupt changes or shifts than does apple production. The State of Kansas is an extreme example. Production here for a 10-year period was as follows:

	BUSHELS		BUSHELS
1910.....	2,432,000	1915.....	2,442,000
1911.....	851,000	1916.....	150,000
1912.....	2,016,000	1917.....	0
1913.....	875,000	1918.....	0
1914.....	1,760,000	1919.....	80,000

The New York crop in 1917 was 4,823,000 bushels; the next year, owing to a freeze which killed many of the trees it was 700,000 bushels. Statistics of bearing and non-bearing trees show a marked decrease for the United States as a whole, with substantial increases in Pennsylvania and California. Using the census figures, and omitting states with fewer than 1,000,000 trees, the following results are obtained:

TABLE XXVII.—PEACHES—NUMBER OF TREES OF BEARING AGE AND OF NON-BEARING AGE

	Bearing age		Non-bearing age	
	1910	1920	1910	1920
United States.....	94,506,657	65,646,101	42,266,243	21,617,862
New York.....	2,457,187	3,038,023	2,216,907	658,868
New Jersey.....	1,216,476	1,936,632	1,363,632	884,067
Virginia.....	2,383,027	3,563,726	2,179,386	1,234,708
Ohio.....	3,133,368	2,924,177	2,092,300	970,183
Indiana.....	2,130,298	860,024	1,145,479	568,046
Illinois.....	2,860,120	1,011,325	739,358	839,712
Michigan.....	2,907,170	2,010,022	2,991,090	764,838
Iowa.....	1,090,749	129,939	283,308	61,043
Missouri.....	6,588,034	2,358,925	1,404,429	716,325
Nebraska.....	1,188,373	95,629	263,882	40,118
Kansas.....	4,394,894	844,498	620,709	278,914
Delaware.....	1,177,402	464,514	212,117	93,336
Maryland.....	1,497,724	997,086	805,063	285,496
Virginia.....	1,585,505	1,578,253	780,551	783,733
West Virginia.....	1,424,582	2,049,862	1,441,188	651,742
North Carolina.....	2,661,791	1,976,756	861,042	1,093,993
South Carolina.....	1,336,142	871,976	349,790	335,599
Georgia.....	10,609,119	8,655,051	1,531,367	3,391,851
Kentucky.....	2,245,402	1,671,044	1,110,744	690,483
Tennessee.....	3,163,737	2,349,656	1,190,727	690,359
Alabama.....	3,177,331	1,544,700	838,866	546,024
Mississippi.....	1,726,298	855,158	724,895	493,651
Arkansas.....	6,859,962	3,342,387	2,884,927	988,966
Oklahoma.....	4,783,825	2,879,945	2,574,680	637,762
Texas.....	9,737,827	4,461,717	2,958,813	1,640,848
California.....	7,829,011	9,057,760	4,409,562	1,366,941

When the shifts above indicated are taken into consideration, it leaves three general commercial peach producing areas: (1) the South, for the early and summer peaches; (2) the North, or

late peach group (New York, New Jersey, Pennsylvania, Virginia, Ohio, and Michigan); (3) California, the canning-peaches and dried-peaches district.

**Peach Consumption.**—The early peach competes on the market with watermelons, cantaloupes, and with other fruits. The late peach competes with apples, oranges, and various other fresh fruits. The ripe peach season begins in Georgia in June and continues through July; the Arkansas season is July and August; the Virginia season is August and September; the Ohio and Michigan season is August and September, reaching into October; the New York season is September and part of October. There is thus a consuming season for ripe peaches of about 5 months. The crop of one district should be moved to market and be all cleaned up before the succeeding area starts to move its crop. The New York peaches are in part put in cold storage and moved gradually to market. In the 1922 season, New York put into storage 700 to 800 cars, and the deal proved profitable. In the 1923 season 2,500 to 3,000 cars were put in storage, but the deal proved unprofitable, for the demand slackened and the price slumped as the season advanced.

**Marketing Problems of Peaches.**—The marketing of peaches is one of the most difficult problems in agricultural marketing because of the sudden fluctuations in production, the perishability of the crop, and the long distance from the great consuming centers. This may be illustrated by the Georgia peach crop of 1924, the "disastrous year." The crop was large enough to glut all markets accustomed to receiving Georgia peaches. The time was too short to find new markets as needed. Over 13,000 cars were shipped to markets east of the Mississippi River within a period of approximately 10 weeks. These cars were in competition with 17,000 cars of cantaloupes from California and 20,800 cars of watermelons from Florida and Georgia. Seventy-five per cent of the Georgia peaches were shipped in July. When the first cars reached New York City they were in demand at \$7.50 a crate. This was a very attractive price; in fact, it attracted enormous shipments of peaches to New York the next week, so that the resulting glut broke the price to \$2 a crate. On one day over 200 cars arrived, over 60 of which were refused as being not wanted. The Georgia Peach Growers' Exchange made partially successful efforts to develop new markets in small interior cities; but this new outlet was not large

enough to meet the unprecedented situation. The prices received by the growers during the greater part of the season were ruinously low. Following this disaster, the growers of the state began to cut down part of their orchards, the elimination of trees amounting to about 500,000. With 1,000,000 new trees to come into bearing for the next season's crop, however, the prospects of limiting output were not bright.

*Grades.*—Many states have promulgated grades for peaches. The United States Department of Agriculture has recommended four grades, as follows:

U. S. Fancy No. 1	U. S. No. 2
U. S. No. 1	U. S. No. 3

To grade U. S. No. 1, peaches must be firm, mature, well-formed, and free from damage. The size as well as grade must be indicated on the package. Size is given in diameter of peach, in terms of whole and of quarter inches.

**Cooperative Marketing of Peaches.**—Cooperative peach marketing has about the same difficulties and successes as has cooperative apple marketing. The two chief problems are quality and distribution. A good quality peach, standardized and graded, is the first step. When this step is taken and trade confidence created, the matter of wider, better, and cheaper distribution is on the way to solution. The cooperative associations of both Georgia and New York have greatly increased the number of primary markets to which the crop moves. The movement of peaches by truck is an important factor in reducing car shortage and in sustaining prices to growers. In the 1923 season, approximately 500 carloads of New York peaches were hauled by truck direct to peach-consuming markets. The truck is destined to be of increasing importance in meeting conditions of gluts and famines in the peach market.

## APPENDIX

DISTRIBUTION OF NORTHWESTERN BOXED APPLES  
 Crop of 1919. Primary Destinations of 803 Cars Shipped to 104 Points in  
 North Dakota. Illustrating Economic Distribution

1. Major shipments		2. Minor shipments		
Beach.....	23 cars	<i>Three cars each to</i>	Calvin	Linton
Bismarck.....	86	Grand Forks	Carbury	Lisbon
Cogswell.....	4	Hettinger	Carrington	McVile
Cooperstown....	5	Hillsboro	Casselton	Mantador
Dickinson.....	10	Maddock	Chaffee	Mayville
Fargo.....	76	Max	Colgan	Michigan
Grafton.....	14	<i>Two cars each to</i>	Curlaw	Nekoma
Leeds.....	8	Alta	Dazey	Noonan
Mandan.....	15	Cando	Deering	Northwood
Marmarth.....	10	Dogden	Drayton	Oriska
Minot.....	308	Fullerton	Eckelson	Park River
New Rockford...	10	Golden Valley	Edinburg	Perth
Oakes.....	6	Hatton	Egeland	Portland
Ransomeville....	9	Inkster	Enderlin	Powers Lake
Rossville.....	17	Johnstown	Epping	Reeder
Rugby.....	5	Kensal	Fessenden	Regents
Stanley.....	6	Lansford	Finley	Rock Lake
Towner.....	4	Luverne	Flasher	Sarles
Valley City.....	59	McClusky	Forestburg	Selfridge
Wahpeton.....	6	Mott	Friend	Sherwood
Williston.....	13	Page	Glen Ullin	Starkweather
		Sharon	Hankinson	Stirum
		Sykeston	Jamestown	Strasburg
		<i>One car each to</i>	Kelso	Streeter
		Bathgate	Kindred	Tolley
		Berthold	Lakota	Tower City
		Binford	Lamoure	Turtle Lake
		Brantford	Landa	Warwick
		Brocket	Lidgerwood	

### Questions

1. Northwestern apples are marketed through what agencies? Functions of each agency?



2. What is meant by tramp cars?
3. Describe use of by-product plants? Results?
4. Name our three major fruits. Which leads in value?
5. How adjust production to price?
6. Discuss the geography of the apple crop: place; farm and commercial orchard; shifts; shrinkage; increases; competition; volume; season.
7. Explain carefully statistics in Table XXIII.
8. Describe car-lot shipment of apples each year.
9. List 12 leading varieties, and their time of consumption.
10. Apples compete with what fruits for human consumption? Illustrate. Boston statistics.
11. How meet this competition?
12. Discuss our export demand for apples.
13. What factors determine the grade of apples? Name the United States grades.
14. Give principles and factors in apple-transportation problem. Cite statistics (Table XXVI).
15. Discuss the apple-storage situation. Profits in apple storage.
16. Explain various merchandizing methods. Which method is best?
17. State, progress and status of cooperative apple marketing? Difficulties and advantages?
18. Discuss in detail the problem of large number of varieties. Suggest remedy.
19. Illustrate "wide distribution" by example of northwestern apple growers.
20. Give geography of peach production: acreage; shifts; Kansas crop; New York; United States; commercial areas; relative numbers of bearing and non-bearing trees.
21. Peaches compete with what agricultural products?
22. Describe peach ripening seasons?
23. Discuss the Georgia peach deal in 1924.
24. Give the United States grades for peaches.
25. Discuss cooperative peach marketing.

## CHAPTER XXII

### COMMODITY MARKETING. 8. POTATOES

Another feature of the Chicago market which will bear some explanation is the fact that bulk stock is generally quoted higher than sacked stock. However, it must be remembered that practically all bulk stock is sacked as it leaves the cars in the Chicago yards, and it is not uncommon for the handlers to throw out as much as 3,000 pounds from a single car, which is a total loss to the shipper both as to stock and freight charges for it. Likewise, men who work at handling this stock may be scarce, and this has been known to exert a decided bearish influence on the bulk market. In view of these facts, shippers should weigh the advantages and disadvantages very carefully before deciding to ship their potatoes in bulk.

MOSIER, W. H., "Wisconsin White Potato Deal, Season of 1923-1924," *U. S. Dept. Agr., Summary*, p. 15, Bureau of Agricultural Economics, September, 1924.

The potato market is one of the most erratic and speculative of all farm commodity markets. Fluctuations in yield, in quality, in shrinkage and loss in storage, in demand, all tend to make the market an uncertain one, and one therefore, requiring large middleman margins to cover expenses and risks. Many times the potato-handling agencies make large profits. In other seasons they operate at a loss. A study, for instance, of both cooperative associations and private agencies handling 3,500,000 bushels of potatoes of the New York 1921 crop, showed an average net loss for the season of \$8.95 on every carload (600-bushel cars). A study of the 1922 crop shows that these agencies handling 2,750,000 bushels had a net loss of \$2.20 on every car handled.<sup>1</sup> The potato is a semibulky, semiperishable commodity, yet it must be transported long distances to meet demands of deficit areas. Some potatoes are exported each year. Sometimes potatoes are imported from across the Canadian border, or from across the Atlantic or Pacific. The demand for potatoes is uncertain, now that the doctors are prescribing less starch and more green vegetables in the diet.<sup>2</sup> The spread of potato diseases makes it difficult, in some sections, to buy good potatoes

<sup>1</sup> Data from M. P. RASMUSSEN, Cornell University.

<sup>2</sup> Market master JOHN S. PATTERSON, Johnson City, N. Y., states that the demand for potatoes on that market shows a big slump.

on the market. Marketing the potato, therefore, is not a job for the amateur. Somebody will have to pay a high price for his education.

**Potato Production.**—The normal production of potatoes in the United States is  $3\frac{1}{2}$  bushels per capita. If good weather and crop conditions prevail, so that the crop runs to 4 bushels per capita and over, "overproduction" exists. The usual result of this is a price in May actually lower than the price the preceding December. A normal crop is, stated in total amount, about 400,000 000 bushels. The cars shipped to market average about one-third of the total crop, that is, about 240,000 carloads. This is no mean transportation problem.

**Place and Season.**—About one-fifth of the potato crop is called the "early" crop, and it is produced in the South or Middle South. The "late" crop, or main crop, four-fifths of the total, is produced mostly in those states which form the northern border of the United States, beginning with Maine, and extending westward through New York, Michigan, Wisconsin, Minnesota, North Dakota, Montana, Idaho, and Washington. To this list may be added Pennsylvania, South Dakota, Nebraska, Colorado, California, and Oregon. Owing to their large cities, two of these 15 states are deficit areas, in spite of their large production; namely, New York and Pennsylvania. These 15 states furnish all but a few thousand cars of the main-crop shipments. Maine, Minnesota, and Wisconsin are, in the order named, the heaviest shippers, moving to market about as much as the other 12 states combined.

**Early Crop.**—The early potato crop should be completely marketed and out of the way before the main crop starts to move. The movement starts in March (in Florida) and extends to July and August (in New Jersey, Missouri, and Kansas). The principal early-crop movement, in addition to the four states named, begins as follows: Texas in April, Louisiana and South Carolina in May, Virginia in May and June. The Virginia crop, from the Eastern Shore peninsula, is as large as that of all the other early crop states combined, omitting New Jersey. One of the best examples of cooperative marketing in the United States is found here on the Eastern Shore. The early crop is subject to much damage, such as cut, bruise, and sunburn. The skin is tender, and is the weak feature of the early potato. A break in the skin opens the way to rot.

*Late Crop.*—The late potato crop is the only crop going into storage. It is the crop, therefore, which supplies the market largely from September to the following spring. It in turn must be cleaned up by late spring, before a large volume of early crop is reaching the market. During the 7-year period 1916 to 1922, the opening price of Florida potatoes (March) was usually three to four times the average January price of old stock in the Chicago carlot market. There is thus competition between these two kinds of potatoes during the months March to May.

*Potato Consumption.*—Little need be said about the export and import trade in potatoes, since it is only in the "abnormal" years that this trade has any volume. The United States' chief exports go to Cuba, Mexico, and Havana. In exceptional years the United States imports. In 1911, the United States imported 13,729,000 bushels. In the early part of 1912 the Chicago market handled a quantity of potatoes from Ireland. In May, 1917, Chicago used several carloads of potatoes from Australia—and this despite the war prices for ocean freights. In March, 1917, Seattle received a consignment of 1,000 sacks of Japanese potatoes. Canadian potatoes are often imported during brief periods. In the 1917 season, potatoes from Vancouver were shipped in quantities to St. Louis and Chicago. At times, however, the Canadian shipments are embargoed by the U. S. Department of Agriculture as a quarantine measure. Powdery scab, wart disease, and other potato diseases are easily carried. In the 1924 season, the United States had a large crop, particularly in Maine. The Maine potato growers' exchange found an outlet in England for part of the crop. The British government, however, in December, 1924, put into effect an embargo stopping all further shipments of United States potatoes to England.

*Domestic Consumption.*—The United States is not a large per capita consumer of potatoes, when compared with Germany or Denmark or Ireland, or other European countries. The normal per capita production in Germany is 26 bushels; in Austria, 14 bushels; in Belgium, 13 bushels; in Holland, 12 bushels; in France 11 bushels; in Denmark, 9 bushels. But the potato is, in the United States, a staple in the human diet. To a very minor extent it is used for animal feed. In times of great surplus 10 per cent of the crop is so used. Neither does the United States make much use of potato by-products. Since this tuber is three-

fourths water, it may be dried and put on the market in the form of flakes or cakes or powder. The United States has made practically no commercial progress in this type of potato consumption. Potatoes may be used to produce industrial alcohol. Culls and low-grade potatoes are sometimes so used, but this industry is still insignificant with us. The potato is largely starch, and hence the experiment has repeatedly been made of preparing starch from potatoes. Some states have subsidized such starch factories, but they have all failed.

The consumption of potatoes in the United States is, therefore, primarily a problem of table stock—how to supply the consumer a good article for his table. It is a "joint food" in the sense that the potato is not consumed by itself, but requires with it either butter or milk or meat or some other form of fat or oil. Wholesale potato dealers say that consumers sometimes buy potatoes and find them black inside, or hollow, and become disgusted and turn to other foods for a while. These dealers also say that "dear" potatoes (of high quality) actually sell better than "cheap" potatoes on a market glutted with all sorts of grades. No statistics are available to show whether potato consumption is increasing or decreasing, but the writer is of the opinion that the per capita consumption is decreasing. The chief cause is the deterioration in the potato caused by the various diseases to which the tuber is subject. Here is plainly a case where the marketing problem is primarily and chiefly a production problem.

*Grades.*—Much of the success or failure in marketing potatoes depends on grading. Grading may be done at the terminal, or at the local shipping station, or on the farm. When there is any volume there should be shipping point inspection and grading. Such inspection has been provided, by a joint arrangement of Federal and state agencies, in the states of California, Washington, Montana, Idaho, Washington, North Dakota, South Dakota, Colorado, Missouri, Maine, New Jersey, Wisconsin, New York, and Pennsylvania. A successful cooperative association can do better, however, by using its own grades. The Federal grades are U. S. Nos. 1 and 2. Since these grades do not consider the shape of the potato, or represent varietal types in any way, they are inadequate for commercial purposes. They represent, however, a big forward step in potato merchandizing.

**Marketing Problems of Potatoes.**—The transportation and storage of potatoes present problems differing in different parts of the country. Transportation companies must furnish cars when applied for within a reasonable time. The Interstate Commerce Commission rates as to freight, refrigeration, icing, heating, and handling of perishable freight, apply to interstate shipments. Shippers find it advisable to have all orders for cars made in writing in duplicate, showing size and kind of car ordered, date, and the time the car is wanted. The duplicate is kept on file for use in correcting freight charges or placing claims. The shipper should note the minimum weight which is called a carload (whether it is in the car or not), and should load to or above this minimum. The October to May minimum for a refrigerator carload of potatoes is 36,000 pounds; the June to September minimum is 30,000 pounds. There are exceptions to this with cars of smaller size or of certain construction. The shipper has the option of heating the car himself or having the carrier furnish this protective service at an additional charge. The shipper has the privilege of changing the destination of the shipment (Reconsignment, Diversion), by giving proper instructions to the carrier. The speed of freight trains is a factor which the shipper must consider. Over long hauls the average speed is about 100 miles per day of 24 hours, or  $4\frac{1}{6}$  miles per hour.

**Storage.**—In the late-potato crop sections the bulk of the storage is doubtless on the farms. The next type of storage is the potato warehouse at local shipping station, the third type is terminal storage. Each of these three forms has certain advantages and certain disadvantages. Farm storage is commonly regarded as the cheapest. It also saves labor at a busy time of year. If storage facilities are improperly constructed, however, they cause rotting of the potatoes and so may prove ultimately most expensive; they also require the handling of the potatoes twice, which may not be cheapest in the end. Potato warehouses at shipping stations have equipment for grading and mechanical handling of potatoes; they are in position to ship out carloads in the most severe winter weather. Potatoes screened, graded, and shipped from a warehouse are of a more uniform and standard grade and hence worth more than the mixed lots coming direct from the farms. Terminal city storage is provided by the wholesalers and jobbers to take care of their trade. Hotels and restaurants, retail stores, and so on, have storage for a short-time

supply of potatoes. Finally, the city consumers have either cellars or pantries where a few days' or few weeks' supply may be stored. The writer is firmly of the opinion that at shipping stations with volume enough, say 200 cars, the farmers should own and operate a potato warehouse, unless this service is already being satisfactorily supplied by private dealers.

*Trade Channels.*—There are four general methods of selling potatoes. (1) Cash sales to local buyer; that is, to some local business man resident in the community; buyer for line warehouse located at shipping station; traveling cash buyer. Among these there may be, or may not be, real competition. (2) F.o.b. sales. The grower may sell by wire or by letter on the basis of a quoted price, f.o.b. shipping station, or f.o.b. destination. This method is used by large growers, and by farmers' cooperative associations largely. (3) Consignment. The grower may consign to a city commission merchant who will sell car to "highest" bidder. He will charge a commission, ranging from 8 per cent in some markets to 12½ per cent in others. Buyers usually inspect the potatoes before buying of a commission merchant. (4) Broker. Food brokers in all great markets handle graded, standard commodities on a brokerage fee averaging some 2 or 3 per cent. Brokers will find buyers for car-lots of potatoes provided the buyer has enough confidence in the potatoes to bid on them without seeing them. When such confidence is once established, then the broker becomes a convenient sales agency.

*Price.*—The chief price factors are the size of the United States crop (both early and late); quality and condition; loss in storage; supply of alternatives and substitutes; changes in general price level; changes in demand. The crop of any one state is not an important factor. Neither is the flow to market. Official estimates acquaint the trade with probable total supplies, so that bad weather conditions, cold spells, strikes, etc., cause but temporary fluctuations in price.

*Cooperative Marketing of Potatoes.*—There are many types of cooperative-marketing organizations handling potatoes. Of these the oldest is the Eastern Shore of Virginia Produce Exchange, organized in 1900. In four other potato states there are state-wide, farmer-owned potato exchanges; namely, Maine, Michigan, Minnesota and Colorado. The Michigan Exchange is a federation of locals. The other three are based on the plan

of a general pool, with the individual farmer bound for a term of years by a contract to deliver to the pool his entire crop of potatoes; payment to be made in full by the end of the season; the price being the average pool price for the season, minus expenses.<sup>1</sup>

The pool in turn agrees to put the potatoes on the market at the best time and places, as in its judgment it sees fit. The aims are to avoid gluts and famines; to widen distribution; to stabilize prices; to improve production, grading, and merchandizing methods. Since the Eastern Shore of Virginia farmers have one of the oldest cooperative agencies in the United States for marketing potatoes, a description of some of the details is in order.

*Eastern Shore of Virginia Produce Exchange.*—The two counties of Virginia lying between Chesapeake Bay and the Atlantic Ocean are well suited to the production of early potatoes. Some 2,400 farmers here have formed a cooperative-marketing system which has functioned successfully since 1900. There are three chief functions of the exchange: (1) Grading; the potatoes are inspected at 44 local shipping stations by agents of the exchange, and are put in barrels for shipment. The best grade is the "Red Star" brand, a brand which has the acquaintance and confidence of the trade. (2) Selling; the crop is sold by wire, on an f.o.b. basis. In some seasons distribution is made in all parts of the United States (44 states), in Canada, and Cuba. There is no problem of "orderly marketing" so far as time or "flow" to market is concerned. The weather takes care of that. When the crop is mature, it is promptly dug and brought to the shipping stations. As fast as it is loaded on cars it is sold. Sales are all made through the regular middleman channels. (3) Market Information; the exchange maintains its own telephone exchange at its central office at Onley, Va. In this same building the commercial telegraph companies maintain offices during the crop-moving season. The sum of \$30,000 a year is expended for telegraph and telephone service. The volume of business transacted amounts to 10,000 carloads, which sell for about \$10,000,-

<sup>1</sup> The delay of the Pool in making payment is a bad feature of the Pool. To illustrate: The Minnesota Pool of 1924 had only made two payments by May 1, 1925, these two payments amounting to the following: Triumphs, 16.2 cents per bushel; Rurals, 7.8 cents; Red River Ohios, 12 cents; and Cobblers, 9 cents. The farmers who sold outside the pool in September, 1924, received in cash around 35 cents a bushel.



000. The main expense is the inspection service, which costs the exchange about \$45,000 a year, but is worth more than it costs.

A five per cent selling fee is taken out. After expenses are met, the balance is returned as a patronage dividend.

The form of organization is that common to the older cooperatives of that period. There is capital stock; there is one vote for each share of stock; there is democratic control; there is a fair division of benefits among those who contribute the business. This form of organization, therefore, with the spirit and letter of cooperation understood and practiced by its members, is truly a cooperative organization.

Democratic control is secured and assured by having the share of stock small, namely \$5. Over one-half the members have only one share each. A few of the older, wealthier farmers have 200 shares each. They are in a sense the leaders of the exchange. The actual voting strength (*i.e.*, the majority of shares) however, is in the hands of those who have 10 shares or under apiece. Some tenants and others pay \$1 for a "shipping privilege;" they can then ship through the exchange, secure a patronage dividend, but have no vote.

Some factors which have contributed to the long record of brilliant success of this farmers' company are the following: volume of business; continuity of leadership and continuity of policy—the same leaders were in control during the entire period of the first 25 years; accounting system—the Exchange has one of the most up-to-date and complete systems of bookkeeping and records, including summaries and recapitulations, to be found in the United States. This includes an annual audit by a certified public accountant (not a "sympathetic audit" which some associations ask for and get); inspection and grading system; market-news service; sales service. It is manifestly the service rendered, not the form of organization, which is the important thing in a cooperative association. This association performs the service and, therefore, secures and holds the business of its members. It has no contract with members, hence it must depend on service alone. The newer cooperatives generally tie the member fast with a contract, compelling him to furnish volume of business to his association. Obviously, if the association depends upon the contract rather than the service to hold the member, it will not be forced to avoid extravagant and inefficient methods to meet outside competition. The member, in

such a case, however, cannot be "educated" to remain a member indefinitely. The two tests of a cooperative association are: its beneficiaries must be those who support it with their business; it must be subject to control by its beneficiaries. The Eastern Shore and Virginia Produce Exchange is a good example of such a cooperative.

#### Questions

1. Which should sell for a higher price, bulk or sacked potatoes? Why? The Chicago situation?
2. Why is the potato market a highly speculative one? Give examples of profits and losses in this business. Some of the risks?
3. Give facts on potato production: volume; "overproduction" and price decline; carloads; compare volume of apples and eggs; place and season of production of late and early crops; deficit and surplus areas.
4. Give details as to the early crop and its marketing.
5. Give details as to the marketing of the late crop. Reasons for or against marketing the late crop in seven equal monthly instalments (page 214).
6. Describe export and import trade in potatoes. Embargoes.
7. Describe domestic consumption: compare with per capita consumption in Europe; by-products; use as a joint-food; increase or decrease in consumption.
8. Where and by whom should grading be done?
9. Give the United States grades for potatoes.
10. Explain some transportation problems in potato marketing.
11. Define three types of potato storage. Arguments for and against farm storage. Which type has the most advantages.
12. Describe the four general trade channels. In your judgment which is the best?
13. What are the chief price factors? Place of "orderly marketing" as a price factor?
14. Describe in detail the various cooperative marketing associations selling potatoes.
15. Show how the Eastern Shore of Virginia Produce Exchange secures democratic control; distribution of benefits to those who furnish the business.
16. What are its reasons for success?

## CHAPTER XXIII

### COMMODITY MARKETING. 9. TOBACCO.

From the earliest days of the colonists overproduction has been the one greatest menace to profitable tobacco culture. In most of the principal centers of production less than 10 per cent of the total acreage of the tobacco farms is devoted to this crop each year and rising prices for tobacco are almost invariably followed by marked increase in production. In recent years by far the most marked increase in demand and in production has been in the flue-cured type of the South Atlantic states, but in these states there is a very large acreage of land lying idle which is not sufficiently productive for general farming but is available for meeting any increase in demand for flue-cured tobacco.

"History and Status of Tobacco Culture," *Yearbook*, U. S. Dept. Agr., p. 467, 1922.

The tobacco crop generally runs well over \$300,000,000 a year in value. Although the Kentucky farmer has only 4 or 5 acres of tobacco on his farm each year, yet it is his big cash crop and, therefore, it takes on considerable marketing importance. Indeed, tobacco is now one of our great articles of commerce, and ranks fourth in value among exports of agricultural products, being outclassed only by cotton, grain, and packing-house products. In the course of time tobacco marketing developed three characteristics, each of which was bad for the grower. These three features were: few buyers and many sellers; no grading; no quotations. The few buyers were powerful and at times worked in collusion, making the producers feel uncomfortably helpless. No grades were in operation for the tobacco passing from producer to first buyers; a flat price was paid, rewarding growers of poor tobacco, and penalizing farmers with better quality. Since there were no grades, there could be no quotations. Thus farmers could have only vague ideas of the quality or the value of their crops. When tobacco was selling at the central markets at prices ranging from 1 cent to \$1 a pound, the farmers were getting a flat price of perhaps 8 cents a pound. Such a situation fits only a primitive condition of society, not a modern commercial state.

The Planters' Protective Association (Guthrie, Ky., 1904) was the first organized effort of these farmers to better their economic status. This was a pool which received and sold the crop of its members. A similar and larger pool was then formed in the burley tobacco district about Winchester, Ky. This meant a collision with the tobacco trust. The farmers had a carry-over of 100,000,000 pounds; the 1908 crop was about to be planted. The growers decided to maintain prices by curtailment of production. Members pledged themselves to grow no tobacco during 1908. Some were persuaded, some were compelled, to conform to this plan. This was not a peaceful year in the burley tobacco district; there were some "night riders;" some barns were burned; some blood was shed. The price of tobacco was nearly doubled. This is the historical background of tobacco marketing in Kentucky, the state which produces one-third of all the tobacco grown in the United States. Back of this display of human psychology (resistance to wrongs) were the three basic economic causes: a few powerful buyers dealing with many weak sellers; no grades; no quotations. No real solution of the problem could be commenced till these three underlying causes were recognized and remedies appropriate thereto applied. A consideration of the production, consumption, and marketing problems is now in order.

**Tobacco Production.**—Commercial tobacco production is largely localized, two-thirds being in three states—Kentucky, North Carolina, and Virginia. The other important regions are Tennessee, South Carolina, Ohio, Wisconsin, Indiana, Lancaster County (Pennsylvania), and Hartford County (Connecticut). The acreage has approached the 2,000,000 mark, and in 1920 almost touched this high level. The yield has approached the 1,600,000,000-pound mark, and in 1920 almost touched this high point. The value of the crop fluctuates enormously, depending, of course, on the production and price per pound. There are many types of tobacco, having different uses, but they may be grouped in four general types: (1) dark, fire cured, air cured—an export tobacco—about 80 per cent going to foreign markets, and used at home in making chewing tobacco and snuff; (2) bright, flue-cured—used for chewing tobacco, granulated smoking mixtures, cigarettes, and for export; (3) cigar leaf, for making cigars; (4) white Burley, for making cigarettes and smoking mixtures. This tobacco was formerly used for making

the heavily sweetened plug tobacco. With the tremendous increase in the smoking habit, however, there has come a demand for this tobacco for smoking purposes.

The possibility (and probability) of overproduction of tobacco is the best-known characteristic of this crop. It is important to note, in this connection, that the tobacco acreage on any one farm is small—4 or 5 acres, and that the tobacco acreage represents a small per cent of the improved land on tobacco farms in the leading tobacco states, namely, 11 per cent in Virginia; 17 per cent in North Carolina; and 8 per cent in Kentucky. Labor and land can be easily shifted from other crops to tobacco if price warrants.

**Tobacco Consumption.**—The outstanding feature in tobacco consumption during the past quarter-century is the unprecedented expansion in the manufacture of machine-made cigarettes. In the 5-year period 1897 to 1901, 4 per cent of the total leaf tobacco consumption was for cigarettes; for the 5 years ending in 1921 this had increased to 26.3 per cent; that is, an expansion of over 500 per cent in 20 years. There was a slight decline in the portion used for cigars, and a large decline in the per cent used for chewing tobacco and snuff. The domestic manufacture of cigarettes reached 65,000,000,000 in 1923, and 71,000,000,000 in 1924. This is the one form of manufactured tobacco now exported in quantities; new markets are being developed in foreign lands, particularly in China.

The per capita consumption of tobacco has been steadily increasing, as far back as statistics are available. At the time of our Civil War our consumption was about 4 pounds per capita; at the end of the World War it was 8.5 pounds. Evidently an increasing per cent of the people are using tobacco, and of these new consumers the bulk are cigarette smokers. Apparently women cigarette smokers are also included in this list.

**Exports and Imports.**—While the United States is the greatest exporter of tobacco in the world, her imports are also heavy. Certain types are imported to meet domestic requirements, such as these three: (2) cigar-wrapper leaf from Sumatra and Java; (2) Havana filler and wrapper for cigars, from Cuba; (3) Turkish and Greek cigarette tobacco. The importation of Turkish tobacco reached the high peak of 36,000,000 pounds in 1920. The world's tobacco exports are about 1,000,000,000 pounds a year; of this amount the United States furnishes 41 per cent.

In the early days of our history, almost all of the tobacco crop was exported. By the close of the Revolution, 75 per cent was exported. By 1900 the exports amounted to 38 per cent of our whole crop. It is estimated that 10 to 15 per cent of the burley crop is exported, and about 75 per cent of the dark fire-cured and dark air-cured types. About 50 per cent of the bright flue-cured type is exported. In certain types of tobacco, therefore, the foreign demand is the major price-making factor. Obviously, also, if the "surplus" of burley becomes a little larger, the foreign market will become the chief barometer of its value.

*Grading.*—The grading of tobacco was the first great achievement of the Burley Tobacco Growers' Cooperative Association, in the year 1921. Farmers now, for the first time, received a written statement for the tobacco delivered, showing pounds and grade. The first delivery made to the association consisted of over 11,000 pounds, and was made up of the following 13 grades; A4, A5, B3, B4, C3, C4, C5, C6, D3, D4, D5, D6, E4. The grades being definite, quotations were made possible, enabling any farmer to compare his prices with others, and to know how much of each grade he was actually producing.

*Marketing Problems of Tobacco.*—The marketing problem in tobacco is complicated somewhat by the large number of uses to which tobacco is put, and by the strong organization of most of the buyers. There are government tobacco monopolies in certain foreign countries, hence their buying is concentrated. The Kentucky burley, which goes into cigarettes and pipe tobacco, is largely bought by the Big Four among American manufacturers of tobacco.<sup>1</sup> In the case of cigars, there is, however, much competition, for there are several thousand independent cigar factories scattered over the country; they use about one-fourth of the crop. The manufacture of cigarettes and of pipe-smoking tobacco is at the present time a large-scale industry, concentrated in a few hands.

Farmers have three general methods of selling their tobacco: (1) farm selling; (2) auction; and (3) cooperative marketing. Each of these will be considered.

*Farm Selling.*—In many of the cigar tobacco sections the crop is sold for future delivery, that is, the buyer makes a contract with the farmer before the crop is harvested, stating price, and

<sup>1</sup> American Tobacco Company, Ligget & Myers, R. J. Reynolds Tobacco Company, and Lorillard and Company.

the farmer agrees to deliver the tobacco after it is produced, cured, and packed into bundles. In other cases country buyers come to the farm where the tobacco is kept and buy from the farmer or buy without examining the tobacco, paying a "general average price." In some cases agents of the manufacturers buy direct from farmers. But in all these cases of farm selling the farmer himself has practically no conception of tobacco grades and hence of tobacco values.

*Auction.*—The auction has long been used in marketing tobacco. The common form of auction is known as the loose leaf, since the tobacco is displayed in loose, unpacked piles on the warehouse floor. This tobacco is first cured by the farmer; then dampened slightly to bring it into a soft pliable condition; it is assorted by the farmer according to his ideas of quality, color, length, and other factors. The lots or piles on the warehouse floor vary in size from 10 to 1,500 pounds. Buyers congregate at the warehouse. The auctioneer moves rapidly from pile to pile, taking from 12 to 15 seconds to make the sale to the highest bidder. In this way he can dispose of from 240 to 300 piles an hour. If the farmer is not satisfied with the price, he can withdraw the lot and sell it another day. This privilege, however, appears to be of little value to the farmer. If the farmer accepts the sale price, he receives cash for his tobacco, minus deduction for warehousing, weighing, and a commission for selling.

The auction at Louisville, Ky., is of packed tobacco. Here the tobacco is put in hogsheads or tierces containing from 500 to 2,000 pounds, when it is offered for sale to the highest bidder; the packages are opened so that buyers may examine the tobacco.

At Baltimore, the closed-bid packed tobacco auction method is used; no auctioneer is employed, however. Samples are drawn and are inspected by those interested. Prospective buyers then submit "closed bids," that is, secret bids, on slips of paper. At the end of the day the bids are taken from the box, and the tobacco is sold to the highest bidder.

*Cooperative Selling of Tobacco.*—Sporadic efforts at cooperative marketing were tried in certain tobacco sections as early as 1906. In the year 1921, a large-scale movement was begun, resulting in the forming of pools covering a large percentage of the total tobacco acreage of the country. Three of the largest pools were formed in the seven tobacco states, as follows: (1) Burley Tobacco Growers' Cooperative Association, covering the burley

regions of Kentucky, Tennessee, Ohio, and Indiana; (2) Tri-state Tobacco Growers, covering Virginia, North Carolina, and South Carolina; (3) Dark Tobacco Growers, operating in Kentucky, Tennessee, and Indiana. Smaller pools have been formed in some of the other tobacco districts.

The tobacco pool is usually formed by means of a campaign or "drive," during which the individual growers are canvassed and pledged to deliver their entire crop, for a number of years to the pool. The members sign contracts, binding them legally. The pool takes title to the tobacco, grades it, and sells it, spreading the payments to the growers over some 24 months as the tobacco is sold. Since it requires 2 years or more to cure tobacco, final payment is sometimes delayed beyond the 2 years. Thus final payment for the 1922 crop was made in March, 1925. The pool, of course, carries the speculative risk of price advances or price declines.

The pool also owns and operates warehouses, providing its own storage. It uses the warehouse receipt as a basis of credit, and large sums of money are borrowed thereon and advanced to growers before the tobacco is actually sold. Finally, the pool performs the bargaining and selling service for its members. The chief services of the pool are, therefore, seen to be grading and standardizing, storage, credit, risk-bearing, and sale. The limitations of such large-scale pools are: lack of control over production, and hence the certainty of big prices to beget over-production; large overhead expense and difficulties of management, in dealing with so many separate, widely scattered individuals. One pool has over 100,000 members, and a bookkeeping account must be carefully kept with each one of these persons. The third weakness inheres in the method of promotion; a certain amount of education and a certain amount of propaganda are necessary for the big "drives" and sign-up campaigns. In consequence many persons join who are not fully educated as to either the meaning or purpose of cooperation. They have been sold cooperation by old-fashioned salesmanship methods, based on extravagant promises, and they have very extravagant notions, therefore, as to the benefits coming to them. If these rosy promises are not fulfilled, many of these members are disappointed and want to quit. Then it becomes a race between the education, real education, of such members and the date of the expiration of their contracts.



The large pool is frankly based on the idea of a quick sign-up and a slow education afterwards, by means of the official house organ, the field service, meetings, etc. Contracts usually run 5 years. If the member can be "educated" and made a *bona-fide* cooperator, in spirit as in fact, before the 5 years expire, the pool is sound. The pool has commonly focused attention on price as the immediate goal, rather than the ultimate goal. Better production and better grading are, or should be, the final goals. Cooperative tobacco marketing, in the form of a pool or otherwise, should tend to improve these two basic conditions of marketing. Otherwise it is doomed to certain failure.

#### Questions

1. What has been for two centuries the greatest menace to profitable tobacco culture? Why is this?
2. What is the total value of the tobacco crop? Its place in commerce.
3. Give three bad features of tobacco marketing.
4. Cite first organized effort of Kentucky tobacco growers to overcome these handicaps. The episode of the "night riders."
5. Give significant facts regarding tobacco production: locality; acreage; yield; value; types and uses; overproduction; acreage per farm.
6. Describe tobacco consumption; shifts in chewing, smoking, cigar and cigarette tobacco; increases and decreases; changes in exports and imports; United States share in world trade.
7. Why does the United States both export and import tobacco? Importance of foreign market on American price?
8. Explain the grading of tobacco.
9. Who are the buyers of Kentucky burley tobacco? Degree of competition?
10. Give three general methods of selling open to farmers.
11. Show use of each; advantages and disadvantages; details of tobacco auctions.
12. What is the extent of cooperative marketing of tobacco? Place of the pool.

**PART II**  
**PROGRAMS**

## CHAPTER XXIV

### GOALS IN MARKETING

The present time is especially fruitful of proposals of a large and novel nature, designed quickly to solve marketing problems. Recently measures have been introduced into the congress proposing a private or a governmental agency of national range, with state and county subdivisions, to supervise, or even to direct, the handling or marketing of the nation's farm products. The probability is that an undertaking of such a character would break down of its own weight. There is no question that everything which can legitimately be done to eliminate waste in marketing and to promote orderly distribution, should be done. But the views of the most experienced students of the matter seem to be that we must approach the problem in simpler terms, work along lines which have clearly proved to be feasible, and promote existing tendencies and practices.

HOUSTON, D. F., *Secretary of Agriculture, Yearbook, U. S. Dept. Agr., pp. 43 and 44, 1919.*

We must see to it that the road between the producer and the consumer is open and direct and that the farmers have a free and competitive market in which to dispose of their products . . . The Bureau of Markets, created in 1913, is directing its attention to the solution of the many complex problems arising in connection with the marketing of farm products. It is dealing, first of all, with several fundamental steps which are essential to constructive work in this great undeveloped field. These include particularly the accumulation of fundamental data regarding marketing processes and costs; the dissemination of accurate, disinterested market information, the elimination, wherever practicable, of waste and unnecessary marketing expenses; the development of standards for the grading of farm products and the standardization of containers; the promotion of efficiency in the storing, handling, and shipping of farm products; and the regulation of marketing machinery in order to prevent any abuses or sharp practices that may exist.

MERRITT, E. T., *Secretary of Agriculture, Yearbook, U. S. Dept. of Agr., p. 21, 1920.*

The *Yearbook* for 1921, therefore, emphasizes the economic side of our agriculture, because help in their economic problems is now the most urgent need of our farmers. That is not to say that the Department of Agriculture is losing sight of production matters. The farmer needs all the help in his production problems that the Department and the agri-

cultural colleges and the experiment stations can give him, but the thing of most importance now is the development of an entirely new realm of organized knowledge bearing upon the economic factors of agriculture, looking towards cheaper production, improved methods of distribution, and the enlargement of markets, all to the end that the prices the farmer received shall be more fairly related to his cost of production.

WALLACE, HENRY C., Secretary of Agriculture, *Yearbook*, Dept. Agr., p. 3, U. S. 1921.

Part I of this book discussed the principles of marketing. Part II discusses the programs for putting these principles into operation—programs of individual efforts, of cooperative effort, and of governmental effort. First, as to the goals to be reached. This chapter discusses goals in marketing from the standpoint of agriculture alone. To look on cooperative marketing as merely a scheme to raise prices is to fail to see the real goal of cooperative marketing. Any improved system of agricultural marketing which is in reality an improvement must, therefore, benefit consumers and original producers. Any program for improvement in our present system, that is, must aim to benefit both producer and consumer, and not the one at the expense of the other. Both are victims of wastes in distribution; both must be beneficiaries of economies and reforms. Some reforms in marketing consist in eliminating trade abuses, petty or grievous as the case may be. Other reforms aim at the base of the system, hoping to cause fundamental changes and thereby establish serious or permanent improvements. These fundamental changes may be called the goals in agricultural marketing. Leaving the consideration of production as a marketing problem to the chapter on cooperative marketing below, these goals may be reduced to two in number—cheaper distribution and better price. These two can be expressed in a single word each—savings; quality. These two are interrelated; they affect the three parties—consumer, original producers, middleman. It will be in order to consider them at this point.

**Cheaper Distribution: Savings.**—This phase of market reform may be looked upon as a middleman problem. The farmer's net returns can be increased by savings in distribution. Savings in distribution can be effected by savings in any one or more of the separate steps or functions in the marketing process; namely, production, transportation, storage, credit, risk bearing, and sale. These have all been discussed in their proper places in the first chapters of this book. These functions are generally performed

by specialized producers or middlemen, on a division of labor basis, operating under a competitive system. In some cases these functions are performed by groups of organized farmers. In some cases the farmers are able to effect savings thereby; in others they merely increase the expense. Since attention in recent years has been so largely focused on the last or least important function—sale—it is necessary to point out the proper place of selling or “merchandizing” in a program of market improvement. This will be done in the paragraphs below.

**Better Price: Quality and Distribution.**—The problem of better price is primarily a problem of better quality; better quality in turn makes better and cheaper distribution possible. Better quality is primarily and fundamentally a production problem, rather than a middleman problem. Since it is necessary to meet consumer-demand, the question of quality is seen to be a producer-consumer problem. To summarize what has been said, savings in distribution is a middleman problem; better-quality, better-price is a producer-consumer problem. Turn now to the selling and merchandizing function in its relation to better price.

**Sale.**—Undue emphasis may easily be put on sale. Price may be controlled, as has already been pointed out, only by controlling the factors which make price. Price may be influenced by influencing the factors which control price. No healthy, sane, legal marketing program includes the policy of price control. Price influence is, however, a plank in the platform of a sound marketing program. Undue emphasis may be put on “orderly marketing,” that is, controlling the flow to market, of “feeding the market.” Orderly marketing relates to two things only, the time and the place of marketing. With highly perishable commodities there is much latitude of choice as to place of marketing, but not as to time. In such commodities the time to market is determined by the season; namely, when the commodity reaches maturity or ripeness. At the other extreme from the highly perishables are found the non-perishable, standardized products, such as grain, cotton, and wool. Here the time of marketing and the place of marketing have little or no influence in price. “Orderly marketing” is a slogan. It may, and in some cases does, stand for an important idea in marketing; in other cases, like most slogans, it is only a substitute for an idea, and does more harm than good. There is no slogan or maxim

which is an open sesame to our marketing problems. One of the state wheat pools, for instance, adopted the slogan—"Merchandize your wheat." Wheat has been merchandized for the past 40 or 50 years. That is, it is a graded, standardized product, easily transported, stored, sold for future delivery, and is traded in on organized markets by competing groups of buyers and sellers, and price quotations and grades are matters of common knowledge among producers, distributors, and consumers. The leaks in grain marketing, and there are many of them, are found connected with the other five functions rather than with the "merchandizing" or selling function.

*Sale and Bargaining.*—As has already been pointed out, price influence purely through selling methods, hinges largely on bargaining power and bargaining skill. What bargaining power depends upon, needs no further elaboration here. The time and place of sale and bargaining power may all be easily over-emphasized as price factors in marketing. To have for sale the quantity and quality wanted by the consumer is obviously far more important than the mere time and place and bargaining-method of sale. It is a very incomplete program of market betterment which sets for its goal the improvement of price by a mere change in the sales methods and machinery.

*Summary.*—The goals in sight in agricultural marketing are those which will secure to the farmer a higher net return. There are various ways and means for improving the route to these goals. One of these goals, better production, has been omitted from this chapter for consideration later. The other two, savings in distribution, and better price through better quality and distribution, have been presented as parts of a sound marketing program.

#### Questions

1. Give comments of Secretary Houston on the "large and novel" suggestions to improve marketing, and his own views of the program.
2. Give the comments of Secretary Meredith on a proper marketing program.
3. Give the comments of Secretary Wallace on the production-marketing problem.
4. What should be the general aim of market reforms?
5. What are two specific goals?
6. In what sense do the words "Savings and quality" express the goals in agricultural marketing?

7. Show the rôle of cheaper distribution in a program of better marketing. What is included?
8. Show clearly the relationship between price, on the one hand, and quality and distribution on the other.
9. Where does sale come into the marketing problem? orderly marketing? feeding the market? "merchandizing?" bargaining?
10. Summarize factors entering into goals in marketing.

## CHAPTER XXV

### PROGRAM. 1. INDIVIDUAL EFFORT

#### (Marketing as Part of Production)

Marketing is as truly a part of production as is the growing of the crops, for the crops have no value unless they can be put into the hands of those who need them. The assembling, storing, and distributing of farm products are productive enterprises and those engaged in this work require much the same economic and technical information as that required by farmers. The acquiring and disseminating of knowledge of what to produce and how best to market it is as much needed as the knowledge of how to produce, whether the matter is viewed from the standpoint of the farmer, the middleman, or the consumer, for orderly and stabilized production means prices which are neither very much too high nor very much too low and guarantees an abundance of food at all times. Such knowledge cannot be gained from a study of the mechanics of marketing alone. It is much more than a business matter. It involves research in agronomic, biological, and physical, as well as statistical and economic science by men trained in their respective lines and who have a working knowledge of agricultural processes and conditions.

WALLACE, HENRY C., Secretary of Agriculture, *Yearbook*, U. S. Dept. Agr., pp. 18 and 19, 1921.

Production is not only one step in marketing, but it is the most important step. The reader may be reminded at this point that the so-called middlemen (as was said before) are productive in the economic sense, since they create utilities and personal services. In the popular use of the term, "marketing problems" means problems arising subsequent to production. The term has been used in the popular sense generally in this book, but it is hoped no confusion has thereby been created in the mind of the reader. This chapter considers the two aspects of the marketing problem as related to individual effort: Production as a part of marketing; and marketing problems in the popular sense of the term.

**Production.**—Production, as a part of the marketing process, consists of quantity and quality control. Whatever scheme of marketing may be used, any fundamental and permanent



improvement rests on the individual farmer, and: (1) his use of better sires; (2) better seeds; and (3) better farming. The efficient production of what the consumer wants is the individual farmer's biggest marketing problem. The road from farmer to consumer may be long, crooked, and full of toll gates. But as long as the road is actually kept open, and no tolls taken except for actual service rendered, the marketing of the commodity can be done as efficiently as the original producing is done. To illustrate: many cost studies have been made on dairy farms, but the outstanding truth of these widely scattered investigations is that one-third of the dairy cows are not paying for their board and keep. The dairy farmer who is marketing \$15 hay by feeding it to his dairy cows of this "boarder class," is getting about \$10 for his hay, and nothing for his labor. It is this extra one-third of the dairy cows that produce the "surplus" milk which keeps milk prices down for all milk producers.

As for actual trade abuses, stoppages of the road, false weights and measures, manipulations, frauds, deceits—these things are under the watchful surveillance of the local, state, and Federal governments, and play, therefore, only a sporadic and minor part in marketing. As has been said in previous chapters, organized governments always have protected the consumer against both producer and distributor. In recent times in our own country, our Federal and state governments have spent many hundreds of millions of dollars to help the producer in his dual capacity as producer and vendor.

*Government Help.*—The policy of the government is to help farmers help themselves. In the *Report of the Secretary of Agriculture*, Henry C. Wallace, for the year 1923, this policy is announced in these words:

Whatever may or may not be done by government, it is perfectly clear that the success of the individual farmer will depend on his own efforts. That he must work hard goes without saying, but under present conditions it must be work with the head as well as the hands. The crops to be grown and the kind of farming to be followed must be determined not alone with an understanding of the conditions which influence production, but with some knowledge of the prospective demand for those crops and some study of the conditions which are likely to influence the price. The Department of Agriculture is trying to help the farmer help himself both in determining what to grow and how to grow it, and in putting in his hands the kind of information concerning domestic and foreign conditions which he needs to produce and market to the best advantage.

The limitations in quantity and quality control by the individual farmer have already been considered in Chap. III.

**Marketing.**—The farmer's time and effort are generally fully occupied with his own production problems. Many crops, such as corn and hay, are by their nature made to be consumed on the farm; many other crops are side lines. Hence a large number of farmers are not yet fully and consciously in the "commercial stage" of farming; that is, selling all they produce, buying all they consume. Market information is, therefore, not so fully appreciated or utilized by the farmer as such information is by industrial and commercial interests.

*Market Information.*—Without market information the farmer is not only a poor bargainer; he is no bargainer at all. Therefore, the farmer needs at the outset more market information. It is believed that he ought to receive at least one trade paper covering the major field of his operations. This furnishes him price quotations. Since these quotations are by grades and standards, he must of necessity get some knowledge of grades in order to interpret the quotations. In addition to the trade paper, there is now available an excellent market-news service, free of charge, issued by the Federal Bureau of Agricultural Economics. In addition to this service, about one-half the states now issue a somewhat similar news service through their department of agriculture or state market bureaus.

*Marketing Channels.*—The individual farmer in practically all cases has the choice of two or more channels of marketing. His choice of agencies is widened to the extent that his commodity is sorted, culled, or graded. The large-scale producer has a distinct advantage here, for he has volume enough to justify the expense of sorting and grading, and the use of telephone or telegraph to find wider or better market outlets.

*Miscellaneous Marketing Functions.*—There are certain cases of storage which are cheaper on the farm than at local shipping station or terminal. This is a problem which must be solved in the light of conditions as they exist in each particular case. The Kansas farmer employs considerable farm storage for wheat; the spring wheat farmer of North Dakota employs almost no farm storage. The storage problem is an acute one in the case of cotton. In some potato sections it is an unsolved problem.

The question of when to sell is one which admits of no simple and general answer. As has been pointed out in earlier parts

of this work, the "flow to market" is a vital question with certain commodities only. With the staple crop the individual is as able to select the best time to sell as is any "expert" who may be employed to sell for him. Forecasting prices is not yet reduced to a formula—and never will be. Therefore, those who are in intimate daily contact with the boards of trade and exchanges, enjoying "inside information," are still unable to forecast prices. "Sufficient inside information," says one of the greatest price authorities in the world, "can ruin anybody in Wall Street."<sup>1</sup>

#### Questions

1. Give the comments of Secretary Wallace on production as a part of marketing.
2. The individual can exercise what control over production as a part of better marketing? quantity? quality? Illustrate (dairy cows).
3. Describe the individual and trade abuses.
4. Describe the individual and government aid. Views of Secretary Wallace.
5. Describe the individual and the actual marketing: information; choice of marketing channels; storage question; time to sell ("orderly marketing" question).

<sup>1</sup> HAMILTON, WILLIAM PETER, "The Stock Market Barometer," p. 126, 1922.

## CHAPTER XXVI

### PROGRAM. 2. COOPERATIVE EFFORT

There is a school of cooperators who seem to believe that the program can be started at the top and built downward . . . Cooperation must start from the soil. It must have its beginnings in small and modest units. It must train the people who are to use it to think cooperatively. This will be a process requiring time and attended with failures. As the people learn the lesson, their particular projects in cooperation will gain strength, will command increasing confidence, will expand the benefits to their members. The coordination of these local units will follow, bringing them at last with such working articulation as experience shall prove practicable.

CALVIN COOLIDGE, President of the United States. From address delivered Jan. 5, 1925, at Washington, D. C., before third national cooperative marketing conference, held by National Council of Farmers' Cooperative Marketing Associations.

Agriculture includes too large a proportion of the total population to prosper without the prosperity of the nation as a whole. I am thoroughly convinced that just to the extent that the motive of fixing prices as an objective in the organization of cooperative marketing is kept in the foreground, and the hope of a monopoly price for farm products is the dominant motive on the part of farmers in entering cooperative organizations, the movement is doomed to fail. Agricultural cooperation promoted and organized in the spirit of extortion, in a spirit of price fixing on a monopoly basis, or in any way in the spirit of doing the other fellow, cannot succeed.

From an address by TAYLOR H. C., Chief of Bureau of Agricultural Economics, U. S. Dept. Agr. Quoted in *Hoard's Dairyman*, Aug. 18, 1922.

The United States is a country conspicuous for its success in cooperation. She leads the world in cooperative insurance, cooperative credit, and cooperative selling. Only in cooperative buying have our achievements been almost negligible. The cooperative insurance movement among farmers began in the twenty's and has quietly but consistently made progress, until now the total coverage of this insurance is between six and seven billion dollars. This is our largest cooperative movement. Next comes cooperative credit which is chiefly in the form of our building and loan associations, amounting to about \$4,000,000,000. There are various other forms of cooperative credit, both

urban and rural. These include the credit unions. Federal farm loans are not considered by the writer as cooperative credit, since they are based on first mortgages on farm land, and hence are land credit; to sell these first mortgages there is a local farm loan association which is cooperative in nature. Land credit, however, is not to be confused with pure cooperative credit. In cooperative selling, there are well over 10,000 separate cooperative associations, with a volume of business amounting to about \$2,000,000,000 a year. Cooperative buying is very important as a side line to many cooperative sales agencies, but it is not important as a separate and independent type of cooperation in the United States. The high death rate of cooperative stores, for instance, seems to be an illustration of this principle.

**Cooperation a Business, Not a Religion.**—To some persons cooperation is a religion. The fact remains, however, that the marketing of farm products is a purely commercial undertaking. It is not a question of how much nervous joy or spiritual exaltation may be had out of cooperative selling, but the plain, cold business question of net cash returns. The system that performs the best economic service at the lowest cost will survive. The final test is that of highest net returns. A great deal of the literature of cooperative selling and buying indicates that there are still many people looking for a "cooperative commonwealth" as a new heaven on earth; that there are still many people crusading for the idea that "cooperation is the hope of the consumer." Indeed within a few years a book has appeared, the title indicating that the consumers' only hope is cooperation; the contents of the book devoted to the thesis that "advertising controls and perverts consumer demand;" the final conclusion of the book stating that the cooperative experiment under consideration (a cooperative store in a wealthy suburb of New York City) had been taken over by one individual to operate as a regular competitive institution. "If the facts are against our new religion," is the implied conclusion of this and similar books, "then so much the worse for the facts." The business nature, rather than the religious nature of cooperative marketing may be established by turning to any concrete example. The Rice Growers' Association of California is as good an example as any. The Pacific Rice Growers' was organized in 1915 (as were several other California cooperatives) during a period of rising prices. First came prosperity, then failure. In 1921, it was dissolved.

It was succeeded the same year by the Rice Growers' Association of California—organized on a falling market, and requiring, therefore, better management. Fortunately, this management was forthcoming. The following quotation from the 1924 *Yearbook* of this association states the plain business facts of cooperative marketing.

*Rice.—An Example.*—The President of the California Rice Growers, in his *Annual Report* for the year 1924, just before retiring from this position to become general manager of the Sun-Maid Raisin Growers', made the following acute summary of the basic facts on cooperative marketing:<sup>1</sup>

The history of cooperative marketing is a record of both success and failure. In the rice industry of California we have seen an organization, which was apparently successful several years ago, collapse under the pressure of readjustment. Within the past 3 years we have seen a new Rice Association develop in a period of adversity and difficulty to a point of unquestioned success and promise. What underlies these successes and what causes contribute to these failures?

Fundamentally, failure comes from two causes: lack of understanding of the real meaning of cooperative marketing, and lack of proper management. There are no secrets in cooperation. An organization, to be successful in the marketing of its product, must develop out of the willingness of producers of a similar commodity to join together for the orderly distribution of their product under management of their own choosing and under a method best adapted to the commodity in question. Farmers who have tacked the sign of a cooperative organization over their doors have found themselves facing failure in their enterprise because they did not know that successful cooperative marketing does not lie in a catch phrase or a patented legal contract, but it does consist in carrying out a sound substantial plan for orderly distribution of the product by methods that will stabilize markets, standardize goods, create economies in distribution, and return to the producer more than he would receive if such organization did not exist. The sooner these points of view are clarified, and the sooner the mystery and claptrap is removed from the realm of cooperative marketing, the better the farmer will be and the sounder his undertakings.

The second phase of success lies in choice of proper management. Marketing one's goods is not a political matter; it is a business function. Management must be chosen for business ability and must be paid accordingly. Management must have the ability to create a partnership with the members based on the idea that the management is

<sup>1</sup> MERRITT, RALPH P., "Rice Growers of California," 1924 *Yearbook*, p. 3.

solely a trustee for the good and the welfare of those whose products are sold through such an organization.

This chapter presents four aspects of the cooperative-marketing question, as follows: (1) inherent weaknesses of cooperative marketing; (2) the things cooperative marketing cannot do; (3) economic aims of cooperation; that is, what is a sound program; and finally (4) the forms of the organization. It is considered as a necessary service to the cooperative movement to point out frankly its limitations as well as its strength. There seems to be no particular reason why certain costly mistakes should be repeated over and over again by groups of farmers in order to learn a few simple economic principles.

**Inherent Weaknesses.**—Cooperative marketing, as has been said, is a business; therefore, it must compete. It has always been part of the doctrine of American economic progress that business shall go to him who performs a better or cheaper service, and that there shall be "equal opportunity to all, special privilege to none." It is a maxim also that there shall be open and free competition, and no monopoly. Cooperation, therefore, must expect to compete, without favor or privilege from the government. This is the general background of the movement. Now attention may be directed to three specific weaknesses:

**Oversold.**—The English language has recently been enriched with a new word, or rather the new use of an old word, "sell." When one is persuaded to accept a new idea, the idea is said to be "sold" to him. In the last few years cooperation has been "sold" to literally hundreds of thousands of farmers. Few of these men actually understood the letter of cooperation. Still fewer of them had the genuine spirit of cooperation sold to them. Hence cooperation, by reason of big campaigns, whirlwind drives, evangelistic speeches, and the arts of highly paid promoters and well-commissioned salesmen and canvassers and field workers, has been oversold. A slower mode of growth, based on education, rather than propaganda, makes for greater stability and permanence.

**Extravagance.**—A man will run his own business more carefully than he will run the business of others. Cooperative marketing must depend upon hired managers and sales force. With large cooperatives, where the funds passing through the hands of these hired men amount to millions of dollars, extravagance is likely to

develop. It may show itself in the form of nepotism; or of large salaries to influential persons; or "luxuries" in the way of office room, equipment and supplies, including automobiles; or wasteful expenditure in purely "show" matters; or in long, expensive trips and tours at home or abroad by those who perform no equivalent service in return, or by several prominent members when one expert would suffice. In cases where plants are bought extravagance is sometimes exhibited in the prices paid. Cooperatives of the non-stock type—that is, that do not have to pay any dividend—are in a position of peculiar temptation here, for there is no effective check-up on their administration, which is simple and concrete enough for the membership to comprehend. The private business corporation handling large funds must show a dividend—or tell the stockholders why.

*Private Initiative.*—Individual initiative is the single greatest driving force in American business life. This force, plus our free government and our free schools, is believed to account for the unprecedented progress and achievements in our economic welfare. It is difficult for either state socialism or cooperative enterprise to compete with this type of business. This principle may be illustrated by one of the simplest cooperative experiments, one which has been made literally thousands of times—the cooperative store. Ten farmers, for instance, start a cooperative store. The manager, the son of one of these farmers, is a person of exceptionally high ability and initiative. He makes a brilliant success of the business. The farmer owners do not bother to come to the annual meeting to vote. In fact, they decide to turn the business over to the manager, and let him own it and operate it as a purely private business. He buys out their interest in the store. The result is that these farmers get the same goods at the same price—that is, the same service; they have, however, no responsibility; it is now more convenient for them to let the manager look after all policies and details involved. This case is given as a type of what happens in a large percentage of cases where a competent manager is employed. In this case, the manager had the choice of buying this business, going elsewhere as a hired manager, or going elsewhere and conducting a store of his own. The man who is skilled enough to make such a business a big success is likely not to stay with it; he can do better working for himself. Turn now to the business world, and note the large rewards that come to private



initiative, and at the same time note how the public shares in the benefits without assuming the responsibilities.

The farmers seriously need a cheap, strong, serviceable automobile. Shall they organize a cooperative association and manufacture such a car? "Yes," say the crusaders of the cooperative commonwealth. One individual, Henry Ford, has already organized a business for producing such a car. As the car has been improved, the price has been lowered. It is true that Ford has received large financial reward for his work. But this large reward has gone back, into plant and machinery and larger volume and better output, and has thus, finally, been passed on to the user of the Ford car. Mr. Ford, as trustee of great wealth and power, has made the automobile-using public the beneficiaries. This case typifies "big business" in the best sense of the term. It is a sound form of business. It rests on individual initiative. It conforms to human psychology. The question may be asked here, would the farmer like to have a voice in running this business? The answer is, the farmer would not like to have a voice in running this business if it carried with it any responsibility. In this point every honest cooperator must confess that at the annual meeting of his cooperative association it is very difficult to get out enough members to have a quorum so that any business can be transacted legally. Not only do members fail to attend and vote, but directors fail to direct. Responsibility is felt by few. If the manager must bear all responsibility, as he frequently must, then he might as well work for himself—if he has ability. Since cooperatives generally limit membership to actual farmers, the paid manager is stopped from being a member and in owning a part of a going business. If he transfers his talents to a private business and is a successful manager, he may purchase an interest in the company, thus receiving income both from his labor and his invested capital. The cooperative association must frankly face this fundamental weakness which differentiates it from a purely private business. Those things which a cooperative association cannot do will now be discussed.

**What Cooperation Cannot Do.**—Paid promoters are said to be powerful in promise, and feeble in performance. Promoters of cooperative associations often promise certain economic results which cannot be produced by a cooperative-marketing

association. For instance, the following are five of the things which a cooperative-marketing association cannot do.

*Fix Prices.*—No cooperative can, over a period of years, fix the price of its product. This price may be fixed temporarily, in case of monopoly or substantial monopoly. But there is a buyer's market. A high price curtails consumption and stimulates production. California raisins is the familiar type of this "price fixing." The price is forced by economic law to keep between the upper and lower limits of supply and demand. The law of supply and demand is not repealable.

*Guarantee Cost of Production Plus a Profit.*—Any cooperative association operating over a period of time will sell part of its product below cost of production. Lacking power to control production, on one hand, and demand on the other, it is unable to guarantee its members a "sure thing" in the way of profits.

A committee appointed by the New England Milk Producers' Association to study a plan to remove the burden of surplus milk, reported that no method of marketing was known to it which would compensate for inefficient production methods.

Thirty per cent of the cows in testing associations during 1922 did not return a net profit, although these herds averaged 61 per cent higher in production than the general run of cows in the state.

This is the report found in the University of New Hampshire's *Extension Bulletin 22*. According to this bulletin 50,000 of New Hampshire's 96,000 cows give enough milk to show a profit; 46,000 produce the "surplus," and lose money to their owners, and cause lowered prices to the owners of good cows. Cooperative production will do more for such a condition than will cooperative marketing.

*Cut Costs Greatly.*—There are no opportunities, under our competitive system, of making great cuts in the cost of distribution. There is room for several small economies.

*Eliminate the Middleman.*—Cooperative marketing does not eliminate the middleman. It secures its best results by cooperating with the middleman, to reduce costs of distribution. Examples of this have been discussed in a preceding chapter, particular reference being made to the California Fruit Growers' Exchange, of Los Angeles, and the American Cranberry Exchange of New York City. The same statement about cooperating with middlemen holds true of the Sun-Maid Raisin Growers' of Fresno,

Cal., the Florida Citrus Exchange, of Tampa; the Eastern Shore of Virginia Produce Exchange, of Onley; the Michigan Potato Growers' Exchange, of Cadillac; the Wisconsin Cheese Producers' Federation, of Plymouth; the Staple Cotton Cooperative Association, of Greenswood, Miss., the Milwaukee Cooperative Milk Producers'; the Dairymen's League, of New York; the Pacific Egg Producers', of New York City; and in fact, all the well-established cooperative marketing associations. "Direct marketing," in practice, is negligible as a method of distribution. A strong local cooperative which is actually offering to the market a high-quality commodity, and particularly a well-standardized commodity, can often save money by leaving the sale of this commodity to reliable and experienced dealers in the trade. An overhead sales agency, owned and financed by the cooperatives, must face the dual difficulties of lack of experience and extravagant cost of operation. Terminal market middlemen belong to the "survival of the fittest" class in a highly competitive world.

To look on cooperation as an attack on the middleman is to take too narrow a view of cooperation. To consider cooperative marketing as merely an effort to absorb some of the middleman's profits is to misjudge the whole movement, and to fail to make any fundamental reforms or improvements. In short, to limit cooperative marketing to the middleman aspect of the problem is merely to trifle with the whole question of marketing.

*Eliminate Speculation.*—Cooperative marketing cannot eliminate speculation in the handling of food products. Better marketing reduces many risks; but since the amount produced cannot be stabilized, and since demand itself cannot be stabilized, the price cannot be stabilized. Price changes cannot be eliminated, and price changes are speculative risks, as discussed in the chapter on risk bearing, some of which may be eliminated, some reduced, and others shifted. Cooperative marketing, which prolongs ownership of the goods by the farmer through "orderly marketing," feeding the market, storage, etc., thereby shifts to the farmer the speculative risks of price fluctuation. But the risk (*i.e.*, the speculation) has not been eliminated.

*Cooperative Aims, Methods, Programs.*—Following are the things which cooperation can do. The aim of cooperative marketing is, as has been stated, higher net return. A permanent, rather than a temporary higher net return is meant. The two general methods of securing this net return are better quality

and better distribution. There are many different ways and means of securing better quality and better distribution, to fit the various commodities and the great diversity of market conditions. There are eight general fields of cooperative marketing, from the standpoint of commodity, as follows: (1) dairy; (2) grain; (3) hay; (4) livestock; (5) cotton; (6) poultry; (7) fruit and vegetables; and (8) tobacco.

*Fields of Cooperation.*—Eight fields of cooperation have been listed, all of which with one exception—hay—have come to great importance. The seven fields, with their development, in the order of their importance, are as follows:

*Grain.*—The cooperative marketing of grain is by far the most important example of cooperation in America, from the standpoints of volume of business, number of locals, and number of farms participating. In round numbers there are 5,000 farmers' elevators, with an annual turnover in excess of \$500,000,000. This type of cooperative marketing has been in successful operation for over 25 years.

*Dairy.*—Milk and dairy products rank next to grain in importance in cooperative marketing. There are approximately 4,000 cooperative dairy organizations with an annual turnover of over \$300,000,000. The largest of these, the Dairymen's League of New York has a turnover of seventy-five to eighty million dollars a year. Many farmers' creameries in the Middle West have been in operation 50 years. In Minnesota, the leading state for local creameries and for butter making, the cooperative creamery has been in successful operation for 40 years.

*Livestock.*—The third in order of importance is the local livestock-shipping association. There are in round numbers 1,600 of these associations, and the turnover is about \$250,000,000 a year.

*Fruits and Vegetables: Nuts.*—In this field of cooperative marketing are found the nationally advertised specialties of the California Cooperatives—oranges, raisins, prunes, apricots, etc., as well as fruits and vegetables from all sections of the United States, including apples, strawberries, peaches, pears, cranberries, figs, olives, potatoes, tomatoes, lettuce, Lima beans, cantaloupes, walnuts, almonds, etc. The turnover of the cooperative-marketing associations in this field is over \$225,000,000 a year. The largest single association in this group is the California Fruit Growers' Exchange, handling citrus fruit to the amount

of about \$60,000,000 a year (f.o.b. value). The Florida Citrus Exchange handles about ten to fourteen million dollars' worth. Cooperative marketing has been a success in this field since 1905. The grape and raisin industry comes next in importance in this group, the Sun-Maid Raisin Growers' of California having a turnover of thirty to forty million dollars a year. This association was organized in 1912; it was reorganized in 1922. Next in importance come three types of organizations, each having a turnover of \$10,000,000 a year. They are: (a) the Prune and Apricot Growers' of California, organized in 1917 (with capital stock); reorganized in 1920 (without capital stock); (b) the Walnut Growers' of California, organized in 1912; (c) potatoes. The Eastern Shore of Virginia Produce Exchange with its \$10,000,000 a year turnover, has had a record of unbroken success since 1900. The apple growers of Washington, Oregon, and New York State come next. The cranberry growers of Massachusetts, New Jersey, and Wisconsin (selling through the American Cranberry Exchange (New York City), rank next in importance.

*Federated Fruit and Vegetable Growers.*—On Jan. 1, 1923, the Federated Fruit and Vegetable Growers' began to function as the national sales agency for some 60 local cooperatives handling substantially every type of fruit and vegetable grown in the United States. Some 35,000 farmers market through this agency, the volume of business amounting to about thirty to thirty-five thousand carloads, worth about \$75,000,000. For some 7 years prior to 1923 this association had been operating successfully as a private business handling car-lot shipments for the cooperative locals. By a process of mutualization it became the property of the member cooperatives. It secures a wider and better distribution of product through its agents in the principal centers. Thus in 1923 products in car lots were delivered to 772 cities. It emphasizes first of all the need of highly standardized products to make cheaper marketing possible. It is plain that this type of national association can offer to a small local a superior *sales'* service.

*Tobacco.*—Ranking next after fruits and vegetables comes tobacco. The turnover here is about \$125,000,000 a year. The first cooperative in this field, the Burley Tobacco Growers', began operations in 1922. There was a very rapid spread of the cooperative movement. Five other associations were formed, as follows: Tri-State Tobacco Growers'; Connecticut Valley

Tobacco Association; Dark Tobacco Growers'; Miami Valley Tobacco Growers'; and Northern Wisconsin Cooperative Tobacco Pool.

*Cotton.*—In volume, cotton ranks next after tobacco, the turnover being about \$105,000,000 a year. This represents the business done by the Staple Cotton Growers' Cooperative Association of Mississippi and by cooperative associations in 11 other states; Alabama, Arizona, Arkansas, Georgia, Illinois, Louisiana, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas. The American Cotton Growers' Exchange is the sales agency for several of these state associations, and handles a large share of all cotton sold cooperatively. The first two cotton cooperatives (Oklahoma and Mississippi) began operating in 1921. The movement spread rapidly to the other cotton states.

*Poultry and Eggs.*—Very notable progress has been made in the cooperative marketing of eggs, because in this field the lack of standardization is realized to be very costly. Preventable loss due to this one leak is usually estimated at \$50,000,000 a year. The first large-scale cooperatives in this field were those formed in California beginning in 1916. The other Pacific coast states soon imitated this example. Utah began cooperative egg marketing about 6 years later. Later endeavors in this field were the Mark Twain Poultry Producers' Association of Missouri, the Minnesota Cooperative Egg and Poultry Exchange, the New Hampshire Cooperative Marketing Association, the Ohio Poultry Producers' Cooperative Association. The volume of business done by these cooperatives is estimated at from twenty-four to thirty million dollars a year. With an improvement in quality and standardization of the egg will come increase in consumer demand. As long, however, as the bulk of the city supply comes from farm flocks (mere side lines to farmers) standardization will be retarded. The State of Missouri is to be commended for its efforts and achievements in this good work.

#### Questions

1. Give the comments of President Coolidge on the proper method of forming cooperative associations.
2. Give comments of Chief H. C. Taylor of Bureau of Agricultural Economics on policy of price fixing by cooperative associations. Do you agree?
3. Give the rank of the United States in cooperation.
4. What is our largest cooperative movement? The second? The third? The least important type of cooperation?

5. Is cooperation a religion or a business? Specific reasons for your answer.
6. Criticize the "cooperative-commonwealth" idea.
- 7 Give facts regarding the California Rice Growers and state what principles are here exemplified.
8. What does Merritt mean by the "mystery and claptrap" of cooperation?
9. What four aspects of cooperative marketing are discussed in this chapter?
10. What are the three inherent weaknesses of cooperative marketing? State and illustrate. In what sense is cooperative marketing competitive?
11. Do you favor education or propaganda in promoting cooperation? Distinguish clearly between the two. Be specific.
12. Can you cite actual examples of extravagance on the part of cooperatives?
13. In what sense is individual initiative our greatest business force? To what extent is cooperation a substitute for this private initiative, and to what extent does cooperation employ and profit by it?
14. In what sense does the Ford automobile exemplify private initiative? Could farmers do better by converting this business into a cooperative business?
15. Name and illustrate five things which a cooperative cannot do.
16. What marketing principle is illustrated by the report on the dairy cows of New Hampshire?
17. Is cooperative marketing merely an attack on the middleman? Significance of this view.
18. Reduce the aims of cooperative marketing to one goal. Two methods of reaching the goal.
19. Name seven fields of cooperative marketing (commodity marketing) in the order of their importance. Give volume of business and age of each.
20. In what sense is grain our largest example of cooperative marketing? Be specific.
21. Show importance of cooperation in dairy marketing.
22. What is the Federated Fruit and Vegetable Growers?
23. Explain preventable leaks in egg marketing.

## CHAPTER XXVII

### COOPERATIVE EFFORT (Continued)

We hope that the solution by private initiative will be adopted rather than that by state aid.

(ALPHONSE DESJARDINS, "Catechisme des caisses Populaires," p. 15. *Translation.*)

The field of cooperative marketing has now been briefly sketched, and the sources of the turnover of \$2,000,000,000 a year have been indicated. The ultimate aim of cooperative marketing has been stated. The immediate aims, the things which cooperatives can do—the finding of ways and means to reach the ultimate goal—will now be presented. The cooperative program is here presented under 14 heads of varying degrees of importance. The program of any one cooperative will usually include only about half of these activities.

**Cure Trade Abuses.**—The fact must be frankly faced that in any business, including farming, a small percentage of its personnel is dishonest. While this class is very small, yet it pulls down the general level of competition. Thus it happens that trade abuses creep in and sometimes become rather firmly entrenched. It is a matter of common observation that such abuses have at various times existed in the marketing of grain, milk, cotton, tobacco, eggs, and other agricultural products. Some trade abuses are due to crooks; some are due to lax methods of the system itself and are tolerated by the trade as a matter of custom. In a preceding chapter the old-time collusion in fixing the price on the farmers' grain has been described. Tobacco growers remember a similar situation with their product. In former years there were the crude abuses of false weights and false measures, but these have been practically eliminated by direct governmental action. There were also formerly railway rebates and various forms of railway favoritism and special privilege. Governmental action has dealt sternly with such practices. Subtler forms of trade abuse appear from time to time, some calling for remedies at the hands of government; others being subject to control by cooperative organizations of farmers.



A cooperative formed merely to fight a trade abuse is likely to languish and die after the "fight" is over, after the trade abuse has been cured. It should, therefore, if possible, have a wider program.

**Bargaining Power.**—On a highly competitive market, such as on the organized markets for certain staples, the farmers' commodities are sold at or near a well-known world-price level. As the number of buyers decreases, however, the price becomes more and more a question of bargaining—of bargaining, moreover, between a strong buyer and weak seller. Tobacco and milk have been the classic examples of this. The organized farmers secure increased bargaining power, and if they employ talent, they secure thereby technical skill in merchandising. Most cooperatives seek to improve the marketing process by improving production and all the other separate links in the chain. In the case of fluid milk, however, there is a unique form of cooperation, where price itself (sale) is the point on which effort is focused. This focusing of cooperative effort on price is sometimes called *Collective Bargaining*. Focusing attention on the general marketing problems of quality and distribution is sometimes called "*Merchandizing*."

*Collective Bargaining.*—The term *collective bargaining* has long been used by organized labor to mean the adjusting of wages, hours, and conditions of labor, by means of negotiations between representatives of organized labor and organized capital. In agriculture, *collective bargaining* means price negotiation between representatives of farmers and dealers on one particular market. The simplest and most perfect type is that found in the sale of fluid milk. This system is now in vogue (in one form or another) in most of our city markets. It guarantees to the farmer "all the traffic will bear," but no more. Lacking control over production, the farmers' apparent monopoly control of any milk market is the shadow, not the substance of monopoly.

**Market Information.**—Market information is essential not merely in *collective bargaining*, but in *individual bargaining*, and in determining the best time to sell. The business world gathers information by telegraph and telephone. The large private distributor of butter in Chicago must converse daily by telephone with San Francisco, New Orleans, and New York. The individual farmer is handicapped by lack of fresh market news. The cooperative organization has access to every source

of fresh market information open to any private business. The organized farmers are mobilized for action, and can disseminate and utilize information promptly.

**Volume.**—One of the chief ways of securing economics and savings in distribution is through volume. In the mechanical process of sizing, grading, packing, storing, shipping, and so on, volume is essential if wastes are to be eliminated and economics secured. An example of this is afforded by the Minnesota Cooperative Creameries' Association, a federation of local creameries acting as a sales' agency for 500 members. It began operations in 1922. Its manager announced, after it had been in operation a few weeks and was handling 72 cars of butter a week for its 332 members, that it had already made a saving in freight charges of 50 cents per 100 pounds by using car-lot shipments. This meant a total saving of \$10,000 a week. Volume means savings in freight, in labor costs, in operating costs, and in cost of supplies and equipment of various kinds.

**Transportation.**—Cooperation not only gives volume and thereby cheaper transportation (as mentioned above), but also justifies the employment of a traffic manager. The routing of cars, the knowledge of rates, the handling of loss and damage claims, the dealing with embargoes, the coordinating of truck, rail, and water hauls, these and other cognate matters all fall within the jurisdiction of the traffic department of the cooperative organization. Since transportation is the biggest cost, next to retailing, here is one place to look for big economies. A saving of  $\frac{1}{2}$  cent a pound in butter transportation costs meant a total saving of \$10,000 a week to the Minnesota creameries above described. Examples of this kind can be multiplied almost indefinitely.

**Legal Protection.**—The farmer is said to have plenty of legal rights. He may be too feeble, however, to enforce them. The cooperative-marketing association defines these rights more sharply and makes them effective.

**Research.**—The large and successful cooperative, which has been tested and proved by some years of experience, often finds it wise to establish work in research. This research is either technological or economic. Technological research has to do with production and processing problems; economic research deals with the purely commercial problems involved in buying and selling, present and prospective. Every large

bank now has a commercial research department; so have the national packers, and the various other "big businesses." Even the Bell Telephone System has developed commercial research to such a point that the term "Commercial Engineers" is applied to its highly trained staff in this field.

**Utilization of By-products.**—One private business, that of the national packers, is the classic example of utilizing by-products. Most cotton growers now remember the great dump heaps of cotton seed about the gins, this seed being treated as a waste. But now cottonseed in the form of meal, oil, etc., make this cotton by-product of very great value indeed. The cotton seed of the 1923 crop had a value of \$205,000,000 that is, one-seventh of the value of cotton itself. By-product factories offer an outlet for marketing the off-grade fruits, such as oranges and apples. This relieves the market of the pressure of surplus caused by dumping good and bad grades indiscriminately. The by-product, however, should not be made to compete with the original material. An unfortunate example of this was exhibited by the Dairymen's League of New York. There was a surplus of fluid milk. An advertising drive was put on in New York to increase the consumption of canned milk. The drive succeeded so well that consumers began to substitute canned milk for fluid milk.

**Reduce Speculation.**—Whatever reduces marketing risks and uncertainties reduces speculation. This applies to all the steps in marketing, original production, transportation, storage, credit, sale, standardization, and grading. A well-managed, cooperative-marketing association, which is doing more than collective bargaining, eliminates the causes of many marketing risks and thereby reduces speculation and stabilizes the marketing process.

**Better and Cheaper Distribution.**—Better distribution is one of the chief aims of cooperative-marketing associations handling butter, cheese, fruits, vegetables, and perishables of all sorts. Better distribution means marketing in the best place available and at the best time possible. Cheaper distribution means handling the commodity at a lower cost than it was handled by existing agencies. A few unfortunate cooperatives have increased cost of distribution by setting up new agencies which were less efficient than the old. It is believed that such cooperatives cannot hold their members' patronage, even though they

may have contracts with their members for the purpose of holding this patronage.

**Advertising.**—The cooperatives which have standardized their product and made it worthy of confidence have had notable success in their advertising. This is the explanation, for instance, usually given to the fact that Wisconsin cheese sold in California for many seasons at a price 10 per cent higher than the western Tillamook cheese, but finally the Tillamook product came to command a price some 25 per cent higher than the Wisconsin article in the California markets. During this interval, the quality of Tillamook apparently had improved faster than the quality of the Wisconsin cheese. It should be added, however, that the Wisconsin cheese federation, immediately after its founding in 1913, came to grips with the problem of better quality, so that this basic phase of cooperative marketing is receiving effective attention. Advertising of food specialties pays when new markets or expansion of old markets is absolutely necessary, and the commodity is entitled to the consumer's confidence. It does not pay to standardize and advertise poor quality. Such products are better left unlabeled.

**Resistance to Price Decline.**—When farmers are well mobilized, they can in many cases offer stiff resistance to price declines, so long as they have the underlying conditions of supply and demand in their favor. It is felt that organized labor, while it cannot override industrial conditions, does often succeed in staving off wage cuts for a period—sometimes till an immediate but temporary pressure passes.

**Standardization.**—It costs less to sell a standardized than an unstandardized commodity; it costs less to sell one variety than many; it costs less to sell large quantities than small quantities; it costs less to sell a commodity that has an established consumer demand than one that has no established consumer demand. These are the main arguments for standardization. It must be repeated here that standardization begins on the farm and is very largely a production problem. The successful cooperative marketing concern, to continue its success, must affect production methods. With most agricultural commodities this means the growing of one variety (or few varieties) of the type, quantity, and quality demanded by consumer; it means inspection and grading; it means standardizing the grade

and pack. This puts in the hands of the cooperative a degree of control over quality and quantity offered to the consumer.

**Price.**—The foregoing 13 activities aim directly or indirectly at securing a satisfactory price. What price program can a cooperative adopt which is both sound in theory and workable in actual practice? This point is considered at length in the following paragraph.

**Price Policy.**—There is no way of securing a good price for a poor product. It does not pay to “standardize, advertise, and merchandize” a poor product; better to dump it unidentified. “Price is not the sole objective of cooperation,” says the official organ of a state potato marketing association.<sup>1</sup> This same paper sums up the question of price policy in these significant words:

Members of a cooperative too often look upon their exchange solely as a means for increasing prices, failing to realize that increase in price can come only through economies in distribution costs and through improvement in the quality and grade of products marketed . . . Members of any new cooperative movement can well afford to benefit by the experiences of all successful cooperatives of long standing which have settled down to a rigid policy of standardization. Products made right sell right. Little difficulty is experienced in arriving at satisfactory prices for quality goods. Standardization is one of the most important objectives of successful cooperatives. It is the very basis of successful merchandizing. Standardization of farm products begins with the preparation of the soil and the planting of the seed and extends through all of the productive and distribution processes. Failure at any one point in the line may result in deterioration in the standard with consequent lowering of prices, and loss of consumer demand. Cooperatives that seek solely a price with no effort towards improvement of quality are floundering about inviting failure. Once quality is attained and established, price in a measure becomes incidental and enters in only as a basis for the transaction, quality having made the sale.

The cooperative is not seeking the highest price, but the highest net return. These two are not the same. There are three ways, and only three ways, of securing higher net returns. They may be stated, and briefly analyzed as follows: (a) reduce costs of production; (b) reduce costs of distribution; (c) raise prices to consumer.

**Reduce Cost of Production.**—Analyses of production costs on the preceding pages establish the fact that the average dairy farmer is producing milk at too high a cost; that the average

<sup>1</sup> *Colorado Potato Grower*, p. 2, February, 1924.

grower of cotton, wheat, and corn is not an efficient producer. The initial problems of the corn farmer are two: grow corn better; grow better corn. The same principle holds true for the hay farmer, the grain farmer, fruit farmer, and so on through the list.

Full credit must be given to the farmer, however, for the tremendous increase in efficiency as a producer during the past 75 years. With a decreasing rural population (in most sections), with an increasing use of machinery, there has come an increase in production. Taking Adams County, Penn., as a typical rural county, the facts show that in 1850 the value of the farm machinery per capita of rural population was \$10.07; in 1920 it was \$132.60. The crop values per capita were for the same two periods, respectively \$63.50 and \$163.59. The rural population of this county was 22,714 in 1850; after increasing some 3,000 it remained stationary during 1870, 1880, 1890; it declined in 1920 to 22,958.<sup>1</sup>

*Reduce Costs of Distribution.*—Savings here go in part to farmer, in part to consumer. The leaks which may be prevented are many and small; in the aggregate they are considerable.

*Raise Price to Consumer.*—There is a right way and there is a wrong way to do this. The wrong way is by monopoly control, by arbitrary price fixing, which may be done in certain commodities. The right way is by offering quality and service, so that competing consumers bid up the price. Such price increases are practicable and are economically sound.

The successful cooperatives, which have had long experience, actually do secure higher net returns for farmers in each of these three ways. If the producers are stimulated by higher net returns to increase the quantity of their product rather than its quality, they will be promptly penalized by the market itself, the penalty being lower prices. There is no governmental scheme for buying surplus, dumping it abroad, and charging losses back to producer which will so effectually and speedily penalize the producer of surplus as does this market-price penalty, automatically imposed. This "surplus" remedy requires no complex machinery to put it into operation. The cooperative-marketing association which frankly, honestly, and intelligently faces the *whole* problem of marketing (from the planting

<sup>1</sup> EDINGER, PAUL L., "The Trend of Agriculture in Adams, Cumberland, Franklin, and York Counties, Pennsylvania," p. 50, Cornell thesis, 1924.

of the seed to the final consumption) may do a great deal to remove the causes—and so the consequences—of a surplus; but not by merely tinkering with price.

Having considered the aims of cooperative-marketing associations, the form of organization which will best secure the ends in view may now be noted.

**Form of Organization.**—The form of the organization is not the essential thing. It is results that count. All forms of organizations have been successful; failures have occurred in all. There are no patent forms of success. There are no "essentials" found in all the older and more-tested, successful cooperatives. Those which have had 40 years of experience do not have any one or more essential characteristics in common. Neither do those that are 20 years old; not those that are 10 or 5 years old.

First, it may be asked, What is a cooperative association? For most of our cooperatives are corporations. How can a cooperative corporation be distinguished from a capitalistic corporation? In a loose sense of the word any big corporation is a form of cooperation, for it represents a "working together" of many different people—the shareholders. In the writer's opinion there are two tests and only two tests of a cooperative corporation or association. The test is found in the answer to these two questions: Who control the corporation? Who are the beneficiaries? If the control is democratic and if the benefits accrue to those who furnish the business, then the concern is cooperative.

**Democratic Control.**—Democratic control is not secured in any one particular way. The stereotyped device is the one-man-one-vote rule. In theory, this gives the humblest man a voice in running the business, a voice equal to that of the most important man in the organization. In practice, most members do not vote, and do not assume responsibilities. The few must lead; the others follow. This truth may not be very palatable, but it is in accord with human psychology. To ignore such basic truth is to live in a fool's paradise. Many of the older cooperatives do not have the one-man-one-vote rule. It is not found in the farmer's grain elevators, in many of the locals of the orange growers of California, or in the largest potato cooperative-marketing associations. In some of these cases voting is based on acreage; in the Eastern Shore of Virginia Produce

Exchange the voting is one vote for each share of stock held, but the control is kept democratic by having a share cost only \$5. The potential control is with the many small stockholders—they have a majority of votes. The dynamic control is in the hands of the few large shareholders, who have demonstrated their ability for sound leadership by years of results. It is the spirit of democratic control, rather than the form which counts. This is secured by keeping the member fully, candidly informed as to what is going on, and giving them free opportunity to offer effective criticisms. As long as the member is saying “my organization” and not “your organization” he is likely sharing the control in spirit as in fact.

*Benefits.*—The benefits in a “capitalistic” corporation go to the shareholders, in the form of dividends, in proportion to the amount of money the shareholder has invested. The benefits in a cooperative corporation go to those members who contribute business in proportion to the business contributed. Of course, those who supply money (in the form of capital stock or otherwise) to the cooperative, must get pay for their money, whether it be called interest or something else. The “patronage dividend” is a simple device for distributing benefits (savings, profits, or whatever they may be called) to the members. Some cooperatives distribute full benefits to non-members for business contributed; some one-half the regular benefit; some none at all to non-members. The United Grain Growers of Winnipeg, for many years the largest cooperative-marketing concern in the North American continent, had no patronage dividends. Its surplus savings were not “rebated” to members, but were placed in part in the bank as an operating reserve; in part invested in collateral activities which benefited all members. In this sense of the word it was imitating Henry Ford’s policy of putting his earnings back into his plant. Patronage dividends, sound on paper, have been the curse of many a cooperative. If more money were put into a cash reserve (as a basis for confidence and credit) it would be better for the cooperatives that expect to do a big business for a period of many years.

**Three Type Forms.**—All forms of cooperative-marketing associations may be reduced to three general types: (1) strong locals; (2) strong central; (3) federation of locals. Perhaps the greatest unsolved economic problem now before the cooperators is the question of which is the better way to organize, from the top



down or from the bottom up. The President of the United States told a group of cooperators, representing the organize-from-the-top-down school, that cooperation has its roots in the soil and that the beginnings must be had in "small and modest units." Yet the California Prune and Apricot Growers, the Cotton Growers, and the Tobacco Growers were all organized at the top, with no local unit at all. The California Fruit Growers Exchange, however, represents the strong local type. A brief analysis may be given to each of the three types.

*Strong Locals.*—The earlier cooperatives were formed on the plan of a strong local unit. Thus there are today some 5,000 farmers' grain elevators based on the local-unit plan. These are found throughout Illinois, Iowa, Nebraska, North Dakota, Kansas, Minnesota, South Dakota, Ohio, Missouri, Indiana, Oklahoma, Michigan, and other grain states, and represent our most important field of cooperative marketing. Cooperative creameries all began as purely local cooperatives. There are now over 600 of these in Minnesota alone; they are also important in Wisconsin, Iowa, Michigan, and a few other states. In Wisconsin there are 300 local cheese factories, of which a large number are farmer owned. The livestock-marketing associations all began as local units. The first of these dates back over 100 years, when our ancestors assembled large herds of hogs, 500 to 1,000 in a herd, and drove them long distances to city market. California offers numerous examples of all types of cooperatives. The Walnut Growers is the familiar type of strong locals. It will be observed that the "strong local" is the oldest, largest, and best-known type of cooperation.

*Strong Central.*—The Burley Tobacco Growers has been mentioned as the best example of this type. There are no locals. Each member is tied direct to the central by a legally binding contract. The aim of the contract is to guarantee by legal compulsion, volume of business; and volume of business, once assured, leads or should lead to cheaper credit, cheaper storage, better grading, and better distribution and sale. This type of cooperation is represented by the cotton associations, the California Sun-Maid Raisin Growers, the Prune and Apricot Growers, the newly formed potato associations in Minnesota, Maine, and Colorado, and by the wheat pools. The strong central has three basic ideas or principles: (a) it is based on one commodity, not on locality; (b) it is based on a long-term enforceable contract;

(c) it aims to control a sufficient percentage of the commodity so that it can "dominate the market." Its weakness is, it can depend upon the contract, rather than efficient service, to hold the members.

*Federation of Locals.*—Cooperatives which began as locals are, in many cases, federating, with one central selling agency. The classic example of this is the organization of the orange growers of California, known as the California Fruit Growers' Exchange, and made up of some 200 strong locals. In the Middle West the best-known examples are the two dairy organizations of Minnesota and Wisconsin—the Minnesota Cooperative Creameries Association and the Wisconsin Cheese Producers' Federation. The Minnesota Association has federated some 500 local cooperative creameries, and has supplied service in the form of supervision of production, of grading, and better distribution and sales. One-half of the butter handled by this federation is graded "extra," that is, above the 92 score on the New York market. Sales agents are maintained in New York, Philadelphia, and Chicago, where most of this butter is sold. The Wisconsin cheese organization began in 1913 (as the Sheboygan County Cheese Producers' Federation). It began with 40 cheese factories, and in 6 years the number had increased to 120. This federation now handles a large volume of high-quality cheese, and has greatly widened distribution, and lowered marketing costs. The Michigan Potato Growers Exchange began in 1918 as a federation of 28 locals. In 5 years it had grown to include 130 locals. The locals are tied by contract to the central. A similar movement towards the federation of locals is found in apples, peaches, and cranberries. The American Cranberry Exchange, successful since 1907, represents a federation of the sales companies of the three important cranberry states—Massachusetts, New Jersey, and Wisconsin. This agency handles about 65 per cent of the total crop, and has a turnover of about \$3,000,000 a year.

The three general types of organization are all represented by numerous examples in actual operation. Time alone will demonstrate which type, if any, is superior.

Within each of these three types there are many variations in the actual form of the organization. About 37 states have enacted the so-called "Standard Marketing Act," which puts partial uniformity into cooperative associations formed under

its provisions. To meet local conditions, however, it necessarily leaves much latitude to the individual association. Each association adopts its own by-laws. In these by-laws it formulates the details of its form of organization and methods of operation. Some associations have by-laws covering less than one printed page; some have by-laws which are very minute in every particular, leaving little to the discretion of officers or management. In the opinion of the writer the shorter form of by-laws is more flexible and hence better adapted to the changing conditions of actual business. Among the principal points which should receive attention by those who are incorporating a cooperative association, are the following:

*One-man-one-vote Rule.*—The simplest mechanical device for making possible democratic control is the one-man-one-vote rule. Where the cooperative has no capital stock, this is the usual plan of voting. In some cases voting is on the basis solely of number of shares of capital stock held by member; in other cases voting is on basis of acreage.

*Capital Stock; Non-capital Stock.*—The "Standard marketing act" provides for cooperative associations with or without capital stock. Most states, before the passage of this act, had made this same provision. In the writer's opinion, cooperative associations should always follow the simplest form possible. Those that own no property should have no capital stock. Those that own real estate should, in the writer's opinion, have this ownership represented by the usual stock certificate. Many dairy cooperatives depend on financing their business (including fixed investments of buildings and land) by a loan, the loans themselves taking the form of "certificates of indebtedness." Where capital is scarce and difficult to obtain this method has much in its favor. Where capital can be had, however, it seems simpler and better to represent each members' equity in the plant by shares of capital stock. Credit is good—up to a certain point; but too much credit is bad for any business. The cooperator seems to need the lesson of having more cash reserves in his business, and less dependence on credit, whether in the form of certificates of indebtedness or other form.

*Patronage Dividends.*—It is the usual form to have the cooperative distribute all or part of its surplus ("earnings" or "savings") to its members in proportion to the business each has contributed. This is the dividend. The Farmers' Equity Union, operating

farmers' grain elevators, limited dividends on capital stock to 3 per cent, and usually had, in consequence, a substantial patronage dividend. The patronage dividend is the simplest mechanical device for distributing benefits to those who have contributed the volume of business. With the grain elevators one serious weakness developed, namely, paying out all annual surpluses as dividends, leaving nothing as a cash reserve fund. There are many cases, therefore, of elevators paying out dividends (stock and patronage) in excess of 100 per cent one year, and going into bankruptcy the next year.

*Limit Rate of Dividend.*—A common practice among cooperatives with capital stock is to limit the rate of dividend to about the current rate of interest—say, 6 or 8 per cent. In some cases it is limited to 10 per cent. In one case it is 3 per cent. The aim of this provision is to keep the cooperative from becoming "capitalistic."

*Limit Membership to Actual Farmers.*—Another provision for keeping the cooperative from falling into the hands of outsiders is to limit stockholding (or membership) to actual farmers. This involves the making of suitable provisions for buying back stock of retiring members; and of preventing any member transferring stock to a non-farmer. On the other hand, some cooperatives welcome into their membership certain friendly businessmen, particularly bankers, in order to have the benefit of their judgment and council. If such men are strictly a minority and are friendly and sympathetic, there is obviously often an advantage in having their cooperation. They are "community boosters."

*Vote by Proxy.*—The extreme difficulty of getting out a majority of voters for any important meeting or election in the local or in the voting district has caused some cooperatives to provide for voting by proxy. In the writer's opinion proxy voting is not desirable. The situation may be met in a safer way by reducing the quorum requirement to some small number—say, one-fourth or one-tenth—and then endeavoring to secure the attendance of this number.

*Quorum.*—For reasons just stated, many cooperatives have very low requirements for a legal quorum for the transaction of business. And yet a great deal of business is, of necessity, transacted without a quorum present. From 10 to 25 per cent is perhaps a fair requirement for a quorum.

*Audit by C. P. A.*—Cooperatives show their greatest and most costly blunders in their bookkeeping and financial methods. For this reason the experienced cooperative is now having an audit—a real audit, by a certified public accountant, every year. A “sympathetic audit” or a superficial and incomplete audit is worse than no audit at all.

*Contracts.*—Very much overemphasis has been put on the place of contracts in cooperative marketing. It is true that volume of business is one of the first needs of a cooperative selling agency. And it is true that an enforceable contract is one way—a very easy, short-cut way—to secure this volume. But is it the best way? And in the end, is it in accord with farmer psychology? Some contracts must be enforced in the courts; this means that some farmers must be sued to keep them “loyal.” The other theory of loyalty is, hold the farmer’s patronage by offering him superior service. The older cooperatives, such, for instance, as the grain elevators, the Eastern Shore of Virginia Produce Exchange, the American Cranberry Exchange, and others, do not use contracts. Eighty per cent of all the cooperatives in the United States do not use contracts. The California Fruit Growers’ Exchange uses contracts. The manager, the late G. Harold Powell, was asked if he ever sued a farmer for breach of contract. He replied, “We sued one once.” His policy (which was notably successful) was to hold farmers by service rendered rather than by legal compulsion. The new cooperatives in cotton and tobacco make the contract the basis of their organization.

*The “California Plan.”*—Many of the new cooperatives are said to be formed on the “California Plan.” But in California there are found all types and plans of cooperative marketing. There is also a frequent reorganization and change of plan on the part of the well-known cooperatives there. Mention has been made of the complete reorganization of both the Raisin Growers and the Prune Growers. A second reorganization of the Prune Growers has been made, substituting for the long-term contract what is in effect the 1-year contract by reason of the withdrawal privilege. These two associations consist of one big central, no locals. The Walnut Growers and Orange Growers have strong locals, which are federated. Some of the California cooperatives have capital stock; some do not; some have one man one vote; some do not; some use pooling; some do not;

some use contracts; some do not. The California Honey Producers was organized in 1918; reorganized in 1921. The Alfalfa Growers of California were organized in 1918; reorganized in 1920; the Pacific Rice Growers was organized in 1915, dissolved in 1921, reorganized in 1921. This association does no pooling. Some California cooperatives fix prices; some do not; some sell delivered; some sell f.o.b. shipping station. Some use brokers; some do not. Some sell through the f.o.b. auction; some do not. There is no form of organization which they have in common. There is no "California" plan of organization and operation which they have in common. In the service performed by the successful California cooperatives (as in the service performed by the cooperatives in all other states) they have reached the goals of quality and distribution. It is on this service their reputation rests, not on their form of organization. Better quality; better distribution—this is the Minnesota plan, the Maine plan, the Florida plan, the California plan, the Washington plan, and so on, around the country.

#### Questions

1. Name 14 things which cooperative associations can do.
2. What weakness is likely to develop when a cooperative is formed merely to cure a trade abuse? Cite examples of such cooperatives.
3. To what extent can collective bargaining raise and maintain prices? Examples?
4. In what sense does volume enable the cooperative to make savings? Examples?
5. To what extent can cooperative marketing cheapen transportation?
6. Give examples of scientific or commercial research done by cooperative associations.
7. Show the significance of utilizing by-products. Examples of success in this field by cooperatives. Limitations.
8. Show relationship between cooperative marketing and speculation. Be specific.
9. Show carefully the advantages and the limitations of the so-called "better and cheaper distribution."
10. Show advantages and limitations of advertising. Examples.
11. Can organized farmers successfully resist price declines? How? To what extent?
12. What is the place of standardization in the program of cooperative marketing? What are the final effects of standardization?
13. Do you think the price policies of our large cooperatives are economically sound? What is a sound price policy?
14. Is there any way to get a good price for a poor product?

15. Cite the price findings of the Colorado Potato Growers. Analyze carefully.
16. Show difference between highest price and highest net returns.
17. In what ways may a higher net return be secured?
18. Analyze each of these ways carefully. Show some examples of efficient and of inefficient production. Statistics for a Pennsylvania county.
19. Show the right and the wrong way of raising prices to consumers.
20. Distinguish between aim and form of cooperative association. Which is more important?
21. What does experience teach about the "essential form" of cooperative enterprises?
22. Is the Standard Oil Company a cooperative company? Why? The United States Steel Corporation? What then is a cooperative corporation? Be specific.
23. Describe two important tests of a cooperative. Is the form or the spirit of the cooperative the more important thing?
24. Describe importance of the one-man-one-vote rule. Of the patronage dividend. What is the real aim back of these two devices? Any other way to achieve this end? Illustrate.
25. Give the three general type forms of cooperatives. Examples of each. Which type is oldest? Which type is, in your opinion, best?
26. Give statistics concerning cooperation in grain, dairy, and livestock. These all illustrate what type?
27. Analyze briefly the principles involved in the strong central type of organisation. Three ideas.
28. Analyze in some detail the federation type of cooperation. Illustrate. California, Minnesota, Wisconsin, and Michigan. Cranberry.
29. What is the "Standard Marketing Act"?
30. Note different types of by-laws. Which is best?
31. Summarize final conclusions on following points in the by-laws: One-man-one-vote rule; capital stock or no capital stock; patronage dividends; limit rate of dividends; limit membership to actual farmers; proxy voting; quorum; audit; contracts (in practice and in theory).
32. What exactly is the "California Plan"? Be specific.

## CHAPTER XXVIII

### PROGRAM. 3. GOVERNMENTAL EFFORT

#### Inspection, Grading, Standardization, Market News

Quality and quantity standards are essential for the free interchange of commodities in commerce beyond the stage of first-hand transactions in which personal observation and opinion govern. Progress in civilization is measured by commerce, so standards are at the base of civilization as well as of commerce.

Every thinking man must recognize the necessity for standards and the desirability of providing recognized quality standards in almost every line of industry. There are in each industry, however, the practical questions—what should the standards be; how should they be determined; how can their acceptance be best accomplished?

The principle underlying this standardization is that underlying all progress—the movement from the indefinite to the definite. The trend is certain. To voluntarily accelerate progress in the direction it will inevitably take is the part of wisdom.

KELLY, F. W., President Portland Cement Association. "The Voluntary Setting-up of Quality Standards in Commodity Production," address delivered before the Chamber of Commerce of the United States, New York, May 8, 1923.

In private industries, such as manufacturing, standardization has been carried in many cases to a high degree of perfection. Such standardization has been done by private agencies for commercial reasons. The Portland cement industry is an excellent example of such self-imposed standards, and may be briefly described. Prior to the year 1902, a condition of chaos reigned in this industry. Then began cooperation among the producers through their Portland Cement Association. The agencies which helped this association standardize this product were numerous. The American Society of Civil Engineers was the earliest in the field, formulating workable standards during the years 1885 to 1903. At one time there were 98 cement standards in operation in the United States. Next in the field was the American Society for Testing Materials, and in 1904 its first specifications for Portland cement were adopted. Assistance was had from consumers as well as producers of cement.



Technical help came in addition from the following agencies: American Railways Engineering Association; American Institute of Architects; and United States Bureau of Standards. Finally, in 1921 a single standard for cement was adopted for United States.

This is the highest standard for cement in the world and has had an important effect in promoting, extending and improving the use of concrete in this country.

The net result is, better and cheaper concrete structures. In agricultural production similar, but smaller, strides have been made. Examples of community production, cooperative production, one-variety production, etc., have been cited in preceding pages. Certain agricultural brands are now as well known as are the trade-marks of successful manufacturers. Ivory soap is but little better known than Sunkist oranges; W. L. Cherman's fountain pen than Eatmor Cranberries; Spalding baseballs than Red Star potatoes; Oldtown canoes than Skookum canoes; and so on through the long roll of standardized commodities. In all these cases the standards are voluntary and self-imposed. More and more, however, standards for agricultural commodities are being imposed by state and Federal government agencies. It is now in order to examine the programs, state and national, for inspection, grading, and standardizing. **Standardization by State Governments.**—Most of the states have passed laws relating to standardization of farm products. The result is that almost every product has been standardized in one or more states. One state has definite grades for 37 different products. Attempts have been made to standardize the following agricultural commodities; apples, potatoes, cabbage, onions, strawberries, cherries, honey, American cheese, Swiss cheese, eggs, tobacco, hay, wheat, corn, cotton, oats, soy beans, peas, peanuts, pears, pecans, pineapples, cantaloupes, peaches, prunes, lettuce, seeds, celery, cauliflower, grapes, asparagus, manufacturing milk, cream, butter, barley, rice, sweet potatoes, small fruits, cucumbers, plums, pumpkins, squash, tomatoes, bunch vegetables, watermelons, poultry, and skim milk, and ice cream. Livestock is not included in this list. This is because practically all livestock is handled on commission at the terminal markets, and is always inspected

## CHAPTER XXVIII

### PROGRAM. 3. GOVERNMENTAL EFFORT

#### Inspection, Grading, Standardization, Market News

Quality and quantity standards are essential for the free interchange of commodities in commerce beyond the stage of first-hand transactions in which personal observation and opinion govern. Progress in civilization is measured by commerce, so standards are at the base of civilization as well as of commerce.

Every thinking man must recognize the necessity for standards and the desirability of providing recognized quality standards in almost every line of industry. There are in each industry, however, the practical questions—what should the standards be; how should they be determined; how can their acceptance be best accomplished?

The principle underlying this standardization is that underlying all progress—the movement from the indefinite to the definite. The trend is certain. To voluntarily accelerate progress in the direction it will inevitably take is the part of wisdom.

KELLY, F. W., President Portland Cement Association. "The Voluntary Setting-up of Quality Standards in Commodity Production," address delivered before the Chamber of Commerce of the United States, New York, May 8, 1923.

In private industries, such as manufacturing, standardization has been carried in many cases to a high degree of perfection. Such standardization has been done by private agencies for commercial reasons. The Portland cement industry is an excellent example of such self-imposed standards, and may be briefly described. Prior to the year 1902, a condition of chaos reigned in this industry. Then began cooperation among the producers through their Portland Cement Association. The agencies which helped this association standardize this product were numerous. The American Society of Civil Engineers was the earliest in the field, formulating workable standards during the years 1885 to 1903. At one time there were 98 cement standards in operation in the United States. Next in the field was the American Society for Testing Materials, and in 1904 its first specifications for Portland cement were adopted. Assistance was had from consumers as well as producers of cement.

Technical help came in addition from the following agencies: American Railways Engineering Association; American Institute of Architects; and United States Bureau of Standards. Finally, in 1921 a single standard for cement was adopted for the United States.

It is the highest standard for cement in the world and has had an important effect in promoting, extending and improving the use of concrete in this country.

The net result is, better and cheaper concrete structures.

In agricultural production similar, but smaller, strides have been made. Examples of community production, cooperative production, one-variety production, etc., have been cited in preceding pages. Certain agricultural brands are now as well known as are the trade-marks of successful manufacturers. Ivory soap is but little better known than Sunkist oranges; Waterman's fountain pen than Eatmor Cranberries; Spalding baseballs than Red Star potatoes; Oldtown canoes than Skookum apples; and so on through the long roll of standardized commodities. In all these cases the standards are voluntary and self-imposed. More and more, however, standards for agricultural commodities are being imposed by state and Federal government agencies. It is now in order to examine the programs, state and national, for inspection, grading, and standardizing.

**Standardization by State Governments.**—Most of the states have passed laws relating to standardization of farm products. The result is that almost every product has been standardized in one or more states. One state has definite grades for 37 different products. Attempts have been made to standardize the following agricultural commodities; apples, potatoes, cabbage, onions, strawberries, cherries, honey, American cheese, foreign cheese, eggs, tobacco, hay, wheat, corn, cotton, oats, rye, beans, peas, peanuts, pears, pecans, pineapples, cantaloupes, peaches, prunes, lettuce, seeds, celery, cauliflower, grapes, asparagus, manufacturing milk, cream, butter, barley, rice, sweet potatoes, small fruits, cucumbers, plums, pumpkins, squash, tomatoes, bunch vegetables, watermelons, poultry, meat, skim milk, and ice cream. Livestock is not included in this list. This is because practically all livestock is handled on commission at the terminal markets, and is always inspected

before purchase. The "individuality" of the animals makes standardization difficult.

*How Establish Grades?*—There are two general methods in use for establishing grades, namely, by legislative fiat and by administrative order. About half the states use one method, about half the other. In the opinion of the writer, it is the better plan for the legislative body to authorize some department (such as the State Department of Agriculture) to formulate, promulgate, and enforce grades.

*State and Federal Grades.*—Since Federal grades are fast being worked out and announced, there is a growing tendency for the separate states to adopt Federal grades as the official state grades, thus avoiding duplication and uncertainties. This makes for uniformity, and uniformity is essential to standardization. Some products are purely local to one state. In such a case a state grade is likely to be put into operation before the Federal government establishes a grade. Some states still use state grades in important products which are graded elsewhere under Federal grades. One state publishes both a Federal and state grade on the same product and lets the grower choose which one he wants. State grades, if any, should always be made to conform to the Federal grades, since these local products move into interstate commerce. The Federal authorities show a very liberal spirit of cooperation in establishing new grades, and are anxious to make such grades reflect actual quality and conditions so far as possible. With highly perishable commodities this is very difficult, for the season's weather makes one crop entirely different from the crop of the preceding season. In such a case a grade must have so much flexibility that it almost ceases to be a standard.

*Compulsory or Optional Grades?*—Most of the states which first established grades made these grades permissive or optional. It seems best, however, when once a grade has been carefully prepared to fit actual commercial conditions as well as laboratory theories, that such grade should be mandatory. When the use of a grade is made mandatory considerable new administrative machinery is at once needed to enforce it. This may take the form of a State Bureau or Department of Markets. Many states, such as Massachusetts, New York, New Jersey, Pennsylvania, Wisconsin, and Minnesota, to name but six of them, have market departments with personnel large enough to do effective work

establishing and enforcing grades. The Wisconsin law relating to standardization of food products and farm products, for instance, empowers the Department of Markets to establish standards for the grade of farm products and to prescribe regulations regarding the marketing or tagging thereof, and provides penalties. For misgrading or failing to mark or tag as required, the penalty provided is a maximum fine of \$500 or 6 months' imprisonment, or both.

*State or Federal Shipping Point Inspection?*—Shipping point inspection is being steadily increased, as funds and qualified persons are found to carry on this work. Some states do their own shipping point inspection; but the tendency is strongly towards cooperative inspection through state or federal agencies. The fee for such inspection is then divided between both agencies, according to mutual arrangement. Fees are not uniform from state to state; and much work in standardization of fees is necessary. Shipping point inspection, once started in a vigorous, effective manner, usually grows rapidly in volume and importance. New York State shipping point inspection illustrates the fact. This service began in 1922, for potatoes only. The service was as follows: 13 shippers; 26 points; 374 cars. Next season (1923) it was: 40 shippers; 101 points; 625 cars of potatoes; 5 cars of cabbage, a total of 1,050 cars. Next season (1924) the service began in September and was extended to peaches, apples, and pears, in addition to potatoes and cabbage. It is an optional service; the fee is \$4 per car for potatoes; \$5 a car for peaches. The state appropriations for the work were as follows: first year, \$4,000; second year, \$6,000; third year, \$10,000. State shipping point inspection is of necessity a seasonal job in most states. This makes it necessary for the state to hire a fresh crew each year, or for much of the year to find some other ties for the inspectors. For this reason, there is need of a force of Federal shipping point inspectors who can be shifted from state to state as the season requires.

*Schools for Grading.*—Since grading is a technical matter, the grower himself will not understand it without some study. This situation is being met in many different ways, one of which are the so-called grading schools. Thus in the year 1924, the New Jersey Department of Markets held egg-grading schools. In 1922, potato-grading schools were held in Minnesota. These are 1-day schools, and were held by the Extension Service of the

State University and the State Department of Agriculture, Markets Division in the leading production districts of the state. Owing to the large crop, this was a critical potato year. The State Director of Markets, commenting on this condition, said:

The only hope for the prevention of a disastrous price break under these conditions is the rigid grading out and keeping at home of all inferior-quality potatoes. Previous experience has shown that the culling out of 1 bushel in 10 will make the average crop grade United States No. 1, and give the remaining 9 bushels a much better chance on the market, at a price amounting to more than the entire 10 bushels would ordinarily sell for.<sup>1</sup>

This same director estimated that because of extra costs of handling, unnecessary freight and the loss on the average price of good stock in ungraded shipments, the loss to Minnesota farmers in 1921 from lack of grading their potatoes amounted to the enormous sum of \$2,000,000. The Minnesota potato cooperatives this year made the mistake of shipping out much of the crop as "field run," in this way actually increasing the costs of marketing. Grading schools of various kinds and lengths of term are spreading. With any new grades this work is imperative. In the year 1924, egg-grading "demonstrations" were held in Oklahoma. In the years 1922, 1923, and 1924 an egg-grading program on a large, effective scale was carried out in Missouri. Every egg-producing county was reached, and a representative number of individual farmers were taught the rudiments of the subject. Once the grower knows the grades, and knows the difference in market prices for higher and lower grades, he is stimulated to produce the better grades. The end of better grading is better production—and better marketing.

**Standardization by the Federal Government.**—The two most notable achievements of the Federal government in standardization are in grain and cotton. After a great many years of laboratory study, plus cooperation with the trade, the government established these two sets of standards. Federal grain grades are in daily commercial use in both domestic and foreign markets. The Federal cotton standards are known as "Universal standards," since all domestic and foreign commerce in American cotton is under these standards. In these two fields, therefore,

<sup>1</sup> HUGHES, HUGH, J. "State and Federal Marketing Activities," p. 2, Oct. 11, 1922.

there is no work of standardization left for the local cooperatives in the states to do. They do have a field, however, in teaching these standards and grades to the growers of cotton and grain. Under Federal law the Secretary of Agriculture is authorized to establish grades and standards for farm products. Standards (actual or tentative) have been established covering from 60 to 75 per cent of all the agricultural products of the United States. The tendency has been quite marked for the users of the inspection and grading service of the government to emphasize the importance of a Federal certificate of grade.

*Inspection.*—The market-inspection service of the Federal government is of two kinds, terminal inspection and shipping-point inspection. Terminal inspection of perishable foods was begun a few years ago, the chief aim being to prevent and settle rejection disputes. This service now runs about 30,000 cars a year. For the season beginning in 1919, it was 25,488 cars; 1920, it was 23,877 cars; 1921, it was 31,207 cars; 1922, it was 28,169 cars; 1923, it was 29,283 cars, all fruits and vegetables.

*Shipping-point Inspection.*—Shipping-point inspection is done by state inspectors. They are licensed and supervised by the Federal government. They are paid by the state government. The fee is divided, a small part going to the Federal government to pay for supervision. The work is carried out under a cooperative agreement. This type of work, begun in 1922, is very rapidly extending, as is shown by the following table:

A decided increase in the number of inspections made under the Federal-state shipping-point inspection service is shown in the tabulations for the fiscal year, 1924. Thirty states cooperated with the Federal Bureau of Agricultural Economics in shipping-point inspection work. The following table shows the states cooperating, the number of inspections made in 1924, with comparative figures for 1923:

TABLE XXVIII.—SHIPPING-POINT INSPECTIONS: INCREASE FOR 1924

State	1923	1924	State	1923	1924
Alabama.....		251	New Jersey.....	1,499	719
Arkansas.....		88	New York.....	905	1,475
California.....	17,778	46,424	North Carolina.....		566
Colorado.....	24,815	10,341	North Dakota.....	432	
Delaware.....		50	Ohio.....	78	169
Florida.....	162	8,370	Oregon.....	387	4,442
Georgia.....	45	1,392	Pennsylvania.....		274
Idaho.....	13,338	18,403	South Carolina.....	1,091	1,712
Illinois.....		208	South Dakota.....	308	368
Louisiana.....		266	Tennessee.....	51	232
Maine.....	384		Texas.....		6,349
Massachusetts.....	67	7	Utah.....	651	1,642
Mississippi.....		1,709	Virginia.....	4	526
Missouri.....	36		Washington.....	8,917	15,360
Montana.....	444	305	West Virginia.....	39	232
Nebraska.....		4,830	Wisconsin.....	1,035	2,305
Nevada.....		34			
			Totals.....	72,466	129,049

In addition to the above, there were 1,910 straight Federal inspections in Arizona, Indiana, Kansas, and Missouri during the year 1924.

Of the total of 130,959 cars inspected at shipping points, there were 261 reinspections made at receiving markets, 142 of which sustained the original inspection.<sup>1</sup>

*Hay Inspection.*—Work on hay standards and grades was conducted by the Federal government for a period of several years. By the year 1924, hay grades for timothy and clover hay were available for the trade. Alfalfa grades and standards were ready in the year 1925. Arrangements were made with a number of producing, cooperative associations in Arizona, California, Oregon, and Washington, to give all their alfalfa shipping-point inspection. Terminal hay inspection has been established in Boston, New York, Philadelphia, Washington, Richmond, Norfolk, Birmingham, Cleveland, Chicago, and Kansas City.

*Egg Standardization.*—One of the commonest commodities and one of the most difficult to classify under simple nation-

<sup>1</sup> "Marketing Activities," p. 224, Sept. 24, 1924.



wide standards is the egg. The Federal government studied this problem for a period of some years, considering the factors of shell, yolk, air cell, and condition of the white. Tentative standards for national grades were put out. Effort was first made to establish standards that the trade could use and would adopt. The trade cooperated. Next an educational campaign was carried back to the county agents and to the farmers. The educational program, to put into commercial use the egg standards, was looked upon by the government as the work of several years. The ultimate aim of the egg-standardization program is to stimulate better egg production, and to promote better marketing conditions for the egg, including price to the farmer.

**Market News.**—Private business interests, both large and small, have had access to market news gathered and sold by reliable private news agencies. Cooperative agencies have, of course, had access to the same news at the same price. In recent years, however, there has developed the belief that market information, particularly price quotations and market receipts, should be made available to the rank and file of the farmers themselves. One of the most noteworthy developments in the marketing field in the last few years is the establishment of state and Federal market news services. Some of these developments will be noted at this point.

**Federal Leased Wire.**—Private agencies in marketing stocks, bonds, grain, cotton, coffee, sugar, and other commodities handled on the organized exchanges, employ "private wires" (that is, leased telegraph wires) in order to secure superior service. The Federal government, for the same reason, now employs several thousand miles of leased telegraph wires, reaching from the Atlantic to the Pacific, and from the Great Lakes to the Gulf. The accompanying map (Fig. 18) shows the location of the 30 cities reached directly by this trunk-line service.

Point No. 12 on the map is Jacksonville, Fla. Here, for instance, in cooperation with the Florida State Bureau of Markets, a complete news service for fruits and vegetables is maintained (from November to May). During part of the year a telegraph office is operated at Orlando, Fla. to serve the citrus interests of that section. This is a typical case of a highly localized seasonal commodity. There are in the United States some 40 or 50 of these temporary telegraph offices, in addition to the 30 trunk-line offices.

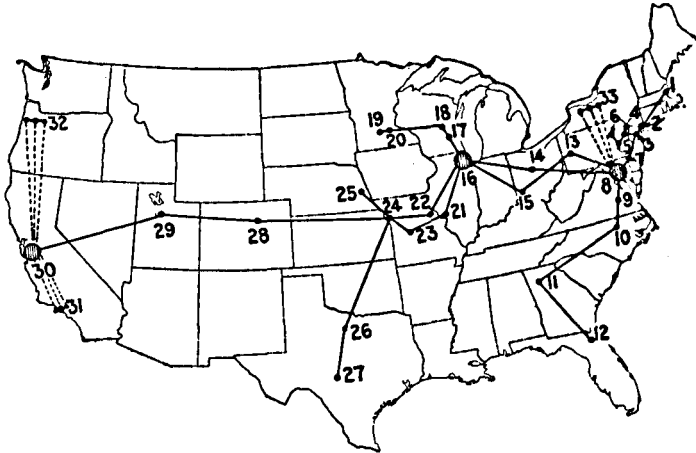


FIG. 18.—Market news leased wire and radio system. Broadcasting stations—Washington, Chicago, San Francisco (radio telegraph). Reception by radio, Rochester, Los Angeles, Portland. Leased telegraph lines—indicated by solid line to thirty cities. (U. S. Department of Agriculture, 1924.)

*Speed.*—Market news to be timely must be handled with speed. The speed and efficiency reached by the Federal agencies may be illustrated by these two cases: (1) On Jan. 31, 1924, at 12 o'clock noon, the Crop Report of India reached Calcutta. Since it had an important bearing on world-wheat supplies and prices, it was forwarded at once by wire to the International Institute of Agriculture, Rome, thence to Paris, thence to Washington. Owing to differences in time, this report reached Washington 9 a.m. of the same day it was issued. It was put on the leased wires and in this way the evening papers of the United States were able to give out the news published at noon that day in Calcutta. (2) A storm in Sicily, occurring at 10 a.m. destroyed 30 per cent of the lemon crop. This was vital news to the California growers. This news was wired to Washington thence to the Pacific coast. The California evening papers carried this news to the lemon growers there the same day.

*Federal Broadcasting.*—Federal broadcasting is done by the radio telegraph from three cities, as shown in Fig. 18, and by numerous radio-telephone stations. An inquiry was made in the spring of the year of 1924 to learn how many farmers had radio-receiving sets. Replies indicated that 375,000 farm homes were thus equipped. The number is very rapidly increasing.

*Federal Reports.*—The Federal government issues market reports in one form or another, on every important farm product. Taking the largest market in the United States (New York City) as an example, the following Federal market-news service is found: (1) dairy and poultry products. This division issues two daily reports, three weekly reports, and two monthly reports. These are mimeographed and furnished to the newspapers and to those interested; (2) truck and vegetables. This division has one daily report and four weekly reports; (3) livestock, meats, and wool. This division issues three daily reports, three weekly reports, four monthly reports, and a number of special reports. The individual farmer who is interested, for instance, in potato reports, may secure without charge the daily mimeographed sheet by mail, from the nearest Federal potato-market reporting station. In the Red River of the North Valley district this point is Moorhead, Minn. and is kept open and in operation during the heavy potato-shipping season. Such daily market reports give much information about prices, volume of shipment, temperature, demand and supply conditions, etc.

*State News Service.*—Many states now maintain a market-news service. Some issue a monthly bulletin containing "swapping lists" and ordinary "want ads" with offers of sellers and bids of buyers. Some issue similar sheets weekly. Some issue market reviews, summaries, interpretations. A few maintain some form of daily market reporting. Using New York as a sample of this work, these facts may be noted. In the year 1918, this state began the experiment of issuing a weekly mimeographed report. In the early part of 1919, it was changed in form to a printed report. In 1921, it was discontinued for reasons of economy; at that time the mailing list carried the names of about 10,000 shippers. Meantime a daily mimeographed report had been started. A request came from a daily newspaper for an earlier copy of this report, to be handled as news. This proved a happy solution. The New York City office of the State Bureau of Markets prepares a summary of the fruit and vegetable market each day, which is handled by about 20 up-state morning newspapers, with a circulation of 350,000. The evening papers asked for similar news, and hence a brief summary is prepared each morning, covering fruit and vegetable markets. This is carried by about 50 evening papers with a combined circulation of 700,000 copies. In

this manner the daily reports are put before over a million people, with very little expense.

*Special Commodities.*—When certain commodities, such as lettuce, grapes, etc., are moving, the State of New York issues special daily reports, showing the movements, prices, etc. For highly specialized crops this service consists largely of telegrams sent collect to shippers, and by radio. During the height of the shipping season any dealer or farmer may secure daily telegraphic market reports from the New York office by paying the cost of the telegrams.

*Radio.*—Many states are experimenting with the radio for broadcasting market news. Wisconsin and Missouri own radio stations for this purpose. About 13 states employ the radio. As a typical state, the work of New York may again be given in detail. At 5.30 p.m. each day the market report on fruits, vegetables, livestock, hay, butter, cheese, eggs, and poultry is broadcast from New York. At 11.45 a.m. on Tuesdays, Wednesdays, Thursdays, and Fridays a similar report is radio-cast. At 12.40 p.m. on each week day except Saturday, the Schenectady Station radio-casts the New York fruit and vegetable market report, at 6.05 in the evening this station repeats this report, adding butter, cheese, eggs, and poultry. The farmers in New York State, however, have not manifested as much interest in these reports by radio as was expected. They find the reports in the daily paper fairly complete.

*“Orderly Production.”*—The Federal market-news service may be said to begin with its crop reporting service, for it is the monthly estimate on major crops in the summer which has the greatest influence on market prices, particularly cotton and wheat. To be of greater service to all concerned the Department of Agriculture began to secure and publish information on “Intention to Plant.” The aim of this service was announced to be the promotion of “Orderly Production.” For instance, too many hogs in proportion to the corn crop meant a bad market for hogs and a good market for corn. Intelligent guidance in production could be had, apparently, through more accurate estimate of the forth-coming supply. The Department of Agriculture made a June pig survey in 1922, to determine how many spring hogs would actually go to market. The estimate proved to be within 1 per cent of the actual number. The Department now secures information as to the farmer’s intention

to breed for fall hogs; also, in the winter, his intention to breed for spring hogs. The information is published, for the guidance of those who care to use it. Intention to plant all crops (except cotton) is now secured and published long enough in advance to enable farmers to make shifts in their programs. Similar information about the breeding of dairy stock is published. It is felt that such information will be of great assistance to farmers in helping them secure more orderly production, and hence greater price stability.

#### Questions

1. Give comments of the President of the Portland Cement Association regarding relation of quality and standards to civilization and progress. Do you agree?
2. Cite in detail an example of standards self-imposed in an industry.
3. In your opinion should agricultural commodity standards, brands, labels, etc., be imposed by private or governmental agencies? Examples of each. Compare private manufacturers.
4. Summarize important facts concerning state laws on inspection, grading, and standardizing. What is the status of livestock standardization? Why?
5. Name two general methods of establishing state grades, and state which is, in your opinion, better.
6. What is the relationship between state and Federal grades? Attitude of Federal government?
7. Explain the problem of optional grades. Show administrative questions involved here.
8. What is shipping point inspection, and how is it carried on? Statistics for New York shipping-point inspection. Seasonal nature.
9. What progress is being made in the so-called schools for grading? Need of. Opinion of Hugh J. Hughes on value of culling.
10. Give two outstanding achievements of Federal government in establishing grades and standards.
11. What authority does the Secretary of Agriculture now have regarding grades for agricultural products? To what extent has this authority been used?
12. Explain briefly market inspection work of Federal government. Objects. Extent of. Results.
13. Account for the increase in shipping-point inspection.
14. Discuss progress in hay inspection; egg standardization.
15. Discuss market-news work: significance; progress of Federal government in this field; results; illustrations.
16. Show in detail the market-reports service now available.
17. Describe state market-news service. Examples. Radio service.
18. Define "Orderly Production."
19. Describe at length the Intention to Plant service of the Federal government; methods; objects; success.

## CHAPTER XXIX

### PROGRAM. 3 (Continued). GOVERNMENT EFFORT, FOREIGN MARKETS

International trade involves the transfer of commodities and services from one country to another across international frontiers.

The sole means of effecting external payments, that is paying for goods, commodities, or services supplied by foreign countries, involves either export of commodities or export of services or their sale to tourists. In the final analysis the foreign buying power of any country, exclusive of charity, rests on these factors.

Europe has furnished and continues to furnish the market for approximately 80 per cent of the \$1,800,000,000 worth of agricultural products exported from the United States each year.

U. S. Dept. of Commerce, *Supplement to Commerce Reports: Foodstuffs Division: Trade Information Bull.* 235. SMITH, H. B., "Survey of World Trade, in Agricultural Products," No. 6, June 2, 1924.

I have been requested by the President's Agricultural committee to state the views of the Department of Commerce upon the agricultural problem . . . The first effort should be to strive as far as we can to such a balancing of our national development as will produce for our farmers in increasing degree a domestic market and thus steadily advance his freedom from a fortuitous dependence upon world prices through exports, and we should do it in such a fashion that we will also keep the nation independent of overseas food and clothing . . .

There are two very definite directions in which these policies can be supported and in large measure accomplished. The first is to maintain a tariff on agricultural products on such a basis as will stimulate domestic production . . . The second direction must be the development of increased domestic consumption of agricultural products per capita of population.

HERBERT HOOVER, Secretary of Commerce. Quoted in *Pacific Rural Press*, Feb. 7, 1925

It may appear the easiest way in our present dilemma to let international matters "take their natural course," and to concentrate upon the home market . . . In any event the policies of hermitic nations do not lead into the path of progress. Large industrial nations will continue to have political, and in some cases, even racial boundaries, but they can no longer have economic boundaries. Economic units and the forces that control their actions are now worldwide. Moreover,

the resumption of our pre-war prosperity and the continuance of our normal growth involve an ever-increasing dependence upon international conditions. The whole course of our future economic development, therefore, lies clearly in the direction of a larger cooperation in international economic activities. America's industrial progress is inextricably linked with her foreign trade, and it is impossible for the United States to achieve its pre-war prosperity by a revival of domestic business alone.

CRANDLER, HENRY A. E., in *The Commerce Monthly*, published by the National Bank of Commerce in New York. Press release for January, 1922.

Most of our foreign trade is with Europe. Europe has had great industrial development and hence has been an important market for American agricultural products. But the proportion of our exports to Europe is declining; the importance of Europe as a market for our farm products is slowly diminishing. This leaves the other countries of the world for our consideration. Europe is to become our competitor rather than our customer. The other countries play the four respective rôles of sources of our raw materials, our competitors, markets for our products, and places for investment of American capital. The industrial countries of the world have now entered upon an economic rivalry to secure access to the basic raw materials of the world—oil, rubber, cotton, wool, wheat, and so on. This chapter considers the problem of foreign markets for American agricultural products; what our government is doing to increase foreign commerce; what our government is doing to lessen foreign commerce; and finally the main facts as to the volume and nature of our foreign commerce.

**Food Surplus of 15,000,000 Tons.**—The American farmers produce each year enough food products for the whole rural and urban population of the United States and in addition a 15,000,000-ton food surplus. These farmers also produce both cotton and tobacco greatly in excess of domestic demand. A foreign outlet is sought for this surplus. The surplus is sometimes said to "fix the price" for the whole supply. This is not strictly true. But it is true that a surplus does depress prices. This, as is evidenced by milk and potatoes, is true of a surplus whether it is exported or used at home. As long as price remains the best automatic regulator of production, then surplus should depress prices; deficiencies should raise prices. The foreign market for surplus should not be looked on as a depressor of

prices, but as a safety valve or outlet for relieving pressure of overproduction at home. The farmers' problem is how best to get rid of this 15,000,000 ton surplus. Serious difference of opinion exists. The quotations at the head of this chapter, from three good authorities, show two directly opposite views, namely, that the United States ought definitely to get out of Europe and stay out; and that she ought increasingly to get into Europe and stay in. Which view is correct?

For the United States to plan its agricultural future on the assumption that Europe may be induced to buy large quantities of foodstuffs at higher prices than now prevail would be to build on quicksand.

This is the conclusion of the Institute of Economics, Washington, D. C., based on an exhaustive study of European needs, European purchasing power, and the competition offered by other food-producing countries.<sup>1</sup> The Institute concludes: "The solution of the farmers' ills must, therefore, be sought in internal readjustments to a changed world situation." Emphasis is given to the fact of the increased competition of Canada, South America, South Africa, and Australasia. The views of this Institute as well as of the three authorities previously quoted, need further analysis and study. The purely rational and logical solution of the problem of our foreign trade would be to settle it on a basis of comparative costs. On this basis, the nations with natural resources, with efficient labor, and best organization of production, produce most cheaply, and they exchange with other nations for such goods as may be produced abroad cheaper than at home.

**More Commerce.**—Two conflicting views of our foreign commerce have been stated. Both have found expression through governmental activities. First let us discuss those activities of our government which seek to find larger and larger foreign markets. Four governmental agencies are concerned with foreign agriculture, as follows:

*Work of Department of State.*—This Department maintains at Rome a permanent delegate to the International Institute of Agriculture. Consuls are also maintained at strategic points throughout the world; as one of their duties they are to study and report on all important agricultural matters, particularly marketing questions in their jurisdiction. Through the Institute

<sup>1</sup> Nourse, Edwin G., study made in 1924.



at Rome and through the consular service by means of telegraph, cable, and radio, the United States Department of Agriculture is kept instantly informed as to agricultural matters over the world. This information, as has been said before, is in turn passed on with very great rapidity to the American farmer, by means of the daily papers, telephone, leased telegraph lines, and the radio.

*Work of Department of Commerce.*—This Department has a Bureau of Foreign and Domestic Commerce in Washington, with separate divisions concerned with foodstuffs, hides and leather, lumber, rubber, and textiles. It has also foreign representatives (commercial attachés or trade commissioners) interested in part in agriculture, at the following points throughout the world: Athens, Berlin, Brussels, Bucharest, Buenos Aires, Calcutta, Constantinople, Copenhagen, The Hague, Havana, Johannesburg, Lima, London, Madrid, Manila, Melbourne, Mexico City, Paris, Peking, Prague, Riga, Rio de Janeiro, Rome, Santiago, Sao Paulo, Shanghai, Tokyo, Vienna, and Warsaw. This Department is charged with the duty of looking after American commerce anywhere in the world, and commerce is construed to include markets for agricultural as well as industrial and other products; therefore, whatever may be the theory of the Secretary of this Department, the fact is that this Department is very active in promoting our foreign trade in agricultural products.

*Work of Department of Agriculture.*—The Bureau of Agricultural Economics of this Department has a division concerned with Foreign Competition and Demand, and maintains agricultural trade commissioners as permanent representatives at important points, such as London, Berlin, Rome, Paris, Budapest, Buenos Aires, etc. This Department, in the second place, sends special investigators into various foreign countries. Secretary of Agriculture Wallace said in the 1921 *Yearbook*:

Agents have been sent to Europe to study conditions there in the hope of finding ways to enlarge our exports of farm products.

In his 1922 *Report* he says:

During the past year the Department has had representatives in Argentina and the Balkan countries, both of which compete with us to some extent, and in England and some of the other countries which buy from us. In addition to maintaining these representatives, two specialists were sent to Europe to make an economic survey of agricultural

reconstruction there and to arrange for the interchange of information as to production and demand in those countries.

In addition to those mentioned, this Department maintains one man in Europe to find markets for citrus fruits, particularly grapefruit; one man to find new markets for cotton; and one man part time to adjust wheat grading and marketing problems; and other men studying demand and production problems in agricultural products, including meats, fruits, and vegetables and peanuts. In the third place this Department cooperates with 400 consuls in all matters pertaining to the commercial aspects of foreign agriculture in foreign markets for American agriculture.

The above facts are evidence enough that the United States government is manifesting a lively interest in foreign markets for agricultural products. Some of these efforts are being crowned with success; others are casual and fitful in nature and are of doubtful value. The major achievements thus far of the Department of Agriculture are: (1) in securing the adoption of our cotton standards as universal standards; and (2) in explaining American wheat grades and protecting the integrity of these grades. This is fundamental market progress.

*Work of Federal Trade Commission.*—There is still a fourth agency of the Federal government concerned with foreign markets for agricultural products. Under the provisions of Section 6 of the Federal Trade Commission Act, this commission conducted a study of cooperation in foreign countries and published the findings in the form of a report of 202 pages. The investigation was conducted in 15 countries, by the Chairman of the Commission, aided by the Chief of the Export Trade Division. The following conclusions of the report refer favorably to an increasing in our export trade with Europe:

It is believed that through the agency of cooperative export associations the market for American farm products could be substantially enlarged in foreign countries, just as the farmers of Denmark, Holland, Finland, Czechoslovakia, and Esthonia have succeeded in developing remunerative oversea markets for their products by cooperative methods.

Attention is called to the export trade act (Webb,-Pomerene Law) which may offer advantages for marketing American agricultural products in foreign countries. Under this act an association or combination, by contract or otherwise, of two or more persons, partnerships, or

corporations, may be organized for the sole purpose of engaging in export trade from the United States or any territory thereof to any foreign nation.

Through such an organization they can seek markets for their surplus production and keep overhead expenses down to a minimum.

In various foreign countries efforts are being made to bring about a greater degree of decentralization of power and administration in cooperative organizations. A study of the possible drawbacks arising out of overcentralization would, it is believed, open the way for more efficient methods in the field of cooperation.

*Summary.*—The Federal government is expending much money, time, and effort to promote, improve, and expand foreign markets for American agricultural products. Indeed special exemption from antitrust laws is provided for such export business, under the terms of the Webb-Pomerene Law. Many agents are permanently in Europe and other countries to promote our foreign trade. It is the settled policy, therefore, of our government to secure more commerce abroad. The question does not end here, however. It is now in order to look at the opposite policy which is also pursued by our government.

**For Less Commerce.**—An examination of the attitude of our government and the question of foreign trade reveals an inconsistency. Governments, like individual persons, are not logical; hence a serious inconsistency causes no concern to governmental agencies. During the hearings held by President Coolidge's Agricultural Conference, January and February, 1925, the belief was freely expressed by prominent witnesses that the United States ought to get out of Europe as both buyer and seller. The Secretary of Commerce expressed the view of his Department that the farmer must abandon the foreign market and look solely to the domestic market. This program was to be carried out by the two processes: (1) tariff shutting out foreign goods; (2) increase in consumption at home. This view of consumer demand presupposes that with a high American standard of living maintained, the consumers will use more agricultural products. This view is open to serious question, since the consumers express their standard of living mainly by spending more money for rent, clothing, automobiles, travel, amusements, leisure, personal service, etc. rather than for foodstuffs. A little more money is spent for finer foods, but not for more foods. Agricultural products of a non-food nature, particularly such as

can be used in the industries, also find an increased demand with a rising standard of living. But it is more than doubtful if "increased consumption per capita" can take care of the agricultural surplus within the next generation. In any event, there is now a 15,000,000-ton food surplus here, not to mention cotton and tobacco surplus, which does find an outlet abroad, and there are lands to expand our production. One-half of the land of the United States is in farms. One-half of the land in farms is "improved land." Improved land (about 26 per cent of our area) includes "all lands regularly tilled or mowed; land in pasture that has been cleared or tilled; land lying fallow; land in gardens, orchards, vineyards, and nurseries; and land occupied by buildings, yards, and barnyards." The land "not in farms" includes hilly, stony, swampy, sandy, and infertile lands; also forests and cutover lands; also deserts, open ranges, and mountains. A substantial increase in production is, therefore, obtainable.

The other aspect of the problem of "less commerce" has to do with the tariff. The tariff will be briefly considered as an example of a governmental activity designed to lessen our foreign commerce.

*Tariff.*—The tariff is a trade barrier, one aim of which is to shut out foreign goods. To the extent that it succeeds in stopping imports it also stops exports. For many years the United States has had a "high-tariff" policy; and has also had considerable export and import trade. This trade has been steadily increasing in volume, regardless of the tariff barrier. Up to the year 1917, the United States was a debtor nation, and hence any exports of breadstuffs and meat and cotton went in large part to pay interest on debts and dividends on foreign investments in America; rather than in barter for imported goods. More goods were being exported, that is, than were being imported, and the United States occupied the so-called "balance of trade in our favor" status. After 1917, the United States was a creditor nation, but the balance of trade continued "in our favor," indicating that Americans were spending trade balances in tourist travel, investing funds abroad, and so on.

The early theory of the tariff, the mercantile theory, was to the effect that America ought to sell much to her foreign customers and buy nothing from them, letting them pay in gold. This theory is now looked upon as an absurdity, since foreign trade,

like domestic trade, is and must be in essence mere barter. Goods can be exported so long as they are exchanged for other goods and services. Obviously, whatever checks imports, to the same extent checks exports. This is not the place to enter upon a prolonged discussion of the protective tariff question. Since most of the present-day discussion of the tariff, however, actually rests on the so-called "cheap labor" argument, this point must be critically examined.

*"Cheap Labor" and the Tariff.*—A protective tariff is imposed to "equalize the cost of production at home and abroad." All European and Asiatic countries have much lower wage scales than the United States. It is assumed, therefore, in making a tariff law, that cheap labor produces a cheap product, and dear labor a dear product. The fact is, however, that the wage rate has little to do with the cost of many products. Mention has already been made of wool and woolens. With ample resources, as in the United States, with modern power and machine methods, or with a capitalistic organization of production, as in the United States, America has the world's highest wage rates and lowest cost of production for many commodities, ranging from Ford automobiles to railway transportation, newspapers, corn, and rice. Some illustrations will make this point clear.

*Printing.*—The manager of the *Manchester Guardian* some years before the War compared American and British wages for printers; also output. Operators of the linotype (that is, the same machine in each country) received \$24 per week in the United States and \$18 per week in England.<sup>1</sup> Which was the example of "cheap labor?" The American workman represented "cheap labor" for his output was 5,000 ems per hour, while the British workman's output was 2,500. Relatively, therefore, the pay should have been \$36 in America and \$18 in England.

*Woolens.*—For over 100 years there has been a high tariff on woolens, to protect American industry against competition with "cheap labor" abroad. The largest manufacturers of woolens in America stated that England had lost supremacy in wool.

Great Britain concedes that, although labor costs in the United States have normally been far greater than in England, American manufacturers, through standardization, centralization, better equipment, and

<sup>1</sup> DIBBLEE, G. BINNEY, *Econ. Jour.*, vol. XII, pp. 1-12, 1902. Quoted in COMMONS, JOHN R., "Trade Unionism and Labor Problems," p. 298.

superior efficiency, have been able to produce, per capita, of labor employed, far in excess of the British. In the class of clothing, hats, hosiery, and silks, for example, the United Kingdom produced in 1921 a total of \$409,200,000 worth of goods with 498,000 wage earners, against \$1,433,000,000 worth of goods of the same class by 562,000 wage earners in the United States. The comparison is almost startling.<sup>1</sup>

The American Woolen Company, the largest woolen and worsted manufacturer in the world, has its own sales agencies in London and Paris; also in Brazil, Argentina, Colombia, Chile, Peru, Ecuador, China, Norway, Sweden, Spain, Denmark, Holland, South Africa, Canada, Cuba, Australia, Mexico, Italy. In these places it successfully meets without "protection" the competition of goods produced by so-called "cheap labor."

*Coal.*—Coal mining represents a form of human labor where either muscle or machinery may be utilized. The "cheapest labor" here is in India; also the smallest output, as is indicated by the following statistics:

TABLE XXIX.—TONS OF COAL PRODUCED ANNUALLY PER WORKER<sup>1</sup>

	1911	1914	1918
United States.....	681	673	890
Great Britain.....	300	275	265
Prussia.....	285	284	
Belgium.....	176	143	138
France.....	216		
Nova Scotia.....	555	536	460
New South Wales.....	560	589	605
India.....	127	128	126

<sup>1</sup> TAUSSIG, F. W., "Labor Costs in the United States Compared with Costs Elsewhere," *Quar. Jour. Econ.*, pp. 96-114, Nov., 1924.

*Industrial Commodities.*—The same study as the one just quoted gives figures for various industries, as follows: (1) Brick; brick makers in the year 1915 produced per worker, in Germany, 60,000 bricks; in New York, 180,000 bricks. (2) Steel and pig iron. During the years 1907 to 1909, the annual product per worker was, in steel, United States, 77 tons; Great Britain, 25 tons; in pig iron 84.5 tons and 29.0 tons, respectively. (3)

<sup>1</sup> Advertisement of the American Woolen Company, *The Outlook*, Dec. 31, 1919.

Window glass. Square meters per head per day: Sweden, 10; Belgium, 11; United States, machine blown, 21. (4) Cotton yarn. Weaving costs in Japan and United States. Wages in the United States are five to six times the Japanese wage. Weaving costs per yard of cloth are approximately: Japan,  $\frac{3}{8}$  cent; United States,  $\frac{3}{8}$  cent.

*Rice.*—Rice is produced in China and Japan, with "cheap labor." Rice is produced in California with dear labor. Yet a large part of the California crop is carried across the Pacific and sold in Japan in competition with Japanese rice at a profit to the California grower. The yield in Japan runs from 36 to 40 bushels per acre; in California about 35 bushels. The wages in Japan, for growing rice, are about one-fifth the wage in California. The cost of production is much lower in California, because the Japanese plant by hand and use other primitive methods; the California farmer plants with a machine and uses modern methods. In Japan it, therefore, requires 110 days' work to raise 1 acre of rice; in California it requires 2 days of man-labor plus the labor of two horses for  $1\frac{1}{2}$  days to raise the acre of rice. The California rice is marketed through a cooperative association. In the *Annual Report* of the Association for 1922 occurs this statement about sales of rice in Japan, showing that 70 per cent of one crop was marketed in Japan:

Although the distributors of California rice have failed to create a permanent and active domestic market, for California rice, which is the most nutritious form of this great commodity, yet there is a great domestic field for this development in the future. In addition to this potential market and the markets of Porto Rico and Hawaii, it is safe to assert that the Japanese market will consume the surplus produced by California at a price returning a reasonable profit. Already more than 70 per cent of the crop of 1921 and the carryover of 1920 have been marketed in Japan. It is the purpose of the Rice Association to participate in these matters of the foreign distribution of our rice in order to build up as far as possible a satisfaction on the part of buyers and a permanent outlet for all surplus.

The 1923 *Yearbook* of the Rice Growers' Association of California speaks further of the Japanese markets (and other foreign markets) in these words:

It is of especial significance that when prices of 54 yen per koku prevailed in Japan and when need for importations was so great, there were no exportations from California. This was a year prior to the

organization of the Rice Growers Association of California. When, during 1921 and 1922, the peak of the same quality was only 42 yen, there was developed a market through which there was an export of 148,000,000 pounds of rice to Japan from California. In addition to fully utilizing Japanese possibilities, we have this year been able to secure, without cost to us, the help of a Trade Advisor of the Department of Commerce who traveled through Central and South American countries. We hope to gain a further market there which may be competitive with Japan as buyers, but non-competitive with our southern states as sellers, since the latter's intermittently weak markets greatly demoralize values to the extent that our rice comes into contact with them. Our sales division has also always taken advantage of occasional strengthening southern prices by making available off-grades for movement into Porto Rico over the heads of the South.

The evidence presented on the "cheap-labor" question proves that cheap labor does not necessarily mean a cheap product. Indeed it may mean exactly the opposite. Conversely, dear labor does not necessarily mean a dear product: As a matter of fact the dearest labor in the world is now employed making the cheapest automobile in the world.

**Tariff Acts of 1789 and Later.**—The first tariff act ever passed in the United States was enacted July 4, 1789. It was not made to benefit the farmer. Its purpose is stated in Section 1 as follows:

Whereas it is necessary for the support of government . . . and the encouragement and protection of manufactures, that duties be laid on goods, wares, and merchandise imported.

The "encouragement and protection of manufactures" continued for the next 135 years to be the major aim of each new protective tariff—protection, that is, of manufacturing enterprises against so-called "cheap labor" abroad. A tariff on imported goods, makes them higher. A tariff on a commodity which is exported but not imported has no effect on price. Tariff acts for many years contain a schedule of duties on agricultural products, but in the case of most of these products the United States has a surplus for export and hence the tariff has no effect on prices.

*American Farm Bureau Federation Investigation of Tariff.*—After the passage of the highly protective tariff act of 1922 the Research Department of the American Farm Bureau Federation made a scientific study of its net effects on the farmers. This



It raised the prices of some products sold by farmers, notably wool; and in some seasons some of the spring wheat; it raised the prices of manufactured articles bought by the farmer, including sugar. The net loss to the farmers by reason of this was found to be \$300,000,000 a year.<sup>1</sup> It is now in order to examine the foreign trade of the United States, and to note how commercially important are both the exports and the imports of agricultural commodities.

**Our Foreign Commerce.**—Our foreign trade is small in comparison with our domestic trade. Yet it is large in the aggregate. For many agricultural commodities the foreign market is an important outlet; for some, the most important outlet. Our imports of agricultural products are growing in volume and importance.

During the first hundred years of our national life our exports were naturally chiefly agricultural and were also principally foodstuffs. In the year, 1880, for instance, exports of foodstuffs were four times the amount of manufactures exported. But in the year 1912, the exports of manufactures were two and a half times as large as exports of foodstuffs. America has shifted from an agricultural nation to an industrial nation. The following table exhibits the important growth and changes in our agricultural exports and imports:

<sup>1</sup> *Amer. Farm Bur., Weekly News Letter*, Chicago, Ill., vol. III, No. 2, pp. 1, 3, and 4, Jan. 11, 1923.

Roscher, the great German economist, over a half century ago characterized the American tariff in these words: "Since a democracy cannot, properly speaking, educate the people in economics, the protective duties of the United States are, for the most part, only attempts by one part of the people, who claim to be the whole, to prey upon the other part."

It should be said, in justice to American captains of industry, that the protective tariff has had nothing to do with our great basic industrial achievements, such as the growth of our transportation system, resting on our \$20,000,000,000 railway system, our credit structure (resting on 30,000 banks and some 200 insurance companies), our oil and coal and copper and lumber industries, our automobile industry, our meat-packing industry, and so on. Natural resources, plus individual initiative (under free government and free schools) account for our tremendous industrial progress—not the tariff.

TABLE XXX.—UNITED STATES FOREIGN TRADE IN AGRICULTURAL PRODUCTS, 1852 TO 1918<sup>1</sup>

Year ending, June 30	Agricultural exports domestic <sup>2</sup>		Agricultural imports <sup>2</sup>	
	Total, gold dollars	Percent- age of all exports	Total, gold dollars	Percent- age of all imports
Average:				
1852 to 1856.....	104,895,140	80.9	77,847,158	29.1
1857 to 1861.....	215,708,845	81.1	121,018,143	38.2
1862 to 1866.....	148,865,540	75.7	122,221,547	43.0
1867 to 1871.....	250,713,058	76.9	179,774,000	42.3
1872 to 1876.....	396,668,397	78.5	263,155,573	46.5
1877 to 1881.....	591,350,518	80.4	266,383,702	50.4
1882 to 1886.....	557,472,922	76.3	311,707,564	46.8
1887 to 1891.....	573,286,616	74.7	360,950,109	43.3
1892 to 1896.....	638,748,318	73.0	398,332,043	51.6
1897 to 1901.....	827,566,147	65.9	376,549,697	50.2
1902 to 1906.....	879,541,247	59.5	487,881,038	46.3
1907 to 1911.....	975,398,554	53.9	634,570,734	45.2
1901.....	951,628,331	65.2	391,931,051	47.6
1902.....	857,113,533	63.2	413,744,557	45.8
1903.....	878,480,557	63.1	456,199,325	44.5
1904.....	859,160,264	59.5	461,434,851	46.6
1905.....	826,904,777	55.4	553,851,214	49.6
1906.....	976,047,104	56.7	554,175,242	45.2
1907.....	1,054,405,416	56.9	626,836,808	43.7
1908.....	1,017,396,404	55.5	539,690,121	45.2
1909.....	903,238,122	55.1	638,612,692	48.7
1910.....	871,158,425	50.9	687,509,115	44.2
1911.....	1,030,794,402	51.2	680,204,932	44.5
1912.....	1,050,627,131	48.4	783,457,471	47.4
1913.....	1,123,651,985	46.3	815,300,510	45.0
1914.....	1,113,973,635	47.8	924,247,116	48.8
1915.....	1,475,937,607	54.3	910,786,289	54.4
1916.....	1,518,071,450	35.5	1,189,704,830	54.1
1917.....	1,968,253,288	31.6	1,404,972,108	52.8
1918.....	2,280,466,000	39.1	1,618,874,000	55.0
1919.....	3,579,918,000	50.6	1,768,191,000	57.1
1920.....	3,861,511,000	48.6	3,129,659,000	59.7
1921.....	2,607,641,000	40.8	1,941,837,000	53.1
1922.....	1,915,371,000	51.8	1,279,072,000	49.0
1923 (preliminary).....	1,798,771,000	46.3	1,893,968,000	50.1

<sup>1</sup> 1852 to 1917 compiled from "Foreign Commerce and Navigation of the United States," Dept. of Com., Bureau of Foreign and Domestic Commerce. 1918 to 1923 compiled from 1923 Yearbook, U. S. Dept. Agr., p. 1135, 1924.

<sup>2</sup> Not including forest products.

The six leading imports are largely articles for food or clothing and classed as agricultural; namely, sugar, silk, coffee, rubber, wool, and hides. Among the 10 leading exports, 5 are agricultural; namely, cotton, tobacco, lard, wheat, and flour. In other words, American agriculture is seriously dependent on European and world conditions. The situation is further complicated by the fact that the United States is a creditor nation. Shall the debtors pay? If so, shall they pay in farm products? Or in manufactured goods? And what effect on American economic life would the payment of \$10,000,000,000 worth of goods have? Too much of the worlds' gold has already been transferred to the United States.

*Butter Imports and Exports.*—An examination of the exports and imports of butter illustrates an interesting fact about foreign trade; namely, a commodity may be imported for consumption while at the same time the domestic commodity is being exported.

TABLE XXXI.—UNITED STATES BUTTER EXPORTS AND IMPORTS, 1919 TO 1921<sup>1</sup>

Per Cent of Total			
Exports	1919	1920	1921
Belgium.....	8.3	29.8	
British Guiana.....	0.6	2.9	3.9
Canada.....	0.8	4.9	23.8
Central America.....	1.9	4.9	12.9
China.....	0.3	0.4	2.5
Mexico.....	1.2	4.6	14.0
Philippines.....	0.7	1.9	3.2
United Kingdom.....	63.1	22.3	0.8
Venezuela.....	0.1	0.1	0.1
West Indies and Bermuda.....	6.5	16.5	34.8
Other countries.....	16.5	11.7	4.0
	100	100	100
Exports, total pounds.....	34,556,000	17,483,000	18,015,000
Imports, total pounds.....	9,519,000	37,454,000	18,558,000

<sup>1</sup> Yearbook, U. S. Dept. Agr., p. 969*f.*, 1922.

In this table the collapse of the British market for American butter is seen. Also it covers the period of heavy import of Danish butter into the United States, made necessary temporarily to enable Denmark, with unfavorable foreign exchange conditions, to contrive to purchase in America certain feeding stuffs for her dairy cows. In a similar way the United States was exporting eggs (eggs in the shell) and was importing from China egg albumen and dried and frozen eggs. Many other commodities represent this normal and healthy principle of foreign trade.

If examination is made of our foreign trade for any one year, it is apparent that the tropics and subtropics are now of vast commercial importance to us as sellers, and may become so as buyers. Thus our four leading imports are sugar, silk, coffee and rubber, and three of these are from those regions. The largest single item is our purchase of sugar from Cuba—\$332,000-000. The trade with Brazil, large though it is, should be multiplied many times, for climatically these two countries are complementary. The tropics and subtropics are, in turn, markets for American breadstuffs, meat products, dairy products, and other agricultural products. If European markets (for surplus American agricultural products), are to decline then obviously these other markets need to increase. The following table gives an analysis of our foreign trade for the year 1923:

TABLE XXXII.—UNITED STATES WORLD TRADE, 1923

	Millions of dollars	Per cent	
<b>Imports:</b>			
Silk.....	392	10.3	Japan: 276, China: 83, Italy: 21, Hongkong: 5, France: 5
Sugar.....	380	10.0	Cuba: 332, Philippines: 30, Peru: 5, Dominican Rep.: 4, Central America: 3
Coffee.....	190	5.0	Brasil: 116, Colombia: 37, Central America: 16, Venezuela: 9, Mexico: 6
Rubber.....	185	4.8	British East Indies: 123, Dutch East Indies: 29, England: 21, Brasil: 6, Holland: 2
Wool.....	130	3.4	England: 32, Australia: 26, Argentina: 19, Uruguay: 15, China: 11
Hides.....	119	3.1	Argentina: 31, British India: 14, England: 7, China: 7, Brasil: 7
Newsprint.....	98	2.5	Canada: 85, Sweden: 4, Germany: 3, Finland: 3, Norway: 2
Furs.....	88	2.1	England: 18, China: 15, Canada: 12, Germany: 10, Australia: 5
Wood pulp.....	75	1.9	Canada: 38, Sweden: 19, Norway: 7, Finland: 6, Germany: 4
Burlap.....	67	1.8	British India: 56, Great Britain: 8, Germany: 1, Belgium: 0, 6, Italy: 0, 2
<b>Exports:</b>			
Cotton.....	807	19.7	England: 244, Germany: 150, Japan: 103, France: 102, Italy: 83
Coal.....	166	4.1	Canada: 135, France: 7, Cuba: 4, Italy: 4, Germany: 3
Automobiles.....	165	4.0	Canada: 30, Australia: 23, Argentina: 9, England: 9, Japan: 6
Tobacco.....	152	3.7	England: 80, China: 11, Australia: 11, Italy: 8, Germany: 5
Gasoline.....	138	3.3	England: 36, France: 32, Australia: 9, Canada: 7, Argentina: 7
Lard.....	130	3.2	Germany: 46, England: 29, Cuba: 12, Holland: 9, Italy: 7
Wheat.....	116	2.8	Canada: 28, Italy: 20, England: 19, Japan: 10, Belgium: 9
Copper.....	110	2.7	France: 37, England: 23, Germany: 21, Belgium: 9, China: 5
Flour.....	68	2.2	China: 13, England: 9, Holland: 7, Cuba: 7, Germany: 6
Lumber.....	81	1.9	England: 17, Argentina: 11, Japan: 10, Canada: 9, Australia: 7
<b>Total exports.....</b>			<b>\$4,168,000,000</b>
<b>Total imports.....</b>			<b>3,792,000,000</b>

*Summary.*—Some transitions in agricultural production must be made in the United States to conform to new world conditions of supply and demand. If the world will not buy the surplus, the surplus must not be produced. The United States is primarily an industrial nation; secondarily an agricultural nation.

Our 1900 Census Report says:

Down to 1880 or to some time between 1880 and 1890, agriculture was the principal source of wealth in the United States. At the last census (1890) the value of farm products was exceeded by manufactured products. At the census of 1900 the value of farm products is shown to have been \$4,739,118,732 . . . The net value of the products of manufactures as computed in the census is \$8,370,595,176.

Since that time the primacy to industry is still more marked. As an industrial nation the United States will be forced to abandon its present mercantile policy of economics. Sugar, rubber, vegetable oils, silk, wool, coffee, and tea, are already articles of heavy import in exchange for exports. Some of these, such as rubber, are indispensable, and cannot be produced at home. Apparently the United States is to have more, not less, commerce. In other words, the Departments of State, of Commerce, of Agriculture, and the Federal Trade Commission, in their fourfold efforts to promote our foreign trade, are meeting the condition with which we are confronted. The more civilized a nation becomes, the more commerce it has with its neighbors.

#### Questions

1. Summarize briefly the three views of foreign trade expressed by H. B. Smith of the Department of Commerce, by the Secretary of Commerce, and by H. A. E. Chandler of the National Bank of Commerce. Can these views be reconciled? With which one, if any, do you agree?
2. Briefly, what is the status of our foreign trade with Europe? with other lands?
3. What are the basic raw materials of commerce?
4. What is our annual food surplus? Surplus of non-food agricultural products? What shall be done with this surplus?
5. Does this surplus "fix the price" for the whole supply? Be specific.
6. What conclusions concerning the surplus problem were reached by E. G. Nourse?
7. Name the four governmental agencies now seeking to find larger foreign markets in Europe and elsewhere.
8. State specifically what is being done by the Department of State.
9. What divisions of the Department of Commerce are concerned with foreign trade in agricultural products? At what points are commercial, attachés maintained? Duties?
10. What are the activities of the Department of Agriculture to promote foreign trade? Success?
11. Show the activities of the Federal Trade Commission in promoting foreign trade. Views of this commission on centralized versus decentralized cooperative associations?

12. State conclusions concerning the aims and methods of our government to promote foreign trade in agricultural products.

13. Is the government at the same time pursuing an opposite policy? Be specific.

14. What two processes for getting out of the foreign market were proposed at the President's Agricultural Conference in 1925?

15. Discuss practicability of stimulating American people to eat our food surplus.

16. Is the tariff a means of increasing or decreasing commerce? Discuss at length. Reasons for our first tariff. What is the Mercantile theory?

17. Analyze critically the "cheap labor" argument for protective tariff. Illustrations: printing; woolens; coal; brick; steel and pig iron; window glass; cotton yarn; rice.

18. Define objects of tariff acts, 1789 to 1922. Protection to agriculture.

19. Give findings on tariff of American Farm Bureau Federation. Views of Roscher. Place of protection in American industrial evolution.

20. Give principal facts concerning our foreign trade: changes in past century; agricultural exports and imports and changes therein; six leading imports; ten leading exports; fluctuations.

21. Is it a normal condition both to export and import a commodity? Explain and illustrate.

22. Show growing importance of tropics and subtropics in our foreign trade.

23. Analyze in detail our foreign trade for the year 1923. Explain why sugar fell to second place among imports.

24. What transitions, if any, should be made in American agricultural production?

25. Is America to look for more commerce in the future or less commerce?

## READING REFERENCES

A good working library on agricultural marketing is needed by both teacher and student. The following list is a brief one and is intended to be purely suggestive. It necessarily omits a great many good books on the subject. Books need to be supplemented with current market news, market prices, and current marketing conditions in general. It is upon this principle that the following nine groups of references are based:

1. Books on marketing:

✓ CLARE, FRED E.: "Principles of Marketing," The Macmillan Company, 1922.—"Readings in Marketing," The Macmillan Company, 1924.

CONVERSE, PAUL D.: "Marketing Methods and Policies," 2d ed., Prentice-Hall, Inc., 1924.

WELD, L. D. H.: "The Marketing of Farm Products," The Macmillan Company, 1916.

✓ 2. Books on cooperative marketing:

JESNESS, O. B.: "The Cooperative Marketing of Farm Products," J. B. Lippincott Company, 1923.

3. Publications of the Bureau of Agricultural Economics, United States Department of Agriculture:

*Agricultural Cooperation* (semi-weekly).

✓ *Crops and Markets* (weekly).

*Foreign Crops and Markets* (weekly).

*Marketing Activities* (weekly).

4. *The Nation's Business* (monthly), published by the United States Chamber of Commerce, Washington.

5. Trade Papers:

*The Packer* (weekly), published by Barrick Publishing Company at New York, Chicago, Cincinnati, Kansas City, and Los Angeles.

✓ *The Produce News*, published by P. and D. Publishing Company, New York, N. Y.; *Produce News*, Chicago, Ill.; *Produce News*, California; *Produce News* (weekly), Los Angeles, Cal.

*The Produce Packer* (weekly), published by Barrick Publishing Company at New York, Chicago, Cincinnati, Kansas City, and Los Angeles.

6. Official Organs of Cooperative Marketing Associations.

There are now about 90 of these papers issued representing various pools and commodity organizations, such as milk, grain, livestock, cotton, poultry, tobacco, potatoes, beans, oranges, raisins, walnuts, and the various fruits and vegetables. A complete list of these papers may be obtained from the United States Bureau of Agricultural Economics.

7. Annual reports and other official reports of the leading cooperative organizations



## 8. Books on commodity marketing:

## ✓ Apples and fruits:

FRASER, SAMUEL: "Marketing American Fruits," New York, N. Y. 1924.

## Cotton:

ELLISON, THOMAS: "The Cotton Trade of Great Britain," London, 1886.

HUBBARD, WM. EUSTACE: "Cotton and the Cotton Market," New York, London, 1923.

TODD, JOHN A.: "World's Cotton Crops, New York, N. Y. 1915.

## Grain:

BARKER, ARTHUR: "The British Corn Trade," London and New York, 1919.

MILLAR, A.: "Wheat," London and New York, 1916.

PIPER, CLARENCE B.: "Principles of the Grain Trade of Western Canada," Winnipeg, 1915.

"Wheat Production and Marketing," and "The Corn Crop," *Yearbook, U. S. Dept. Agr.*, 1921.

## Livestock:

DAVENPORT, ARTHUR C.: "The American Livestock Market: How It Functions," *Drover's Journal*, Chicago, Ill., 1922.

## Milk:

ERDMAN, HENRY E.: "The Marketing of Whole Milk," New York, N. Y., 1921.

KING, CLYDE L.: "The Price of Milk," New York, 1920.

## Poultry and eggs:

BENJAMIN, EARL W.: "Marketing Poultry Products," New York, 2d ed., N. Y., 1925.

## Tobacco:

TANNER, ARTHUR E.: "Tobacco from the Grower to the Smoker," London and New York, 1912.

## Wool:

CHERINGTON, PAUL T.: "The Wool Industry," New York, N. Y. 1916.

## Prices current and market publications:

Papers are to be had in every field of marketing.

The publications listed below are typical and are issued by three outstanding market news-gathering agencies.

Dow Jones & Co. This company features stocks, bonds, commerce, and general industrial and financial conditions of the country. As one service it issues the *Wall Street Journal* (daily, morning, and evening), New York, N. Y.

Howard, Bartels & Co. This company features grain markets, with additional information on commerce, finance, and also produce markets. It issues the *Daily Trade Bulletin*, Chicago, Ill.

Urner-Barry Company. This company features poultry and creamery products, particularly on the New York market. It issues the *Producers' Price Current* (daily), New York, N. Y., and the *New York Produce Review* (weekly), and *American Creamery* (weekly).

## INDEX

### A

- Advertising, food, 35  
by cooperatives, 422  
oranges, 35  
price influence, 241  
raisins, 35
- Agricultural cooperation, 464  
Agricultural production policy, 65  
Allen, Gov. Henry, 57  
American Cotton Growers Exchange, 416  
American Cranberry Exchange, 61, 85, 86, 412, 415, 428, 431  
American Creamery, 465  
American Economic Review, 76, 244  
American Farm Bureau Federation, 456  
American Tobacco Company, 390  
American Wheat Growers, 276  
American Woolen Company, 295, 454
- Anderson, B. M., 245  
Andrews, Frank, 108  
Apples, boxed, 95  
consumption, 366  
export, 367  
grades, 367  
co-operative marketing, 362, 369  
marketing, 362-372  
marketing problems, 367  
storage, 368  
transportation, 367  
merchandizing methods, 369, 376  
middleman's toll, 78, 84, 85  
production, 363  
place, 363  
season, 365  
varieties, 370  
volume, 365
- Argentina, price control, 247  
Aristotle, 183
- Associated Growers, 57  
Associated Raisin Growers, injunction, 57  
price control, 177, 237, 238  
see Raisins
- Atlantic Monthly, 91  
Auction, egg, 356  
f.o.b., 95  
fruits and vegetables, 174  
hog, 175  
number, 95  
service, 90  
tobacco, 391  
wool, furs, 174
- Auxiliary marketing functions, 187  
grading, standardizing, 187  
inspection, 188

### B

- Baker's bread, 266  
Banham, W. J. L., 128  
Bankers acceptance, 148  
Bargaining, grain, 274  
in marketing, 400, 419  
Barker, Arthur, 465  
Barley trade, 264, 265  
Barnes, Julius H., 76, 122  
Barometer of price, 207  
Baxter, Harvey W., 92  
Bayard, E. S., 3  
Beef cuts, 37  
Beer consumption, 28  
Benjamin, Earl W., 163, 465  
Benson, Alva H., 49  
Bergtholdt, J. E., 3  
Big Packers, 338, 339  
Bimetallism, 230  
Black, John D., 51  
Bloom on bread, 262, 267  
Boston food supply, 24, 38-41  
Bounty on wheat, 233

- Boyle, James E., 104, 265  
 Bracken, President, 49  
 Brazil coffee valorization, 247  
 Bread, bakers', 266  
   characteristics of, 262  
   demand for, 16  
 British Cotton Growers Association, 301  
 Brokers, eggs, 356  
   food, 172, 173, 174  
   potatoes, 383  
 Brown, C. L., 126  
 Bulk-line costs, 51  
 Bullock, Willis, 308, 313  
 Bureau of animal industry, 340  
 Burley Tobacco Growers, 391, 415, 427  
 Burtness, Olger G., 20  
 Butchers, 342  
 Butter, foreign trade, 319-21, 459  
   middlemen's tolls, 82
- C
- California Alfalfa Growers, 311, 432  
 California Almond Growers Exchange, 173, 180  
 California Farm Bureau Marketing Associations, 175  
 California Fruit Growers Exchange, 22, 23, 92, 165, 175, 412, 414, 427, 428, 431  
 California Honey Producers, 432  
 "California Plan," 431  
 California Prune and Apricot Growers, 415, 427, 431  
 California Walnut Growers Exchange, 173, 179, 238, 415, 427, 431  
 Calories, 47  
 Camp, Wm. R., 235  
 Canning crops, 200  
 Case count, eggs, 358  
 Cattle receipts and prices, 333, 344  
   center of population, 333  
 Cement standardization, 434  
 Chain stores, 93  
 Chandler, Henry A. E., 447, 462  
 Chaney, A. W., 182  
 Chatterton, H. J., 290  
 Cheese, quality, 324, 422  
 Cherington, Paul J., 465  
 Chicago Board of Trade, 157, 203, 204, 236, 273  
 Chicago Mercantile Exchange, 201  
 China, eggs from, 354, 355  
 Cholera, hog, 343  
 Christensen, Chris L., 31  
 Clark, Fred E., 464  
 Coal, under Government control, 244  
   price control, 260  
 Coffee valorization, 247  
   foreign trade, 459  
 Coit, Dr. Henry L., 315  
 Collective bargaining, 255-6, 419  
   milk, 256  
 Colman, Henry, 332  
 Commerce and civilization, 462  
 Commerce and Finance, 156  
 Commerce Monthly, 447  
 Commission merchant, 170, 174, 356  
   potatoes, 383  
 Commons, John R., 453  
 Community production, 53  
   in California, 54  
   in Denmark, 34, 64  
   in Wisconsin, 53  
 Confidence, 168  
 Connecticut Valley Tobacco Growers, 415  
 Consumer demand, 4-43  
   advertising, 35  
   agricultural specialties, 22  
   Denmark's experience, 31  
   eccentricities, 25  
   elasticity, 5  
   meat, 5  
   wheat, 10  
   limit of food demand, 35, 446, 451  
   for quality, 26  
     butter, eggs, 29  
     flour, 27  
     meat, 30  
     milk, 27  
   package goods, 26  
   shifts, 35

- Contracts, 427, 431  
 Converse, Paul D., 464  
 Coolidge, President Calvin, 406, 427, 451  
 Cooperative marketing, 31-34, 53, 92, 94, 141, 147, 239  
   advertising, 422  
   aims, methods, programs, 413  
   cotton, 416  
   dairy, 414  
   Federated Fruit and Vegetable Growers, 415  
   fruits and vegetables, 414  
   grain, 414  
   livestock, 414  
   poultry, 416  
   tobacco, 415  
   a business, not a religion, 407  
   rice an example, 408  
   apples, 369  
     Sebastopol Apple Growers, 370  
     Western New York Coop. Fruit Growers Packing Ass'n., 370  
   bargaining power, 419  
     collective bargaining, 419  
   better, cheaper distribution, 421  
   butter, 322  
   cheese, 322  
   cotton, 291-3  
   cure trade abuses, 418  
   eggs, 359  
   form of organization, 425  
     benefits, 426  
     democratic control, 425  
   hay, 310  
   inherent weaknesses, 409  
     extravagance, 409  
     oversold, 409  
     private initiative, 410  
   legal protection, 420  
   livestock, 345  
   market information, 419  
   official organs, 464  
   peaches, 375  
   potatoes, 383  
   price, 423  
     raise price to consumer, 424  
     reduce cost of distribution, 424  
   Cooperative marketing price, reduce  
     cost of production, 423  
     reduce speculation, 421  
     research, 420  
     resistance to price decline, 422  
     standardization, 422  
     type forms, 426  
     audit by C. P. A., 431  
     "California Plan," 431-2  
     capital stock and no capital stock, 429  
     contracts, 431  
     federation of locals, 428  
     limit membership to farmers, 430  
     limit rate of dividend, 430  
     one man one vote, 429  
     patronage dividend, 429  
     quorum, 430  
     strong central, 427  
     strong local, 427  
     vote by proxy, 430  
   transportation, 420  
   utilization of by-products, 421  
   volume of business, 420  
   what cooperatives cannot do, 411  
     cut costs greatly, 412  
     eliminate middleman, 412  
     eliminate speculation, 413  
     fix prices, 412  
 Cooperative production, 54  
 Corn acreage reduction, 56  
 Corn, middlemen's tolls, 101-104  
   trade, 263-4  
   value, 263  
 Cost of production, 180-1  
   and price, 252  
   cattle and beef, 252  
   milk, 253  
   wool, 253  
 Cotton, acreage reduction, 56  
   at Liverpool, 300  
   by-products, 421  
   community production, 71-2  
   consumption, 288  
   character classification, 290  
   grade standards, 289  
   linters, 290  
   staple length, 289  
   types and grades, 289, 438

- Cotton, cooperative marketing, 427  
 foreign trade, 69, 70, 459  
 marketing, 285-293  
 marketing problems, 290  
   pools, 292  
 production, 66, 68, 286, 287  
   Africa, 287  
   Asia, 286  
   Australia, 287  
   South America, 287  
   United States, 286  
 spindles, 288  
 twelve pools, 416  
 value, 263  
 world supply, 302  
 Cotton goods price control, 260  
 Country Elevators, 271  
 Cranberries, middlemen's tolls, 85-6, 180-2  
   see American Cranberry Exchange  
 Creameries, cooperative, 427  
 Credit, 144  
   cooperative, 406  
   grain trade, 269-70  
   livestock, 341  
   marketing, 146  
     documents, 147-8  
   short term, 144  
     agricultural and commercial, 145  
 Crops and Markets, 137, 310, 336, 464  
 Crossman, G. W., 248
- D
- Daily Trade Bulletin, 465  
 Dairymen's League, 57, 325-7, 413, 414, 421  
 Dairymen's League News, 58, 327  
 Dark Tobacco Growers, 392, 416  
 Davenport, Arthur C., 465  
 Dealers, types of egg, 356  
 Decentralization of cooperatives, 451  
 Demand, agricultural specialties, 22  
   butter, 24  
   Danish butter, 25  
   Demand, agricultural specialties, oleomargarine, 24  
     sugar, 23  
   for agricultural staples, 5  
   bread, 16  
   changes in, 25-35  
   control, 61  
   expansion, 226  
   meat, 5, 37  
   and price, 233-5  
   for quality, 323-4  
   wheat, 10  
 Denmark, cooperation in, 31-34  
   shifts in production, 64-5  
 Department stores, 98  
 Desjardins, Alphonse, 418  
 Diamond Brand News, 59, 180  
 Dibbler, G. Binney, 453  
 Direct marketing, 413  
 Discount rate, 151  
 Distribution, better and cheaper, 421  
   control, 60  
   cost of, compared with production, 75  
   efforts to cheapen, 92-95  
 Dockage, 278  
 Douglas, Wm., Shoe Co., 169  
 Dow Jones and Co., 465  
 Du Puy, William Atherton, 46  
 Dumping, 220-222  
 Durgin, Wm. A., 53
- E
- Eastern Shore of Virginia Produce Exchange, 61, 165, 215, 383-6, 413, 415, 431  
 Eatmor cranberry, 61  
 Economic Journal, 453  
 Economic resources of U. S., 75  
 Edinger, Paul L., 424  
 Egg, consumption, 353  
   foreign trade, 354, 460  
   grades, 354  
   losses, 353  
   cooperative marketing, 359, 416  
   grading, 438, 440

- Eggs, marketing, 348-361  
 problems, 355  
 auction, 356  
 egg exchanges, 357  
 futures, 358  
 storage, 355  
 transportation, 355  
 types of dealers, 356  
 merchandizing methods, 358  
 middlemen's tolls, 80, 83  
 production, 348  
 strike, 131
- Elasticity of demand, 5
- Ellison, Thomas, 197, 465
- Emery, H. C., 208
- Empire Cotton Growing Committee, 301
- Erdman, Henry E., 465
- Erie Canal, 130
- Etheridge, R. B., 311
- Exports, destination, 70  
 grain, 265  
 percentage of crop, 69
- F
- Fairbanks Soap Co., 169
- Falmouth, Mich., Potato Growers, 214
- Farm Economics, 79
- Farmer sales agency, 171
- Farmers' elevators, 276
- Farmers' Equity Union, 429
- Farmers' Register, 283
- Fashion and demand, 235
- Federal land banks, 154
- Federal reserve banks, 154
- Federal Reserve Bulletins, 152
- Federal Trade Commission, 77, 106, 111, 136, 160, 161, 177, 222, 338, 450, 462
- Federated Fruit and Vegetable Growers, 415
- Field Quality News, 47
- Filley, H. C., 236
- Firestone Ship-by-truck Bureau, 126
- Florida Citrus Exchange, 413, 415
- Flour, exports, 70, 280, 459  
 packages, 27  
 production in U S., 14, 15
- Flow to market, 212-223  
 hogs and cattle, 335  
 potatoes, 383  
 wheat, 277
- F. O. B. auction, 90, 95, 96
- F. O. B. sales, potatoes, 383
- Food Administration, 13
- Food Research Institute, 20
- Foot and mouth-disease, 161
- Ford, Henry, 411, 426
- Foreign Crops and Markets, 464
- Foreign exchange, 200
- Foreign trade, apples, 367  
 dairy products, 318-321, 446-464  
 exports, 458-61  
 food surplus, 447  
 imports, 458-61  
 less commerce, 451  
 meat, 336-7  
 more commerce, 448  
 tariff, 452, 456-7  
 tobacco, 389
- Fraser, Samuel, 132, 465
- Fruits and vegetables, cooperative marketing, 414
- Future trading, 161, 164  
 apples, 362  
 butter and egg exchanges, 200-2  
 complex type, 198  
 cotton, 203-4, 292  
 hedging, 203  
 eggs, 358  
 examples of, 199  
 agricultural products, 200  
 non-agricultural products, 199-200  
 extension of, 208-9  
 grain, 204-6  
 hedging technique, 204-6  
 objections to, 207-8  
 rice exchange, 202  
 services of, 206-7  
 simple type, 197  
 sugar and coffee, 202  
 wool, 295
- G
- Garfield Report, 338
- Gasoline, 259

- Georgia, peach crops, 374  
 Georgia Peach Growers Exchange, 374  
 Girdler, S. S., 251  
 Gluts, 61, 212  
   hay, 310, 312-3  
 Goals in marketing, 397-401  
 Goodwin, D. H., 366  
 Government help, 397, 403, 434-463  
   food surplus, 447  
   foreign commerce, 448-455  
   foreign markets, 446  
   inspect, grade, standardize, market news, 434, seq.  
   market news, 441  
     federal broadcasting, 442  
     federal leased wire, 441  
     federal reports, 443  
     radio, 444  
     special commodities, 444  
     speed, 442  
     state news service, 443  
   "orderly production," 444  
   standardization by federal government, 438  
     egg, 440  
     hay, 440  
     inspection, 439  
   standardization by state governments, 435  
   compulsory or optional grades, 436  
   how establish grades, 436  
   schools for grading, 437  
   state and federal grades, 436  
   state or federal shipping point inspection, 437  
   tariff acts, 456  
     and the farmer, 456  
 Government price fixing, 242  
   for the consumer, 249  
 Grading, 187, seq., 436, seq.  
   apples, 367  
   cotton, 289  
   dairy products, 322-4  
   eggs, 354  
   grain, 272  
   hay, 308  
   livestock, 343  
   Grading; objections to, 192  
     peaches, 375  
     potatoes, 381  
     tobacco, 390  
     wheat, 278-9  
 Grain Bulletin, 16  
 Grain exchanges, 204, 272, seq.  
 Grain Futures Administration, 198, 208  
 Grain marketing, 262, seq.  
   coarse grains, 263  
   cooperative marketing, 427  
   country elevator, 271  
   grades, 438  
   grain exchanges, 272  
     Liverpool, 275  
     market news, 274  
     prices, 274  
   pools, 271, 276  
   terminal market, 272  
     weigh, inspect, grade, 272  
   wheat, 266  
     bread, 266  
     credit, 269  
     price, 270  
     storage, 268  
 Grain marketing costs, 101-4  
 Grain Standards Act, 187  
 Grain, U. S., 167, 241  
 Greater New York, 112
- H
- Hall, Mary, B., 362  
 Hamilton, Wm. Peter, 405  
 Harpers Magazine, 46  
 Harris, E., 187  
 Harvard Business Review, 36  
 Hay marketing, 304-314  
   consumption, 306  
   cooperative marketing, 310  
     poor management, 311  
     quality, 310  
     storage, 311  
     volume, 311  
   inspection, 440  
   market demand, 312-14  
   marketing problems, 307  
     grading, 308  
     transportation, 124, 309

- Hay marketing, price, 203, 309  
production, 304  
Hay Trade Journal, 308  
Hedden, Walter P., 112  
Hedging, 164, 200  
cotton, 203-4, 202  
technique, 204-6  
two services, 207  
Heinz, H. T., 169  
Hides, 459  
Hill, James J., 114  
Hoard's Dairyman, 185, 324, 406  
Hog prices, 258  
receipts, 333-5  
receipts and prices, 345  
Holinshed's Chronicle, 285-6  
Holmes, George K., 42  
Holmes, Judge, 283  
Hoover, Herbert, 208, 212, 446  
Horn, Paul V., 8, 9  
Horner, F. C., 110  
Hosiery, women's, 47  
Houston, D. F., 397  
Howard Bartels and Co., 465  
Hubbard, Wm. Eustace, 465  
Huckster, egg, 356  
Hughes, Hugh J., 438  
Humboldt County Cheese, 324
- I
- Inspection, 187, seq., 437, seq.  
dairy products, 322  
grain, 272  
kinds, 439  
shipping point, 439-40  
terminal, 439  
Institute of American Meat Packers,  
338  
Institute of Economics, 448  
Insurance, 400  
Integration, 94  
Intention to plant, 444  
Intermediate credit act, 153  
International Institute of Agriculture,  
448  
Interstate Commerce Commission,  
368  
Iron, production, 75
- J
- Jessness, O. B., 464  
Jobber, egg, 356  
Joint Commission of Agricultural  
Inquiry, 75, 77  
Journal of Political Economy, 235
- K
- Kelly, F. W., 434  
Kendrick, M. S., 306  
Kern County, 54, 71, 72  
King, Clyde L., 465  
Kinley, David, 230  
Kitchen, C. W., 362
- L
- Lard, 459  
Larsen, Prof. H., 34  
Lettuce, cartage of, 112  
Ligget and Myers, 390  
Litman, Simon, 245  
Liverpool cotton exchange, 203  
grain price, 275  
Livestock, central markets, 338  
large scale, 338  
transportation, 339  
consumption, 336  
marketing, 332-347  
marketing problems, 337  
butchers, 337  
farm prepared meats, 337  
public stockyards, 338  
production, 332  
flow to market, 335  
ratio birth, slaughter, 336  
shrinkage, 340  
28-hour law, 340  
value, 263  
Livestock shipping associations, 92,  
345, 427  
motor truck, 126  
London meat trade, 332  
London Times, 277  
Loomis, E. E., 113  
Lorillard and Co., 390  
Loss and damage, eggs, 353



Loss and damage, livestock, 340  
Loss off, eggs, 358

## M

- Mail order house, 93  
Maine Farmer, 283  
Manchester Guardian, 291  
Manipulation, 208  
Market gluts, 27  
Market news, 3, 84, 165, 274, 404, 419  
    broadcasting, 442  
    leased wire, 441  
    radio, 444  
    speed, 442  
Marketing Activities, 440, 464  
Mark Twain Poultry Association, 416  
Marshall Field Co., 47  
Meat, demand for, 5  
    exports, imports, 336-7  
    middlemen's tolls, 82  
Meier, Fred C., 192  
Meredith, E. T., 397  
Merritt, Ralph P., 408  
Miami Valley Tobacco Growers, 416  
Michigan Milk Producers Association, 338  
Michigan Potato Exchange, 383, 413, 428  
Middleman, and marketing, 74-105  
    cheap production, dear distribution, 75  
    efforts to cheapen distribution, 92  
    elimination of, 91  
    examples of cheapened production, 75  
    high return, 79  
    low return, 73  
    middlemen's tolls, 78  
    reasons for middleman, 86  
    types of, 87-91  
        auction, 90  
        broker, 89  
        commission merchant, 88  
        country buyer, 88  
        jobber, 90  
        retailer, 91  
        wholesaler, 90  
    typical returns, 81-86  
Milk marketing, 178, seq., 315, seq.  
    by-products, 421  
    consumption, 317  
    foreign trade, 318, 321  
    utilization, 317  
    whole milk, 320  
    cost of production, 403, 412  
    marketing problems, 322  
    storage, inspect, grade, 322  
    transportation, 322  
    pools, 326-7  
    price, 178, 183-185, 324-326  
        Chicago milk war, 324  
        New York milk wars, 325  
        other milk wars, 325  
    production, 315  
    surplus plans, 327  
        Detroit, 328  
        Milwaukee, 183-5  
        Philadelphia, 329  
        Pittsburgh, 328  
        Twin Cities, 329  
    value, 263  
Millar, A., 465  
Milwaukee Cooperative Milk Producers, 413  
Milwaukee milk plan, 183-185  
Minneapolis Central Market, 162  
Minnesota Cooperative Creameries, 420, 428  
Minnesota Cooperative Egg and Poultry Assn., 416  
Misner, E. G., 79  
Monopoly, 227  
Montgomery Ward and Co., 93  
Mosier, W. H., 378

## N

- National Association of State Marketing Officials, 182  
National City Bank Bulletin, 122  
National Conference Committee, Baking Industry, 19  
National Council Farmers Coop. Marketing Association, 406  
National Hay Association, 308-9  
National Retail Hardware Association, 77

- Nation's Business, The, 53, 110, 123, 129, 464
- Nelson, Frank T., 56
- Nepotism, 410
- Nestos, R. A., 270, 284
- New England Milk Producers Association, 182, 412
- New Hampshire Cooperative Marketing Association, 416
- New Orleans Cotton Exchange, 203
- New York Coffee and Sugar Exchange, 202
- New York Commercial, 27
- New York Cotton Exchange, 203
- New York Mercantile Exchange, 202
- New York Produce Review, 465
- New York State Sheep Growers Coop. Association, 296
- Northern Wisconsin Coop. Tobacco Pool, 416
- Nourse, E. G., 448
- O
- Oats, middlemen's tolls, 103  
trade, 264
- Ocean freight rates, 281
- Ohio Poultry Producers Cooperative Association, 416
- On track, 271
- Onions, middlemen's tolls, 85
- Oranges, middlemen's tolls, 84
- Order buyers, 342
- "Orderly Marketing," 152, 161, 212-24  
limitations, 216  
cotton, 218  
milk, 216  
poultry, 216  
wheat, 218  
-need of, 213  
asparagus, 213  
canning crops, 215  
cranberries, 214  
peaches, 214  
potatoes, 214  
strawberries, 213  
watermelons, 214
- Orderly production, 444
- Overdiversification, 52
- Overproduction, defined, 52  
eggs, 359  
tobacco, 387  
walnuts, 58
- Outlook, The, 270, 454
- P
- Pacific Coast Cooperative Poultry Producers Association, 357
- Pacific Cooperative Poultry Producers of Oregon, 359
- Pacific Cooperative Wool Growers, 297
- Pacific Egg Producers, 357, 413
- Pacific Rice Growers, 432
- Pacific Rural Press, 212, 446
- Packer, The, 189, 464
- Packer, The Produce, 464
- Packers, by-products, 421  
livestock, 342
- Packers and Stockyards Act, 346
- Panama Canal, 131, 311
- Patterson, John S., 378
- Peaches, 372-75  
consumption, 374  
cooperative marketing, 375  
marketing problems, 374  
production, 372  
trees, 373
- Pearson formula, 325
- Phillips, R. G., 132
- Pickell, J. Ralph, 6
- Pig survey, 444
- Piper, Clarence B., 465
- Plant diseases, 192
- Planters Protective Association, 38
- Plato's Republic, 86
- Plugging, 308
- Pool, 223-7  
California, 431  
cotton, 292  
industrial, 225  
Michigan potato, 214  
Minnesota potato, 384  
prices, 223  
savings, 223

- Pool, speculative, 224  
 tobacco, 388, 391-3  
 Wheat, 222-3, 271, 276, 427  
 wool, 296
- Potato, consumption, 380  
 domestic, 380  
 grades, 381, 438  
 grading experiment, 59  
 cooperative marketing, 383  
 Eastern Shore of Virginia Pro-  
 duce Exchange, 384-6  
 marketing, 378-386  
 marketing problems, 382  
 price, 383  
 storage, 382  
 tolls, 79, 80, 85  
 trade channels, 383  
 transportation, 106, 108, 382  
 pools, 214, 384, 427  
 production, 379  
 early crop, 379  
 late crop, 380  
 place, 379  
 season, 379  
 value, 263
- Poultry Producers, Central Cali-  
 fornia, 359  
 San Diego, 359  
 Southern California, 359  
 Powell, G. Harold, 176, 431
- Price, 230-261  
 Argentina price-fixing, 247  
 Brazil coffee valorization, 247-9  
 butter, 399  
 collective bargaining, 255-6  
 control of by big industries, 259-  
 60  
 cost of production, 252-5  
 milk, 253  
 wool, 253  
 decline, 422  
 eggs, 353  
 "fair" price, 256  
 government price-fixing, 242  
 coal, 244  
 for the consumer, 249-52  
 eggs, 244  
 failure, 242  
 wheat, 243
- Price, grain trade, 270  
 cash and futures, 274  
 hay, 309  
 hog, 258  
 livestock, 341, 344  
 policies, 423-5  
 potatoes, 383  
 advertising, 241  
 bargaining, 240  
 control, 236  
 demand, 237  
 examples, results, 237  
 influence, 239  
 quantity and quality, 230  
 strategy, 241  
 stabilizing, 252  
 supply and demand, 231  
 demand, 233-5  
 supply, 231-3  
 wide and narrow market, 235
- Price, Bruce, 51  
 Price Current Grain Reporter, 26,  
 307  
 Proctor and Gamble, 169  
 Produce News, The, 464  
 Producers Price Current, 353, 465  
 Production and Marketing, 44-73,  
 402  
 adjusting production to demand,  
 55, 159  
 bulk-line costs, 51  
 community production, 53  
 distribution control, 60, 69  
 efficiency of production, 48  
 farm and factory compared, 45,  
 226  
 expansion of demand, 46  
 quality control, 46, 66, 67  
 quantity control, 45, 55, 66,  
 67, 68  
 need of production policy, 65  
 overdiversification, 52  
 relation to grading, 191  
 relation to price, 259, 260  
 shifts in production, 62  
 Denmark, 64  
 England, 63  
 use of power, 75, 76  
 Pure Food and Drug Act, 189

## Q

- Quaintance, H. W., 76
- Quality and distribution, 399
- Quality control, 46, 55, 66, 67
- Quantity control, 45, 55, 66-8
- Quarterly Journal of Economics, 454
- Quincy, Mass., 139

## R

- Railroad, 112
  - capitalization, 112-3
  - credit, 114
  - efficiency, 116
  - future needs, 115
  - growth and progress, 114
  - price control, 200
  - rates, 123
    - increasing returns, 125
    - joint cost, 124
    - long, short haul, 123
    - what traffic will bear, 124
  - service, 117
  - Transportation Act of 1920, 115
- Raisin Growers, price fixing, 412
  - reorganized, 431
- Rasmussen, M. P., 378
- Rediscount, 151
- Refrigeration, 74, 136
- Retail, clothing stores, 97, 98
  - eggs, 356
  - grocery stores, 100
  - shoe stores, 97
- Reynolds, R. T., Tobacco Co., 390
- Rice exchange, 202
- Rice, G. R., 183
- Rice Growers Association, 407, 455
- Rice and tariff, 455
- Risk, 157
  - elimination of, 163
  - examples, 157
    - competition, 159
    - demand changes, 160
    - nomenclature, 157
    - perishability, 158
    - price changes, 161
    - supply changes, 159
  - profits, 162

- Risk, reduction of, 163
  - shifting, 163
- Rochester Growers and Shippers Exchange, 91-2
- Roscher, economist, 457
- Royal Grain Inquiry Commission, 263, 267
- Ruffin, Edmund, 283, 284
- Rye trade, 264

## S

- Sale, 167, seq., 399
  - cooperation with trade, 175
  - methods, 168
    - auction, 174
    - broker, 172
    - commission merchant, 170
    - direct, 169
    - farmer agency, 171
    - jobber, 169
    - milk price controversy, 183
    - price policies, 176
      - high price, 177
      - low price, 178
      - what traffic will bear, 179
- Salt pool, 225
- Saunders, Charles E., 267, 284
- Schilling, W. F., 183
- Sears Roebuck and Co., 93
- Sebastopol Apple Growers, 370
- Sedgewick, Wm. T., 138
- Seifert, E. M., 362
- Sheep, center of population, 333
- Shifts in production, 62
  - Denmark, 64-5
  - England, 62-4
- Shipping point inspection, 437
- Short selling, 207-8
- Shrinkage, wool, 296
- Sielcken, Herman, 248
- Silk, futures in, 156
  - imports, 459
- Slichter, S. H., 240
- Slocum, Robert M., 352
- Smith, H. B., 440, 462
- Soo Canal, 131
- Speculation, 152
  - elimination, 413

- Speculation, livestock, 342  
 by pool, 224-5  
 potatoes, 378  
 reduction, 421  
 by unfit, 208
- Stabilized prices, 252
- "Standard Marketing Act," 428
- Standardization, 165  
 cheaper marketing, 422  
 by federal government, 438  
 grading, 178  
 program, 434-7
- Staple Cotton Growers Cooperative  
 Association of Mississippi,  
 413, 416
- Stockers and feeders, 343
- Stockyards, 341
- Storage, 134  
 apples, 368  
 dairy products, 322  
 effects, 137  
 price, 138  
 quality, 137  
 eggs, 355, 360  
 facilities, 135, 142  
 grain, 268  
 hay, 311  
 need of, 135  
 potatoes, 382  
 regulation, 137  
 U. S. Warehouse, Act, 146  
 volume, 136
- Strat, Georges Z., 22
- Strategy, 241
- Strauss, Samuel, 91
- Strawberries, long haul, 108
- Sugar, imports, 459-60  
 price control, 259-60  
 strike, 161
- Sun Maid Raisin Growers, 18, 177,  
 412, 427
- Supply and demand, 231-35
- Surplus, annual, 4, *def.* 52, 167  
 food, 15,000,000 tons, 447  
 and foreign trade, 461  
 milk, 330-1  
 relation to high price, 178  
 relation to low price, 227
- Swift and Co., 344, 345
- Swine, center of population, 333
- T**
- Tabular standard, 230
- Tanner, Arthur E., 465
- Tariff Board, 254
- Tariff, "cheap labor," 453  
 mercantile theory, 452  
 and trade, 62, 446, 451, 452-7
- Taussig, F. W., 454
- Taylor, A. E., 36
- Taylor, H. C., 44, 406
- Terminal Elevator, list of, 268-9,  
 282
- Terminal market, grain, 272
- Thompson, C. W., 348
- Thurston, M. F., 59
- To Arrive grain, 271
- Tobacco, consumption, 389  
 exports, 389, 459  
 grades, 390  
 imports, 389, 459  
 cooperative marketing, 391, 427  
 pool, 392, 415-6  
 marketing, 387-93  
 marketing problems, 390  
 auction, 391  
 farm selling, 390  
 production, 388
- Todd, John A., 465
- Trade abuses, cooperation, 418  
 grain, 276  
 marketing, 403
- Trade acceptance, 148
- Transportation, 106  
 apples, 367  
 cooperation, 420  
 eggs, 355  
 hay, 309  
 high cost, 107, 132  
 cartage, 109, 112  
 meat, livestock, 339-40  
 milk, 322  
 motor truck, 126-7  
 store-door delivery, 128  
 potatoes, 383  
 railroad, 112  
 wagon roads, 125-6  
 water, 129  
 canal, 130  
 Great Lakes, 131

- Transportation, water, lake, 129  
     ocean, 131  
     river, 129  
 Tri-State Tobacco Growers, 392,  
     415  
 Twin City Milk Producers Association,  
     217-8, 329  
 Twin City Milk Producers Bulletin,  
     218
- U
- Underproduction, defined, 52  
 United Grain Growers, Winnipeg,  
     426  
 United Kingdom, trade, 71  
 United States, Department of Agriculture,  
     462  
     Department of Commerce, 449,  
     462  
     Department of State, 488, 462  
 United States Fair Price Commission, 9  
     selling test, 37  
 United States Grain Standards Act, 272  
 United States Steel Corporation,  
     226  
 United States Warehouse Act, credit  
     152  
     storage, 140  
 Urner-Barry Co., 353, 465
- V
- Valgren, V. H., 144  
 Value, 230, 233-6
- W
- Wall Street Journal, 465  
 Wallace, Henry A., 56, 242  
 Wallace, Henry C., 49, 402, 403  
 Wallace's Farmer, 55, 56  
 Warehouse Act, expense, 141  
     progress, 141  
     U. S., 140, 152  
 Warren formula, 326  
 Warren, G. F., 244  
 Washington Cooperative Egg Producers  
     Association, 359  
 Webber, W. T., 59  
 Webb-Pomerene Act, 450  
 Weeds, 48, 49  
 Weighing, grain 272  
 Weld, L. D. H., 85, 464  
 Wells, David A., 76  
 Weltwirtschaftliches Archiv, 265  
 Western New York Cooperative  
     Fruit Growers Packing  
     Association, 370-1  
 Wheat, bounty, 283  
     consumption, 17, 19  
     council, 19  
     demand for, 10, 12, 13, 14, 15  
     exports, 10, 222, 459  
     four types, 16, 267  
     government control, 243-4  
     Kansas, 81  
     middlemen's tolls, 81, 103, 104  
     ocean freight rates, 281  
     pools, 276  
     prices, 219  
         Chicago, 221  
         Minneapolis, 220  
     trade, 266-75  
     value, 263  
     and wool prices, 295  
 White, Walter C., 128  
 Wholesale grocers, 99  
 Wide market, 206  
 Willard, Rex, 52  
 Williams, Dr. John R., 28  
 Winchester Repeating Arms Co.,  
     169  
 Wisconsin Cheese Producers Federation,  
     413, 428  
 Wisconsin Dairymen's Association,  
     30  
 Wool, auctions, 295  
     consumption, 294  
     standards, 294  
     imports, 459  
     local wool markets, 295  
     pools, 224, 296  
     marketing, 293-303  
     production, 293  
 Woolen goods, price control, 260