

# FOOD BUYING AND OUR MARKETS

New Edition  
Completely Revised and Enlarged

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## PREFACE

This book as all those familiar with the first edition will realize is not merely a revision of the text on this subject published in 1925 by Miss Monroe and her sister, Mrs. Stratton, but a completely re-written and in many respects new and different discussion of the subject. At Miss Monroe's request the publishers made no new printing of the old text after October, 1932. So many changes had occurred in the food market by that time and so many new problems had come to the forefront that she believed a thorough-going revision was essential before more copies were made available. Unfortunately, however, Mrs. Stratton was unable to assist in the re-writing and Miss Monroe's regular work made it impossible for her unaided to make the extensive revision planned. For this reason Miss Kyrk and Mrs. Stone were asked to collaborate in the undertaking.

In its general plan this edition follows the old text; the first part deals with the market, the second with the major groups of foods found in the market. All those planning to use the book should note that it is not a book on meal planning or on food selection from the nutritive standpoint. It deals entirely with the economic aspects of food purchase. Its study, it is hoped, will suggest the way to the more economical purchase of any type of dietary and will indicate what features of the present market promote and which obstruct intelligent selection. Part II will probably be of the greater practical value to the individual buyer. The subject-matter of Part I, however, is such that it is hoped that not only food buyers but those interested in marketing and price problems in general will find the discussion of value.

A special word should be said to those who may use the reading lists given at the end of each chapter. In many cases the supplementary readings suggested were chosen from

a long list of possibilities. Their probable availability in the small library was the main basis for the selection.

In keeping with this policy of making the reading lists short, highly selected, and readily accessible only printed material easily obtainable was included. Mimeographed material, privately printed pamphlets and leaflets, were not usually included. The result was the exclusion of some excellent material dealing with current issues. The teacher should therefore acquaint herself with the organizations, governmental and private, that are putting out such material and provide the students with it.

Another responsibility that the users of this book must assume is keeping the factual data in it up-to-date. Laws, administrative rulings, and trade practices change; new studies reveal new trends. The book will not be long off the press before revisions will be in order. In spite of repeated checking corrections especially in Part II will also undoubtedly be necessary from other causes. The authors will appreciate information in regard to errors of fact that are discovered.

The authors wish finally to record their indebtedness to Rosa Biery Andrews for the able assistance given in the preparation of Part II. Without her intelligent and careful work not only would the publication have been delayed but many significant points would have been overlooked.

December, 1937

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The rewriting of Chapter XI of this book, "Legal Protection of the Food Buyer," was made necessary by the passage of the Food, Drug and Cosmetic Act of June, 1938. At many other points in the text changes have been made to bring the information more up-to-date or to incorporate the results of new studies.

May, 1940

THE AUTHORS



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PART I  
THE MARKET

# CHAPTER I

## THE ECONOMIC IMPORTANCE OF FOOD BUYING

### **Food getting as a major problem of mankind**

Throughout the countless centuries during which man has struggled to survive in a hostile or at least an indifferent world, his principal problem has been to get enough to eat. Prehistoric man, roving from one section of the country to another in search of an elusive food-supply which was dependent on the whims of a niggardly nature, ate berries, nuts, and other animals when he could either kill them himself or snatch them from other hungry carnivori. Learning to plant crops and domesticate animals, man eventually secured for himself a more certain food-supply, but increasing population, crop failures and famine kept pushing him onward in search of new and more abundant sources.

Historic man's search for food has differed very little from that of his somewhat legendary forebears. Population has, until recently, always pressed close upon the food supply and many areas offered ample occasion for Malthus' dismal fear that population would always tend to increase up to the point where insufficiency of food resulted in war, famine and misery.

The great wars and migrations of history point to the recurring struggle for control of adequate food-supplies. Columbus discovered America while searching for a more direct route to the spices of the East, which Europeans sorely needed to preserve and make more edible their food-supply. The American colonists on the eastern seaboard

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pushed steadily westward across the great expanse of continent ever searching for richer lands to cultivate. Even today large nations unable to feed their tremendous industrial populations within the boundaries of the home country, menace the peace of the world by their efforts to control areas capable of furnishing more adequate food-supplies.

Only very recently has the fear of crop failure with its accompanying famine ceased to menace a large part of the world's population. Up to the last century although perhaps nine-tenths of all the people in the world tilled the soil, nature still did not give them large surpluses over local needs. The invention of the deep-soil plow, the binder, reaper, combine, and other agricultural machinery together with increased knowledge of fertilizers and crop-rotation have aided man in the cultivation of the soil and have greatly increased the output of the world's agricultural areas. Modern methods of transportation have made it possible to distribute these surpluses over wide areas and thus release man-power for other lines of activity. This non-agricultural population living on money income earned in industry is now dependent on others for the production of its food and must purchase it in the market.

Until recently man ate what he could get to eat and was, for the most part, grateful. He knew only that he must have food to live and was unaware of the importance of a properly balanced diet. With the development of the science of nutrition, however, it was discovered that the proper amounts and kinds of food had a definite relation to physical vigor, freedom from disease, and even length of life itself. Proper diet, or the procuring not simply of food but the right food, has, therefore, come to present a definite problem.

### **Food getting becomes a matter of purchase**

As modern agricultural methods developed and fewer men were needed to produce the food supply, farmers' sons looking for new ways to earn a living made their way to towns

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and cities in search of work. There largely as wage- or salary-earners in the rapidly expanding industries they became purchasers of food, rather than its producers.

This movement from rural to urban communities has greatly accelerated the natural growth of urban centers. When the first census of the United States was taken in 1790 only 3.3 per cent of the people lived in towns with a population of over 8,000. New York, the largest town, had a population of less than 50,000. In 1930, 49.1 per cent of the population lived in places with 8,000 or more inhabitants and about an eighth lived in cities of a million or more. Applying the definition of "urban" population now used by the Bureau of the Census—those residing in towns and cities with 2,500 inhabitants or more—56.2 per cent of the people fell in that classification. Only about a fourth of our population was actually living on farms in 1930.

More than half our population today, therefore, raises little or none of its own food supply. Instead, money income earned by other forms of productive labor must be apportioned among various needs including the prime essential, food. Failure to receive money wages sufficient to purchase the needed food-requirements under these circumstances becomes a major calamity. In addition the necessity of making a wise selection among the various food-stuffs offered for sale in the retail food-market becomes of great importance to those responsible for family buying.

Even farm families today are buying a large proportion of their food supply in the market. The day of the virtually self-sustaining farm-household has gone forever. Modern farmers, aided by the development of effective marketing methods and techniques, tend to concentrate their efforts on raising certain special crops for which their land is particularly suited or which special market conditions make profitable. These crops are sold for cash to provide money for other commodities of which the family has need. The increasing ease of transportation and particularly the advent of the automobile and better roads has put the formerly

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isolated farmer in easy touch with the markets of neighboring towns making it possible for him to purchase such food supplies as he does not raise on his own farm.

Thus the farm family no matter where it lives is able to procure a diet which is not substantially different from that of urban groups. The great majority of farm families produce some dairy and poultry products, fresh fruits and vegetables for use on the family table, either as an auxiliary activity or as part of the main industry of the farm. Nevertheless, studies made at various times in widely scattered sections of the country, indicate that approximately 25 to 50 per cent of the food used by farm families is purchased and between 50 and 75 per cent furnished by the farm. The percentage furnished by the farm varies of course in different sections of the country running from as low as 21, to as high as 82 per cent.<sup>1</sup> The amount of food purchased varies also with the price of farm products, increasing when the farm business is prosperous and declining in periods of depression when the farm family relies to a much greater extent on the produce of its own farm.

### The food bill of the American people

According to estimates recently made by the National Resources Committee on the basis of a nation-wide study of the incomes and expenditures of families of all types, occupations, and incomes the value of the food consumed by the American people in 1935-36 was nearly 17 billion dollars (see Table I). This was more than three times the amount spent for clothing and was larger even than the expenditures for housing and household operation combined. Expenditures for food took about 29 per cent of the total income of consumers in that year and represented 34 per cent of all expenditures for consumption purposes. The average food bill of the 29,400,300 families was \$467.

<sup>1</sup> *Yearbook of Agriculture*, 1939, pp. 297-302. Also, U. S. Bureau of Home Economics. Unpublished data.



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## TABLE I

AGGREGATE DISBURSEMENTS OF AMERICAN CONSUMERS,  
1935-36<sup>a</sup>

Item	Amount (Millions of dollars)	Percentage of	
		Total consumer income	Total consumption expenditures
Food including home produced .....	16,865	28.5	33.6
Housing .....	9,506	16.0	18.9
Household operation.	5,285	8.9	10.6
Clothing .....	5,261	8.9	10.5
Automobile .....	3,781	6.4	7.6
Medical care .....	2,205	3.7	4.4
Recreation .....	1,643	2.8	3.3
Furnishings .....	1,422	2.4	2.8
Personal care .....	1,032	1.7	2.0
Tobacco .....	966	1.6	1.9
Transportation other than auto .....	884	1.5	1.7
Reading .....	551	.9	1.1
Education .....	506	.9	1.0
Other items .....	307	.5	.6
All consumption items .....	50,214	84.7	100.0
Gifts .....	2,178	3.7	
Personal taxes .....	889	1.5	
Savings .....	5,978	10.1	
<hr/> All items .....	<hr/> 59,259	<hr/> 100.0	

<sup>a</sup> From National Resources Committee, *Consumer Expenditures in the United States* (Washington, 1939), p. 46.

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The study made by the National Resources Committee of expenditures by all consumers in 1935-36 does not give the amounts spent for the different classes of foods. Estimates of these outlays were made however by Lough for the "prosperity" year 1929. His estimates were based upon records of production on farms or in factories, adding imports and subtracting exports. The amounts going to industrial uses as well as waste before such foodstuffs as eggs reached the consumer were also estimated and deducted. A further estimate of the "spread" between prices at the farm or factory and the retail market was necessary before the money value of the food available for consumption was secured.

Table II shows the distribution of the food money among the different classes of foods as estimated by Lough. Top-

### TABLE II

#### DISTRIBUTION OF FOOD MONEY AMONG VARIOUS CLASSES OF FOOD PRODUCTS, 1929 <sup>a</sup>

Class of product	Percent of total
Meat, meat products, poultry .....	25.1
Grocery and delicatessen products .....	19.9
Milk, butter, cheese, eggs .....	19.9
Bakery products .....	10.2
Vegetables .....	7.3
Confectionery and ice cream .....	7.1
Non-alcoholic beverages .....	2.4
Fruits and nuts .....	6.8
Fresh fish and sea foods .....	0.9
Unclassified products .....	0.4
Purchased foods .....	
	100.0

<sup>a</sup> Calculated from W. H. Lough, *High-Level Consumption* (New York, 1935), pp. 236-37.

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ping the list is meat, poultry, and meat products for which went one-fourth of all the money spent for food. The high ranking of this group of food products is an index of the high level of economic well-being in the United States. Foods of animal origin take more land to produce per calorie than do cereals. If the money spent for dairy and poultry products is added to that for meat and meat products, the estimated outlay is not far from one-half of the total food expenditure.

### Proportion of family income going for food

All studies of family expenditures indicate that the percentage of family income spent for food decreases as income rises above a certain point. The total amount spent for food increases but not in proportion to the increase in income. In some of the Oriental countries families have been found living so near the minimum of subsistence that 75 per cent of their total income had to go for food. At the other end of the scale we find American families with incomes over \$10,000 with less than 10 per cent of their budget so allocated. In spite of this wide divergence it is evident that in no class except the wealthy does food represent an insignificant item in the budget. With most families it is a major expenditure.

In a study made in 1918-19 of wage-earning and lower-salaried families living in urban communities it appeared that about 38 per cent of all their outlay was for food.<sup>1</sup> A new study of the same economic group made in 1934-35 shows that, as might be expected, the percentage has fallen somewhat, the proportion in most cities for which results are now available being between 30 and 35 per cent.<sup>2</sup> Among farm

<sup>1</sup> U. S. Bureau of Labor Statistics, *Cost of Living in the United States*, Bulletin No. 357, p. 5.

<sup>2</sup> See *Monthly Labor Review*, March, May, June, December, 1936; January, 1937.

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families food seems to constitute about 40 per cent of the value of all goods used and their purchased food to be about a fourth of all cash expenditures for household purposes. The lower the proportion of home-produced food, the higher of course is the proportion that the amount spent for food constitutes of the cash outgo for living expenses.<sup>1</sup>

### The time cost of food

Just as a large part of the family income goes for food so a large proportion of the homemaker's time goes into the preparation of food. Although it would seem that the woman of today with ready access to markets where many foods are available in prepared form and with time-savers in the form of electrical and other household-equipment should spend less time than her grandmother or even her mother in food preparation yet it is still true that a larger part of her time is spent in activities centering around feeding the family than in any other way. Part of the explanation for this may be found in the increasing diversification of the diet and the higher standards of food preparation. In a study of the working day of 559 farm and 155 town and city families in a number of states it was found that meal preparation and clearing away took 44.1 per cent of the homemaker's time in farm families and 35.5 per cent in town families, percentages curiously enough rather close to the proportion of the total budget spent on food.<sup>2</sup> In addition to the time directly spent in preparing or serving food the housewife of course spends additional time in buying food and planning meals.

### Trends in food-consumption habits

Food-consumption habits in the United States have changed markedly during the last hundred years and even in the last forty years. These changes are the result of the

<sup>1</sup> U. S. Bureau of Home Economics. Unpublished data.

<sup>2</sup> *Ibid.*

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shift from rural to urban life, the increase in the number of sedentary occupations, the improvement in facilities for storing, shipping, and preserving food, the development of new marketing techniques and methods, increased information about dietary needs, and changes in purchasing power and in prices, to mention but a few of the more important factors.

The annual per capita consumption of grain products including bread and breakfast cereals by city and village families decreased markedly between the turn of the century (1885-1904) and 1935-37, from approximately 222 to 160 pounds.<sup>1</sup> Among these families the proportion of total calories derived from grain products decreased from 34 to 31 per cent for the corresponding periods.

The per capita consumption of meats, fish, and poultry decreased from an average of 169 to 106 pounds. Egg consumption appeared to be about the same in 1935-37 as in 1885-1904. However, the proportion of total calories derived from meats, poultry, fish, and eggs decreased from 25 per cent in the earlier period to 13 per cent in the later.

It is interesting to note that the consumption of milk or its equivalent, leafy, green, and yellow vegetables, and tomatoes and citrus fruits, the so-called "protective foods," has increased markedly during the forty-year period. Among city and village families spending moderate amounts for food, the consumption of milk or its equivalent has increased from 90 to 150 quarts, leafy, green, and yellow vegetables from 29 to 76 pounds, and tomatoes and citrus fruits from 22 to 75 pounds per person per year. During this period, however, the total weight of food consumed per person in a year has remained fairly constant despite these changes in content.

As the American diet has become more highly diversified

<sup>1</sup> *Yearbook of Agriculture*, 1939, pp. 128; 313.

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and more nutritious it has brought an increase in both the time and money cost of providing, preparing, and serving food. Food today is purchased and prepared with an attention to aesthetic and nutritive values unthought of a generation ago. It is true also, however, that the American people today spend a smaller percentage of their total income for food than formerly and a smaller percentage than the people of most other countries.<sup>1</sup>

### Who buys the family food?

A study of the retail food-market need not concern itself with the question of who decides what food to buy for the family. Choices and the reasons for choices are quite apart from a discussion of the technique of selecting the foods desired on the market. The question, who actually purchases the food, is pertinent however to the discussion. Unfortunately little actual evidence exists to throw light on this problem although it has been repeatedly stated that women make from 80 to 85 per cent of the total purchases. In a recent study made by Converse in which the distinction between *who buys* and *who decides* what to buy is carefully made the conclusion was that approximately 74 per cent of the groceries (presumably including all food articles in this category) are bought by women, about 17 per cent by men, 5 per cent by children and the remainder by men and women shopping together.<sup>2</sup> These proportions varied however from place to place and between income groups. The percentage purchased by women tended to increase with the income. Women in the larger cities and in the suburbs seemingly purchase a larger percentage of the family's goods than women living in small towns or on the farm. Converse found that women in suburban towns bought 86 per cent of the groceries and farm women 60 per cent.

<sup>1</sup> President's Conference on Unemployment, *Recent Economic Changes* (New York, 1929), Vol. I, Ch. I.

<sup>2</sup> P. D. Converse, "Buying Habits in the Home," *Advertising and Selling*, 23 (1934), 28.

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### Wide range of food choices in market today

The food market offers a bewildering array of products to tempt and perhaps befuddle the consumer. The housewife is confronted by a wide range of products offered in a well-nigh endless variety of forms. Fresh fruits and vegetables which were once non-existent during the winter months are now available in ever-increasing assortment throughout the year. Fresh peas and string beans formerly sold only during the local growing season have become staples. Oranges, a luxury of the past generation, are available at prices which make them an every-day article in the diets of even the humblest homes. Vegetables like artichokes, avocados, tangerines, and persimmons are found in every fresh fruit and vegetable store. Even strawberries in February and asparagus in March have come to be accepted as quite the usual thing.

Though fresh fruits and vegetables furnish perhaps the most striking example of the array of goods to be found in our modern food-markets, the other goods have likewise undergone a striking metamorphosis. Appearing in new packages and in new forms they are well-nigh unrecognizable as the products of our grandmother's day. Corn provides an interesting illustration. The housewife today can procure her corn in such varied forms as corn meal, corn flakes, corn syrup, corn starch, corn oil, fresh corn, dried corn or canned corn. Canned corn alone is again subdivided into creamed corn, corn on the cob, and whole-kernel corn. In selecting a can of corn the housewife in addition to choosing between the varieties mentioned must make her choice between cans of different sizes and prices put out under the trade names of different manufacturers. The chief of the United States Bureau of Standards once estimated that there were 4500 brands of canned corn on the market. What is true of corn is true of nearly the whole range of dietary staples. Modern techniques of production and distribution have multiplied tremendously the possibilities of choice.

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Probably the most important single factor in this expansion of the modern food-market has been the development of modern transportation and the refrigerator car which have made it possible for even perishable food supplies to be transported rapidly from one part of the country to another. These developments together with the continued growth and concentration of population in urban areas offering large and easily accessible markets have made possible the growth of large-scale food-manufacturing and distributing agencies which in turn have tended to accentuate the existing diversification by offering new and competing products in an effort to capture a larger share of the retail trade.

### **The problem discussed in this book**

The problem discussed in this book is not food selection in the broad sense. The question of the nutritional values of different types of food is not raised. For information that will enable one to plan a dietary that will promote the health of all the family members and the growth of children the reader must look elsewhere. Nor are comparisons made of the cost of foods of the same nutritive value. Here the problem is food-buying. After the meals have been planned to meet the family's tastes, pocket-book, and nutritive needs, there remains the task of market selection. In order to make this selection most economically—that is to get the best article available for the purpose with a minimum expenditure of time, energy and money—the buyer must choose wisely the place to buy and the time to buy. She must know the qualities essential in the various types of food in relation to the use proposed and must be able to rate what is offered as "fair," "good," or "superior." Ignorance of nutritive values may have disastrous effects upon health; ignorance of how to buy may have disastrous effects upon the budget.

But the buyer alone can not solve the buying problem. Her responsibility is to know what to seek and what to avoid in the various foods. She must have judgment about the products offered and judgment about the types of agencies



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offering them. But the market set-up can promote or retard good buying. The market can facilitate choice, reduce the necessary expenditure of time and money or do the reverse. This book accordingly is divided into two parts. Part I discusses the market—how it is organized, the services it performs and how adequately it performs them. Part II suggests some of the buying methods and buying information that make for economical purchase of the various types of foods.

### Questions or exercises

1. What proportion of the population of the United States was engaged in agriculture in 1930? In 1880? In 1830? What conditions have made this change possible?
2. What other occupations besides agriculture have directly to do with food provision? What proportion of the population was engaged in these occupations in 1930? In 1880? In 1830? What conditions were responsible for the change?
3. Why do most farm families buy part of their food?
4. What is the significance of the decline in the importance of food purchases relative to other commodities in the last twenty years? Does this mean that we are eating less food or paying less for our food? Explain.
5. Why does the percentage of family income spent for food decrease as the family income rises above a certain point?
6. To what specific sources must we go to get information regarding the total annual consumption of various types of food?
7. As compared with other times and other people is the food bill of the American people low, high, or about average? What is the trend in this respect?
8. How do you explain the trends in American food consumption?
9. Is the fact that women buy so large a proportion of all food of importance? Why or why not? Explain.
10. Is buying simplified or made more difficult by the wide range of food products on the market? Explain.

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## SUGGESTED READINGS

- League of Nations, *Final Report of Mixed Committee on the Relation of Nutrition to Health, Agriculture, and Economic Policy* (Geneva, 1937), Part III, Ch. 1, 3, 5.
- National Resources Committee, *Consumer Expenditures in the United States* (Washington, 1939), Part I.
- U. S. Bureau of Home Economics, *Study of Consumer Purchases: Farm Series* (Washington, 1939).
- U. S. Bureau of Labor Statistics, *Study of Consumer Purchases: Urban Series* (Washington, 1939).
- ZIMMERMAN, C. C., *Consumption and Standards of Living* (New York: Van Nostrand Company, 1936), Ch. IV.
- WOODHOUSE, Chase Going. "The Standard of Living at the Professional Level, 1816-17 and 1926-27," *Journal of Political Economy*, XXXVII (1929), 552-72.

## CHAPTER II

### WHAT IS A GOOD FOOD-MARKET?

#### **The food buyers**

Before setting up the requisites of a good food-market, it is necessary to consider the buyers it must serve, the consuming unit for which they buy, and the special characteristics of their buying activities. The wife, by all the evidence, is usually the buying agent for the family in the purchase of food.<sup>1</sup> This means that from twenty to twenty-five million women are the buyers whom our retail food-market must be prepared to serve. Generalization about all these women is impossible. They represent all degrees of education, information, experience, and intelligence, as well as all degrees of ignorance, gullibility, and irrationality. They live in all sections of the country and constitute a cross-section of all the nationalities, races, religions, and cultural backgrounds represented therein. Far from being a homogeneous group of buyers, their differences, except for sex alone, are probably more striking than their similarities.

#### **The family as a consuming unit**

A small family of related persons is the consuming unit for which most food supplies are bought. In 1930 approximately one-fourth of these families had only two members and about 80 per cent had fewer than five. These families are scattered all over the country from Maine to California, on farms, in small towns, and in cities. This means that all food supplies not locally grown must be transported from

<sup>1</sup> *Subta*, p. 12.

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one section of the country to another and that all products from abroad must go from the ports of entry to these scattered homes. When food products are perishable, especial care must be exercised to prevent deterioration in transit by means of careful packing, refrigeration, and other devices which have developed for their protection. Within towns and cities food supplies of proper kinds and quantities must be assembled at points convenient to the homes of the consumers.

### Characteristics of household buying

From the personnel of the buying group and the nature of the consuming group come certain characteristics of retail food-buying. One of these is relatively small purchases. Not only is the amount purchased during a year small as compared with the purchases of the purveyor for an institution or even a small retailer, but the amount bought at one time is small in proportion to the total. Frequent purchases a short time in advance of actual use are the common practice. It is true that the size of the average purchase varies from commodity to commodity. Many housewives will stock up with staples and non-perishables when they think the prices are especially favorable. But the period between purchase and use has shortened and hand-to-mouth buying is generally considered to be increasing.<sup>1</sup> Thus the burden of providing storage for extra food supplies and the risks of deterioration and change of taste are shifted to the retailer. This is not necessarily an unwise arrangement. Central storage may be economical and extra food supplies may be kept in better condition in a community pantry and refrigerator than in the average home. The consumer must pay something for this service, however, and the change in buying habits may be reflected in the price of food.

The essential point to note here, however, is that the small size of the average purchase together with the diversity

<sup>1</sup> The retailer in turn has tended to adopt the same methods and buy frequently in small lots.

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of the foods bought operates against the adoption of money-saving methods by the buyers. The amount she will save by shopping around will be relatively small. Moreover, she will not wish to go from store to store to buy the various items on her list. She is not likely to be interested in discounts for large-quantity purchases and the practice of allowing them will disappear.

It must also be noted that though purchasing food for family consumption is a life-time job for most women, buying activities are just one group in a long list of household duties. The time and attention which they can give to any one is, therefore, decidedly limited. In addition, although food purchasing recurs more frequently than other types of purchasing, the housewife typically must divide her attention between the items on her food list and other needed household supplies. She must, therefore, so plan her shopping that all the needed articles can be purchased within a given time and in a limited area, and certain compromises as to price, convenience, or some other factor, are frequently inevitable. For instance, she may find that her search for material for a child's dress has taken her so far afield that even though she knows pork chops are cheaper at a meat market a couple of blocks away, she has neither the time, energy, nor inclination to walk that far after them.

The food buyer, therefore, does not approach her task as would a specialist. She has, typically, had little or no training for buying and possesses only such information as she has acquired by experience and somewhat hurried and perhaps too casual observation. She presents a distinct contrast to the buyer for the hotel or institution, who may be trained for this particular job, buys in large quantities and does not attempt to purchase a wide variety of goods in addition to food products. Because her multifarious housekeeping activities prevent such specialization and because food purchases for family consumption at any one time are small and the saving to be effected small also, she frequently does not make the effort to master even such

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information as is available to her. The buyer for a business concern, on the other hand, buying large quantities of an assortment of goods, can effect sizeable savings on a single transaction, and finds it easily possible to become conversant with a wide range of specific information about the commodities he is buying.

The retail food-market reflects in its organization and activities the habits of the buyer which have grown out of the small-scale and unspecialized character of the housewife's task as well as the size and geographical distribution of the consuming unit. Any appraisal of the adequacy of retail marketing agencies must, therefore, be in terms of the buyers served and the group for which they buy, as well as the inevitable effect of these factors on buying methods and buying information.

### Requisites of a good food-market

Various attempts have been made to set up the requisites for a good retail-market. The standards suggested all have the same basic aim—the most economical satisfaction of the consumer's desires. Wants are more economically satisfied either when choice is improved or outlay is reduced. That is, the buyer either gets an article better suited to the purpose for the same money or gets the same article for less money. Ideally, the buyer would always secure the best article available for her purpose for the minimum possible expenditure of time, energy and money. In other words, she would never take an inferior article when a superior was available for the same outlay, nor pay a higher price for a food product when one of identical quality was available at a lower. The "good" market is the one that facilitates such ideal procedure.

One author suggests that what the buyer needs in the market are the following:<sup>1</sup>

1. A wide range of choice among many varieties of goods and services together with the particular variety which in

<sup>1</sup> Hazel Kyrk, *Economic Problems of the Family* (New York, 1933), p. 443.

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size, specific qualities, and general character, meets her desires.

2. A market structure and market agencies that save her time and energy.

3. Devices and arrangements that reduce mistakes in selection.

4. Fair prices.

Another describes the perfect market as the one that provides:<sup>1</sup>

1. The most extensive and efficient means of gaining information and disseminating it among buyers and sellers; in other words, information about what goods are available and their prices.

2. The most satisfactory and convenient place for buyers and sellers to meet, show their wares, make known their wants, and transact business.

3. The most satisfactory arrangements for storage of goods until the time they are wanted.

4. The one which operates at the lowest possible cost or is the most efficient in the performance of all functions.

### **The good market provides what the buyers want**

The food buyer expects the retail market to supply her with the food products she wants, where and when she wants them. She feels that she may reasonably expect the seller to provide her with the desired goods and services if they can be obtained and if she is willing to pay enough for them to cover all costs including the necessary profit. Retailers, however, can not stock products for individuals. We live today in an era of mass production and distribution. A sufficient number of patrons must have similar needs and tastes if a particular product or service is to be forthcoming. Few goods are produced to the specifications of the individual buyer. The individual may find himself in a minority group too small to make it profitable for local food-dealers

<sup>1</sup> R. S. Vaile and P. L. Slagsvold, *Market Organization* (New York, 1930), p. 54.

## FOOD BUYING AND OUR MARKETS

to supply them, and must make some sort of compromise or go without. When a desire or need is universal, however, and where the specifications for one are the specifications for all, or at least for a large group of buyers, there is no difficulty in satisfying the demand.

But if retailers are to stock what buyers want to purchase, they must have some way of discovering buyer-preferences. The most direct way, it might seem, would be for the buyer to tell the retailer what goods and services she wants. In actual practice, however, this direct method is relied upon to only a limited degree.

What really happens under our present market set-up is that retailers take the initiative in deciding what to offer for sale and consumers express their preferences by their purchases. Rates of sale are the deciding factor as to what goods and services shall continue to be offered in the market. In other words, consumers register their desires through the purchase of certain quantities of the commodities offered at certain prices during a given period of time. Their total expenditures become the gross income of the business over against which the retailer must place his expenses and from which his profit, if he makes one, must also come. If the retailer finds that he cannot sell a certain article at a profit, he will refuse to stock it again unless it is necessary to retain good-will and maintain sales in other more profitable lines. Thus, the consumer exerts a kind of veto power over what is carried.

This system of communication between the buyer and seller is far from perfect. The consumer is frequently put in the position of casting a vote (by purchasing) in favor of an article which at best represents a poor compromise. Even though she may register her dissatisfaction at the time of purchase, she has no assurance that her expressed preferences will reach the person who has the power to decide what goods and services are to be offered. Her complaints and suggestions frequently fall on the deaf ears of sales persons and go no farther, and even if the store has some



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established method of receiving complaints and suggestions, there is the difficulty, from the retailer's standpoint, of accurately evaluating the information so received.

The ideal retail market, from the viewpoint of the consumer, is one which offers her a choice not only of goods but of services. The services now offered in the retail market are outlined in Chapter III. They represent activities which the housewife is not equipped to perform for herself, activities which she finds it uneconomical to perform for herself, or activities which she is merely unwilling to perform for herself. If all retailers offered exactly the same services, that is, if all were self-serve, or cash-and-carry, those who want "service," credit, and delivery would be obliged to go without. If none were self-serve or cash-and-carry, those who wished to forego these services and save money could not do so unless they were offered on a fee basis. The latter may not be always practicable but the general principle remains. Services, in so far as it is possible, should be optional; the consumer should be able to pay for and receive those services which she wants but should not be forced to pay for those that are unwanted.

### **The good market is easily accessible**

Since food purchases are made so frequently buyers like to have the stores as near at hand as possible. The retailers have met this desire to an amazing degree. A spot map of a city would show grocery stores and meat markets scattered all over the residential districts. Throughout the rural areas are small trading centers where farm families buy. Food is what one writer calls a "convenience" good—something the consumer wants to have brought to her; she does not want to go where it is, as she will in the case of "shopping" goods. The biggest time-saver of the modern market is this scattering of the shops near the homes of the consumers.

The central market for fruits and vegetables and in recent years the "super-store" carrying a great variety of food-stuffs are found. If there are good means of transportation,

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housewives will go once or even twice a week some distance from their homes to stock their cupboards. The range of choice and possibly the price induce them to make this time outlay. Some food stores also will thrive in shopping districts where mainly clothing, furniture, and the like are bought. These are convenient for buyers who come to the district to buy other goods and are able to place food orders at the same time.

It is also a convenience to the buyer to have her grocery store, meat market, fruit and vegetable store, if not under one roof, near one another. If they are also near retail stores carrying other convenience goods, she can economize her time and energy. Several dealers within a short radius of her home enable her occasionally to compare prices before buying. Other time-savers are well-planned store-layouts to facilitate selection, and a sales force adequate in numbers to prevent undue waiting.

### **The good market helps in selection**

The housewife, it may be argued, needs less assistance from the market in buying her food than in buying other goods and services. Most foods are bought frequently; they may be purchased in small amounts and given a trial. Most fresh fruits and vegetables may be inspected and their quality judged before purchase. The kinds available are usually well-displayed in convenient locations. Yet the types and varieties are so numerous that an informational service is essential for intelligent buying. Furthermore, an increasing quantity of packaged foods not open to inspection is coming on the market. Without information the buyer cannot know what is inside the can. Many foods are mixtures, blends, or compounds, and the ingredients cannot be determined even by tasting and trial. The quality grade of many products is not readily determinable by market inspection: meats, eggs, potatoes, and butter, for example. The needs of the buyer for specific information will be amplified in Chapter IX, and the adequacy of the buying guides which the present market

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provides discussed. Here it is only necessary to note that the good market is one that promotes choice of the best article available for the purpose. What this means in the way of information, absence of misinformation, deception, and pressure to buy will be discussed later.

### **The good market has fair prices**

According to the accepted principles of our economic society, the only fair price is the competitive price or the price fixed by public authority. The competitive price is fair in the sense that it is as low as it can be without decreasing the quantity supplied, and that no higher price is necessary to maintain the supply. The price fixed by public authority is fair on the assumption that it was arrived at by a disinterested group acting on the grounds of public welfare.

In Chapter VIII the conditions in the retail market that make competition far from perfect will be discussed as well as those that tend to bring prices charged to the competitive level.

### **Questions or exercises**

1. Make a list of methods of food buying that save time. Opposite each indicate the possible obstacles or objections to its adoption by the household-buyer. Are some more feasible than others?
2. Which is more likely to adopt time-saving methods of buying, the buyer for a private family or the buyer for a large hotel? Why?
3. Which is more likely to adopt money-saving methods? Why?
4. Describe the probable geographical extent of the household-buyer's food market.
5. What are methods of discovering where articles can be bought at the lowest price?
6. How does the household-buyer learn when the prices of the various foods are likely to be lowest? What difficul-

## FOOD BUYING AND OUR MARKETS

ties are in the way of the prediction of seasonal and cyclical price trends?

7. Why do some consumers deliberately buy food out of season? Are there other food habits just as costly?
8. If possible find out the approximate size of the average purchase of a list of foods in your community. What are possible economies and dis-economies of a decrease in the size of the "standard purchase"?
9. Formulate the rules that should govern the sizes of the containers in which foods are packed.
10. Appraise the food market of your community using the first three criteria of a perfect market suggested by Vaile and Slagsvold.
11. Cite instances of the adaptation of the retail food market to consumer demand for new or changed products or vice versa.
12. Cite instances where a consumer's preferences were not met and give possible reasons.

### SUGGESTED READINGS

- COLES, Jessie V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. I, III.
- KYRK, Hazel, *Economic Problems of the Family* (New York: Harper and Brothers, 1933), pp. 434-40.
- MITCHELL, W. C., "The Backward Art of Spending Money," *American Economic Review*, II (1912), 269-81.
- REID, Margaret G., *Consumers and the Market* (New York: F. S. Crofts and Co., 1938), Ch. IV.

## CHAPTER III

### THE RETAIL FOOD-MARKET—ACTIVITIES AND SERVICES

#### **The development of the modern market**

There could be no extensive development of the retail food-market until there were means of transporting bulky and perishable food-stuffs from distant growers to the places of consumption. There was no need for a market as long as families produced most of their own food supply. In Western Europe as towns grew, skilled crafts developed and craftsmen opened their shops to take orders from customers or to display their wares. Food-stuffs were still largely home-produced, supplemented by weekly purchase in the central market-place to which the nearby farmers brought their surplus products. The traveling peddler carried spices with other luxuries from abroad to the castles and manor houses of the country-side. The forerunner of the grocer is said to have been the spice dealer who gradually added to his stock other articles not locally producible, as salt, sugar, tea, and coffee. In the general store, which was the characteristic retail establishment of our early history, these articles were the major items in the "grocery department."

As towns grew, however, more and more families found it convenient to buy their flour and meal instead of taking their own grain to the mill for grinding. They also found it convenient to have fresh meat all the year round by the establishment of a local slaughter-house and meat-market. With the development of rapid means of transportation, the less perishable of the fruits and vegetables could be shipped

# FOOD BUYING AND OUR MARKETS

## TABLE III

ESTIMATED DISTRIBUTION OF SALES OF GROCERY STORES  
AMONG TYPES OF COMMODITIES, 1929<sup>a</sup>

Type of commodity	Percentage of total sales	
	Stores without meats	Stores with meats
Bakery products .....	4.4	2.5
Canned goods and other groceries..	41.2	38.9
Confectionery, nuts, and bottled beverages .....	2.1	1.0
Dairy products .....	10.6	9.4
Eggs .....	4.9	5.1
Flour .....	5.0	5.3
Fresh fruits and vegetables .....	12.7	6.2
Lard and cooking fats .....	3.9	4.1
Meats, poultry, and fish .....	1.6 <sup>b</sup>	17.2
Sugar .....	7.4	7.4
Tobacco products .....	1.8	.9
Household supplies .....	2.9	1.3
All others .....	1.5	.7
Total .....	100.0	100.0

<sup>a</sup> Source: U. S. Bureau of the Census, *Fifteenth Census of the United States, 1930, Retail Distribution, Summary, United States*, p. 159.

<sup>b</sup> Poultry only.

long distances and city populations could be fed. With the refrigerator car and fast freight, even the more perishable could come to the city market, and meats from central packing-houses, and eggs and dairy products from central warehouses became part of the grocer's stock in trade. The canning industry developed; home baking decreased; and two other major departments of the modern food market appeared upon the scene.<sup>1</sup> Thus, behind the development of the market is a history of economic change—growth in

<sup>1</sup> See Tables III and IV for the types of goods sold by grocery stores in 1929. Those in Louisville were probably characteristic of the better grade city stores.

# RETAIL FOOD-MARKET—ACTIVITIES, SERVICES

## TABLE IV

DISTRIBUTION OF SALES OF 26 GROCERY STORES IN LOUISVILLE,  
KENTUCKY, AMONG COMMODITIES, 1929<sup>a</sup>

Commodity	Percentage of total sales
Bakery products .....	11.0
Canned foods .....	6.2
Confectionery and bottled beverages .....	1.6
Butter, cheese, milk, and eggs .....	15.7
Farinaceous foods .....	4.7
Cereals .....	.6
Flour .....	1.9
Other dry bulk-products .....	1.2
Other dry packaged-products .....	.7
Other items .....	.3
Fresh fruits and vegetables .....	10.9
Meats, poultry, and fish .....	30.5
Lard and other fats .....	2.3
Miscellaneous edibles .....	10.1
Sugar .....	1.9
Coffee .....	2.8
All other .....	5.4
Miscellaneous non-edibles .....	5.0
Tobacco and tobacco products .....	2.0
<b>Total .....</b>	<b>100.0</b>

<sup>a</sup> Source: U. S. Bureau of Foreign and Domestic Commerce, *Merchandising Characteristics of Grocery Store Commodities*, Louisville Grocery Survey, Part III-A, Distribution Cost Studies No. 11 (1932), pp. 44-7.

urban population, decline in home production, discovery and use of modern means of transportation and preservation. As was said in Chapter I, even the farm family now buys a large part of its food supply, so accessible is the market and so well-stocked, not only with articles the family could not produce but also with those that it could but does not desire to.

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### Services performed by the retailer

The food dealer, as all other retailers, is the consumer's buying agent and the grower's and manufacturer's selling agent, not in the legal sense but in the economic. If the retailer were to drop out of the picture, the producers of all the articles he handles would have to look after the sale of their products to the ultimate consumer for themselves. In some cases they do so. The farmer may bring his fruit, eggs, or vegetables to town and fill orders or peddle from door to door. Flavoring extracts also are sometimes handled in this way. But for most growers and manufacturers, this is not feasible or profitable. Nor do many set up their own retail outlets. Occasionally an associated group of farmers will organize their own market, or each independently will sell at a roadside stand near his home; or a maker of ice cream, cheese, and similar products, will sell through his own stores. But usually an independent agency, the retailer, takes over the final selling operations.

The consumer needs a buying agent such as she has in the retailer even more than producers need a selling agent. Very rarely is it possible for her to seek out her own source of supply. Certainly she could never do so for all the items from home and abroad that are collected for her by food dealers in the retail market. Sometimes this function of the retailer is described as "assembling." The work of the grocer, for example, may be described as bringing together in appropriate quantities in a convenient location from widely scattered sources the various types of food-stuffs that his customers demand. In the combination store this will include the staples which once were the grocer's main stock, canned goods in their well-nigh infinite variety, fresh fruits and vegetables, flour, meal and cereals, baked goods, meat, poultry, fish, and dairy products.<sup>1</sup>

<sup>1</sup> The Louisville groceries studied in 1929 by the Bureau of Foreign and Domestic Commerce carried an average of 1,071 items per store if all the different brands and sizes of each commodity are counted. *Op. cit.*, p. 18.



# RETAIL FOOD-MARKET—ACTIVITIES, SERVICES

## MARKETING ACTIVITIES OR FUNCTIONS

- A. Activities involved in transfer of ownership and possession
  1. Buying
    - (a) Finding source of supply—getting in touch with sellers
    - (b) Selection by inspection, test, sample, specifications, or other means
    - (c) Negotiating and paying, or making arrangements for payment
  2. Selling
    - (a) Getting in touch with buyers or getting goods before buyers
    - (b) Creating or guiding demand by information and persuasion
    - (c) Negotiating and collecting payment
  3. Activities performed by those who do not acquire title to goods to facilitate buying and selling, as advertising, market-news reporting, inspecting, testing, grading, brokerage, etc.
- B. Activities involved in physical transfer and handling of goods
  1. Transportation
  2. Storage and preservation
  3. Wrapping, packaging, and other activities to facilitate safe keeping and transport
- C. Functions incident to ownership unless transferred by owner to others in whole or in part
  1. Financing
  2. Risk-taking

In assembling this stock the dealer needs information and judgment if he is to give optimum service and make a profit for himself. He must foresee accurately the needs and tastes of those who come to buy in his shop; he must know what kinds, grades, and varieties the market offers and how to buy advantageously from the standpoint of price. Some of his stock he may go in person to buy from the jobber or others

## FOOD BUYING AND OUR MARKETS

in the central wholesale-market; other items he may buy from the salesmen who visit his store.

The second service of the food retailer to the consumer is storage. His shop with its shelves, cases, tables, and refrigerated compartments, may be regarded as a central depot where the neighborhood's food-stuffs may be kept in good condition until needed. Great advances have been made in the equipment designed to keep food-stuffs in good condition and a distinct modernization movement is now under way in food-handling establishments. The volume of refrigerated space for keeping perishables is expanding, sprinkling systems to keep green vegetables fresh are being installed, and sanitary conditions in general are being greatly improved. Unwrapped foods are increasingly kept in closed containers and the standards of cleanliness in handling distinctly raised.

The retailer must also weigh, measure, and wrap the bulk commodities purchased, and in most establishments he stands ready to deliver if this service is desired. So many food products are now sold in packaged form that it is mainly in the meat and fresh-produce departments that there is much weighing to order to be done. But frequent and speedy delivery is a service in demand by many housewives.

Some of the activities of the retailer that are a part of his selling function are services to the consumer as well. It has been emphasized that the buyer must know what is available if she is to make the best selection possible. One of the retailer's major activities is to let her know what there is to choose from. By his store location, by signs and other announcements, he calls attention to his presence in the community. By advertisement he tells what he has for sale and at what price. Window and store displays give further information. By word of mouth to customers in the store he calls attention to articles in stock and answers questions.

Finally, there are the less obvious economic functions of the retailer, the assumption of risks and the financing that are inseparable from ownership. As long as the retailer

## RETAIL FOOD-MARKET—ACTIVITIES, SERVICES

holds title to the goods, all loss from spoilage or other source falls upon him, unless special arrangements are made to the contrary. The risk of fire or theft he can insure against. The baker may agree to take back stale bread, cakes, or crackers. But in the main he bears the loss from waste or deterioration in quality of the goods in stock. This loss becomes part of his expense of doing business and is reflected in the retail price-level. As soon as the food-stuffs come into the possession of the consumers, they bear all further losses in direct proportion to their supply. Food buyers can no more escape from reimbursing the retailer for his losses through spoilage than they can for his expense for delivery. All purchasers of oranges must cover through the price paid the normal losses of this sort and all accordingly benefit by any reduction therein. After the housewife buys her oranges, all further loss from decay comes out of her purse alone, and does not fall on her neighbor.

To get legal possession of food or any other article, payment of the price asked must be made, or arrangements for payment made. Up to the time of purchase, this "financing" has successively been cared for by everyone from grower or manufacturer to retailer who acquired title to the goods. They probably have borrowed part of the necessary funds from the bank, paying for the cash or credit in the form of deposit balance received. Whether they borrowed or not, the price paid must cover some return for financing. Buyers must pay for the privilege of keeping their funds free to use as they please until the latest possible moment.

In stores doing a "credit" business the retailer stands ready to finance the purchaser beyond the time of purchase and even beyond the time of use. He will wait until the end of the week or month for payment. The extension of this credit privilege costs the retailer something which is likewise reflected in his mark-up. Not only is his period of "financing" longer but in addition there are some losses from bad debts and some additional bookkeeping and mail-

## FOOD BUYING AND OUR MARKETS

ing expense. A little over a fifth of the sales of all food stores were for credit in 1935.<sup>1</sup>

The extension of credit by the grocer and meat market has in the past led to some practices that are economically and socially undesirable. Postponement of payment should not arise from the buyer's inability to pay but from the convenience it affords. There is an economy of time in periodic payment in a lump sum or by check. The time of this periodic payment would ordinarily be when the buyer's income was received, weekly, bi-weekly, or monthly. Periodic payment makes necessary also an itemized statement which can be checked for errors and transferred easily to the household accounts. The extension of credit because of inability to pay, on the other hand, means debt for the buyer and risk of loss for the retailer. If the purchaser is without resources, the remedy should not be credit from the grocer, but private or public relief. The increasing custom of borrowing from small-loan companies to pay merchants' bills or to finance consumption for a period is sound. These companies specialize in appraisal of credit risks and in collection

TABLE V

RELATIVE PROPORTIONS OF CREDIT AND CASH SALES IN  
VARIOUS TYPES OF FOOD STORES, 1935<sup>\*</sup>

Kind of business	Percentage of sales		
	Open account	Cash	Total
Bakeries and caterers .....	7.7	92.3	100.0
Dairy-products stores and milk dealers	58.8	41.2	100.0
Grocery stores without meats .....	15.9	84.1	100.0
Grocery stores with meats .....	23.2	76.8	100.0
Meat markets .....	15.5	84.5	100.0
Fruit stores and vegetable markets ....	5.9	94.1	100.0
All food stores .....	21.1	78.9	100.0

<sup>\*</sup> Source: U. S. Bureau of the Census, *Census of Business: 1935, Retail Distribution*, Vol. I.

<sup>1</sup> See Table V.

## RETAIL FOOD-MARKET—ACTIVITIES, SERVICES

of what is due. The food merchant is not equipped for this work, nor should his paying customers be obliged to pay more for their food because he is rendering a service which is remote from his true economic function.

### **Do all buyers want the same retailing service?**

Food buyers differ in their need and desire for retailer's services just as they differ in their needs and desires for food. Furthermore, since they differ in income they will vary in their willingness to pay for these services even if they do desire them. Some may prefer to forego a service entirely or when possible perform it for themselves and have for other purposes the money it would cost them.

It is as difficult to provide every consumer with just what he wants in the way of retailing service as it is in the kind, variety, and size of package of the various foods. The market serves groups of individuals and not each individual according to his individual specifications. The demand of a group buying in a particular market must be large enough to cover costs and yield a profit or it will not be met. The result is that some buyers may not find on the market just the types of food or the kinds of retailing services that they most desire.

The larger the market, the larger the variety of foods and of food retailer's services that can be offered. Variety and thereby choice of services exists when there are both self-serve and service stores, credit and cash, carry and delivery. These are the services that are most easily varied from establishment to establishment. Such services as assembling, storing, weighing, risk-taking, and financing, at least to the time of purchase, are inseparable from the retailing business. They can vary from dealer to dealer only in the efficiency with which they are performed. Display, advertisement, personal solicitation and advising can be extensive or reduced to negligible proportions. Each dealer will consider the effect upon demand of the extent and character of these activities.

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### Marketing services other than retailing

The retailer is not the only marketing agency for whose services the consumer pays. The retailer is the last seller, but there may have been others who bought and sold the articles before they reached him. The number of intermediary buyers and sellers who take title to the goods between the first seller, the grower or the manufacturer, and the last seller, the retailer, varies with the character of the commodity, its conditions of production, and the size of the retailing establishment. Fresh fruits and vegetables, eggs and poultry, that are produced by scores of scattered, small producers, pass through more hands than do the processed and manufactured foods that are produced by large concerns. Someone must assemble country products at central distributing centers before they can be dispersed again to outlying retail establishments. The small producer cannot set up his own selling department but must either associate himself with other producers of similar products for marketing or turn it over to an independent agency. Correspondingly, the small retailer cannot engage in extended buying operations. He must rely upon a nearby wholesaler or central agency if the manufacturer's salesmen do not get in touch with him. Only the large retailer can set up a specialized buying department and dispense with the services of independent agencies.

The buying and selling operations antecedent to those of the retailer effect the necessary change in ownership incidental to an exchange society. When consumer and producer are one or members of the same household these operations are unnecessary. When they live near together intermediaries are unnecessary. When they are far apart the middlemen appear. Whenever any agency, whether it be grower, manufacturer, consumer, retailer, or wholesaler, takes over all or part either of the antecedent buying or the subsequent selling of a product or group of products, the result is called "elimination of the middleman." There is

## RETAIL FOOD-MARKET—ACTIVITIES, SERVICES

no longer the same array of independent agencies for buying or selling. Buying and selling activities within the large integrated unit now become unnecessary. But unless the first seller is included there will still be buying to be done and unless the last buyer is included selling activities will be necessary.

Transportation, storage, risk-taking, and financing also go on before the retailer comes into the picture. The first two are of special importance since so many food-stuffs are produced at some distance from the place of consumption and the major part of so many others becomes available at one season of the year. Most of the long-distance hauling has been turned over to specialized agencies operating on a fee basis—railways, steamship, and truck lines. Even intracity deliveries to jobbers and retailers may be handled by independent trucking concerns. For the long journeys of perishables, the so-called "icebox on wheels" has been devised. Transportation costs and the costs of physical handling when there are several breaks en route are an important element in the cost of many food-stuffs.

The period during which the retailer furnishes storage bears about the same relation to the preceding period of storage for many articles that his delivery service bears to their high-speed, long-distance transportation at an earlier stage. All intermediary buyers and sellers who take possession of the goods do some "warehousing" in the sense that they provide a central depot from which later buyers secure their stock. If "chill rooms" or special facilities are required, they will provide this space. This storage that is a part of the assembling function should be distinguished from that which serves to even the flow of seasonally produced foods to consumers by holding from seasons of surplus to seasons of scant production and, if the products are perishable, preventing deterioration during that period. Due to the development of means by which temperatures may be maintained indefinitely at any point desired, this service

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is now furnished with notable effects upon the variety and price of the year-round dietary.

A large part of the cold-storage space in the United States is controlled by the meat packers. Provided primarily for meat and meat products, it is now used for the poultry, eggs, and dairy products the distribution of which they developed as a profitable side-line. But over half of the cold storage space is for public business, that is, belongs to firms operating on a fee basis. Anyone may use this space for cold storage as he uses the railways for shipping.

The articles most commonly placed in the public houses for cold storage are such fruits as apples and pears that can be held for several months without impairment, and eggs, butter, and poultry which can be held for even longer periods. Nuts, raisins, smoked meats, and a variety of other commodities not usually thought of as perishable are also commonly held in cold storage, to ward off injury by larvae or bacteria. Small berries, peaches, tomatoes, and the like, can-

TABLE VI

FOOD PRODUCTS IN COLD STORAGE IN THE UNITED STATES,  
JANUARY 1, 1940.<sup>a</sup>

Commodity	Amount (000)
Apples, bushels . . . . .	26,182
Pears, boxes and bushel basket . . . . .	1,190
Frozen and preserved fruits, pounds . . . . .	128,116
Dairy products:	
Cream, cans . . . . .	94
Creamery butter, pounds . . . . .	55,468
Cheese, pounds . . . . .	108,183
Eggs, cases . . . . .	2,598
Poultry, pounds . . . . .	167,458
Meat, pounds . . . . .	645,117
Lard, pounds . . . . .	161,319

<sup>a</sup> Source: U. S. Agricultural Marketing Service, *Cold Storage Report as of January 1, 1940.*



## RETAIL FOOD-MARKET—ACTIVITIES, SERVICES

not go into cold storage, but must go quickly to the consumer after ripening. We cannot have these perishables fresh all the year round except as hot-house products, or as fast freight brings them from regions with a different growing season.

### Questions or exercises

1. Make some investigation of the history of the "milling industry" in this country and earlier in other countries to determine when and why purchase of flour and meal became common. Make a similar study of the "baking industry"; meat packing and slaughtering; canning.
2. Select a commodity and list the difficulties consumers probably encounter when they try to do the buying that the retailer usually does for them.
3. Why may wholesalers and processors refuse to sell to consumers or refuse to sell at other than the retail price?
4. Under what conditions will it be advantageous for food growers or manufacturers to take over the selling that the retailer does for them?
5. Are we using the retailer's shop more and more as a community pantry and refrigerator? Is this desirable?
6. Are there any disadvantages in the fact that the retailer is the grower's and the manufacturer's selling agent as well as the consumer's buying agent? How could these be eliminated?
7. Can any rule be set up in regard to when the consumer should pay for his food?
8. Under what circumstances, if any, would borrowing from a small-loan company to pay the grocer be sound procedure?
9. Work out precisely the rules that should govern extension of credit by the grocer.
10. What are the advantages to the buyer of the charge account? The disadvantages?
11. In what respects, if any, does your market fail to offer you the types of food and types of service that you desire and are willing to pay for?

# FOOD BUYING AND OUR MARKETS

## SUGGESTED READINGS

- COLES, Jessie V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. VI-VIII.
- ERDMAN, H. E., *American Produce Markets* (New York: D. C. Heath and Company, 1928), Ch. I; XII; XVII.
- HEDDEN, W. P., *How Great Cities Are Fed* (New York: D. C. Heath and Company, 1929), Ch. VI.
- HILL, R. G., *A Fruit and Vegetable Buying Guide for Consumers*, U. S. Dept. of Agriculture, Misc. Pub. No. 167, pp. 10-2.
- REID, Margaret G., *Consumers and the Market* (New York: F. S. Crofts and Co., 1938), Ch. V-VII.
- U. S. Dept. of Agriculture, "Marketing Fruits and Vegetables," *Yearbook, 1925*, pp. 655-9; 673-93.
- See also,
- ALBRECHT, A. E., *About Foods and Markets* (New York: Bureau of Publications, Teachers College, Columbia University, 1932), pp. 60-8; 74-86.

## CHAPTER IV

### THE RETAIL FOOD-MARKET—AGENCIES

#### **Methods of retail selling**

The Bureau of the Census defines retailing as the process of purveying goods to ultimate consumers with the services incidental to it. This process may be performed in two ways: by bringing the goods to the consumer, or by providing a place to which the consumer may go for them. Although today by far the largest amount of food is sold by the second method, that is, in store or market stall, under some circumstances and for some foods the first method of retailing, by peddling or hawking, is very important.

#### **Door-to-door selling**

Some years ago, before the days of automobiles and good roads, the huckster's wagon traveled weekly a regular route in rural areas. This service to farm families was usually furnished by a store keeper in the county seat or other trading center. The huckster was not only a grocery salesman; he also bought or took in exchange eggs, butter, or other country produce. Now this service is not so common. It is easier for the farmer to go to the market. Flavoring extracts, tea, coffee, and spices are about the only articles of food retailed from door to door in the open country.

Town and city families have the opportunity to buy a wide variety of food-stuffs at their own back door. Fresh fruits, vegetables, eggs, and dairy products are frequently sold in this way. If locally produced the seller is likely to be the producer himself or some member of his family. If

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they have been shipped in, the peddler will have purchased his stock in the central produce-market. There are two varieties of this type of selling. One is literal door-to-door selling, when the peddler hawks his wares in street and alley, or calls at every door, in the hope of finding a buyer. The other type of peddler has an established clientele upon whom he calls regularly. The latter method does not interrupt the housewife's schedule as does the former and it constitutes a regular source of supply upon which she can rely as the former does not. The door-to-door peddler or street hawker usually offers low prices, although uncertain quality, since his stock usually consists of perishables of which there is a temporary glut.

Milk is one important food which is customarily distributed from door to door. The housewife finds it convenient to purchase milk in this manner and feels relatively secure in doing so since in most communities milk must conform to certain standards set by law. It can be ordered by definite grade and measurement merely by marking a card. The time of day when it is desired and the need of special facilities to keep it cool in summer and to reduce breakage of bottles make it an inconvenient article for the general food-dealer to handle. In addition, the fact that it is an article of daily consumption in most families means that a special trip must be made either by the housewife or grocer, unless other articles are purchased with the same frequency. The economy of house-to-house distribution by a specialized dealer is evident.

### **Selling in stalls or markets**

By far the greatest volume of food is sold to the consumer at a place designated by the retailer. An established location makes it easy for the retailer to offer a large variety of merchandise and to serve a large number of customers. There is clearly a great deal of waste effort on both sides in door-to-door peddling. And although the time cost is lessened when the peddler calls only on his regular customers

## THE RETAIL FOOD-MARKET—AGENCIES

at times when they are expecting him, there remains the fact that only a limited stock of goods can be carted from door to door.

Retailers may operate stalls or informal outside markets as well as stores located in a building. In the food market today they range from the banana or "hot dog" man familiar to all city dwellers who sets up shop at a convenient street corner by the simple expedient of pushing his cart to that location, to the stall in a central market-place which does not vary markedly except in degree of enclosure from an established inside market.

Roadside markets or stands which have sprung up throughout the country, particularly along the automobile highways near the cities, are another illustration of this type of food market. Usually they sell the produce of a single farmer, but occasionally a farmer strategically located on a busy highway may collect and sell produce from other nearby farms. Consumers buying at these markets usually do so on the theory that they are getting a fresher product for less money than it would cost in the established retail channels. Clark says that, "Prices received for farm products at roadside markets vary greatly. In general, however, the most successful markets tend to place their prices midway between local retail prices and the price which the farmer would receive if he sold his product at wholesale, and as near the former as competitive conditions will allow."<sup>1</sup> With the increase in the amount of automobile travel this type of food marketing has shown a decided increase but it is still relatively unimportant, is highly seasonal, and few buyers rely on it as a regular source of supply.<sup>2</sup>

Public retail markets, unimportant in terms of total volume of food sold, are usually located in the central section of a town or city, frequently in the open air, where farmers sell from their wagons. In some cases municipal authorities have put up buildings to house the farmers' market. In the

<sup>1</sup> F. E. Clark, *Principles of Marketing* (New York, 1932), p. 50.

<sup>2</sup> *Ibid.*

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large cities the public market is likely to have intermediary sellers rather than farmers selling in it. If near the ocean sea food will be an important part of the offerings, and the market may be near the docks or railway terminals. Sometimes a market such as this develops until it includes not only farm and ocean products, but various sorts of manufactured foods. When the housewife has convenient access to such a market, she frequently finds it offers her a wide selection and is economical of time and money. In a very short time she can survey a wide range of food products of all kinds offered by competing dealers. Display as a means of showing what is available to choose from is at its best in a large market of this kind. The housewife may, if she likes, patronize one dealer in each line, or she may choose a new one at each visit. In city-controlled markets there is opportunity for close supervision of sanitation and the quality and weight of products. However, such a market usually offers no credit, often no delivery or telephone service, and in many cases prices no lower than those in more accessible retail stores.

### **Classes of retail food stores**

The regular retail food-stores through which most of the buying and selling of food-stuffs for household use takes place may be classified in several ways, as the descriptive terms commonly used to designate them show. We speak of the fruit and vegetable store, the meat market, the neighborhood store, the independent, the chain, the cash-and-carry. These establishments, in other words, may be classified on the basis of their location, whether in residential areas or outside, by the type of merchandise carried, by the type of operation, as independent or chain, and by the services offered. They may also be classified by size and by ownership, as corporation or co-operative association. Any one store accordingly may be described by stating where it falls in these categories. For example, it may be a self-service,

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full-line grocery store, carrying meats, located in a neighborhood shopping-district, and a member of a chain system owned by a corporation. Or it may be an independent but otherwise the same.

### Retail food stores by major type of merchandise carried

Table VII shows the retail food-stores enumerated in the Census of Business for 1935, classified according to the major type of merchandise carried. Grocery stores with or

TABLE VII

NUMBER AND VOLUME OF SALES OF RETAIL FOOD STORES  
CLASSIFIED BY KIND OF BUSINESS, 1935\*

Kind of business	Number of		Sales	
	stores	Per cent	(000)	Per cent
All food stores .....	532,010	100.0	\$8,362,425	100.0
Grocery stores without meats .....	188,738	35.4	2,202,607	26.3
Grocery stores with meats	166,233	31.3	4,149,813	49.6
Candy and confectionery stores .....	55,197	10.4	314,467	3.7
Fruit and vegetable stores	32,632	6.1	215,965	2.6
Meat markets .....	32,555	6.1	565,640	6.8
Dairy-products stores and milk dealers .....	16,380	3.1	576,351	6.9
Bakeries and caterers ....	14,150	2.7	99,908	1.2
Fish markets—sea-food...	6,919	1.3	46,811	.6
Delicatessen stores .....	6,554	1.2	88,708	1.1
Eggs and poultry dealers..	5,747	1.1	52,404	.6
Other food stores .....	6,905	1.3	49,751	.6

\* Source: U. S. Bureau of the Census, *Census of Business: 1935, Retail Distribution, I.*

without meats were far and away the predominating type, accounting for three-fourths of the sales and two-thirds of the stores. In fact, half of the sales were made by the combination grocery and meat market, although slightly less

## FOOD BUYING AND OUR MARKETS

than a third of the stores were of this type. Thus, it is clear that single-line stores are by no means the characteristic type in food retailing.

The total sales shown in Table VII do not, of course, represent all food-stuffs purchased in 1935. The figure shown is sales of "food stores," but "food stores" sell other things besides food, and other stores, such as general stores, department stores, farmers' supply stores, may sell food. Wholesale establishments may also sell directly to consumers. Almost 94 million dollars' worth of food-stuffs were so sold in 1935. Retail establishments may also sell to other retailers. The sales of milk dealers should be reduced by 52 million dollars for that reason.

### Geographical distribution of food stores

Food stores are the most important type of retail establishment in all areas. They constituted one-third of all stores in 1935 and made one-fourth of all sales at retail. They are by no means evenly distributed throughout the country, towns and cities having a larger number in proportion to their population. Cities of 100,000 and over with about a third of the population had 39 per cent of the food stores and accounted for 43 per cent of their sales. Only about 28 per cent of the food stores and 18 per cent of the sales were in rural areas, places with less than 2,500 people, but about 45 per cent of the population were living there. Three factors account for the relative scarcity of food stores in rural areas: (1) the existence there of general stores and farmers' supply stores that sell food; (2) the smaller proportion of their food supply purchased by rural people; and (3) the lower income of this group.

### Size of retail food establishments

Food stores are predominantly a group of small stores as shown in Table VIII. Only 6 per cent had annual sales over \$50,000 and the sales of 43 per cent were under \$5,000.



# THE RETAIL FOOD-MARKET—AGENCIES

## TABLE VIII

### SIZE OF RETAIL FOOD STORES, 1935\*

Annual sales	Percentage distribution of		
	All food stores	Grocery and grocery and meat stores	All other
Less than \$5,000 .....	43.1	37.5	54.8
\$ 5,000 to \$ 9,999 ....	17.5	16.6	18.5
10,000 to 19,999 ....	16.8	17.7	15.0
20,000 to 29,999 ....	8.3	9.9	5.2
30,000 to 49,999 ....	8.4	10.5	3.7
50,000 to 99,999 ....	4.4	6.0	1.8
100,000 or more .....	1.5	1.8	1.0
All stores .....	100.0	100.0	100.0

\* Source: U. S. Bureau of the Census, *Census of Business (1935), Retail Distribution, I.*

If single-line stores are excluded and only grocery stores, with or without meats, considered, the proportion of very small stores becomes somewhat lower. If only grocery stores with meats are considered, the figures change still more. The sales of only 21.5 per cent of these stores fell below \$5,000 in 1935 and 12.6 per cent had sales above \$50,000. The average sales of these stores were approximately \$25,000 annually as compared with \$12,000 for those handling groceries, but no meats. Small stores widely scattered, then, describes the retail food-group. There was a food store to every 240 persons in 1935, a grocery store of some kind for every 360. The proportion of food stores to population would be, of course, much larger in the cities.

### Food stores by type of operation

The consumer is more interested in the extent and growth of various types of operation than in any other characteristic of food stores. To what extent are they operated by independent proprietors and to what extent are they part of chain

systems? Does the consumers' co-operative association represent any appreciable part of the retail food-business? What does the future hold for the small merchant? These questions are of such importance and the relative merits of the various types of operation so hotly debated that they are reserved for special discussion in the two chapters that follow.

Some observations made about the "small trader" (the independent retailer) in the recently published *New Survey of London Life and Labour* are so applicable, however, to the American situation that they are reproduced below as a background for the detailed discussion of the contrasting forms of operation.

In spite of the growth of large-scale businesses and combinations the evidence does not indicate that the small trader is being eliminated in London. In point of number of undertakings as distinct from output or persons engaged, the small shop still predominates. . . .

The small trader, or "independent trader" as he prefers to call himself, is drawn from various sources. He may be experienced or he may be a novice. He may be the inheritor of a business, or a workman who has received a sum as compensation for injuries which has enabled him to start or to buy a business, or an ex-service man who similarly has used his gratuity, or a famous football player who had a benefit which has allowed him to open a green-grocery or other business. He may have been a coster with a barrow in a street market. He may on the other hand have been "first assistant" in a shop, and on the death or retirement of the owner have carried on the existing business or have started on a similar line elsewhere.

There is no barrier of age or sex, nor is health or physique of any special standard necessary as a condition for entering this vocation, and training may be dispensed with, although these qualifications may make for success or failure. For this reason there is great variety in this class, and while some small shopkeepers make successful businesses which they are either able eventually to sell to a big company or to

## THE RETAIL FOOD-MARKET—AGENCIES

expand for themselves, other traders open a pathetic venture for a few hopeless and shabby months and inevitably fade out. For the most part they are alike in one respect, however. They are pessimists—bitter about their handicaps and mournful about the future. Whether it be taxation or rates or restrictive closing hours, or the big multiple companies, the mail-order competition, the West End stores or the "Co-op," the unpatriotic customer who does not patronize those who pay the rates by supporting his local trader; or the "free gift coupons," clubs, bazaars and street traders who rob him of his legitimate trade, the independent shop-keeper feels there is a conspiracy on the part of fate and his fellow men to eliminate him altogether.

The interesting but undeniable fact is however that he continues to survive, especially in certain trades, even though his disappearance was already prophesied in Charles Booth's original account, and he will probably be as vigorous and as gloomy when the next Survey is made of London trades. His survival is due possibly to his robust individualism, which attracts his customers, as much as to the personal service he gives them. His very prejudices and manners, his cheerfulness in the face of real adversity, and the sense of sportsmanship of the customer, of which he takes full advantage, as well as his own knowledge of local matters and the sympathy he willingly gives to tales of ill-health and personal happenings, give him a hold on his public which is not easily destroyed by the big store, however highly trained in methods of salesmanship are its polite but more impersonal staff. The independent trader has more time to give his customer, goods often of equal quality and price, and a clearer knowledge of his local market and its needs than that possessed by the central or multiple stores. . . .

There are several groupings of independent traders. In addition to the trader who spends all his time in the shop and lives by it, there is the man who manages his business by the aid of his family—the children serving in the shop in between their school hours, and the wife taking her turn, so that a shift system is in fact in operation. Such a man has often another occupation, and the shop is only a subsid-

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ary means of livelihood. Finally, there is the man who employs a paid assistant or two. . . . The trader who lives for and by his shop spends long hours in it or behind it. He knows his trade and takes a pride in his knowledge; he also knows his neighbours and his own importance, of which the local press is equally appreciative. . . .

There is a continual stream of men and women travelling along the parallel roads leading to and from private enterprise with its responsibility and financial stresses and the safer haven of dependent assistantship. A grocer's assistant at a co-operative shop had set up for himself, and after an unsuccessful assay as owner returned to the ranks in a large multiple company's employ, but made a second attempt a few years later as shopkeeper. He thus changed his status three times in a dozen years. It is therefore impossible to be dogmatic as to the extent to which the small "independent" trader is decreasing or increasing in London. . . .<sup>1</sup>

### Questions or exercises

1. What articles of food can you buy at your back door? What do you buy and why?
2. What can you buy at road- or street-side stands? At stalls in a central market? Is this selling continuous or periodic?
3. What are the arguments that, if necessary, the town or city should provide facilities for a central food-market?
4. Examine the Census reports to discover what data are given on the types and sizes of retail food-stores in your state or city.
5. Compare the figures with those given in the tables in Chapter IV and explain differences, if any.

### SUGGESTED READINGS

COLES, Jessie V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. X-XII.

REID, Margaret G., *Consumers and the Market* (New York: F. S. Crofts and Co., 1938), Ch. VIII-X.

<sup>1</sup> *Op. cit.*, (London, 1933), Vol. V, pp. 163-7.

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Twentieth Century Fund, *Does Distribution Cost Too Much?*  
(New York: Twentieth Century Fund, 1939), Ch. 3-4.

U. S. Bureau of the Census, *Census of Business: 1935, Retail Distribution*, Vol. I.

See also,

ALBRECHT, A. E., *About Foods and Markets* (New York: Bureau of Publications, Teachers College, Columbia University, 1932) pp. 17-22; 41-57; 69-73.

## CHAPTER V

### THE CHAIN STORE

#### What is a chain store?

The essential feature of a "chain store" is that it is one of several retail-establishments operated as a unit by a central management. Contrasting with the chain is the "independent," usually a single store owned and operated by one man, a partnership, or a corporation. Does the common ownership and operation of only two stores constitute a chain? Should a distinction be made between branch stores and a chain? If not, where and how shall the line be drawn? The Bureau of the Census answered these questions as follows when taking the first nation-wide census of retail distribution in 1930. In the first place, they arbitrarily decided that no associated group of less than four stores would be called a chain. In the second place, they decided that there was true chain-organization only when planning and buying were centralized and the merchandise was distributed to the stores from a common warehouse or central point. Thus in addition to "chains" and single-store independents, there may be two- and three-store independents and local-branch systems, operated by a dominant parent-store.

The so-called "voluntary chains" to which it has been estimated from one-fourth to one-third of all independent retail grocers belong are not true chain-systems. Rather, they are a form of association to which the independents have resorted to secure certain advantages of the chains while still retaining their independence in management and operation. The American Institute of Food Distribution defines the volun-

## THE CHAIN STORE

tary chain as, "A group of retailers (each of whom owns and operates his own store), either associated with a wholesale grocer or acting co-operatively, organized to carry on joint merchandising activities and to combine wholesale and retail functions under one control so as to meet regular chain-store competition."

Some of the largest chain-systems in the grocery field operate on a "cash-and-carry" basis and others are "self-serve." This elimination of the credit, delivery or "service" feature is no more an essential feature of the chain organization than is the habit of one large chain of giving all its stores a red front.

### **Place of the chain store in the retail food market**

The chain store is no new phenomenon. It has existed for many years in different parts of the world. In the United States, however, chain store development has been so spectacular and so extensive that in a very real sense chain-store systems, as we know them today, may be considered distinctive American institutions. Retail chains are most numerous in the food field and there they first developed. The Great Atlantic and Pacific Tea Company, organized in 1859, is the oldest as well as the largest, not only of the food chains but of all other chains as well. Although several food-chains were organized in the period before 1900, none of them had at that time given any indication of the size they have since attained. In fact, it was not until the period following 1920 that the period of rapid chain-store expansion began.

The first comprehensive statistics showing the volume of business of the chain stores are found in the Census of Retail Distribution for 1929. In that year about 13 per cent of all retail food-stores were chains and they made a third of the total sales. By far the most important of the chain stores in the food group were those handling groceries, or meats, or both groceries and meat. Over 90 per cent of all food chain stores were of this type. Most numerous at that

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time were those selling only groceries; there were more than twice as many as were selling both groceries and meats. The total sales of the latter were not far, however, below those of the stores without meats. The Bureau of the Census classified chain systems also by their geographical scope into local, sectional, and national. The national chains' share of the grocery and meat business was about 20 per cent in 1929.

During the depression years, 1929 to 1933, the sales of the chain stores handling groceries or groceries and meats did not decline as much as did those of other types of stores. The dollar sales of the independents fell off over 40 per cent but those of the chains only about one-fifth. Back of this doubtless was a movement toward low-priced merchandise and a transfer of custom from the "service" to the cash-and-carry stores. The grocery and meat chains closed more stores during this period than did the "independents." The number of chain stores in this field declined 5 per cent but the number of independents actually increased. The independent proprietor, in other words, kept his store open even if profits were small or non-existent. He saw no alternative way of making a living and he could at least feed his family at wholesale prices. The chains, on the other hand, tended to discharge the staff and close stores operating at a loss.

As a result of the situation outlined, the chain's share of the grocery business was larger when a business census was taken for the year 1933 than it had been in 1929. A new census taken for 1935 showed, however, that the independents were recouping their lost ground. In 1929 grocery and combination meat and grocery chains made 39 per cent of the sales; in 1933 they made 44 per cent but in 1935 about 39 per cent.<sup>1</sup> During the period 1929 to 1935 more and more chain stores began to carry meats as well as groceries. By 1933 there were more of that type than those carrying

<sup>1</sup> See Table IX.



# THE CHAIN STORE

## TABLE IX

### SALES OF GROCERY STORES BY TYPE OF OPERATION, 1935<sup>a</sup>

Type of operation	Percentage of total sales	
	Grocery stores without meats	Grocery stores with meats
Independents .....	60.8	60.5
Chains .....	38.2	39.1
Direct selling .....	.2	...
Commissaries or company stores	.1	.1
All other types .....	.7	.3
All types .....	100.0	100.0

<sup>a</sup> Source: U. S. Bureau of the Census, *Census of Business (1935), Retail Distribution, I.*

groceries alone, and by 1935 their sales were almost double those of the single-line stores. By far the largest chain system is that owned by the Great Atlantic and Pacific Tea Company. Its sales in 1929 were over a billion dollars and at the rate of increase shown since 1933 they will soon again reach this figure.

### Differences between chain stores and independents

One marked difference between chain stores and independents is shown in Table X. Only from 2 to 3 per cent of the grocery chain-stores had sales under \$10,000 in 1935. But three-fourths of the independents handling only groceries and 46 per cent of those handling both groceries and meat had sales below that amount. Over half of the grocery and meat chain-stores had sales over \$50,000 but only 5.5 per cent of the independents. There are probably several reasons for this marked difference in size. Chains are most frequent in cities and the more densely populated areas where sales per establishment are higher; chains are more carefully located than independents—where the chances of a thriving business are greater. Furthermore, a chain store must have a good volume of business or it is closed down. It must pay salaries

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## TABLE X

SIZE OF GROCERY STORES BY TYPE OF OPERATION, 1935\*

Amount of annual sales	Percentage of stores carrying			
	Groceries only		Groceries and meats	
	Chains	Independents and other types	Chains	Independents and other types
Less than \$5,000. . . .	1.4	57.9	.9	25.2
\$ 5,000 to \$ 9,999. .	1.9	18.2	1.1	20.7
10,000 to 19,999. .	10.7	14.0	5.3	25.4
20,000 to 29,999. .	27.4	4.9	13.1	12.3
30,000 to 49,999. .	42.7	3.4	28.1	10.9
50,000 or more. . . .	15.9	1.6	51.5	5.5
All stores . . . . .	100.0	100.0	100.0	100.0

\* Source: U. S. Bureau of the Census, *Census of Business (1935), Retail Distribution, I.*

and wages to all who furnish services and in addition show a profit. Independents, on the other hand, may be run by those who have other sources of income; it may be a family occupation; it may constitute a supplementary income for the pensioned or disabled; it may be a means of feeding a family at low cost. A chain store, on the other hand, is never conducted as anything but a business venture.

### Advantages of chain operation

What advantages have chain systems over the independent retailing unit? These advantages must be especially marked in the food field since it is here that the chain system has especially flourished. The possibility must be considered that behind the growth of the chains lie two kinds of competitive advantages, one, those that represent efficiencies and economies of operation or superiority in service that attract trade to the store, and a second kind of another order, based not on greater efficiency, but greater power in bargaining and ability to engage in cut-throat competition.

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The efficiencies and economies of chain systems are largely the outgrowth of the large scale of their operations. The mass merchandising of the chains is the counterpart in retailing of mass production in manufacturing. The chain is a method of merchandising that secures the advantages of large-scale purchasing and management while retaining the selling advantages of shops easily accessible to the buying public. In this respect it is unlike the department store, the other form of large-scale retailing.

Chains are in a position to employ specialists to guide every phase of the merchandising and management process. Buying specialists may do the purchasing; specialists in store layout and product demonstration lay out and arrange the individual stores; specialists set the prices and determine sales policies and advertising programs; personnel experts select and train employees for their jobs; trained accountants keep the records and analyze costs and overhead expense; and, over and beyond this, trained experts may outline general policies and procedures for conducting all phases of the business. The greater financial strength of the chain system enables it not only to carry out the ideas and policies outlined by experts but also to experiment, in a way that is impossible for independents, with a view to discovering new or different methods of conducting the business. Because of their widespread organization, with stores located in all parts of a metropolitan area, chain stores are able to use newspaper advertising to present their wares to the public, whereas the independent retailer, with a small local clientele, cannot afford to do so. Studies of the Federal Trade Commission have shown a lower rate of mortality among chains than among independents. In other words, they choose their locations more wisely than do independents and make a business once started pay. Yet, as has been pointed out, chains can close down an unprofitable unit more easily than an independent and move their merchandise to another location. They can also afford to take time to build up a trade in a

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community and spread their losses while doing so over the business as a whole.

The efficiencies that have been noted are those that arise from the large-scale buying and large-scale management of the chain type of operation. A chain system moreover is an integrated system of marketing agencies and sometimes of manufacturing establishments as well. It is more than a combination of retailing units. It embraces the activities that are handled by independent wholesalers, jobbers and similar agents of the central market. It may control canneries and factories or buy up the product of canners and other food processors and place its own brand on them. It has the advantages that come from such integration, the elimination of buying and selling within the system created.

In addition to the efficiencies and economies of the sort outlined, it may be argued that large chain-systems have certain "unfair" advantages that in part at least explain their growth. For example, they may lower their prices in one locality to drive out competition, cancelling the losses incurred in these localities by profits from stores that are thriving. Even more serious is the possibility that in their buying they have sometimes been able to exact price differentials greater than warranted by the difference between the cost of supplying them and supplying their small competitors. The principle of quantity discounts is generally accepted, but it is alleged that the chains, as well as mail-order houses and other large buyers, when bargaining with manufacturers have used their position in the market unfairly. To secure their large orders some manufacturers have either directly in the price quoted or indirectly through rebates and allowances given chain systems unreasonably favorable terms. To correct this real or conjectural evil Congress in 1936 passed the Robinson-Patman Act, which seeks to outlaw price differentials among competitors which cannot be justified by cost. It forbids price discriminations between purchasers of commodities of like grade and quality not justified by differences in the cost of serving them. The

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Federal Trade Commission is given the power after investigation and hearing to fix the quantity limits that justify given differentials. If the chains have enjoyed an undue competitive advantage the enforcement of this Act should restrict its operation.

### Disadvantages of the chain system

The chain system of operation has certain disadvantages that to some extent offset its advantages. The disadvantages like the advantages are largely those inherent in any large-scale enterprise. They are aggravated, however, by the distance that separates the local operating units in direct contact with customers from the central offices where policy is determined. In the first place, the scale of the operations joined with the necessity of remote control inevitably carries with it large overhead expenses—record-keeping, instruction-making, supervision and checking. These expenses unless carefully controlled may grow so large as to threaten to exceed the economies of mass merchandising. Furthermore, the separation between purchasing and selling makes it difficult to adjust the stock carried to special needs or tastes. Either the managers must be given responsibility for this adjustment or the items carried must be those in general demand. This inevitably limits the field of operation of the chain. Mass merchandising tends to be limited to the fields in which there is mass demand. From the standpoint of consumers whose demand differs from the masses this may be a serious weakness.

Studies show however that the chains' stock of staple goods is more likely to be complete than that of independents. In a check made in New York City using a list of 50 nationally advertised articles stocks of food chains were found to be 90 per cent complete and those of independents only 75 per cent.<sup>1</sup> In Chicago four chain-systems studied were found to be carrying 64 of a list of 75 nationally ad-

<sup>1</sup> R. S. Alexander, "A Study in Retail Grocery Prices," *Journal of Commerce*, February 9, 16 and 23, 1929.

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vertised grocery items, while only 14 items were carried by as many as 90 per cent of the independents.<sup>1</sup>

In this connection another question arises. Does the chain system provide as satisfactory a method of registering demand and variations in demand as does the independent? The chain-store manager may not be as responsive to buyers' criticisms or as interested in their preferences as is the independent proprietor. And, even if he is responsive, there may be no established procedure for, or recognized policy of, transmitting them to those who control merchandising policies. It is true, however, that the chain system by its careful selection and training of managers may bring about a relationship with customers that is as satisfactory or better than that of the average independent. Skilled chain-store buyers may also place in stock many items that the customers have not hitherto known. They may widen the field of choice more than the small independent.

Another major problem of the chain has been suggested by the foregoing discussion. That is, how to secure personal interest and provide incentive for economy and efficiency on the part of the manager and clerks upon whom, in the last analysis, profits depend. How make the zeal of the hired worker equal to that of the boss? Furthermore, the chain can expect only fixed hours of work from its employees except in communities where labor conditions are demoralized. The independent proprietor, on the other hand, may not only work long hours himself but he may have the unpaid services of his wife and children.

The chain has not only the problem of the manager's efficiency but also of his honesty. The stock of goods from the sale of which is derived the entire revenue of the system is entrusted to the managers of the scattered local units. They must account to the central office for their equivalent in cash at the prices set, or for unsold goods. But a large

<sup>1</sup> E. Bjorklund and J. E. Palmer, *A Study of the Prices of Chain and Independent Grocers in Chicago*, School of Business, University of Chicago, Studies in Business Administration, I (1930), 42.

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part of the stock is perishable; it is sold in small units. Some loss is inevitable. If the allowances made on this account are too liberal, there will tend to be carelessness and pilfering; if they are too limited the employees may attempt to protect themselves by short-weights and by short-changing the customers. Practices of this sort, however, if at all common would react most unfavorably upon the trade. From the customers' standpoint they would indict the whole system.

### **Does the chain system increase dishonest practices?**

In the last few years reports of short-weights in chain stores have been widely disseminated. Not only were they accused of short-weighing bulk commodities but also of securing from manufacturers specially made under-sized containers, or slack-filled packages to be passed off to customers as equivalent to the larger sizes in general use by independents. Complaints of over-charging were also numerous. The Federal Trade Commission undertook the investigation of these charges as a part of its chain-store investigation authorized by Senate Resolution in 1928.

The Commission found no evidence that the chains used specially made deceptive packages and containers. In so far as the charges were not malicious, they were presumably based upon the fact that the more rapid turn-over of chain stores would cause them to receive earlier than independent retailers new and smaller-size containers, changed by manufacturers in preference to lowering the price. To determine the relative extent of short-weighing of bulk commodities in chain and independent stores, the Commission made a special investigation in four cities. Five selected bulk commodities were purchased in lots varying from  $\frac{1}{2}$  to 4 pounds in 1,691 stores, including 702 chains, 669 independents and 320 independents that were members of "voluntary chains." The proportion of short, over, and exact weights were then calculated. The chains gave more exact weights than did the independents on all purchases, only a slightly larger proportion of short-weights, 50.3 per cent to 47.8, and, as is obvi-

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ous, a smaller proportion of over-weights, 34.1 per cent compared with 43.8 per cent by independents.<sup>1</sup> One could scarcely say that the evidence indicated any marked tendency for chains to short-weigh. The fact that their over-weights did not balance those that were short as nearly as did those of the independents makes their short-weighing a more serious problem for consumers than that of the independents. One might conclude also that they were more careful not to over-weigh than were independents.

A special analysis of the accuracy of the weights of pre-weighed commodities indicated curiously enough that the shortages were more frequent and greater than on those weighed at the time of sale. The proportion of shortages in this group was decidedly larger for the independents, 65 per cent as compared with 59 per cent for the chains. Customers evidently should be on the lookout for short-weights on pre-weighed items, as the chances are great that they will get them. Since there is less need for haste in pre-weighing, one might conclude that the shortages are due either to shrinkage from loss of water content or to the fact that there is no customer to read the scales when the weighing is done. Remarkably few cases of short-changing or over-charging were found, in only 8 chain stores out of 702 checked and in 12 of 669 independents.

### Does the growth of chains mean monopoly?

At present, as the Census of Retail Distribution showed, chains have by no means a monopoly of the retail grocery business. Furthermore, there is now competition not only between chain and independents but also between chains. But what is likely to be the course of future events?

Operating against monopolization of the field by the chains are the dis-economies of the system as previously outlined, many of which would increase with the growth in the size of the business unit toward one big chain. Also operat-

<sup>1</sup> See Table XI.



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## TABLE XI

PROPORTION OF SHORT-WEIGHTS, OVER-WEIGHTS AND EXACT WEIGHTS IN BULK COMMODITIES PURCHASED AT 702 CHAIN AND 989 INDEPENDENT STORES IN FOUR CITIES, 1930 AND 1932 \*

Store group	Number of stores shopped	Number of items purchased	Percentages of purchases showing		
			Short-weight	Over-weight	Exact weight
Chains .....	702	2,946	50.3	34.1	15.6
Independents ..	989	3,694	47.8	43.8	8.4
Total .....	1,691	6,640	48.9	39.5	11.6

\* Source: Federal Trade Commission, *Short Weighing and Over Weighing in Chain and Independent Grocery Stores* (Washington, 1932), p. 12.

ing against it is the ease with which anyone can enter the business of retail food-selling. The optimum unit of operation for the bulk of the sales is still the small neighborhood-store. To this must be added the increasing efficiency of independents, the modernization movement, and the movement by independents to secure for themselves some of the advantages of the chain system by "voluntary chains." In so far as the growth of the chains was based upon the "unfair" advantage in purchasing due to size, price-discrimination laws of the type of the Robinson-Patman Act would be supposed to check or slow down their extension.

### Should the chains be taxed out of existence?

On January 1, 1940, nineteen states had special license taxes on the chain stores within their jurisdiction. These tax rates vary. In a few states they are low but in most they rise sharply with increase in the number of the stores. In one state, Louisiana, the rate per store increases with the total number of stores operated whether located in the state

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or outside. A chain system with more than 500 stores must pay a tax on each store in Louisiana of \$550. In Florida the rate per store of systems with more than 15 stores within the state is \$400 plus 5 per cent of the gross receipts. Tax laws of the latter kind are evidently designed not to raise revenue but to eliminate this type of business enterprise.

There is some question as to what extent the anti-chain laws represent the desires of the consumers of food and other articles sold in chain stores. This type of legislation is vigorously promoted by independent retailers and by other groups as jobbers and wholesalers who feel the pressure of the chain stores. The position of such financially interested groups is to be taken for granted. Without the chains conditions would be easier for them. In California an anti-chain tax law was defeated in 1936 when submitted to a referendum vote at a general election.

If the consumer votes for the elimination of the chain store, she should at least know what she is voting for and what the policy is costing her. She is rejecting the system of integrated mass merchandising although accepting mass production in other lines. She is rejecting whatever economies this system makes possible. She should be sure that in doing so she is not influenced by the arguments of self-interested pressure-groups or basing her vote on economic fallacies. She must be fairly sure that the danger that threatens is a real one and that this is the best means of meeting it. The Federal Trade Commission's report, for example, showed that the weekly wages of grocery-trade independents averaged \$3 more than did those of the chains. But elimination of the chains is only one possible way of equalizing wage rates. Economic losses may well be incurred to secure more important social gains but both probable loss and gain must be carefully calculated.

There can be no doubt that unfair competitive practices made possible by size should be eliminated. It would seem equally clear that if and when a chain-store system attains a monopolistic position its price and merchandising policies

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must come under governmental control. Is the development now, however, so threatening and the evils so great as to demand drastic action? There still exists a highly competitive situation. The chains sell at prices lower than those of the independent retailer. The difference in the price of grocery items found by the Federal Trade Commission ran from 6 to 10 per cent. In Washington, D. C., 274 items cost \$58.03 at the average prices of the independent stores and only \$54.08 at chain store prices. This price difference reflects, of course, not only the lower cost of doing business but the more limited services rendered by the chains. The Commission also found that the quality of the goods packed and sold by the chains under their own brand compared favorably with both nationally advertised brands and those less widely advertised.<sup>1</sup>

When the consumer votes prohibitive taxes on the chain store, she may be thinking not so much of her own financial interests as of the community as a whole and the undesirable changes that are occurring therein. The chains in their rapid rise to power have assumed that if they offered goods to the public at lower prices their position was assured. They have failed to take account of the fact that since they operate in small neighborhood communities, they must be good members of that community. They have failed to realize that since many community activities are financed not by taxes but by contributions from members of the community, the chain stores' failure to take part in or contribute to these activities is a vital indictment. The retail grocer is the neighbor of the consumer-buyer. She knows him as a person; she often knows his family and is interested in their welfare. The chain store is an interloper; the manager brought in from a different community possibly spending his money and bringing up his family elsewhere.

More important probably than anything else, the chain represents "big business," and big business threatening one of the last strongholds of individual enterprise. Retailing

<sup>1</sup> See Table XII.

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## TABLE XII

PERCENTAGE DISTRIBUTION OF GRADES OF CANNED VEGETABLES  
BY TYPES OF BRANDS \*

Grades	Manufacturers' brands			Distributors' brands		
	National adver- tisers	Other	Total	Whole- salers	Regular chains	Voluntary chains
Fancy .....	16.2	13.5	14.5	4.6	14.6	11.5
Extra standard .....	44.1	24.0	32.0	49.2	43.7	57.7
Standard .....	33.8	49.0	43.0	44.6	33.4	30.8
Substandard .....	4.4	12.5	9.3	1.6	8.3	...
No grade .....	1.5	1.0	1.2	...	...	...
Fancy and extra standard combined.	60.3	37.5	46.5	53.8	58.3	69.2
Standard and sub- standard combined.	38.2	61.5	52.3	46.2	41.7	30.8
All grades combined.	100.0	100.0	100.0	100.0	100.0	100.0
Number of cans graded .....	68	104	172	65	48	26

\* Source: Federal Trade Commission, *Chain-Store Private Brands* (Washington, 1933), p. 18.

is one of the few fields still left for the little fellow. The man with only a few hundred dollars in the way of capital could in the past always open a retail store. True, he was often obliged to close it again without his capital, but some prospered and many "made a living." Now this opportunity too is being closed to them. The man who wants a job must find an employer.

The question, then, is, do we as a matter of social policy want to protect this last outpost of individualism from the onslaughts of large-scale enterprise. Are we, as consumers, satisfied to pay for possible inefficiencies of small-scale merchandising in order to enable the small retailer to eke out an existence free from the menace of the chain store? This is a problem of social policy concerning which it is nec-

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sary to think clearly before we use either our dollar votes in the market or our ballots at the polls.

### Questions or exercises

1. How do you explain the fact that retail chain-systems are most numerous in the food field?
2. Is there competition between chain stores and independents in your market? Between chain systems?
3. Are there special chain-store taxes in your state? Are they designed to eliminate the chains? Were they imposed in response to a demand from the majority of consumer-buyers? By what other means could the chains be eliminated?
4. Are the chains in your market good members of the community? In what respects so and in what respects not?
5. What market differences are there, if any, between the stock, the prices, the services, and the practices of the chain-stores and the independents?
6. Are any of the independents in your market members of "voluntary" chains? If so, what is the form of organization? What are the advantages of membership?
7. What possible difficulties, if any, do you see in the enforcement of the Robinson-Patman Act?
8. What to your mind is the most serious danger to the consumer from the growth of chains? To the community as a whole?
9. What is the greatest benefit to the consumer of the growth of chains?
10. Is it probable that without special tax burdens chain systems would soon eliminate the independent retailer in the food field?

### SUGGESTED READINGS

- COLES, Jessie V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. XIII.
- PALMER, J. L., "Economic and Social Aspects of Chain Stores," *Journal of Business*, II (1929), 272-90.
- REID, Margaret G., *Consumers and the Market* (New York: F. S. Crofts and Co., 1938), Ch. X-XIII.

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U. S. Federal Trade Commission, *Final Report on the Chain Store Investigation* (Washington, 1935).

———, *Growth and Development of Chain Stores* (Washington, 1932).

———, *Short Weighing and Over Weighing in Chain and Independent Grocery Stores* (Washington, 1933).

See also,

ALBRECHT, A. E., *About Foods and Markets* (New York: Bureau of Publications, Teachers College, Columbia University, 1932), pp. 34-40.

## CHAPTER VI

### CONSUMERS' CO-OPERATIVE ASSOCIATIONS

The sales of consumers' co-operative associations in this country were less than 1 per cent of the total sales by retail establishments in 1935. Consideration of the possibilities of this form of operation from the consumers' standpoint is important, however, for two reasons, one, its extensive use especially for the sale of food in other countries, and second, its adoption and extension here is widely urged on the ground that it automatically removes the source of many of the buyer's problems and is the best way of providing him with desired goods and services. In other words, it minimizes costs and maximizes what he gets for his money.

#### **Nature of consumer co-operative associations**

It is generally agreed that true consumers' co-operatives are patterned on a plan which was developed by a small group of poor English weavers in Rochdale, England, in 1844. Three fundamental principles underlie the Rochdale plan: (1) one vote only to each member and no voting by proxy to promote democracy of control and hinder domination by any one individual or group of individuals constituting less than a majority of the membership; (2) interest on capital limited to current legal rate; and (3) distribution among the members of the profits, left after additions to reserves, in proportion to their purchases.<sup>1</sup> Other practices commonly adopted are business for cash only, sales at the prevailing market-price, and use of a certain percentage of

<sup>1</sup> Patronage dividends are sometimes given also to patrons who are not members.

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the surplus for the purpose of education in the field of co-operation. The essential features of a co-operative, however, are the first three given.

A consumers' co-operative can be organized as soon as a sufficient number of families in a community are willing to become members and to patronize the store. In a city the number should probably be 200 or more; in a small town from 75 to 100. Capital is provided through a small membership fee and through loans if a non-stock company is formed. If a stock company is organized the capital comes through the sale of membership shares, normally of from \$10 to \$50, and if necessary through loans as well. Usually the number of shares purchasable by any one person is limited and payment is allowed on the installment plan. Membership fees in non-stock societies are usually also payable in installments as \$3 down and the remainder from "rebates," or "patronage dividends." The capital bears, as was said, a fixed rate of interest and carries no vote. Successful co-operatives may pay off their loan capital from earnings and free themselves from the interest charge.

In 1937, 35 states had laws specifically providing for the organization of co-operatives. A special law is necessary because the ordinary incorporation law usually provides for control and distribution of profits in proportion to stock holdings. Without incorporation the position of the members of the co-operative is dangerous since if the society fails each member is individually liable for its debts, as in the case of a partnership. In a few states that have no general law consumers' co-operatives can organize under the laws applying to non-profit corporations—churches, fraternal orders and the like. One interesting aspect of the legal situation arises from the fact that co-operatives organized by farmers to market their products may usually also buy co-operatively. Since every state except Delaware has a law under which marketing co-operatives may be formed farmers in states without a general consumers' co-operative law have a privilege that other consumers do not have.



## CONSUMERS' CO-OPERATIVE ASSOCIATIONS

### Position of the consumers' co-operatives in other countries

It is difficult to secure exact data on the volume of business of consumers' co-operatives separate from that of producers' co-operatives, especially the marketing associations of agricultural groups. In certain European countries, notably Denmark, the latter have had a significant development. The producer co-operatives in that country are said to control 85 per cent of the export of bacon, 49 per cent of that of butter, and 83 per cent of the import of fodder.<sup>1</sup> They operate dairies and meat-packing establishments. Practically all farm families belong. These marketing societies purchase as well as sell for their members, consumers' goods as well as farm supplies, and the volume of consumers' goods handled cannot always be separated from figures on total business. Nor is the share of the consumers' co-operatives in the sale of food-stuffs always differentiated from their share in total national retail trade. The American commission appointed by President Roosevelt to investigate and report on co-operative enterprise in Europe says, however, "In almost any city or village in northern Europe, one who looks for a consumers' co-operative will first find a grocery store. It is usually clean, orderly, and efficient, and distinctive in appearance. In a small village there may be only one such store. . . . Typically, a town has several—while a large city may have hundreds."<sup>2</sup>

The commission found that the share of the consumers' co-operatives in total national retail trade in the European countries visited ranged from about 3 per cent in Czechoslovakia to from 25 to 30 per cent in Finland.<sup>3</sup> If sales of food only were considered the co-operatives' share would be much larger. In Great Britain, for example, where their

<sup>1</sup> *Report of the Inquiry on Co-operative Enterprise in Europe* (Washington, 1937), p. 8.

<sup>2</sup> *Op. cit.*, p. 23.

<sup>3</sup> *Op. cit.*, p. 7.

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share in total retail trade is from 12 to 13 per cent, they are said to get one shilling out of every five spent for groceries, and one out of every ten spent for meats.<sup>1</sup> The members of consumers' co-operatives are primarily families of the lower-income groups who spend a large proportion of their income for food, and, as was said, the typical consumers' co-operative starts as a grocery store. Other household supplies may be added later. The proportion of the population, therefore, who hold at least one membership in a co-operative society is much higher than is the proportion of total purchases made through them. The percentage of the population served by consumer co-operative enterprise in those European countries where it now flourishes has been estimated to be as high as 55 per cent in Finland and 45 per cent in Great Britain.

### Consumers' co-operatives in this country

In this country, there have been many sporadic experiments with consumers' co-operatives but no sustained development. In recent years there has been a marked increase in interest. The Bureau of the Census reported 2,463 stores with this type of ownership in 1929, with net sales less than one-half of 1 per cent of total sales by retail stores. In 1936 the Bureau of Labor Statistics estimated that there were 3,600 associations distributing commodities at retail. About a third sold mainly gasoline and oil; these had been formed mainly by farmers in the Mississippi Valley states who use large quantities of gasoline in their farm work. The store selling groceries or general merchandise was however the most prevalent type of co-operative. From the point of view of membership the typical American consumers' co-operative has from 100 to 250 members.

The situation with respect to agricultural co-operation has been quite different. A significant part of the fruit and vegetable crop, dairy products, livestock, grain and other farm products is sold by marketing co-operatives.

<sup>1</sup> *Business Week*, January 26, 1937, p. 16.

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### Consumers' co-operation as a means to fundamental economic change

To many who have worked and hoped for the development of consumers' co-operation, the primary objective of the movement is the fundamental economic change that would thereby be effected. This change would come about not by confiscation or revolution but through a steady development by which people as consumers would come into control, first, of the agencies of the retail market, then of those in the central market, and, finally, of the primary industries that supply these markets, with all activities incident and supplementary thereto. Thus private profit would be eliminated and a new economic order, the co-operative commonwealth, come into being. Only by some such profound change, it is argued, can Adam Smith's ideal come into effect: consumption the end and aim of production, the interests of producers attended to only in so far as they promote those of consumers. The English and Scottish co-operatives, especially, emphasize the abolition of the capitalistic system as their ultimate goal, as do many of the promoters of the movement in this country.

The fact that the consumers' co-operative movement may be viewed either as a means to profound economic change or as a merchandising method tends to make the discussion of it confused and inconclusive. The two possible objectives may not be opposed but quite in harmony—the co-operative may be a way of ultimately bringing into being a new economic order and also, immediately, a way by which consumers can get goods more cheaply. But for clarity in thinking the two possibilities should be considered separately—the advantages and disadvantages of the co-operative commonwealth when and if attained, and the advantages and disadvantages of the consumers' co-operative association in each stage of its possible development. It is the latter which will be emphasized here, not the nature of the economic order which ultimately might be attained.

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It will be observed that three groups may be represented in the membership of a consumers' co-operative: those who are concerned entirely or primarily with making the world over by this method; those who are thinking only of their food budget and the immediate advantages offered; and those with mixed motives. The first group will necessarily emphasize the ultimate gains to be secured; current dis-economies and inefficiencies as a business enterprise will be minimized as only temporary evils. Loyalty of members regardless of financial gains or losses, convenience or inconvenience, will be expected. This group will wish to devote maximum effort and funds to promoting the movement as a means of economic reform. This is a legitimate endeavor. It is the familiar method by which all movements and causes are promoted and supported. Every religion, every reform, means propaganda and often sacrifice.

But if at the same time there is the second group, or if at the same time the co-operative association is being promoted as an immediate source of economic benefit, the enterprise must be assessed from that standpoint. Either there are immediate gains or there are not. If there are and they continue, all groups are satisfied and the course of the movement runs smoothly. If there are not, or they are small, the movement will be checked. Its rate of growth will then depend upon the number who will forget the financial aspects or make a financial sacrifice to attain for themselves or their children a better social order from the economic or ethical standpoint.

### **Immediate economic advantages of the food co-operative**

What advantages may a co-operative store offer the food-buyer that the chain or the independent, differently owned and controlled, does not or can not offer her? Is there anything in the co-operative form of organization to cut down operating expenses and hence give her the same goods and service for less money? There are many ways in which

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some co-operatives do cut down expenses—by eliminating credit and delivery, by locating on a back street and thus reducing rent, by reducing the variety of goods carried, and similar means. These economies, of course, are also possible for other types of operation and if it requires a co-operative to offer them it means that other retailers are not properly appraising consumers' demands. In fact, the co-operative may be in a better position than other types of stores to discover what services consumers want to pay for and with which they would dispense, what goods they want in stock and which only a negligible number desire. The co-operative, through its committees and regular meetings of its membership, has the machinery through which the members can express their desires as to merchandising policies.

Under the co-operative organization there is, of course, no distribution of net profit to owners; rather the owners are the buyers and the refund of profits, if current market prices are charged, represents a money saving. In businesses where the margin of profit is high consumers may benefit decidedly by placing themselves in the position of owners. But in the highly competitive food-selling business this margin may be small after all labor is paid for.<sup>1</sup> Some co-operatives deliberately make their patronage dividends high by a consistently high price level but this, obviously, represents no real gain to the buyer.

One item of cost that it would seem the co-operative should cut down is selling expense. The British societies are estimated to spend 0.2 per cent of their total sales on advertising as compared with a figure two or three times higher in the United States grocery trade. It should be noted, however, that the assumption that co-operatives do not need to advertise to bring customers to their stores is based upon another assumption—that they have a large membership of "loyal" members. It may be necessary to spend money and effort to increase membership and to increase the "loyalty" of the members, that is, increase their

<sup>1</sup> See pp. 98-100 for discussion of average net profit.

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purchases at the co-operative store. As a matter of fact, a certain portion of the surplus is set aside each year as standard co-operative practice for "education." In a sense it is used for sales-promotion work. If the co-operative first sells the idea of co-operation, then perhaps it need not spend so much on advertising in the usual sense.

It is possible, however, that if the co-operatives were to maximize to the utmost the major advantage that they have over other types of operation that they would spend more and not less on what might be considered advertising and selling. It would be, however, a very different kind of advertising and "sales-promotion" from that carried on by profit-seeking dealers. It would be informational and not persuasive; it would seek to correct false impressions about goods, not create them. The evidence is fairly conclusive that no greater economic benefit could be given the food-buyer than information as to the similarities and differences between the various types of goods, as well as information about what is available, its uses, and the seasonal variations in supply. Since the lack of reliable information of this type is the weakest point in our present market, there is here a marked potential advantage for the co-operative. The extent to which they realize upon this advantage will, of course, depend upon the availability of adequate information and the interest of the membership and management in this type of service.

Not only would the co-operative association seem to be admirably fitted to provide informational service; it would seem also to be less likely to be guilty of misrepresentation and deceptive practices. Misleading statements, of course, may come from ignorance as well as avarice. This type of operation does not automatically bring with it the truth and the whole truth. Rather it makes possible this policy and practice if it is desired and definitely worked for. The European co-operatives do not seem to have developed this possible source of economic advance for their members. It

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is true that they give "purity" of products and honesty of weights and measures as a co-operative advantage, but they have done little or no more than private enterprise to make it a reality in the concrete terms of informative labeling and advertising and avoidance of deceptive and misleading statements.<sup>1</sup>

In brief, the situation, then, would seem to be as follows: members of a consumers' co-operative will secure given food items very little or no more cheaply than in other types of stores unless they are willing to dispense with certain services and put up with inconveniences or unless other retail stores are markedly inefficient or receiving a high margin of profit. In other words, the co-operative as such commands no special techniques for reducing operating costs. It may profit somewhat by receiving unpaid services from the members but this form of "self-help" cannot go very far unless there is wide-spread unemployment among the members and their activities are well-organized. Co-operatives consistently adhere to trade-union standards and in a market where other stores do not, or are manned by the proprietor and his family, labor costs may be relatively high. Real costs do not necessarily move with money costs; co-operative personnel policies may or may not increase labor efficiency.

The major financial benefit to be derived from the co-operative is adequate information about the goods on the market, information that enables the members to buy the lowest priced article for the purpose. For example, if two baking powders are identical and one sells for 11 cents and the other for 16, knowledge of identity permits a saving of 30 per cent. If two brands of soap flakes or a branded and unbranded sell respectively for 32 and 16 cents per pound, knowledge of identity or the superiority of the cheaper permits a saving of 50 per cent. These savings do not show in the patronage dividends but they are real.

<sup>1</sup> See J. B. Matthews, "The Cooperatives—an Experiment in Civilization," *Atlantic Monthly*, 159 (1936), 705-15.

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### Long-run economic advantages of the food co-operative

The next question concerns itself with the situation when there is not a single co-operative society but when there is a sufficient number to form a co-operative wholesale society, which in turn may control processing, packing, and importing establishments, that is, when there is an integrated system reaching back to the primary stages of production with ultimate ownership and control in the hands of the consumers. The successful European co-operatives have reached this stage. The English co-operatives, for example, own steamships, tea plantations, flour mills, bakeries, preserving and bottling plants, and other similar establishments.

Co-operative enterprise at this stage bears a striking resemblance in all but control and ownership to chain-store systems. The process of growth is the same from the single store to the integrated system, the final business unit is the same. In the United States the chain-store system developed but co-operative enterprise did not; in Great Britain co-operatives developed but 'chain-store growth was slow. At this stage the co-operative system has the economic advantages of the chain, those of mass merchandising and integration as well as those peculiar to co-operative enterprise as such. The American Inquiry in Europe found marked similarity between the position of the co-operatives in European countries and the chains here. They say, "Consumer co-operatives in Europe were built up when private retailing was not efficient, being conducted for the most part in small family stores. The co-operatives are generally credited with leadership in 'rationalizing' the retail business—introducing efficiency and modern methods."<sup>1</sup> The same generalization has been made in regard to the chain-store movement here. In this country where the chain system is already so well established if the co-operative is to make its way it presumably will have to be either through its own

<sup>1</sup> *Op. cit.*, p. 28.



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peculiar advantages or through special privileges granted to it that the chains cannot secure.

The strong European co-operative systems have benefited in the past from two economies that may or may not persist. One is a relatively low salary scale for the higher executives—in contrast to the liberal wage policy for the wage-earning personnel. The other is very low interest on capital. The members are urged to leave their dividends on deposit with the co-operatives and only a low savings-bank rate is paid for the use of these funds.

It is at this stage that co-operative enterprise could if it desired give the member-buyers a really adequate informational service. At this stage it sells many of its own brands. It has the resources to put many other types of goods on the market. It could establish a testing bureau. It could squeeze the monopolistic differential out of the prices of trademarked goods and enable buyers to make an intelligent choice.

### **Disadvantages of the co-operative form of organization**

Before attempting to forecast the probable future of food co-operatives in the United States it is necessary to ask whether there are any disadvantages for the member-patrons of this type of store. One aspect of co-operative enterprise that may be considered by some an advantage and by others a disadvantage is the demand upon the members, especially in the early stages, for unpaid volunteer work. The private store appears and operates without suggestion, promotion, funds, or other aid from the potential buyers; the co-operative does not. The enterprise must be initiated and built by the members and after it is built up, if it fulfills the claims made for it, the policies must be shaped by the members. They must take responsibility for it.

One special problem that many co-operatives have encountered appears in this connection. The enthusiasts for the co-operative, those who are ready to assume the most responsibility and do the most work, are often those who

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see it as the road to a new economic era. The management policies are likely to be determined to large extent by this group and the propaganda and promotion work to reflect their philosophy. The efficiency of the enterprise as a merchandising agency may suffer if its guidance is entrusted to too great extent to those whose eyes are on the far distant future, who may know little of business methods and who think a good member is one who stands by the store regardless of its shortcomings. Members who might be interested in it as a merchandising agency with money-saving possibilities are not encouraged to join, and if they do join are urged to ignore that aspect of the enterprise.

Members who wish from the co-operative what they can get from other types of stores—the convenience of credit, and delivery, careful filling of orders, correction of errors, range of choice—are likely to find a co-operative in its early stages disappointing. There are several reasons for this. One has already been suggested—control by those who do not know what efficiency is and do not think it important. There is often a tendency in a co-operative to substitute loyalty of the member for efficiency of the management as the *sine qua non*. Another is the doctrinaire position taken by many promoters of the co-operative movement. American co-operatives must follow the European pattern exactly or they are not of the true faith. The merchandising practices of the Rochdale weavers in 1844 must be those adopted in the United States a century later. The fact is, however, that the policies even of modern European co-operatives may be quite undesirable if the society is to serve many American communities most effectively.

Another factor that may make the co-operative food-store inconvenient for its members is that they are likely to be scattered and the store not as accessible as are other types of stores. In the early stages of the co-operative when it has to face the competition of other stores it is likely to seek a low-rent location, minimize service, reduce stock, and even maintain a high price level in order to have a profit margin

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that will provide substantial patronage refunds. When the co-operative enterprise has grown to the stage of integration and mass merchandising many of the disadvantages for member-patrons of the early stage disappear. Economies of a different kind are possible.

### Future of food co-operatives in this country

During the depression years there was a marked increase in the number of consumers' co-operatives in this country and a revival of interest in their possibilities. Does this mark the beginning of an extensive development of this type of operation in the retail market? There are two major circumstances to be taken into account in answering this question. One is that the chain-store system, embodying many of the features of the European co-operatives, is already established here. In addition to the "regular" chains there are the "voluntary" chains, especially numerous in the food field. The second circumstance is that the European consumers' co-operatives do not in the main represent a spontaneous and voluntary movement by consumers as such. Rather they are the outgrowth of an association or an economic interest of another kind. The British co-operatives are to large extent a by-product of the trade-union movement; in other countries they were a part of a political movement, in others an outgrowth of agricultural co-operatives. In other words, it would appear that people must first come together in some other type of organization and co-operative enterprise develop as one of the forms of action of this prior association. One might deduce that common interests as consumers are not enough to induce organized action of a continuous and lasting character.

In this country also a similar tendency has shown itself. The strongest co-operatives have been either among national groups, largely foreign-born, who came together for social purposes and who had already a strong bond of union, or among farmers who came together on the basis of their common interest as producers to form marketing co-operatives.

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The purchasing activities of these co-operatives center mainly on farm, not household, supplies. One of the most successful examples of co-operative enterprise in recent years has been the gasoline and oil co-operatives of the Middle West. It is noteworthy, however, that not only was this a field in which there was a good margin of profit as a basis for "dividends," but also that these co-operatives serve farmer-members who use these two supplies in their business.

The question, then, is, will there be a notable growth of co-operatives in the food field where the chains are already so strong? Will consumers band together on the basis of their common interest in supplying their wants more cheaply and provide the funds and the direction needed? One can conceive of this happening but its likelihood would be greatly increased if certain things were to happen. If, for example, chain stores were taxed out of existence, it would be more likely to happen. If co-operatives were deliberately encouraged by loans on easy terms or tax exemptions, it would be more likely to happen. If the co-operatives would energetically and intelligently attempt to meet the increasing demand for informative labeling and advertising in the food field, it would be more likely to happen. If co-operatives would give up doctrinaire ideas and phrases, it would be more likely to happen; and if more and more people would desire the "co-operative commonwealth," it would be more likely to happen.

Whatever may happen in the future, immediately there can be no doubt that experiments with food co-operatives are desirable. Every state should have laws that facilitate this type of enterprise. Wide-spread education through all the usual facilities, governmental and otherwise, in the experience of European co-operatives, co-operative theory and principles should be provided for.

One final question to suggest what the major issue is, is this: which development if we could have chosen would we have preferred in this country—the great chain systems, privately owned and controlled, resulting in some cases in enor-

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mous private fortunes, or integrated systems of consumers' co-operative societies with similar economies but with ownership and control vested in the member-patrons and all profits flowing back to them?

### Questions or exercises

1. Does your state have a law providing for the incorporation of consumers' co-operative associations on the proper basis?
2. If there is a consumers' co-operative association in your community, try to find out to what extent it illustrates the generalizations made in this chapter as to history, plan of organization, membership, merchandising and other policies.
3. Why is consumers' co-operation sometimes described as "the middle way"?
4. Which of the marketing activities outlined on p. 29 does a true consumers' co-operative not perform?
5. List all the points to be taken into consideration by consumers in estimating the economic advantages or disadvantages of membership in a co-operative association. Which of those listed are most likely to be overlooked?
6. Are there arguments for membership in a co-operative association on other than economic grounds? If so, what are they?
7. What conditions facilitate the formation and financial success of consumers' co-operatives?
8. What are the essential differences between producers' and consumers' co-operatives? Investigate the history of the former in this country.
9. Is expenditure for advertising unnecessary for a consumers' co-operative?
10. In what respects does the development of consumers' co-operatives abroad resemble the chain-store development in this country?

### SUGGESTED READINGS

BURLEY, O. E., *The Consumers' Cooperative as a Distributive Agency* (New York: McGraw-Hill Book Company, 1939).  
Ch. I-IV; VIII; XVI.

## FOOD BUYING AND OUR MARKETS

- COLES, Jessie V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. XIV.
- Inquiry on Co-operative Enterprise in Europe, *Report* (Washington, 1937), Pt. I, Ch: I-X; Pt. II, Ch. I-V.
- PALMER, J. L., "Can Consumer Cooperation Correct Important Defects in Marketing?", *Journal of Marketing*, I (1937), 390-395.
- REID, Margaret G., *Consumers and the Market* (New York: F. S. Crofts and Company, 1938), Ch. XIV.
- U. S. Bureau of Labor Statistics, *Organization and Management of Consumers' Co-operative Associations and Clubs*, Bulletin No. 598 (Washington, 1934).
- , *Consumers' Cooperation in the United States*, 1936, Bulletin No. 659 (Washington, 1939).
- U. S. Consumers' Counsel Division, United States Department of Agriculture, *Sources of Information regarding Co-operatives* (Washington, 1935).
- See also,
- ALBRECHT, A. E., *About Foods and Markets* (New York: Bureau of Publications, Teachers College, Columbia University, 1932), pp. 132-8.

## CHAPTER VII

### FOOD MARKETING COSTS

#### What are marketing costs?

Marketing costs are the expenses incurred in performing the activities described in Chapter III, whether they are performed by the grower, the manufacturer, or by independent marketing agencies. In so far as they are performed by independent agencies, they are the operating costs and the necessary profits of those agencies described in Chapter IV. They are the amounts that consumers must pay to others for services which they cannot or do not wish to perform for themselves. It is, of course, to the consumers' interest to have them performed as cheaply and as efficiently as possible.

Marketing costs are usually shown as percentages of net sales or gross receipts for the article in question. From the dollars paid in by the consumer every agency concerned from retailer to primary producer must get enough to cover his costs or he cannot stay in business. Thus if we knew what became of the consumer's dollar spent for beef, or oranges, or canned peas, or corn flakes, we would know what he paid for all types of marketing service at the time and place in question. Many studies have been made attempting to follow through the division of the consumer's dollar and thus discover the farmer's share, the transportation agency's share, the retailer's share, and so on.<sup>1</sup>

Analyses showing the division of the consumer's dollar are valuable but they must be used with care. In the first

<sup>1</sup> See Tables XIII, XIV, XV.

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## TABLE XIII

COMPARISON OF FARM AND RETAIL PRICES OF SELECTED  
COMMODITIES, 1939<sup>a</sup>

Commodity	Retail unit	Farm equivalent	Average farm price (cents)	Average retail price (cents)	Farm price as percentage of retail price
Pork cuts	1 lb.	1.9 lb.	12.1	21.4	57
Lamb cuts	1 lb.	2.16 lb.	16.2	26.8	60
Hens	1 lb.	1.11 lb.	14.9	30.1	50
Eggs	1 doz.	1 doz.	18.4	32.6	56
Rice	1 lb.	1.51 lb.	2.3	7.7	30
Navy beans	1 lb.	1 lb.	2.9	6.2	47
White potatoes	1 lb.	1 lb.	1.2	2.5	48
Sweet potatoes	1 lb.	1/55 bu.	1.4	4.2	33
Apples	1 lb.	1/48 bu.	1.7	5.0	34
Oranges <sup>b</sup>	1 doz.	1/17 box	6.2	27.9	22
Lemons	1 doz.	1/27 box	7.2	24.5	30
Cabbage	1 lb.	1 lb.	0.8	3.6	22
Onions	1 lb.	1 lb.	0.8	3.8	21
Green beans	1 lb.	1/30 bu.	3.0	10.6	28
Carrots	1 bunch	1/55 bu.	1.1	5.4	20
Spinach	1 lb.	1/18 bu.	1.9	6.7	28
Lettuce	1 head	1/48 crate	2.9	8.3	35

<sup>a</sup> Source: U. S. Bureau of Agricultural Economics, *Price Spreads between the Farmer and the Consumer* (Feb., 1940). Mimeographed.

<sup>b</sup> Eight-month (Jan.-Aug.) average.

place, the distribution between grower, processor, and marketing agencies will vary from place to place and time to time with every marked variation in any component price. That is, if the farm value of live stock or of wheat falls, the retailer's share goes up even if his actual money receipts remain the same or decline slightly. For example, according to Table XIV, the retailer's share of the consumer's dollar



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spent for beef increased from 30 per cent in 1929 to 39 per cent in 1933. Actually the average amount he received for each pound of beef handled declined from 9.3 to 6.4 cents, a little over 30 per cent. But what the farmer received declined still more, from 16.4 to 6.9 cents, over 60 per cent, thus altering, as shown, their respective shares.<sup>1</sup>

TABLE XIV

DIVISION OF THE CONSUMER'S DOLLAR SPENT FOR BEEF,  
1929 AND 1933<sup>a</sup>

Division	Percentage of consumer's dollar	
	1929	1933
Margin for:		
Retailing .....	30	39
Wholesaling .....	4	6
Processing .....	10	13
Livestock marketing .....	3	5
Farm value .....	53	37
Total .....	100	100

<sup>a</sup> Source: B. F. Tobin, *What Becomes of the Consumer's Meat Dollar*, School of Business, University of Chicago, Studies in Business Administration, VI (1936), 20.

In the second place, the difference between the price paid to the first seller and paid by the last buyer (the "price spread") must cover all costs of processing, culling and sorting en route, as well as all shrinkages, wastes, and so on. Not only must all manufacturing costs be allowed for if marketing expenses are to be clearly shown but also for the fact that on the road between the farmer and the retailer three eggs out of every dozen may be spoiled or broken. The following simplified illustrations show the results obtained by different methods of calculating the shares of the various agencies.

<sup>1</sup> Tobin, *op. cit.*, p. 20.

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## CASE 1

	Per unit	Price spread	Percent of retail price
Farmer gets .....	10¢	...	50
Country buyer gets .....	12¢	2¢	10
City jobber gets .....	15¢	3¢	15
Retailer gets .....	20¢	5¢	25

## CASE 2

		Per unit	Price spread	Percent of retail price
Farmer gets	for 1.4 units	14.0¢	...	70.0
Country buyer gets	for 1.3 units	15.6¢	1.6¢	8.0
City jobber gets	for 1.1 units	16.5¢	- .9¢	4.5
Retailer gets	for 1.0 units	20.0¢	3.5¢	17.5

## CASE 3

	Per unit	Units sold	Receipts	Distribution of consumer's dollar
Farmer gets .....	10¢	140	\$14.00	70.0¢
Country buyer gets.	12¢	130	15.60	8.0¢
City jobber gets ...	15¢	110	16.50	4.5¢
Retailer gets .....	20¢	100	20.00	17.5¢

The third difficulty is the reverse of the second. A manufacturer or group of growers may have selling expenses which may be quite large if they go in for national advertising or for direct selling to the retailer. If these are not shown separately from manufacturing expenses total marketing costs are not known. Finally, it should be noted that when margins are figured as percentages of retail prices or retail sales the retailer's share alone represents the cost of operation plus profits. In no case, of course, are relative profit margins shown or suggested. (See illustrations that follow.)

## CASE 1

	Cost per unit	Selling price per unit	Margins as per- centage of	
			Retail price	Price of each dealer
Country buyer . . . .	10¢	12¢	10	16 $\frac{2}{3}$
City jobber . . . . .	12¢	15¢	15	20
Retailer . . . . .	15¢	20¢	25	25
Consumer . . . . .	20¢	...	..	..

## CASE 2

	Cost of goods	Sales	Retail sales	Own sales
Country buyer . . . .	\$14.00	\$15.60	8.0	10.3
City jobber . . . . .	15.60	16.50	4.5	5.5
Retailer . . . . .	16.50	20.00	17.5	17.5
Consumer . . . . .	20.00	....	...	...

**How high are marketing costs?**

Probably close to half of the dollars spent by consumers in food stores go to cover the costs of marketing, more in the case of some commodities and less in others. What the proportion will be depends upon a variety of circumstances, the perishability of the article, how far it must travel, its requirements for preservation and storage, whether it comes from small and scattered producers or a few concentrated in one area, and how much has been expended in advertising and selling. The conditions of consumption and consumers' desires and buying habits also influence marketing costs. Distribution of food-stuffs in large cities has its special costs, as has distribution in rural districts. What the consumers demand from the retailer in the way of services, the size of their purchases, and even the time of day that they make them all affect the expenditures that represent costs. There is no one reason, then, why the share of the consumer's dollar taken by marketing agencies is high. In the

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case of one article or group of articles transportation or storage costs may be the explanation; with another it may be assembling or buying activities; with others the selling costs; with many articles retailing costs are the major part of total marketing costs, with others the costs of assembling in the primary or in the central market are just as great.

The costs of marketing the various types of articles handled by food stores evidently will vary and, equally noteworthy, even when they are approximately the same it may be for quite different reasons. According to recent studies, the consumer's dollar spent for fresh fruits and vegetables is divided almost equally between the retailer, the grower, and those who transport to or handle in the central market. Thus close to two-thirds of the fresh produce

TABLE XV

APPROXIMATE DISTRIBUTION OF THE CONSUMER'S DOLLAR  
SPENT FOR FRESH FRUITS AND VEGETABLES IN NEW  
YORK CITY, JULY 1 TO DECEMBER 31, 1936\*

Agency	Percentage of consumer's dollar
When five agencies are involved:	
Retailer .....	34.3
Jobber .....	8.3
Wholesaler or consignee .....	5.0
Transportation .....	14.4
Shipper and grower .....	38.0
Total .....	100.0
When four agencies are involved:	
Retailer .....	39.5
Wholesaler or consignee .....	7.8
Transportation .....	12.1
Shipper and grower .....	40.6
Total .....	100.0

\* Source: New York City, Dep't of Public Markets, Weights and Measures. Quoted in *Domestic Commerce* (July 10, 1937), 9.

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dollar goes for marketing.<sup>1</sup> Dry bulk, packaged, canned or processed foods do not cost so much to market, and in some cases may take no more than from 20 to 30 cents of the dollar spent for them. But for others the cost of assembling is high, or the manufacturer's advertising expenditures or other selling costs are high and the proportion rises to 50 per cent.

The Federal Trade Commission has recently analyzed the distribution of the consumer's dollar spent for several food-products in 51 cities.<sup>2</sup> They concluded that wholesale and retail distributors usually received 25 per cent of the dollar spent for butter, 50 per cent of that spent for milk, 33 per cent of that spent for white flour, 42 of that spent for beef and 35 of that spent for pork. If to the figure for flour are added the receipts of wheat middlemen and transportation agencies, the percentage becomes 43; if to the beef and pork figures is added the cost of transportation of live animals, the percentages become 47 and 42. If the cost of transportation from farm to city is added to the figure for milk, which already includes the cost of city delivery, the figure goes up to at least 55 per cent. Bread is another commodity like milk for which the marketing costs are high. Both are highly perishable and necessitate an expensive delivery service. The Commission estimated that 19 per cent of the dollar spent for white bread in the 51 cities went to the retailer, 5 per cent to wheat middlemen and transportation agencies, 7 per cent to the millers, 13 to the farmer, and 56 to the bakers. But since half of the baker's costs are selling and delivery costs, at least half of the "bread dollar" goes for marketing services.

### Are marketing costs rising?

It is often said that the costs of marketing have been rising to the detriment, it is implied, of both the first seller, the

<sup>1</sup> Federal Trade Commission, *Fruits and Vegetables Inquiry*. Press Release, June 10, 1937.

<sup>2</sup> *Principal Farm Products—Agricultural Income Inquiry*. Senate Document No. 54, 75th Congress, 1st Session (1937).

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primary producer, and the last buyer, the ultimate consumer. Here a careful distinction must be made between the share of the consumer's dollar going for marketing and the real cost of performing a given group of services. It would be difficult to gather data showing what had been happening to the latter in the last few decades. We know, however, that the number and character of the services offered have been changing which in itself tends to change the share of the dollar taken by those who offer them. The food retailer provides a higher grade of service in practically every respect, a more sanitary and convenient place of business, a wider range of choice, better delivery service, less waiting in the store; and at earlier stages in the marketing process the transportation, the modes of preservation, of wrapping and packaging, have improved. The trend toward hand-to-mouth buying in small units has also increased the total paid for marketing service. The increased proportion of the population living in large cities has likewise increased the expenses of supplying consumers with food.

Obviously, there are many factors tending to increase the *share* of the consumer's dollar going for marketing services. When goods are home-produced and home-consumed nothing is directly paid out for such service. When they are locally produced and locally consumed marketing services cost little; when producers and consumers are widely separated in time and space they cost decidedly more. Furthermore, the foods that in the last few years have been passing from home to commercial production and from local to distant sources of supply are those that necessitate relatively high marketing costs, bread and dairy products, fresh fruits and vegetables. The dry bulk and miscellaneous staples which once constituted the major stock of grocery stores are those that take the smaller share of the consumer's dollar for marketing.

It should also be noted that when marketing costs are expressed as a percentage of sales, if the grower's or the manu-

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facturer's costs decline *more* than those of retailers or other marketing agencies, the *share* of marketing agencies in the consumer's dollar will rise. In both agriculture and manufacturing there have been notable technological improvements calculated to reduce costs. Absence of similar cost-reducing changes in marketing may in part explain the tendency for more and more of the consumer's dollar to go to these agencies.

### **The retailer's share in the consumer's dollar**

Retailing is the most expensive step in the marketing process. If consumers could dispense with the services of this buying agent and "community storeroom" they would have a substantial part of their food dollar to spend for other things. The food retailer, however, does not keep as large a share of the dollar spent with him as do many others, those selling dry goods, apparel, or furniture, for example. In 1929, as shown in Table XIX, \$16 out of every \$100 of sales would cover his operating expenses in the usual type of grocery store, that selling also meats and meat products, and a little over \$17 the costs in grocery stores not handling meats. These figures include a compensation for the services of proprietors at the same rate that was paid full-time employees in those stores having such employees, but nothing for interest on his investment. It is probable that for the small stores with annual sales under \$10,000, over half of all grocery stores, this was a larger compensation than most proprietors were actually able to take out of the business. But, on the other hand, in the larger stores and those with low operating costs, a profit margin should be added in order to show accurately the gross margin between what the retailer gets and what he pays for his stock, that is, his share of the consumer's dollar.

The retailer's gross margin or share of the consumer's dollar varies considerably from commodity to commodity as shown in Tables XVI and XVII. The data shown in these

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## TABLE XVI

OPERATING RESULTS BY COMMODITY GROUPS IN 26 LOUISVILLE  
GROCERY STORES, 1929\*

Commodity group	Percent of total sales	Turnover per year	Average order value	Percent of sales		
				Gross margin	Operating ratio	Net profit
All goods .....	100.0	20.6	\$ .19	25.8	18.3	7.5
Bakery products ....	11.0	66.0	.12	16.7	18.6	(-1.9)
Canned foods .....	6.2	4.9	.15	26.9	26.1	.8
Confectionery and beverages .....	1.6	12.0	.07	33.0	34.1	(-1.1)
Dairy products ....	15.7	114.1	.22	18.2	11.4	6.8
Farinaceous foods ..	4.7	13.6	.18	23.8	16.3	7.5
Fresh fruits and vegetables .....	10.9	71.0	.18	35.5	17.0	18.5
Meats and provisions	32.8	72.6	.38	29.3	18.3	11.0
Miscellaneous edibles	10.1	8.4	.21	24.4	18.1	6.1
Miscellaneous non-edibles .....	5.0	5.6	.11	27.3	28.7	(-1.4)
Tobacco .....	2.0	17.3	.14	23.7	18.4	5.3

\* Source: U. S. Bureau of Foreign and Domestic Commerce, *Louisville Grocery Survey, Part III A, General Findings and Specific Results, Distribution Cost Studies, No. 11 (1931), p. 35.*

tables come from a study of the operations of 26 stores for a period of 13 weeks made by the Bureau of Foreign and Domestic Commerce in Louisville, Kentucky. All were combination stores carrying fresh fruits and vegetables and meats. All but the three smallest were operating at a profit over and above proprietor's salary at a minimum of \$35 per week and 6 per cent interest on the investment. Over half had annual sales of \$50,000 or more. High gross margins were found for meats, fresh produce, canned vege-



# FOOD MARKETING COSTS

## TABLE XVII

OPERATING RESULTS BY SELECTED COMMODITIES IN  
26 LOUISVILLE GROCERY STORES, 1929<sup>a</sup>

Commodity	Percent of total sales	Turnover per year	Percent of sales		
			Gross margin	Operating ratio	Net profit
Canned vegetables .....	3.1	5.4	28.8	23.9	4.9
Flour .....	1.9	17.5	16.9	9.2	7.7
Butter .....	4.2	143.2	14.9	7.0	7.9
Eggs .....	4.8	109.0	19.0	7.2	11.8
Cigarettes .....	1.3	43.2	22.7	13.6	9.1
Sugar .....	1.9	34.7	22.4	12.9	9.5
Coffee .....	2.8	20.2	19.4	9.6	9.8
Meats .....	30.6	81.7	29.6	17.8	11.8
Fresh fruits and vegetables .....	10.9	71.0	35.6	17.0	18.6
Bread and rolls .....	6.5	223.2	13.0	17.4	(-4.4)
Milk .....	5.3	274.4	16.9	18.0	(-1.1)

<sup>a</sup> Source: U. S. Bureau of Foreign and Domestic Commerce, *op. cit.*, pp. 44-7.

tables, confectionery and beverages, and household supplies. Low margins were shown for flour, butter, eggs, milk, and coffee.

Table XVIII shows the gross margins *calculated as a percentage of retail price* for various commodities in New York grocery stores in 1923. Reference to the illustrations of various ways of figuring gross margins given earlier in the chapter will show that these margins would have been much lower for the more perishable articles if calculated as a percentage of sales. This gross margin should not be confused with the mark-up. The latter is calculated on cost not selling price. A gross margin per unit of 20 per cent

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## TABLE XVIII

PRICE SPREADS OF CERTAIN COMMODITIES AS A PERCENTAGE OF THEIR SELLING PRICE PER UNIT, NEW YORK CITY, 1923<sup>\*</sup>

Commodity	Gross margin as percentage of retail price
Onions .....	40.00
Cornmeal .....	24.16
Potatoes .....	23.53
Tomatoes .....	20.31
Canned fish .....	19.78
Canned peas .....	19.18
Canned corn .....	18.42
Beans .....	18.37
Raisins .....	16.16
Cheese .....	15.05
Rice .....	14.81
Flour .....	13.56
Bread .....	12.99
Milk .....	12.44
Sugar .....	9.66
Eggs .....	9.65
Butter .....	7.84

<sup>\*</sup> Source: N. Y. State Dep't of Farms and Markets, *Retail Grocery Stores*, Circular 240 (Albany, 1923), p. 11.

is equivalent to a mark-up of 25 per cent and a gross margin of  $33\frac{1}{3}$  per cent to a mark-up of 50 per cent.

In general, the retailer's gross margin varies with three factors: (1) the size of the average purchase; (2) the wastes and costs in handling; and (3) the total amount sold. A study made in New York City indicated that the price spread per "standard retail sale," 30 cents or 10 cents as the case might be, did not vary as greatly as did the price spread per unit.<sup>1</sup> In other words, since it costs as much to sell a half pound as

<sup>1</sup> C. E. Artman, *Food Costs and City Consumers* (New York, 1926).

## FOOD MARKETING COSTS

three pounds, the retailer tends to charge the same amount for the service. A hypothetical case is illustrated below.

	Com- modity A	Com- modity B
Cost per unit .....	15¢	15¢
Retail price per unit .....	20¢	30¢
Amount of average sale .....	3 units	1 unit
Value of average sale .....	60¢	30¢
Price spread per unit .....	5¢	15¢
Price spread per "standard retail sale"	15¢	15¢
Price spread as percentage of retail price .....	25	50

The relation of the wastes and costs in handling to the price spread is obvious. Fresh fruits and meats may run high in these respects. A small volume of sales may mean loss from deterioration and prices out of line with those of competitors.

### What does the retailer do with the consumer's dollar?

The retailer's gross margin or the difference between what he pays for his merchandise and what he gets for it should, strictly speaking, cover his operating expenses, including in those expenses wages at current rates for the services he renders and interest on his investment. It should also yield him a net profit over and above expenses as an inducement to take the risk of carrying on a business. There are many food retailers whose business is too small to give them a full-time salary and interest at current rates over and above their necessary outgo. In some cases all they get out of the business is food for their families at wholesale prices. In other cases running a store is a supplementary occupation or source of income or an occupation for those who would otherwise be unemployed because of a physical handicap, or who would for other reasons make no contribution to the family purse. Stores of this sort will remain in operation

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as long as these circumstances persist, although on strict accounting principles they are operating at a loss. They are taking in enough, however, to cover cash expenses and are taking enough out of the business to warrant keeping their doors open.

Most grocers must make a living from their business and cannot continue unless they do. Studies that have been made indicate that the proportion of all food-retailers at any given time on the verge of failure is very high. Calculations of the "mortality" rate among independent grocers in Buffalo from 1918 to 1928 showed that over a third (35.9 per cent) left the business every year. In Louisville from 1921 to 1929, the rate was 24 per cent; in Lincoln, Nebraska, from 1900 to 1923, 26 per cent.<sup>1</sup> At these "leaving" rates the average life of a store would be from 3 to 4 years. Analysis of the data has shown however that the high rate is primarily a high rate of infant mortality. The store that survives the first year has improved chances of survival and after the second year still better chances.

It is difficult, therefore, to make generalizations in regard to either operating ratios or profit margins in the retail

TABLE XIX  
OPERATING EXPENSES OF CERTAIN TYPES  
OF FOOD STORES, 1929<sup>a</sup>

Kind of business	Operating expenses per \$100 of sales <sup>b</sup>
Dairy-products stores .....	\$19.82
Fruit stores and vegetable markets...	25.19
Grocery stores without meats .....	17.36
Grocery stores with meats .....	15.78
Meat markets .....	18.96

<sup>a</sup> Source: U. S. Bureau of the Census, *Fifteenth Census of the United States, 1930. Retail Distribution*, p. 49.

<sup>b</sup> Operating expenses include an estimated value for proprietor's services and for rental value of owned premises.

<sup>1</sup> See F. E. Clark, *Readings in Marketing* (New York, 1933), pp. 171; 331-7.

## FOOD MARKETING COSTS

grocery business. There are great variations, especially in the latter. The operating expenses of the major types of food stores as reported in the Census for 1929 are shown in Table XIX. These figures include an estimated value for proprietor's services and rental of owned premises but no estimate for depreciation or interest. On the basis of the data in Tables XX and XXI, at least another dollar

TABLE XX

TYPICAL OPERATING STATEMENT OF 200 NEBRASKA  
RETAIL GROCERY STORES, 1926<sup>a</sup>

Item	Per cent
Net sales .....	100.0
<hr/>	
Net cost of merchandise sold.....	81.5
Gross margin .....	18.5
<hr/>	
Operating expenses:	
Salaries and wages .....	10.8
Sales force .....	5.5
Delivery men .....	1.6
Managers' and office staff .....	3.7
Rent .....	1.7
Heat, light and water .....	0.3
Delivery (except wages) .....	0.8
Advertising .....	0.2
Wrapping .....	0.5
Office supplies and postage .....	0.2
Insurance .....	0.1
Miscellaneous .....	1.1
Bad debts .....	0.2
Depreciation and repairs .....	0.3
Interest .....	1.0
<hr/>	
Total .....	17.2
Net profit .....	1.3

<sup>a</sup> Source: University of Nebraska, *Studies in Business*, Bulletin No. 20, p. 10.

# FOOD BUYING AND OUR MARKETS

## TABLE XXI

TYPICAL OPERATING STATEMENT OF 545 RETAIL  
GROCERY STORES, 1924<sup>a</sup>

Item	Per cent
Net sales .....	100.0
<hr/>	
Net cost of merchandise sold .....	80.2
Gross margin .....	19.8
<hr/>	
Operating expenses:	
Salaries and wages .....	10.9
Rent .....	1.3
Heat, light and power .....	0.3
Delivery (except wages) .....	1.2
Advertising .....	0.6
Wrapping .....	0.6
Office supplies and postage .....	0.2
Insurance .....	0.2
Miscellaneous .....	0.8
Bad debts .....	0.4
Depreciation and repairs .....	0.4
Interest .....	1.1
<hr/>	
Total .....	18.0
Net profit .....	1.8

<sup>a</sup> Source: Harvard University, Bureau of Business Research, Bulletin No. 52 (1925), p. 23.

per \$100 of sales should be added for these items. Thus, in the case of grocery stores as a group from 17 to 18 cents of each dollar taken in would be required to cover expense in the accounting sense. Specialty stores would require more.

The studies represented by Tables XX and XXI indicate that the net profits of the grocery trade as a whole are not high, less than 2 cents of each dollar being left after all deductions are made. A more accurate view of the situation is shown when the wide variations are noted. Of the 200 Nebraska stores studied, two-fifths showed a loss during the

## FOOD MARKETING COSTS

year of study, but the net profit in one case<sup>1</sup> reached 30 per cent of sales. If the whole group is arranged in order of their operating ratio from the lowest to the highest, the operating ratio of the 100 stores that constituted the middle half of the group is found to range from 14 to 21 per cent of sales.<sup>1</sup>

Analysis of the operating expenses of grocery stores shows that wages and salaries are the major item, in credit and delivery stores over 60 per cent of the total. Delivery takes from 2 to 3 cents of every dollar, and credit probably another cent.<sup>2</sup> Rent, heat, light, and similar "housing" expenses take about 2 cents.

Table XXII shows a comparison of the operating ratios of chain and other types of grocery stores based on census data for 1929. As was said earlier, the allowance made for the value of the proprietor's services in the small stores was probably too large, and if costs of delivery and credit were

TABLE XXII

COMPARISON OF GROCERY CHAIN-STORE OPERATING EXPENSES  
WITH EXPENSES FOR ALL OTHER GROCERY STORES, 1929<sup>a</sup>

Item	Chain stores Per cent	All other grocery stores Per cent
Net sales .....	100.0	100.0
Operating expenses: ...	14.2	19.3
Salaries .....	7.6	12.2
Rent .....	2.4	2.7
All other .....	4.3	4.4

<sup>a</sup> Source: N. H. Engle, "The Marketing Structure in the Grocery Industry," *Harvard Business Review*, 12 (1933-4), 336. Based on census data.

<sup>1</sup> *Op. cit.*, pp. 10-5.

<sup>2</sup> If the costs were calculated on the sales delivered or charged, these figures would be much larger.

## FOOD BUYING AND OUR MARKETS

added to the chain expenses the operating ratios of the two would not be far apart, although still probably somewhat in favor of the chains.

Table XXIII showing the operating expenses of food wholesalers as reported in the Census for 1929 indicates that retail selling is decidedly more expensive than wholesale selling. Only \$9.20 of each \$100 taken in by wholesalers handling a full line of groceries was required to cover operating expenses, as compared with a figure almost twice that high in retail groceries (Table XIX). These figures also show that if the retailer sells for \$120 the groceries bought from the wholesaler for \$100, the wholesaler's share in the consumer's dollar is under 8 cents.

TABLE XXIII

OPERATING EXPENSES OF FOOD WHOLESALERS, 1935<sup>a</sup>

Kind of business	Operating expenses per \$100 of sales
Dairy products .....	\$16.60
Poultry and poultry products .....	7.90
Dairy and poultry products .....	8.00
Fresh fruits and vegetables .....	10.50
Groceries (full line) .....	9.20
Specialty lines:	
Canned goods .....	12.70
Coffee, tea, and spices .....	22.70
Fish and sea foods .....	19.00
Flour .....	9.50
Meats and meat products .....	10.60
Sugar .....	5.30

<sup>a</sup> Source: U. S. Bureau of the Census, *Census of Business: 1935. Wholesale Distribution*, I, pp. 86-7.

### How can marketing costs be reduced?

Marketing costs would, of course, be reduced by a reversal of the process that has led to their increase—by an



## FOOD MARKETING COSTS

increase in home production, a narrowing of the time and space barrier between producer and consumer, decentralization of the population, a diminished demand for marketing services. But the practical question is, how, leaving all those things the same, can marketing costs be lessened? The problem is one of the efficiency of the marketing system as a whole and of each agency that is a part of the system.

As was pointed out earlier, the integration and combination movement in the form of co-operative marketing associations, the chain-store development, and the linking in other ways of the steps in the assembling of merchandise has its economies and efficiencies. In another direction forces have been in operation tending to reduce the cost of performing marketing operations. In the last ten or fifteen years improvements have been made in the performance of the transportation and storage functions. Not only has rail transportation especially of perishable food-stuffs been expedited and regularized, but the extended use of the motor truck not only for inter-city but intra-city movements has marked a gain in efficiency. With this has gone improvements in modes of preservation in transit and in storage. The innovation in this line, the possibilities of which are still being explored, is the quick-freezing of perishables at the point of production. It is argued that this holds great possibilities in the way of improvement of quality and decrease in waste. As the process has been most extensively worked out, it involves the packaging of the product at or near the place of production after all inedible portions have been removed.<sup>1</sup>

"Internal" economies, that is, improvements in efficiency within the marketing unit, have not kept pace with "external" economies, those in the system as a whole or in specialized agencies. It is true that there have been some improvements in methods of delivery, but it still involves high labor-costs. It is also true that there have been improvements in

<sup>1</sup> See E. D. Foster, "Quick Freezing and the Perishable Food Problem," *Harvard Business Review*, 12 (1933-34), 243-52.

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the storage facilities of retail food-establishments, thus tending to reduce the waste in perishables there, which has been estimated at a fifth of the annual two and a half billion dollars.<sup>1</sup> Facilities for the clerical and accounting side of the business have also improved. But retailing still remains essentially a kind of personal service and entails labor processes for which machinery cannot be substituted. Labor costs remain and will probably long remain a major cost of retailing. It follows, therefore, that anything that reduces the amount of labor required or increases the efficiency of labor reduces retailing costs.

The increase in weighing and packaging by manufacturers, packers, and processors, should reduce labor costs in the retail store, but bulk commodities still sell at a decidedly lower price than packaged and, when equally sanitary, are a means of reducing food expense. In studies at Teachers College, Columbia University, 200 comparisons of bulk and package purchases were made, with the bulk proving the cheaper in 85 per cent of the cases. In one day's shopping for Roquefort cheese, bacon, oatmeal, corn meal, dates, cocoa, and farina, it was possible to save \$1.07 on quantities for a family of four. The choice between bulk and packaged goods however is decreasingly offered whether due to decreased demand or to advantages offered the manufacturer if he sells in packaged form. The higher price of the packaged goods may in some cases be due to its higher quality and greater cleanliness. It is also due to the more expensive container and in many cases to the fact that it is a branded article for which a demand has been built up by advertising.

### Consumers' buying habits a factor in cost

Direct labor-costs are greatly affected by the consumers' buying habits. The time required to sell a given quantity of goods may be increased or reduced, as buyers purchase in large or small quantities, at rush hours, or at slack, and as

<sup>1</sup> Foster, *op. cit.*, p. 243.

## FOOD MARKETING COSTS

they come prepared or unprepared with market lists. A sales force sufficiently large to wait upon customers during rush hours without delay will be larger than would be needed if all the customers did not come at once; or, if the housekeeper ordered her staples on Wednesday or Thursday, when there is usually less business there would be less need for extra Saturday help. The buyer who comes without a list, forgets, hesitates, and makes the clerk retrace his steps, is an expensive customer to serve. Telephone buying saves both the buyer's and the seller's time. The amount purchased at one time obviously affects labor costs. It takes very little or no more time to sell 10 pounds than one or 10 items than one; the cost of delivery is clearly increased almost in direct proportion to the number of orders, total quantity purchased remaining the same.

### Managerial inefficiency as a factor in cost

One of the weakest points in current retail-store operation is the efficiency of the manager. The high "mortality" rate in the grocery business and the large percentage of stores operating at a loss suggest that many are entering the business not properly equipped to operate a store or who have misjudged the prospects in a particular location. Investigation of the previous experience of proprietors confirms this hypothesis. Nystrom found in a special study in Oshkosh that only about a third of the grocers had had previous experience in that line as clerk or proprietor before they opened their stores.<sup>1</sup> It takes only a small capital to start a business of this kind and it has been generally considered that anyone was competent to do so.

Some have proposed licensing as a remedy for this situation—that no one be permitted to open a store who could not pass a simple examination, as must doctors, lawyers, barbers, and plumbers. Others would try an improved and extended system of training both of those preparing for the job and those on the job.

<sup>1</sup> P. H. Nystrom, *Economics of Retailing* (New York, 1930), I, 406.

### Are there too many retailers?

Some allege that the ease of entering the business and the consequent large number of stores with a small volume of business, result in higher marketing costs. It should be remembered, however, that where price competition prevails the more efficiently operated store survives and its costs of operation set the price level. The other stores fail—with most unfortunate results for the proprietors and their families—because they cannot meet this competition. In so far as volume of sales reduces costs per “standard sale,” the merchant who gauges best how much trade he can draw to a particular location will win out. “Food marts” and “super-stores” are increasing and in so far as they can offer goods at lower prices and as the shopping habits of the community and transportation facilities promote their use, the effect will be to reduce the number of food retailers.

### Questions or exercises

1. May the cost of food go down but the share of the consumer's dollar going to marketing agencies increase? Explain.
2. May the cost of performing marketing services go down but the share of the consumer's dollar going to marketing agencies increase? Explain.
3. What forces have been at work in the last two or three decades tending to increase the share of the consumer's dollar going to marketing agencies?
4. In general, for what types of commodities are marketing costs high? Low?
5. Why is retailing the most expensive step in the marketing process?
6. What types of commodities does it cost the retailer the most to handle? How can the cost of handling any particular commodity or group of commodities be calculated?
7. Define and illustrate gross margin, profit margin, price spread, operating ratio, mark-up.

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8. What generalizations can be made about profits in the grocery business?
9. List the conditions that tend to reduce the cost of retailing without altering services rendered.
10. Assuming the same services rendered, which costs are most likely to be altered by the chain type of operation?  
By the co-operative form of organization?

### SUGGESTED READINGS

COLES, Jessie V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. IX.

ERDMAN, H. E., *American Produce Markets* (New York: D. C. Heath and Company, 1928), Ch. XIX.

HEDDEN, W. P., *How Great Cities Are Fed* (New York: D. C. Heath and Company, 1929), Ch. VIII-IX; XI.

REID, Margaret G., *Consumers and the Market* (New York: F. S. Crofts and Company, 1938), Ch. XV.

Twentieth Century Fund, *Does Distribution Cost Too Much?* (New York: Twentieth Century Fund, 1939), pp. 23-40; 116-159; 171-227; 292-330.

See also,

ALBRECHT, A. E., *About Foods and Markets* (New York: Bureau of Publications, Teachers College, Columbia University, 1932), pp. 23-33.

## CHAPTER VIII

### PRICES AND PRICE POLICIES

#### General principles

Criticisms of the price structure of the retail market are usually based upon one or the other of certain general principles which it is assumed, in the absence of evidence to the contrary, should govern price policies. Briefly, these rules may be formulated as follows:

1. Prices should be fair.
2. Prices should be non-discriminatory as between individuals.
3. Prices should be set in such a way as to enable the buyer to choose freely among retailing services.
4. Prices should not be deceptive.

If a code of fair competition should be drawn up for the retail trade as happened in 1933 under the National Recovery Administration, these are the general principles that presumably should govern the provisions which directly or indirectly affect price.

#### What is a fair price?

The basic question of economics is, what is a fair price? That is, by what process is that price arrived at which may reasonably be called "right" or "correct"? The gist of the conclusions ordinarily reached may be put in this way. The only defensible price is the one arrived at either by the free play of competitive forces in a competitive market or by the action of public authority proceeding on some theory of pub-

## PRICES AND PRICE POLICIES

lic welfare. For reasons that cannot here be elaborated, the second procedure is used in our society only in those cases where the pricing process under competitive conditions is non-existent or works very imperfectly. We rely, in other words, upon the free play of competitive forces in a competitive market to ensure fair prices. Anything, therefore, that restricts or hampers the operation of these forces threatens the fairness of the price structure and warrants examination to discover whether defensible upon some other ground. Adoption of this principle automatically puts the burden of proof for any price-fixing in a *private* interest upon those initiating or proposing it. It rules out all monopolistic features of a market situation and assumes the desirability from the price standpoint of removing as nearly as may be possible all obstacles to perfect competition.

### What is a competitive market?

The seller of any good has competition to face from all or one of the following sources: competition from the sellers of other goods, competition from sellers of other varieties of his good, and competition from sellers of goods identical to his own. The first kind of competition is certain; it always exists. Goods of the most diverse character compete for the consumer's dollar—clothing with food or house-room, gasoline with lamb chops. A dollar spent for one thing cannot be spent for another. An increased demand for and purchase of one thing leads to a decreased demand and expenditures for something else. Different kinds of food also compete for the consumer's food dollar. Increased demand and expenditure for one beverage tends to lead to a decrease in the demand for another, for one fruit or cereal to decrease in the expenditures for another. The purchases of some goods, of course, move together, bread and butter, for example, but many goods or groups of goods are unmistakably competing.

The seller is most aware of this form of competition when the competing good is what is called a "substitute," that is, it

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is clearly recognized that it meets the same purpose as his own or that it falls in the same general category. The competition of food with food, fruit with fruit, fresh produce with canned, butter with margarine, lard with Crisco, is clearly recognized.

The second kind of competition that a seller may encounter—that with the seller of another variety or brand of his product—is also clearly recognized, such competition as, for example, that of Spry with Crisco, of Calumet with Royal baking powder. This again is a case of substitutes. The competition is keener usually than that between different kinds of food, or fruit, or cereal, or fat, because these different varieties, or brands, or grades of the same product more nearly serve the same purpose. The “bundle of utilities” that they represent—their want-satisfying power—is more nearly the same.

The third kind of competition that a seller may meet is that of other sellers of a product identical and known to be identical with his own. In other words, it is a perfect substitute for his own. Note, therefore, what follows. If he wishes to attract more buyers, increase the purchases of his article, he must lower his price. Furthermore, if he wishes to sell at all he must meet the price of his competitors, that is, if the buyers know the prevailing prices and really wish to buy at the lowest price. The other forms of competition, that from competing varieties or from competing goods, he may deal with in another fashion, that is, by emphasizing the preferability of his product. He may, if circumstances permit, by advertising and salesmanship, increase the demand for his product and thereby the purchases at any given price. With a given demand or set of preferences, lowering the price sufficiently will draw purchasers to a less desired product; with a given price, increasing the demand for a product will increase the purchases.

From the situation thus briefly outlined, it comes about that there are, as is frequently said, two kinds of competition, price competition, the competition between sellers of



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identical goods, and a competition not primarily by means of price but by means of advertising and selling methods designed to increase the demand and create a preference for one's own product. This non-price competition and its consequences will be discussed later in connection with advertising and sales-promotion. The conditions making for price competition and for a competitive market from the standpoint of price will be reviewed here. They are in the main two: (1) competing buyers and competing sellers of identical goods, known by buyers to be identical in all significant characteristics; (2) willingness and ability on the part of buyers to seek and buy at the lowest price. Similar action on the part of sellers is, of course, necessary but it is less doubtful.<sup>1</sup>

### **Is the present retail market a competitive market?**

Scrutiny of the retail market and the typical buyers therein suggests that in many respects it departs from the conditions making for maximum price competition. In Chapter II the limitations that hedge about the buyers in the retail food-market and restrict the area within which they buy and the degree of their specialized skill and knowledge were outlined. In the chapter that follows the limitations upon their power to detect similarities and differences between goods will be noted in detail. Price comparisons are only possible when the qualities of the goods compared are accurately known. Price competition depends upon price comparisons of grade with grade, variety with variety.

Not only goods but services as well are sold in the retail market—those services outlined in Chapter III. If there is maximum price competition there will be two or more sellers offering an identical bundle of services along with identical goods. This situation is only approximated in the present market.

<sup>1</sup> See R. S. Vaile and P. L. Slagsvold, *Market Organization* (New York, 1930), p. 54, for four criteria of a perfect market from the standpoint of price.

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Chamberlin in his *Theory of Monopolistic Competition* argues that it is "monopolistic" rather than "pure" competition that characterizes the retail market. He says,

Control over price is completely eliminated only when all producers are producing the identical good and selling it in the identical market. Goods must be perfectly homogeneous or standardized for, if the product of any one seller is slightly different from those of others, he has a degree of control over the price of his own variety. . . . Not only goods, but sellers must be "standardized" under pure competition. Anything which makes buyers prefer one seller to another, be it personality, reputation, convenient location, or the tone of his shop, differentiates the thing purchased to that degree, for what is bought is a bundle of utilities, of which these things are a part. The utilities offered by all sellers to all buyers must be identical, otherwise individual sellers have a degree of control over their individual prices.<sup>1</sup>

One concludes, then, that there are both monopolistic and competitive elements in the present market. The monopolistic come not so much from combination and agreement among sellers as from buyers' inability to detect differences and similarities among goods and inability and unwillingness to shop about among dealers, make price comparisons and buy at the lowest price. Marked price variations on identical goods at the same time within a limited market area are inevitable.<sup>2</sup>

### Effect of advertising on price

The place that advertising must occupy in any market economy and that which it occupies in our economy will be discussed in the next chapter. Its relation to price must, however, be considered here. Advertisement of where goods are offered, what goods are offered, and the price at which they are offered is a part of and contributes to that price

<sup>1</sup> *Op. cit.*, (Cambridge, Mass., 1933), p. 7.

<sup>2</sup> See John H. Cover, *Retail Price Behavior*, School of Business, University of Chicago, Studies in Business Administration (1935).

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competition between sellers so essential to a fair price structure. The inability of consumers to go far afield and spend time in making price comparisons and finding out what goods are available makes advertisement *of the type indicated* extremely important in bringing about the conditions of a competitive market.

Advertising, however, may be and often is of another sort. It is designed not to facilitate price competition but rather to remove an article or a dealer from price competition. It is designed, in other words, to differentiate an article of one seller or the establishment of one dealer from that of another. The advertising effort if successful not only differentiates but builds up a preference and demand for the advertised article or establishment. Its seller competes, then, not with other sellers of identical goods but with sellers of other varieties or brands or those offering a different "bundle of utilities" from his own.

In discussing the effect of advertising on price the first question, therefore, is, does it promote, or remove the product from, direct price competition? As Chamberlin says, "With differentiation (of products) appears monopoly and as it proceeds further the element of monopoly becomes greater. . . . The fact that each producer . . . has a market at least partially distinct from those of the others introduces forces absent under pure competition, which materially alter the result. Prices throughout are adjusted in some measure according to the monopoly principle."<sup>1</sup> Retailers' advertising is likely to be of the first sort, especially that of food retailers. It is likely to emphasize what is available and its price. Some establishments attempt to build up a "reputation" and a preference for dealing with them based on this general repute, but in the main retailers, especially the smaller firms, let the reputation grow without extensive advertising "build-up." Manufacturers' advertising, on the other hand, is usually of the other sort, designed to differentiate a branded article from others, unbranded or carrying a

<sup>1</sup> *Op. cit.* pp. 9-10.

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different brand, and to build up a preference and demand for it. The great volume of advertising expenditures is that of manufacturers or others who furnish the retailer with his merchandise. Therefore, the conclusion of one author, "The market for any given group of consumable goods . . . is normally an assembly of monopolies of varying strength . . . built up by advertising."<sup>1</sup> The competition that exists is a competition in advertising tactics (involving large expenditures) and a competition between brands.

The consumer, of course, desires not only that identical goods be offered to him at the lowest possible price but also that better goods be offered to him at the same price or, if their superiority warrants, at a higher price. Competition is designed to improve goods as well as improve methods of production and thereby lower costs. But unless there is a secret or patented process no one seller can retain exclusive control over his superior method or superior goods. If others are able to duplicate his superior product price competition follows and the consumer has it at lowest possible cost. But no producer can sell under another's brand. So long as the preference is for the product bearing a particular brand the competition, as was said, is between brands, or, less likely, between the branded and the unbranded, that is, between more or less imperfect substitutes with prices adjusted to their varying rates of demand. If at any moment the consumer considers two or more brands as perfect substitutes, true price competition follows with possibly further advertising expenditures to differentiate them.

The monopolies based on brand or trade-mark preference sustained by successful advertising are obviously by no means absolute or complete. Rather they are weak and incomplete since many follow the same tactics and it may be difficult to maintain the preferability of any one brand. Their weakness does not mean, however, that the prices of the goods offered are as low as they would be in a truly competitive

<sup>1</sup> A. S. J. Baster, *Advertising Reconsidered* (London, 1935), p. 103.

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market. So long as there is control of output of a differentiated product this will not be the case.<sup>1</sup>

The assertion is frequently made that the buyer of an advertised product pays no more for it or even less than he would without the advertising expenditure because the advertising, if successful, so increases the demand that entirely new and lower cost conditions result, thus offsetting the advertising expenditures or lowering the price. Several points must be noted in connection with this argument. One is that the lower unit-costs of production must not only offset the advertising expenditure but also be sufficient to compensate for a possible holding of rates of production below the point at which cost per unit would be lowest, in case monopoly control eventuates. In the second place, the new cost conditions that follow an increase in demand do not always mean lower unit costs at the new rates of production; they may be higher. In the third place, diversion of demand to this product lowers demand for another with various possibilities with reference to its unit costs of production.

One unmistakable conclusion is that if a fair price is to obtain in the retail market, that is, if consumers are to have goods and services at the lowest possible price under given technological conditions, they must themselves be able to recognize similarities and compare differences in goods that serve the same purpose. Anything that tends to facilitate such comparisons makes the market to a greater degree a competitive market. Wide price-differences within the same shop on articles essentially the same could not persist.

"Spatial monopolies," that is, "the control over supply which is a seller's by virtue of his location,"<sup>2</sup> cannot easily be eliminated. The volume of business may be too small to maintain two shops side by side. But if consumers are willing to buy at a less easily accessible shop which may often be done by forethought without inconvenience, that is, if any substantial number are ready and willing to make

<sup>1</sup> See Baster, *op. cit.*, p. 113, and Chamberlin, *op. cit.*, Ch. VII.

<sup>2</sup> Chamberlin, *op. cit.*, p. 62.

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price comparisons between dealers and transfer custom to the one with the lowest prices, price variations disappear.

### **Price discriminations between individuals**

When the price situation in the present market is appraised with the second principle laid down at the beginning of the chapter in mind the results are most satisfactory. The one-price system is well established in the retail market of the Western World. More and more, prices are plainly and conspicuously marked. Higgling is almost unknown. Time is too precious to spend in this manner. The modern buyer expects a price quotation as low as is given to anyone else with freedom to take the commodity or leave it.

### **Price policies that enable buyers to go without undesired services**

One of the standards set up for a good market in Chapter II was that it provide as nearly as may be the exact bundle of utilities that consumers desire and are willing to pay for. A corollary is that so far as possible no one should be obliged to pay for a product, a container, a service that she does not desire or which, although desiring, she would rather provide for herself or go without and have the money. It is recognized that this is a counsel of perfection, since the market serves groups of individuals and cannot cater to unique individual desires. Minority groups must be large enough to make it profitable to serve them.

The primary method by which consumers are given a choice of retailers' services is through the specialization of types of establishments previously referred to. One avoids credit, delivery, and "service" charge by patronizing the cash-and-carry and the self-service store. Shops also specialize to some extent in grades and varieties of merchandise. Price policies within the same establishment may occasionally make possible something of the same choice. We are accustomed to variations in price from grade to grade and between bulk and packaged goods. A fee for delivery or

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for the credit privilege or for extensive credit beyond the standard period operates in the same fashion. We can take the service or leave it and if we leave it we are not obliged to pay for it. The cost of these services in this case is borne by those who desire and use them.

### Are prices deceptive?

A price policy of the retail food-market often alleged to be deceptive is the use of the so-called "loss leader." The loss leader it is alleged is not only deceptive but also violates another principle that many believe should be a part of the retail-market code—the principle that only under certain circumstances should prices be set below cost.

The exact definition of a "loss leader" has not been established. All would agree, however, that it is an article to whose price the attention of buyers is directed as being especially low—below the prevailing market price and below that usually charged in the establishment offering it. There is a difference of opinion as to how low the price must be to make the article a loss leader. Some say it is a price that does not cover operating costs, others that it is one that does not cover the cost of the merchandise.

There are many occasions when goods must be sold below cost. The merchant may have miscalculated demand. He may find that some lines are unprofitable and wish to clear his shelves or reduce his stock. He may have damaged merchandise to dispose of. It may be necessary to move perishables quickly to avoid spoilage. But no articles sold at a loss for any of these reasons are loss leaders, even if the low prices are featured and publicized. These price cuts were unavoidable or at least unforeseen. They are not a part of the price policy of the establishment, deliberately planned and expected to maximize profits in the long run. Loss leaders are expected to maximize profits by drawing trade to the store; they are attention-getting devices. They are a substitute for advertising; the decrease in revenue that they represent is analogous to advertising expenditure.

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In the "Code of Fair Competition for the Retail Trade" approved by President Roosevelt on October 21, 1933, use of loss leaders was forbidden as an unfair trade-practice. A "loss leader" was defined as an article "sold below cost to the merchant for the purpose of attracting trade." In figuring "cost" of articles of food neither profit nor labor cost needed to be allowed for, nor were sales below cost for other reasons than to attract trade forbidden.

One of the arguments given for prohibiting the loss leader is that it deceives the consumer in regard to the price level of the establishment using it. The buyer assumes, it is said, that all prices are marked as low as the leaders and is led to buy from the dealer in question without making price comparisons. Each person who has patronized stores featuring specially low prices on certain items can decide for herself whether she was deceived thereby. It seems rather improbable that many infer from announcements that certain prices are low that all are low. It is true that the household-buyer with a long list of items to be purchased will not usually go from store to store to buy them. Therefore, if she is drawn to a particular establishment by specially low prices on certain items on her list she is likely to buy others there. She is not likely to do so, however, if the prices on the unadvertised items are so high as to offset her savings. Visits to buy only the leaders are not uncommon.

### **Is sale below cost a legitimate advertising method?**

As advertising methods go, the loss leader is probably among the least deceptive. In fact, those that object to "loss leaders" have usually other considerations in mind. Objections from the trade are in part based on the dislike of any price cutting that is a part of the universal tendency of any group to remove itself from or restrict price competition. In so far as the use of loss leaders is identified with chain-store policy, objections to it are a part of the criticisms already outlined of chain-store methods. Chain systems are able to use loss leaders as a means of attracting trade while their



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small competitors can do so only to a limited degree, as they cannot use newspaper advertising and other selling methods that require large resources. Furthermore, the chains can use loss leaders as a part of a local price-war designed to clear the field of rivals.

The extent to which chains or other dealers actually use loss leaders, if that term is strictly defined, is unknown. It is doubtful whether price policies would have been greatly changed if the "Code of Fair Competition" had remained in effect. A merchant may believe his competitor is selling below cost when he may in fact have purchased at an unusually favorable price or may have very low operating costs. What has ordinarily been called a loss leader is probably an article sold at less than the usual mark-up.

### Special sales

The use of loss leaders or what is alleged to be such merges into and can scarcely be distinguished from special sales. The emphasis may be upon the articles specially priced, or the time during which prices will be especially low; or both may be emphasized—the articles and the time. The special sale at week ends or other times is coming to be a regular part of the price policy of many food stores. Many buyers watch them and stock up then at considerable saving. An average saving of 14 per cent was shown to be possible in a study made in New York State in 1931.<sup>1</sup> A third of the items advertised as "specials" had not been reduced in price, however. The buyer must be on her guard against this as against other forms of deception. If the women in New York had known the real bargains their savings would have been greater. In principle the special sale is sound. One of the problems of the retail store is how to smooth out the peak in its load, that is, make trade steady through the days of the week and the hours of the day. It is not always possible or desirable to supplement the force during the rush

<sup>1</sup> Day Monroe and Mary Henry, *It Pays to Buy Food Wisely*, Cornell Bulletin for Homemakers, Bulletin 237 (1932), p. 6.

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hours and rush days and to keep a full-time force adequate to meet the peak of the load would be costly. Adjustment of prices in such a way as to draw in trade during the slack periods is one of the methods of solving the problem.

### Re-sale price maintenance

In August, 1937, President Roosevelt signed a bill giving Federal authorization of a price policy that has been almost unanimously condemned by economists and disinterested students as against the interest of consumers. This price policy is usually called "re-sale price maintenance," a system by which the manufacturer of a trade-marked product sets the price at which the article can be sold by the retailer. Contracts of this sort, binding the retailer not to sell below a specified price, had been previously illegal if affecting interstate commerce. The courts had held that they violated the Sherman Anti-Trust Act passed in 1890. Only one "Code of Fair Competition" was permitted to include a provision for re-sale price maintenance—the Booksellers' Code—although these codes contained many other price-fixing and competition-restricting provisions.

The Federal law gave Federal approval to a practice which in the last two years the legislatures of 42 states have authorized in transactions coming within their jurisdictions. Under the name of "fair trade" laws, state after state not only legalized price-maintenance contracts between manufacturers and retailers, but also prohibited other retailers not parties to the contract from selling under the price prescribed. The Supreme Court has upheld the validity of these laws. The Federal law (the Miller-Tydings Act) validates the fixing of prices on goods moving in interstate commerce to the states having the so-called "fair trade" acts in effect.

The arguments advanced for these laws by their supporters, mainly manufacturers of trade-marked goods and small retailers through their trade associations, are in brief that they prevent the use of loss leaders and other predatory price tactics by large retailers and thereby tend to prevent

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monopoly and preserve the small business man. These laws approach the problem from the opposite angle to the Robinson-Patman Act. The latter is designed to make the cost of merchandise more nearly the same for all dealers; the fair-trade acts are designed to make the prices at which they sell the same.

Once it is realized that these laws provide a method by which sale at a fixed price is made mandatory for every retailer in a state, the objection to it from the consumer's standpoint should be clear. Price competition on these articles between retailers becomes non-existent. The consumer gets no benefit from economies and efficiencies of operation; there is no incentive so far as the protected articles are concerned for retailers to seek them. Furthermore, it has been argued that manufacturers seeking to enlist the interest of the retailer in pushing their products may be induced to make the margin between price to retailer and price to public larger, and in some cases this may result in an increase in the latter rather than decrease in the former.

The protection of the consumer against unfair prices if these fair-trade laws prevail can come from only two sources, one, competition between manufacturers, that is, between their rival brands, the other, competition between the manufacturers' brands and the so-called "private" brands, those goods put out by large distributors under their own labels. The former, no matter how keen it may be, still leaves the consumer without the benefit of competition among retailers. The latter does give him that benefit to a degree. The retailer may fix the price of his own brands as he pleases without the dictation of a prior seller. But only the large chains and other large retailers can market merchandise under their own brands. The small retailers will remain selling agents for manufacturers at prices set by them. Since the passage of the fair-trade laws many large distributors have seen the opportunity they afforded for pushing their own brands. They have widely publicized the difference between the prices of the nationally advertised trade-marked goods and those

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offered under their own labels. Some, in advertising or in their catalogues if a mail-order house, have designated the prices of the former, "Fixed under State Law," and their own as not so fixed.

The situation clearly shows the need for two things: (1) a clearer understanding by consumers of what their economic interest is and insistence that it be made paramount in determining public policy; (2) means by which consumers may appraise the merits of rival brands. If the buyer cannot recognize similarities and compare differences, price competition cannot exist.

### Questions or exercises

1. Discuss the following: Any price is unfair if it places a necessary article beyond the reach of the majority of consumers.
2. The price of eggs rises and housewives organize a boycott. What will then happen and how is the situation different from what it would have been without the boycott?
3. The potato crop of a particular year is a failure. Is a rise in price desirable?
4. List the conditions that make for price competition; hinder it.
5. Critically appraise the validity of the following statement: "The market for any given group of consumable goods is normally an assembly of monopolies of varying strength."
6. Is the use of the loss leader a deceptive trade practice? Base your answer on your own experience and that of your friends.
7. Should loss leaders be prohibited in a code of fair competition? If so, define loss leader.
8. Precisely why may the authorization of "re-sale price maintenance" promote the sales of "private" brands? What will be the decisive factor?
9. Outline the changes necessary in law, in business practice, and in buying methods if the price structure of the retail market is to be fair.

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### SUGGESTED READINGS

- BASTER, A. S. J., *Advertising Reconsidered* (London, P. S. King and Son, 1935), Ch. III.
- COLES, Jessie V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. XX-XXII.
- GORDON, Leland, *Economics for Consumers* (New York: American Book Company, 1939), Ch. XIII.
- HOYT, E. E., *Consumption in Our Society* (New York: McGraw-Hill Book Company, 1938), pp. 76-9; 81-2; Ch. VIII; XII-XIII.
- REID, Margaret G., *Consumers and the Market* (New York: F. S. Crofts and Co., 1938), Ch. XXVI-XXIX.

## CHAPTER IX

### BRANDS, LABELS AND ADVERTISEMENTS

#### Conditions necessary for efficiency in buying

Efficiency in buying may be described as the selection of the best article available for a given purpose at a given price, or as securing an article of given kind at the lowest price at which it is available. In other words, the efficient buyer gets the best article available for her purpose with a minimum expenditure of money, and, if time and energy are of value, with a minimum expenditure of those as well. The buyer's attainment of this goal is dependent upon three conditions: (1) her own knowledge of what to look for, that is, what specifications an article must meet in order to be suitable for a given purpose or purposes; (2) her willingness to make price comparisons and seek to maximize the results of her expenditure; and (3) her ability to discover the qualities that matter in the articles offered and to compare differences when differences exist.

The first condition comes through information about what is available in the market, its uses, and what to seek and to avoid in the selection for each use. Every food-buyer in time picks up more or less of this information, some from other buyers and some from her own observations and experience. Increasingly it is being realized that this casual, informal education is insufficient and systematic efforts are being made to provide the facts which the buyer should know before she makes her market list.<sup>1</sup>

Attainment of the next condition is largely a question of

<sup>1</sup> Part II of this book is designed to meet this need.

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motivation—the desire of the household-buyer to effect economies in either sense indicated. In estimating the zeal of this group of buyers in seeking “low” prices and the “best” goods, one must remember who they are and for whom they are buying.<sup>1</sup> They do not have the same incentives to efficiency as do buyers for a business concern; they are not penalized in the same way for inefficiency or rewarded for efficiency. There is no measure of efficiency through a competitive process or profit and loss statement.<sup>2</sup> Furthermore, the relatively small scale of their purchases, the variety of things bought, the pressure of other tasks, operate against maximum zeal for economy in purchase. The attitude of husband, family, and friends may even be that it is a waste of time to do more than place an order for “the best” and “bad form” or “penny-pinching” to be interested in prices. Women may even be proud of patronizing a high-price establishment and ashamed of patronizing a low-price. While recognizing the existence of all these variables, it may still be argued that there is a steady pressure in the great majority of families for economy in buying—the pressure of their own common sense and of the limitations of their incomes. The more limited the income as measured by the relation between desires and resources, the greater the pressure to maximize the results of expenditure.<sup>3</sup>

### The buyer's need for market aids

The attainment of the third requisite for efficient buying—means of identification and comparison of the qualities of goods—is, however, the problem here. Given all the requisite information as to what to seek for and what to avoid, given maximum incentive, unless the buyer can detect simi-

<sup>1</sup> See Chapter II.

<sup>2</sup> See Hazel Kyrk, *Economic Problems of the Family* (New York, 1933), pp. 57-8, for differences between running a house and running a business.

<sup>3</sup> R. F. Harrod in his book *The Trade Cycle* (London, 1936), argues that markets become more imperfect as income increases because it becomes less worth while for consumers to search for bargains.

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larities and know the exact differences between the kinds, varieties, and grades of food-stuffs offered, she cannot make price comparisons or select those that best serve her purposes. Her need for market aids in the way of informative labeling, grade-marking, and advertising comes from her inability unaided to make satisfactory comparisons of the quality of many products.

Without market aids of any kind the buyer is dependent upon what she can learn by inspection and experience. The quality and the condition of fresh fruits and vegetables can be discovered fairly well by inspection if one knows what to look for; but once the buyer leaves this department the situation is far different. Most cans and packages conceal the contents from view and even if they could be seen many important facts would not be disclosed. Ingredients would remain unknown and a glance will not show grade. The buyer cannot tell the freshness of eggs, the quality of a cut of meat, the butter-fat content or bacterial count of milk, by inspection.

Purchase and trial will show her what is inside a package and will disclose flavor. But no one buyer's experience plus that of her family and friends can give her adequate assurance that among those available she has selected the best for her purpose or that an article offered at a lower price was not just as good as the one purchased. All that she knows from experience is that the article used is satisfactory according to her usually rather vaguely formulated standard of satisfactoriness. How satisfactory others might be under the same conditions of use remains an open question. It is true that one may try several brands or varieties; usually trial extends over a period of time; only rarely are all opened and sampled simultaneously. But at best the number sampled is small compared with possibilities and the conditions of trial are far from those of a controlled experiment. All sorts of variables may affect the result and the result itself is usually but an unrecorded rough judgment of quality. The household-buyer has not the equipment or specialized



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skill for making chemical analyses or microscopic examinations. She remains in ignorance of any qualities not discoverable by use.

The limited value of the testimonial, that is, the public announcement of some consumer's approval, is obvious. Even when the endorser of the product is in truth a habitual user, the testimonial has only the value that has any user's experience. There has been no comparison under controlled conditions, no scientific tests, no investigation of methods of production. As an "aid" to selection it is practically worthless—of the same genus as the "patent medicine" testimonial, whatever the social prestige of the giver. Of course, if one's jam tastes better because it is eaten also by the household of a celebrity, whatever that means at the moment, the information *per se* may be of value, but no evidence of quality.

The household-buyer, then, must have sources of information about the foods offered on the market other than her unaided sense of sight, taste, touch, or smell, and what she can find out in her own kitchen. She cannot buy by sample or specification as can the large-scale buyer. She cannot pay for analyses and reports.<sup>1</sup> Manufacturer, processor and distributor would seem to be the appropriate sources to which to look for the information needed. Judging from inspection and experience would still go on but these judgments would be checked and supplemented by specific data of other character.

### The brand or trade-mark as an aid to selection

Almost every article of food that it is possible to pack, wrap, stamp, or tag bears today a brand or trade-mark. Some are placed there by grower or growers' association, some by manufacturer or processor, some by the wholesale distributor and others by the retailer, especially when the latter is a chain or co-operative system. Some of these

<sup>1</sup> She cannot pay for analyses and reports made especially for her. She can pay a fee for membership in such testing bureaus as Consumers' Research and Consumers' Union. See Hazel Kyrk, *op. cit.*, pp. 489-91.

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brands are nationally advertised, others are not. From the economic standpoint there is no distinction between the brand and trade-mark. Both are differentiating devices—marks, signs or symbols in the form of words or otherwise that identify the goods of a particular seller. No seller by ancient rule of common law may pass off his goods as those of another. Such simulation would be an unfair method of competition and just cause for suit. No seller, therefore, may use the brand or identifying mark of another. A trade-mark is a brand registered with a designated public agency. In case of suit the plaintiff's case is strengthened by this registration. At the time of registration he proved once and for all that it was his distinctive mark and not a common name or descriptive term that others also might rightfully use.

The brand or trade-mark, therefore, is an identifying device, not a source of information. It cannot, as was said, tell anything about the product since no seller can monopolize a description or item of information. Its value to the buyer lies in the fact that through it she can identify the article whose purchase she wishes to avoid or to repeat. By such means of identification she can utilize the results of past experience or the recommendations of friends. Without them the value of experience would be limited. With them purchase by telephone or mail or by agent is possible. The brand enables one to identify an advertised article. The brand then, to repeat, in itself adds nothing to one's information; it adds nothing to the results of one's experience, nothing to the advertisement, but without the brand—the means of identification—neither experience nor advertisement could be utilized in purchase.

If the brand is to fulfill its special purpose most satisfactorily, two conditions are necessary. The first will be accepted without demur—that goods bearing the same brand should be of the same grade or quality. The buyer who uses the brand as a basis for repeating a purchase expects the second article to be identical to the first. If the price is the

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same, she will not object if it is better in respects important to her; but if the price is higher she will still have to ascertain whether the improvement is worth the difference in price. There are admitted practical difficulties in the maintenance of complete uniformity of products put out under the same brand, but the fact remains that the greater the variations the less useful the brand. A "blanket" brand applied to all grades and varieties of products put out by a concern is of no assistance in selecting among them.

The second condition necessary if the brand is to be of maximum usefulness is that products that are identical in all characteristics that make for quality should bear the same brand. Identical products, identical brands; different products, different brands. The market situation would be greatly changed if this rule went into effect. Not all products bearing the same brand are identical; still less is it true that all the products under different brands are different except usually in this one respect—they are packed or sold by different concerns. Even this is not always true. The same firm may put different brands on identical products. The result is that there are far more brands of goods on the market than there are grades and varieties. In 1928 the Chief of the National Bureau of Standards estimated that there were on the market 4,500 brands of canned corn, 1,000 of canned peaches, 1,000 of salmon, 1,000 of tea, 300 of pineapple, and 500 of mustard. Many of these are only locally distributed and are not nationally advertised. A survey in Milwaukee in 1930 showed a large number of brands in use by families in that one city—87 brands of breakfast food, 46 of flour, 37 of baking powder, 60 of macaroni, 38 of mayonnaise, and 101 of coffee. Obviously, difference in brand did not always connote difference in quality.

It follows also that any generalization to the effect that a brand is a guarantee of quality is completely vague and meaningless. Practically all consumable food-stuffs except fresh fruits and vegetables have some sort of identifying device. The quality of all is not the same nor do all branded

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goods necessarily meet some minimum standards of quality. The presence of the brand tells neither similarities nor degree of difference. If the label carries nothing but the brand the buyer is still without essential information unless it has been furnished by advertising and can be associated with the brand.

### The sales-person as an aid in selection

The sales-person in a retail food-store may be the proprietor, the manager, or the clerk. On three counts any one of them in varying degrees may be in a better position than the consumer to know the quality of the goods handled. The proprietor may buy by grade in the wholesale market, or grade may be marked on the container in which the product is received. In the second place, if the sales-person has been long in the business, he should have a specialized fund of information that the average household-buyer cannot have, and, in the third place, he should be a better judge of quality by inspection.

But even the most experienced dealer or clerk is not in a position to give the consumer any great part of the information that she should have. For many items in his stock he knows only what the packer tells him on the label or in other ways as accessible to the buyer as himself. He cannot unaided see through a tin can, make a chemical analysis of baking powder, detect the presence of preservatives or artificial coloring, determine the ingredients of mayonnaise. He cannot tell, even if he desired to do so, the differences, if any, between the several brands of cocoa, gelatin, pancake flour, and canned soup that he carries.

The retailer, unfortunately, sometimes makes an assumption of knowledge that he does not possess. He may think that he knows when he does not, or, having selected his stock, he may come to regard a question concerning it as an invidious reflection upon it. There is a tendency to answer all questions with vague statements to the general effect that everything carried is "guaranteed to be satisfactory," "good,"

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or even "the best." The higher-priced is always "the better." The retailer, furthermore, seems not to be quite sure which aspect of his dual role to emphasize—that of manufacturer's or processor's agent or buyer's agent. The chain systems and other large-scale retailers with their own brands are likely to emphasize the latter role and their common interest with consumers. They are unwillingly other manufacturers' agents. The co-operative retail society is clear in regard to its role by virtue of its organization.

Deception of the buyer by the retailer, witting or unwitting, is not unknown. Many buyers have been assured that a dealer carried officially graded meat and have been shown the United States Inspection stamp as the certificate of grade, which, of course, it is not.<sup>1</sup> One method of checking the retailer's knowledge is to ask him to place the specifications claimed in the bill rendered along with quantity and price. If he does so, the buyer has his express warranty that the goods are as claimed.<sup>2</sup>

### Labels and advertisements

The obvious source of information about a food product found in the retail market is the producer responsible for its existence in a particular form. He is or should be in a position to know what anyone could know about it that is significant. The media through which he can reveal his knowledge are the label and the advertisement. It would be a wasteful and ineffective procedure to inform the retailer and expect him to pass it on to buyers by word of mouth. Rather, the retailer should be the interpreter of the label and advertisement, adding supplementary information on his own account if he has it.

The label and the advertisement fall into the same general category as potential aids to selection. communication between a seller and a be used to inform and to assist in purchase.

<sup>1</sup> See pp. 297-8.

<sup>2</sup> See pp. 156-7 for discussion of warranty.

least to induce to purchase. The label, however, is attached to the product or its package. The information that can be given thereby is limited. Goods not wrapped or packaged can only be stamped or tagged. In some cases there is no practical means of doing even that. In any event information given on the label is available only at the place of sale; it goes with the article into the home of the actual purchaser. The advertisement, on the other hand, is a means of communicating with potential purchasers wherever they can be made to "stop, look, or listen." They do not need to visit the retail establishment to get their information. It can come to them in a great variety of forms—over the radio, through the mail, in newspapers and magazines. There is no space limitation upon the amount of information that can be given.

### **The food-buyer's need for informative labeling and advertising**

It should not be necessary to labor the point that the food buyer needs informative labeling and advertising. Without information she cannot make price comparisons between brands and varieties; she cannot be assured that she has the best for her purpose. Neither inspection, test, trial, nor dealer can tell her what she needs to know. Furthermore, these are not only ineffective but time-consuming methods of securing information. Given a literate population and the art of printing in its present state, the economical and effective way of getting information to consumers is by advertising and labeling. At their leisure in their own homes buyers then could tentatively make their choices and their market lists, checking and revising as inspection, experience, and discussion with dealer warranted. Ordering by mail and telephone could be safely practiced. With an adequate advertising service the label would need to carry little besides the brand, the size, weight, or measure, and those warnings and directions that should go with the article.

**The problem of deceptive labeling and advertising**

Even greater than the need for information is the necessity that there be no misinformation on label or in advertisement. It is better to say nothing than to lie or mislead. If all the possibilities in the way of statements or devices on label or in advertisement were arrayed in order of merit or demerit, from the buyer's standpoint they would possibly run something like this from most undesirable to most desirable: fraudulent, false, deceptive or misleading, ambiguous, irrelevant or not very significant, significant but only part of the truth, significant and the whole truth, and, finally, significant, wholly true and not open to misinterpretation.

The distinction between the false and fraudulent statement is a moral and legal one; from the economic standpoint their results are the same. For a statement to be fraudulent it must not only be false but known by the maker to be false. The distinction between the false and the deceptive raises another question, that is, deceptive to whom? A similar question arises in connection with the categories, "ambiguous," "significant," and "not open to misinterpretation." One could scarcely make a statement that might not be misinterpreted by someone. To decide, we must invoke the "reasonable man" so often called to the aid of the courts in deciding what is "due care" as opposed to negligence. The rule of reason must necessarily be used in interpreting these phrases. In any case the standard set is clear. No "reasonable man" could but conclude that many statements especially in advertisements were intended to deceive. No one could deny that the more nearly "mistake-proof" or even "fool-proof" labels and advertisements are, the better. Consumers pay for them; they should not pay for their own undoing. Rather, they should pay whatever it costs to be protected against their own carelessness and proneness to error.

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### Obstacles in the way of informative labeling and advertising

It is a matter of common knowledge that helpful information is at a minimum on food labels and in food advertisement. For over thirty years mislabeling of foods has been fairly well prevented by Federal and State law, but misleading statements and half-truths abound in advertising. As a result, we have persistent price differences between brands and grades not warranted by differences in quality. Not only may goods of the same grade sell at different prices but goods of superior quality may sell at a lower price than the inferior because the buyer has no test of quality except price, or has been so repeatedly told to buy a particular brand and accept no substitutes that she does it without knowing why.

The obstacles to informative advertising are the same conditions as those that give rise to misinformative. Primary among them is the fact that advertising and labeling are a form of sales talk. They are paid for and designed by those who have the articles concerned for sale; they are judged successful if they sell the goods. The one touchstone of every statement and every detail is, will it help or hinder sales? Not only are informative statements censored with this query in mind, but if an irrelevant statement, a generality, a superlative, even a false implication, will help the sale it is likely to go in. Demand creation, in other words, is the purpose of advertising, and information is given only if it is believed that it will operate to that end. Making the consumer buy is the aim, not helping her buy.

There is nothing strange about this situation once the essential fact is seen: everyone who has something to sell and makes his living by selling it tends to puff his wares. It is true that the code of ethics of some professions forbid "solicitation," "self-laudation," "boasting" of one's proficiency, "exhibition of certificates of skill" and attempts "to gain the attention of the public."<sup>1</sup> Sellers of goods, on

<sup>1</sup> See American Medical Association, *Principles of Medical Ethics.*



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the other hand, have made an art of all these practices, assisted and counselled by experts, and they are admired and rewarded for their success in them.

It will be remembered also that competition between sellers of consumers' goods largely takes the form of advertising. The purpose of this advertising is differentiation of one product from that of another and to build up a demand for a particular brand. Vaile of the University of Minnesota analyzed 140 separate advertisements in issues of the *Saturday Evening Post* and found that 96 per cent of the space was devoted to attempts to take the market from one producer and give it to another.<sup>1</sup> Advertising to build up a brand preference is likely to stress or imply difference and superiority whether or not they exist.

The "profit motive" is not alone responsible for misleading advertising. As one writer points out and every writer and reader knows, "to tell the truth interestingly is a hard job." Some of the errors in advertising come from the same causes as those in journalism and literature: carelessness, the attempt to be "clever," limitations of space and time, and lack of mastery of the technique of writing.<sup>2</sup>

### Who should guide the demand for food?

No one knows how much is spent annually in advertising food. The amount that some of the leading advertisers spend is very large. In 1936, 58 firms spent 38 million dollars on newspaper, magazine, and radio advertising. The biggest advertiser in the group spent nearly 6 millions. One breakfast food company spent more than 2 millions on newspaper advertising; a soup company spent more than 1½ millions in magazines."<sup>3</sup>

It would be difficult to estimate how much this advertis-

<sup>1</sup> *Economics of Advertising* (New York, 1927), pp. 44-5.

<sup>2</sup> G. B. Hotchkiss, "On Telling the Truth," *Printers' Ink*, 178 (1937), 6-8: 96-101.

<sup>3</sup> From an address on food advertising by Frank George, Bureau of Agricultural Economics, before the National Association of Marketing Officials, Nashville, October 22, 1936.

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ing changed food-consumption habits and how much it merely altered brand preference or had no effect whatever. To the extent that it had the first effect, does it represent an educational service of value?

There is no doubt that food-consumption habits could be improved both from the nutritive and other standpoints. Increasingly, through the schools and other agencies, there is an attempt to guide demand along the lines suggested by current scientific knowledge. But the manufacturers and distributors of foods also attempt to guide demand. Are the programs of the two sorts of agencies in harmony or may they at times be in conflict? Either, of course, may be the case, since the sellers' "educational" efforts are based upon other considerations than the desirability of increased consumption of a particular product. Certain conditions are necessary before any product is extensively advertised. In the first place, the product must be one that is likely to appeal to and fit in with prevailing tastes and is low enough in price to be purchased by many. The second condition is that its producers must be in a position to undertake an extensive advertising campaign. This condition exists when the scale of production is relatively large rather than when the producers are small and scattered. It follows that manufactured or processed foods are more likely to be extensively advertised than fresh produce for which the unit of production is typically small. Only when growers or other small producers are organized in a marketing association does extensive advertising of their products become possible. The advertising of the citrus-fruit growers is an example.

The third condition that leads to extensive advertising is lack of standardization of the product, that is, the ease with which it can be differentiated from the product of others and a preference for it established. No producer will spend money to increase demand for a product which other concerns are offering in the same market since they would profit thereby as much as he. In other words, attempts at demand creation through advertising is a product of mo-

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nopolistic not of perfect competition. It arises, other conditions being favorable, either when all sellers are acting together or when one seller sees a way to successfully differentiate his product from that of others.

No one of these conditions which bring about attempts at demand creation by sellers are those upon which a campaign to alter food-consumption habits should be based. If from the public treasury or other similar source 50, 100, or 300 millions were made available to be expended during a given year for the improvement of food-consumption habits, how would this attempt at demand creation be organized and planned, if carried on in the best tradition of public education? In the first place, those who were to direct and plan it would be selected on the basis of their knowledge of nutritive needs and of effective educational methods. Clearly, they should have no financial interest in the sale of any one food. But those who plan and direct advertising campaigns are financially interested in the promotion of a particular article; they are not selected on the basis of their knowledge of nutritive needs; they are experts in only one line—publicity and promotion.

The second question is, how would the campaign be planned? The logical steps would seem to be: first, study and appraise existing food habits in order to discover in what respects they are unsatisfactory; and second, plan the methods of the campaign. Appraisal of food habits would probably show excessive consumption of certain foods, adequate consumption of some and inadequate of others. Emphasis would then be placed on attempts to increase the demand for the third group. But under the conditions that today govern our most extensive and expensive efforts to guide food-consumption habits the emphasis may fall upon those adequately or even more than adequately consumed. It is a fortunate chance if it falls upon those that are inadequately consumed and the efforts of the advertisers do not tend to nullify those of the schools and other agencies that are attempting to improve consumption habits.

## The problem re-stated

The primary problem is not then whether the amount expended for advertising is excessive or whether the effect of advertising is to raise price. Rather, it is whether consumers get the services they need from the expenditure. Information about goods is necessary; demand guidance is desirable. Both if properly given are well worth paying for. In order of difficulty the three problems are: (1) how prevent misinformation; (2) how maximize information; (3) how place demand guidance in the hands of financially disinterested agencies, qualified to appraise consumption habits and attempt to modify them.

## Some suggested standards for labeling and advertising

The American Medical Association considered much of the food advertising so serious a menace to the public health that in 1930 they organized a Committee, later a Council, on Foods, to attempt to improve it. A similar body to deal with proprietary medicines had been in existence since 1905. Their method was to offer concerns whose labels and advertising matter met their standards the use of a seal bearing the legend, "Accepted by the Council on Foods, American Medical Association." A list of the accepted foods as well as those not accepted is given with reasons in the publications of the Association.<sup>1</sup>

In addition to its rulings on specific foods and specific questions such as vitamin fortification, the Council has formulated certain general rules that in their opinion should govern food labeling and advertising—they must govern if the products bear their Acceptance Seal. In regard to the label they say, "The container label of foods should conspicuously present such information as will properly inform

<sup>1</sup> See Raymond Hertwig, "The American Medical Association's Work for Consumer Protection—the Work of the Committee on Foods," *Law and Contemporary Problems*, I (1933), 55-60. About 3,000 different types of food products now are qualified to carry the Acceptance Seal.

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the public of the true nature and quality of the food within the package. . . . There are no sound arguments justifying secrecy on the composition of foods."<sup>1</sup> Their ideal label provides for a statement of the common name of the food or if it is a "made" food the fanciful trade name followed in the former case by the minor ingredients added, if any, and, in the latter, with a "descriptive statement identifying the ingredients" in order of decreasing proportions. Net contents and name of manufacturer, packer, or distributor should also be given.

Proper food-advertising, they say, should give the same information. "Any statement of the physical, chemical, nutritional, or physiologic properties of the food should be truthful and expressed in simple common terms. Proper advertising is free from false implications. It does not create incorrect or improper inferences or comparisons between foods. It attempts to promote sales solely on the merits of the food article itself. Good advertising harmonizes with established authoritative knowledge popularly expressed." They warn against "trick claims" in advertising, as when the food merits of milk are claimed for an article mixed with milk, against testimonials of a health, medicinal, or therapeutic character, or with such implication, by persons unqualified to express an authoritative opinion, against sleep-inducing and blood-building claims, vague mineral claims, and vague uses of the words "tonic," "healthful," "adequate," and "balanced."

It would not seem that these standards were unreasonable, but how many nation-wide food advertisers are willing to be guided by them? And in addition be guided by another rule: in the advertisements discuss the food, not a completely irrelevant topic?

### Questions or exercises

1. One author says that the wastes in retail buying are due to the fact that it is mainly done by women and women

<sup>2</sup> *General Decisions*, June, 1935.

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- are economic imbeciles. Are there wastes? Are they due to the cause given? Would they be as great if men were the buyers?
2. What qualities of what food-stuffs can be adequately determined by inspection before buying? By use afterward? Which can be only inadequately determined thereby?
  3. Appraise the statement: The trade-mark is the buyer's guarantee of quality.
  4. Is the trade-mark or brand useful to the buyer? If so, in what way and under what conditions?
  5. To what extent should we rely on education for salesmanship as the means of providing adequate market information for consumers?
  6. To what extent should we rely on education of buyers as the means of decreasing wastes in buying?
  7. What would be the proper content of an educational program for consumer-buyers?
  8. Are any food products being widely advertised today of which the per capita consumption is already too high from the nutritive standpoint? Are any being widely advertised for which it is desirable from the nutritive standpoint to increase the demand? What was the motive for the advertising in each case?
  9. Which foods are not extensively advertised? Why are they not?
  10. Appraise the labels of 10 foods and the advertisements of 10 according to the standards set up by the Council on Foods of the American Medical Association. Would you suggest any changes in those standards?

### SUGGESTED READINGS

- AMERICAN MEDICAL ASSOCIATION, Committee on Foods, *General Decisions on Foods and Food Advertising* (535 No. Dearborn Street, Chicago, June, 1935).
- BASTER, A. S. J., *Advertising Reconsidered* (London: P. S. King and Son, 1935), Ch. I, II, IV.
- COLES, Jessie V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. XXIII-XXVI.

## BRANDS, LABELS AND ADVERTISEMENTS

- GORDON, Leland, *Economics for Consumers* (New York: American Book Company, 1939), Ch. X-XI.
- KYRK, Hazel, *Economic Problems of the Family* (New York: Harper and Brothers, 1933), pp. 440-58.
- , "Who Shall Educate the Consumer," *Annals of the American Academy of Political and Social Science*, 182 (1935), 41-9.
- REID, Margaret G., *Consumers and the Market* (New York: F. S. Crofts and Co., 1938), Ch. XIX; XXII.

## CHAPTER X

### STANDARDS AND GRADES

#### **Relation of standards and grades to labeling and advertising**

If informative labeling and advertising are to be a reality, uniform terminology for describing the character and relative quality of goods must be adopted and used. This will not come about through wishful thinking or resolving that it shall be so. Even if all those responsible for labeling and advertising were financially disinterested and eager to promote the consumer's interests, the practical problems of terminology and methods of rating would still remain. Standards of identity or quality for each article must be worked out and a satisfactory method devised for ascertaining when those coming on the market meet the standard set up. There must be a standard for determining when an article is correctly labeled "vanilla," or "strawberry jam," or "maple syrup," and when a food may be advertised as "body-building." There must be a method for rating the "quality" of canned peas, or eggs, or beef.

#### **Steps in standardization and grading**

There are three steps in the establishment of standards of identity and ratings of quality (grades) in a form effective for use in market selection, the difficulties of each step varying with the article concerned. The first step is setting up the specifications that the article must meet in order to bear a certain name or be given a certain score or grade. The second step is working out or deciding upon the "method of



test" by which the conformity of an article to the specifications set shall be determined. The third is the use of the terminology or the grade-mark on the label and in the advertisement of the food.

Technical and practical difficulties may be encountered in taking each of these steps. In the case of some food-stuffs that are removed from the container by the retailer, or do not come in a container, it may be difficult to devise an effective method of labeling or grade-marking. Use of a purple ink stamp directly applied has been found feasible in the case of meat, citrus fruits, and some kinds of nuts. The major problems arise, however, in connection with grading. The specifications for standard or grade must be properly related, on the one hand, to the characteristics of the article as it comes on the market under existing conditions of production, and, on the other, to consumers' expectations and preferences. The "method of test" must be accurate and inexpensive.

The guiding principle in the establishment of standards and grades for consumers' goods is set by the purpose—to inform buyers in regard to the articles offered for purchase and prevent misunderstanding. If this purpose is to be attained, the terminology used must be as easily understood and mistake-proof as possible. If a common name can be used on a label instead of a technical one, this should be done. If the significance of a number of characteristics can be expressed as a quality rating, this should be done. Quality or size ratings should be expressed in the simplest form. "Colossal," "giant," and "mammoth" are examples of terms to avoid in designating size differences. "A," "B," and "C" and other letters, or No. 1, No. 2, No. 3, are preferable as quality ratings to "Fancy," "Choice," "Special," "Standard," "Extra-Standard," or similar designations. The desirability of uniformity in terminology is equally obvious. When the meaning of "Grade A," or "No. 1," or "Special" varies from state to state or from producer to producer, the consumers' troubles are not effectually dealt with.

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### Standards of identity

Most articles of food have common names and consumers expect articles bearing those names to have certain characteristics. The problem, therefore, is one of deciding definitely upon those characteristics, publicizing the resulting standard of identity usually in the form of a definition and ensuring its uniform use. Thus "butter" may be defined as the food product made exclusively from milk or cream with or without salt or coloring matter and containing not less than 80 per cent of milk fat. "Strawberry jam" may be defined as the product made by cooking strawberries and sugar with or without water in the proportion of not less than 45 pounds of fruit to 55 pounds of sugar. "Vanilla" may be defined as a flavoring extract prepared from the vanilla bean in which the soluble matter from the bean constitutes at least 10 grains per 100 cubic centimeters.

The problem here is two-fold: one, of discovering what the product as it comes on the market usually is, the other, what the consumer expects it to be. If the two are in harmony, the standard-setting is relatively simple. Thus "milk" in this country may be defined as cows' milk, "meat" as the flesh of cattle, swine and sheep. But when the standard of identity involves necessarily a standard of quality, the problem is more difficult. Thus the definition of "cream" must prescribe a minimum percentage of fat content, of maple syrup a minimum weight per gallon and water content; a minimum standard of quality is a part of the standard of identity. In drawing the line between what may and what may not be marketed under a particular name, consideration must be given to the effect, on the one hand, upon supply and therefore upon price, and, on the other, what the consumer expects and wants in a product bearing that name.

There is most likely to be a discrepancy between the food as it comes on the market and what the consumer expects when new products appear under an old name. In most cases

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these products are compounds, mixtures, blends; they may be "imitations," that is, direct substitutes for the old product; they are likely to be processed or "prepared" foods. The use of the name of the old product on the new one is questionable policy. There may be excellent reasons for the coming of the new product, technological changes, changes in source of supply, changes in cost. Demand might well shift to the new commodity. It may be just as good or better. But the name or description should identify it correctly. Strawberry jam made with pectin may be preferable to that without pectin, but in order that consumers may know the kind of jam they are getting and that in one case they are paying for fruit and in the other for sugar, the facts should be known. The name "strawberry jam" will be misleading so long as this is the common name for another sort of mixture.

Many compounds and mixtures on the market have no common name. In these cases their descriptive labeling can only be in terms of their ingredients. Their method of preparation may need defining also. For example, what are "baked beans"—oven-baked, or prepared by any process that makes them taste as if they were oven-baked?

### Grading

Grading and grade-marking are desirable under three conditions: (1) when, as in the case of many agricultural products, the supply varies in quality through conditions over which we have no control; (2) when, although the quality could be controlled, there is a demand because of differences in desires or in incomes for variations in quality; and (3) when the simplest and most easily comprehensible way of describing the product in terms of what the consumer wants to know is by means of a quality-rating or score.

In working out a system of grading, three decisions must be made that require careful thought and investigation. One, of course, is determining what characteristics of the

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article are important, taking into consideration the conditions of use. For example, the quality specifications set up for canned corn might be absence of defects, character of the cut and degree of maturity. Should flavor be added or is it a function of the other characteristics? Is color a characteristic important to consumers? The next even more difficult problem is deciding upon the relative importance of each. On a scale of 100 shall flavor, if included, count 50 or 30 or 25? Shall color count 10 and absence of defects 20, or vice versa? As nearly as can be, these decisions must reflect the tastes of consumers, recognizing that it is not the taste of individuals but that of the majority that must be discovered and followed. If evenness of cut or perfection of color should cease to matter to the majority of consumers, their relative weight in the total score should be decreased or they should be dropped from the quality specifications.

The third problem is, how many quality grades to set up and the range of each grade. Should most of the product fall in Grade A or in Grade C? The character of the supply should probably be the determinant here. If the range is made too wide the purpose of grading is defeated. Some range is usually inevitable; for choice within the grade buyers must rely on their own powers of discrimination. If the range is too narrow, the grade designations cease to mark pronounced differences in quality. The naïve statement sometimes heard that the grading system and grading terminology must be so devised that there is no reflection on the quality of any grade misses the whole point of grading. No grade designation should suggest a quality—good or bad—that is non-existent. If there are differences in quality, that is, characteristics that matter to consumers, they should be reflected in the grading. Price differences, of course, will adjust demand to supply just as they do in the case of different cuts of meat and other goods of differing desirability.

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### Methods of test

Before the actual goods on the market can be labeled in the appropriate descriptive terms or marked with their proper grade, a practicable "method of test" must be devised. It must be possible to test each article or an adequate sample to discover conformity to the specifications set. For articles made according to specifications or formulae this is no problem. Chemical analysis and microscopic examination give information about the composition of others. The fundamental system of weights and measures is a supplementary method of test and a variety of measuring instruments for special purposes have been devised, as the Babcock test for measuring butter-fat content, and the polariscope for determining sugar content.

Inspection by an experienced person is the method mainly used to determine grade. Objective tests or measures of a few grade specifications for a few goods exist. A mechanical means of measuring the tenderness of peas has been devised and of syrup density. But in the main grading is a matter of judging by appearance, taste, and similar methods. The grading of meat must be entirely by appearance. The adequacy of this method of test depends entirely upon the skill of the persons using it. If they can become so adept that they unvaryingly give products the same score or grade and the results of one check with those of another, it is a feasible method. Years of experience, it has been found, develop this degree of skill; canned goods, fresh produce, eggs, poultry, dairy products, meat and other goods can be satisfactorily graded by experienced persons.

### Agencies promoting standardization and grading

As was said at the beginning of the chapter, the essence of informative labeling and grade-marking is uniformity of the terms used to identify and rate commodities. Standards of identity and quality must be unanimously agreed upon and universally used to be of a maximum usefulness. The alter-

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to voluntary agreement and use is mandatory requirement only possible to the state. In this country there are very few governmental requirements concerning labeling and advertising. Those that exist will be discussed in the next chapter. In the main progress toward informative labeling and grade-marking has come through the voluntary action of the industries concerned. The state, especially the Federal Government, has attempted to promote and encourage this in a number of ways, but so far has abstained from mandatory requirement.

The Department of Agriculture has been the major agency promoting the development and use of grades in wholesale transactions involving food products. This work is one of the major responsibilities of the Agricultural Marketing Service. It falls into two parts, one, the development of permissive grades for those farm products for which it seems desirable and technically feasible and, second, the provision at suitable points of an inspection and grading service on a fee basis for those desiring it. The development of a grading system may involve rather an extensive study of the product, its conditions of production and sale, trade practices and consumer preferences. Before the grades are made "official," interested parties are heard and the grading system is tried out. The institution of an inspection service for "certification of grade" requires the selection of qualified inspectors and their supervision.

The first steps in this work were taken in 1915 by the United States Department of Agriculture as an essential part of its telegraphic market-news service for wholesale buyers and sellers of fresh fruits and vegetables. Reported variations in different markets have little significance and the quality of the products is unknown. The passage of the United States Warehouse Act in 1916 and the first Federal Products Inspection Act in 1917 was largely responsible for further developments. The former Act provides for the licensing of public warehouses storing certain agricultural products. The receipts issued by these warehouses

must use official grades if any grade is designated and an official grade exists. Grade must be stated on all products stored on a fungible basis and on all other products except when the depositor requests its omission. The Farm Products Inspection Act is the provision, in the annual appropriation act for the Department of Agriculture, authorizing a grading and certification service.

The development of grades for an increasing number of farm products and the grading and certification service have been, it is generally agreed, of great value to farmers, transportation, storage and financing agencies, and all buyers and sellers in the central market. The statement of official grade in an order or sales contract reduces disputes in connection with the quality of deliveries, and assures the buyer of the uniformity of goods received. The farmer is assured that the quality of his products has been fairly appraised and by examining market quotations he can assure himself that he has received a fair price. Loans supported by warehouse receipts stating grade and accompanied by official certificate of quality can be safely made, and notes so secured are prime commercial paper. Certificates of grade afford a basis for equitable settlement of claims against railway companies for damages in transit. These benefits to producers, packers, wholesale and institutional buyers are rehearsed in order to emphasize once more the value of official standards and grades.

### Limited use of standards and grades in retail selling

Official grades and a grading service are now available for the following important articles of food: butter, cheese, eggs, a wide variety of fresh and canned fruits and vegetables, meat and poultry, dried beans, rice, and honey.<sup>1</sup> Yet relatively few food products offered for sale in retail stores are labeled or advertised using either a grade designation conforming to the official standard or a generally accepted com-

<sup>1</sup> The official grades and grade specifications are given in succeeding chapters dealing with specific food commodities.

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mercial standard. Even fewer carry an official "certificate of quality" giving grade or rating by an official grader. In the case of certain food products, notably fresh fruits and vegetables, this failure may be explained by the character of the products and the usual circumstances of sale. The grade indicates quality at the time of grading, not "condition" at time of sale, which, in the case of perishables, may have altered considerably. The article may not be sold in the container on which grade was marked. But there are no obstacles of this sort in the way of grade-marking many articles for which there are appropriate grading systems.

Food processors, packers, growers, and distributors, have done little on their own initiative toward standardizing nomenclature and working out standards of quality as a basis for sale in retail lots to the household-buyer. There are various possible reasons for this failure. One is the absence of strong trade associations to secure agreement to and general use of the standards. But even where strong organizations exist, as in the case of the canning industry, where grades have been developed for transactions in wholesale lots, the industry has been disinclined to use standards of quality in labeling and advertising to the consumer-buyer.

The difficulties in the way of the voluntary adoption of standards of identity and quality for the description of goods in the retail market were rather effectively demonstrated during the brief life of the National Recovery Administration, responsible for the enforcement of the National Industrial Recovery Act. Under the terms of that Act, representatives of all types of businesses were, in effect, compelled to meet and draw up so-called "Codes of Fair Competition" for their industries, binding upon the members. Here was an unparalleled opportunity for agreement upon nomenclature and designation of quality, or for steps toward such agreement. In many consumer-goods industries few provisions would have been more conducive to fair competition



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than making the use of agreed upon standards of identity and quality, compulsory trade practice. Yet in spite of protest from the Consumers' Advisory Board, many codes were approved without such provisions. The board consistently recommended that codes for the consumer-goods industries either provide machinery for developing standards whenever standards were feasible, or in case official or non-official grades or standards of satisfactory character were already available, that provision be made for their use.<sup>1</sup> But the attitude of the industries was by no means consistently favorable to such action and there was little public support of the position of the Board. In June, 1934, the Board reported that of 9 food codes approved where standards were applicable, 4 had good, and 2, fair provisions for standards; in 21 not approved up to that time, 6 had good provisions.<sup>2</sup>

The final draft of the Canning Code contained no provision for grade-marking in spite of recommendation to that effect from the Consumers' Advisory Board, and, in this case, protests from many consumers' organizations. The fact that canned goods had by law been sold grade-marked in Canada for 16 years without litigation or other difficulty made the canners' opposition seem particularly unreasonable. President Roosevelt approved the Code subject to the condition that the industry appoint a committee to work out standards of quality and report in 90 days. At the end of that time an extension of 30 days was given. In the report finally rendered by the Canners' Labeling Committee the use of so-called "collective quality grades" such as A, B, and C, or "Fancy," "Choice," and "Standard" was rejected and a method of "descriptive labeling" recommended. An example of the proposed "descriptive labeling" for sweet corn, cream style, was given.

<sup>1</sup> See D. M. Keezer, "The Consumer under the National Recovery Administration," *Annals of the American Academy of Political and Social Science*, 171 (March, 1934), 88-97.

<sup>2</sup> Consumers' Division, National Emergency Council, Bulletin No. 3 (June, 1934), *Standards of Quality*. (Mimeographed).

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The label would require "not tender," "firm, not tough," "medium," "tender," or "very tender," and a statement of the degree of freedom from dark kernels, cob, husk, or silk, as "to a high degree free from dark kernels, cob, husk, or silk," or "practically free from dark kernels, cob, husk, or silk," or "reasonably free from dark kernels, cob, husk, or silk."<sup>1</sup>

The Government representatives criticized this proposal as failing to meet the needs of the consumers, and the Consumers' Advisory Board made a forceful plea for grade-marking as in Canada. According to A. W. Riley, Division Administrator, the use of descriptive labeling would make possible 288 grades of canned corn alone. The termination of the National Recovery Administration found the issue still unresolved.

As was said, experience with code-making under the National Industrial Recovery Act indicated that the prospects were not bright for the development and use of standards and grades by the voluntary action of the industries concerned. The decision of the Great Atlantic and Pacific Tea Company when the controversy with the canning industry was at its height to grade-mark canned goods put out under its own label in conformity with official standards suggested that competition between distributors' and manufacturers' brands might force a movement in this direction. Experience with code-making also indicated that there must be a recognition by consumers of their need for informative labeling and advertising and the relation of standards and grades thereto before effort will be made in this direction. A clear market preference for brands adequately labeled and for dealers, whether independents, chains, or co-operatives, who attempt to inform should be extremely effective. Public policies adverse to consumers' interests must also be recog-

<sup>1</sup> See suggested readings following chapter for further discussion of canners' proposal.

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nized as such and their promoters forced to show just cause for them.

### Questions or exercises

1. What is a standard?
2. What are examples of a "standard of identity"? Of a "standard of quality"?
3. What changes, if any, might be expected in the retail price structure if informative labeling and grade-marking became wide-spread?
4. If canned goods were grade-marked and consumers looked for and knew the significance of the grade-marks, would all buyers insist upon having Grade A? Do all buyers insist upon having the best cuts of beef? Why not?
5. Is it possible that grading systems would need revision from time to time? Why?
6. What is the difference between "Grade A" as a quality designation and "U. S. Grade A"?
7. What are examples of "certification" of quality? What are different types of certifying agencies? What requirements should the agency certifying to quality meet? What should the buyer know if the certificate or seal is to be useful?
8. Does grade-marking tend to prevent improvement of the product or lower the quality of that coming on the market? Why or why not?
9. When an article is said to conform to a Federal Specification, what does this mean?
10. Why is a practicable "method of test" an indispensable part of a labeling or grade-marking system?

### SUGGESTED READINGS

- COLES, Jessie V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. XXVII.
- GORDON, Leland, *Economics for Consumers* (New York: American Book Company, 1939), Ch. XXV.

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BRIEN, Ruth, *Present Guides for Household Buying*, U. S. Dept. of Agriculture, Misc. Pub. No. 193 (Washington, 1936), pp. 1-18.

S. Bureau of Agricultural Economics, *National Standards for Farm Products*, Circular No. 8 (Washington, 1935).

see also,

ALBRECHT, A. E., *About Foods and Markets* (New York: Bureau of Publications, Teachers College, Columbia University, 1932), pp. 95-101.

## CHAPTER XI

### LEGAL PROTECTION OF THE FOOD BUYER

Action by the state to prohibit or to require is called for when large numbers are threatened by dangers that the law can meet. This situation clearly exists in the retail food-market. Buyers and those for whom they buy are practically identical with the entire population. The dangers that threaten them are two: the danger that through misinformation or lack of information they will secure other than the product sought or fail to secure it at the lowest possible price; and the danger that through these same causes they will consume unwholesome or injurious foods. The two dangers, in other words, are to purse and to health.

It has already been shown that the buyer unaided cannot adequately protect herself, that the retail dealer cannot even if he would, that the manufacturer's or distributor's label and advertising do not adequately meet the need, in fact, may be of a nature against which protection is needed. Organized action by consumers, and by other private organizations, is also insufficient. The Council on Foods of the American Medical Association has limited funds and no power to enforce its standards. If its standards are considered too high, producers will not seek the use of its seal and its influence is not felt on their labeling and advertising. No producer is required to use it, or use it longer than desired. Low-cost testing bureaus like the Consumers' Union and Consumers' Research<sup>1</sup> have the initial difficulty of

<sup>1</sup> The former is located at 17 Union Square West, New York, N. Y., the latter at Washington, New Jersey.

limited funds and therefore limited coverage of products, which in turn reduces use of the service offered and revenues therefrom. Self-regulation of trade practices even when stimulated and assisted by the state is inadequate. Some industries cannot or will not attempt it; in others the standards proposed are not accepted by an appreciable group and at best the standards set are low and the whole system of regulation may be discarded at any moment. The censorship of advertising by periodicals and broadcasting companies is obviously inadequate even when attempted.

### **Protection of food-buyer under common law**

In the absence of express statutory regulation the principles of the common law govern the relations between the buyer and seller as they do those of husband and wife, employers and employees. Under the common law the food-buyer's protection was remedial, that is, if injured in purse or health under certain circumstances he had a remedy. He could bring suit as an injured person against the person legally responsible. There are three possible bases for action by the food buyer: (1) that a warranty of the fitness of the article or its possession of a specific characteristic was a part of the contract; (2) that an injury from the use of "unfit" food was due to negligence; (3) that the buyer was injured by the "deceit" of the seller. Since in an action based on injury due to "deceit," the buyer must prove that the seller knew of the defect, this remedy has little or no value.

The value of warranty as a remedy is also limited. In the first place, since the contract of sale is usually between the retailer and the consumer-buyer, nothing that the manufacturer or earlier seller says on label or in advertisement can be construed as a warranty. In the second place, the courts have held that only statements of fact, not opinion, are part of an express warranty. An express warranty is a statement made by the seller concerning the goods as an inducement to purchase, either oral, written, or printed. But,

as was said, statements "of opinion" are disregarded by the courts, and under that heading they place all "trade puffing" or "seller's talk"—all superlatives and generalizations about the quality of the goods.

A warranty may be implied even when the dealer says nothing. The general rule is that there is an implied warranty of the fitness of foods sold for human consumption. There is another rule, however, that when the purchaser picks out the goods herself there is no implied warranty; she is buying "as is." When the buyer orders "by description," those delivered must conform to the description. If she orders by brand, that, of course, is the description. Some courts also have held that the dealer selling canned or packaged goods cannot be held for implied warranty of their fitness, since it is obvious he has no knowledge of the quality. With this further qualification the limited value of warranty as a protection to the buyer is clear.

Whether or not there is a warranty, if negligence can be proven there can be recovery of compensation and, in this case, action may be against the manufacturer or packer. The difficulty arises in proving negligence. The manufacturer must be protected against hold-up suits as well as be held responsible for lack of due care in safeguarding his product.

The major weakness of the protection of the food consumer under the common law is, however, that it is remedial—after injury the injured party must bring suit. The amount of the transaction, the average consumer's ignorance of law, the confusion of the law itself, the expense of the suit make this a remedy that will be rarely invoked by the consumer-buyer, however effective it may be for other buyers. The legal protection desired from law, moreover, may be quite different—not a remedy, however effective, which an injured person may invoke after an injury occurs, but something more clearly preventive or regulatory. When the law prohibits, the occurrence of the prohibited act, not injury therefrom, is the violation, a violation, moreover,

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that the state itself moves against and punishes. The individual need not engage in litigation on his own behalf. Failure also to meet a requirement, if set by law, constitutes a violation against which the public agency charged with enforcement must take action.

Express statutory regulation of food production and sale must then be substituted for common law principles on four grounds: (1) the need for clear-cut uniform rules; (2) the need for new principles adapted to present-day conditions; (3) the need for prevention of the dangers feared; and (4) the necessity of transferring responsibility for invoking the penalties of the law from the injured individual to a public agency equipped for that purpose.

### Regulation of weights and measures

The need for standard units of weights and measures, uniform and universally used in market transactions, has long been apparent. The necessity that buyer and seller speak the same language when specifying quantity led to early assumption of the regulation of weights and measures by the state. Among the limited powers given to Congress by the Constitution is the power to fix a system of weights and measures, but the Federal government has exercised this mandatory power only in the regulation of the sizes of fruit and vegetable containers. It has left the establishment of a system of fundamental weights and measures to the several states in order that the states and their political sub-divisions might bear the responsibility of enforcement of their use. To ensure the use of the weights and measures fixed by law, the measuring instruments in use in every store and by every seller wherever located must be periodically checked. Such a task is appropriately that of local governmental units.

The Federal government has, however, been active in promoting uniformity in the systems adopted by the several states and in stimulating and assisting in the difficult task of adequate enforcement. The first step was taken when it ordered a complete system of standard weights and meas-



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ures worked out for use in the customs service. In 1836, by Congressional resolution, a complete set of these weights and measures was delivered to the governor of each state "to the end that a uniform system of weights and measures may be established in the United States."<sup>1</sup> As these were adopted state by state, for all practical purposes a uniform system for the United States came into being. At that time also the Office of Weights and Measures was created to serve as custodian for the fundamental units. In 1901, this office was superseded by the National Bureau of Standards, which carries on extensive research in the technical aspects of the problem. In 1909, the Bureau investigated the measuring instruments in use in the retail markets in the country. It found an enormous number of defective instruments and short-weighting, largely due to an inefficient and corrupt inspection service. They estimated that the loss to consumers would amount to millions of dollars on many staple foods. The Bureau then drafted a model law that has been adopted by most states and worked out a standard manual for use by the inspection officials. It also provides a free testing service for the states.

### Regulation of weight or measure of packaged foods

With the decrease in the relative proportion of food-stuffs sold in bulk, the danger of short-weighting decreased. New dangers of deception or of difficulty in discovering quantity arose in connection with canned, bottled, and packaged goods and those articles like fresh fruits and vegetables often sold in their original containers. These latter dangers were three: (1) lack of information or misinformation in regard to quantity; (2) deceptive shapes, sizes and modes of packing; (3) a multiplicity of sizes increasing the difficulty of discovering quantity and making price comparisons.

To meet the first problem Congress in 1913 passed the

<sup>1</sup> See Louis A. Fischer, *History of the Standard Weights and Measures of the United States*, U. S. Bureau of Standards, Misc. Pub. No. 64 (1925).

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so-called "net weight" amendments to the Food and Drugs Act, providing that the net contents by weight, count or measure of packaged foods should be plainly and conspicuously marked on the label. Not until 1938 was action taken on a second problem arising in connection with packaged goods—slack-filling and deceptive shapes or construction. The new Food, Drug, and Cosmetic Act passed in that year provided that a food was deemed to be misbranded and therefore could not enter interstate commerce if its container was so made, formed, or filled as to mislead the purchaser or if its contents fell below the standard of fill prescribed by the Secretary of Agriculture.

The third problem in connection with quantity, the multiplicity of odd-sized and odd-shaped containers in which goods are packed, has as yet not been effectively met by governmental action except in the case of fresh fruits and vegetables. The sizes of the cans, bottles, or cartons to be found on the retailer's shelves are left in the main to the discretion of the manufacturers and packers. The sizes of glass milk-bottles are generally prescribed and confined to the half-pint, pint, quart and multiples thereof.

The diversity of sizes and shapes in which packaged foods are found has been increasing until an intolerable market situation has been reached. In 1930 the United States Department of Agriculture reported that honey had been found on sale in New York City in 36 different sizes and styles of containers.<sup>1</sup> Fourteen, 15, 15½, and 16-ounce jars were found, likewise 6, 6½, 7, and 8-ounce. Two-ounce and 5-ounce jars usually sold at the same price although the former would cost \$1.20 per pound and the latter 48 cents. Recent market surveys by various groups give further illustration of the miscellany of sizes. Coffee is found in 7, 8, 13, 14, and 15 as well as 16-ounce cans. Beans in 14 and 14½-ounce packages. Tomato juice may be found in cans of 15 different sizes ranging between 7 ounces and 1 pound,

<sup>1</sup> U. S. Department of Agriculture, *Yearbook*, pp. 327-28.

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15 ounces; tomato soup in 14 sizes, between  $7\frac{3}{4}$  ounces and 2 pounds, 2 ounces. Bacon may come in 7, 14, and 15-ounce packages as well as the 8 and 16-ounce.

There are several objections to this market situation. (1) One is the danger of a deception equivalent to short-weighting arising when the buyer asks for a pound or half-pound and is handed a package containing less than this amount. Another is the danger that the buyer will assume from shape and appearance that a package contains more than it does or as much as another when in fact it does not. Allied to this is the danger that a price change may be concealed, the weight of the package changing although the price does not. Mistake or deception as to quantity is not however the only objection. Another is the difficulty that the most careful buyer has in making price comparisons. The small size of one brand of a commodity may be 5 ounces, the medium size, 9, and the large, 14; of another brand they may run  $5\frac{1}{2}$ , 10, and 16. Still another brand may have another combination. The buyer has the dual problem, comparison of prices between brands and between large and small containers.

In 1937, 1939, and 1940 bills were introduced in Congress limiting and prescribing the sizes of containers in which canned fruits and vegetables might be sold. The 1940 bill provided for 9 sizes of cylindrical and 2 of rectilinear cans for fruits and vegetables, and 3 cylindrical for canned milk. Behind these bills is the recognition that requirements other than "plain and conspicuous marking" of the weight, count, or measure of the contents of the container will reduce deception and mistake as well as the time-cost of buying. Neither the varying needs of consumers nor the nature of the products necessitate the multiplicity of sizes and the odd amounts in the packages found on the market at the present time. If the regulation of containers of fruits, vegetables, and milk proposed in 1940 should be enacted, the number of cans of different sizes and shapes found on the

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market would be greatly reduced, from considerably over 50 to 14, and the sizes and shapes could not as now vary from time to time. The dimensions proposed for the standard cans do not however have any relation to standard units of liquid measure. The capacity of none of the cans proposed is exactly a quart, pint, or half-pint. It has been suggested that this is a mistake. The weight of the contents would vary of course with the commodity and in some cases with the grade.

### Regulation of fruit and vegetable containers

Congress has recognized the danger of deception and the resulting losses to purchasers through a lack of standardization and multiplicity of sizes of the containers in which fresh fruits and vegetables are sold. The best method of sale is by weight, rather than by either count or dry measure, but custom, convenience, and the fact that some of the perishable fruits will not stand handling lead to the sale in boxes, baskets, hampers, etc.

Three acts of Congress regulate the sizes and in some cases the shapes of these containers.<sup>1</sup> In 1915, the Standard Barrel Act was passed, standardizing the size of the barrel and its sub-divisions. In 1916, an Act standardizing Climax grape baskets, berry boxes and till baskets was passed, and in 1928, one applying to hampers, round stave and splint baskets. The Acts of 1915 and 1928 were passed under the power of the Federal government to fix a system of weights and measures. Their provisions are, therefore, mandatory for all transactions within as well as between the states. The Act of 1916 applies only to interstate shipments but since it prohibits the manufacture and sale for use in interstate commerce of containers which do not conform to the provisions of the Act, it has the same practical effect as the other two Acts. The Act of 1928 requires that manufacturers submit specifications for their containers to

<sup>1</sup> See p. 229 for standard sizes fixed by law.

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the Secretary of Agriculture for approval, thus guarding against deceptive appearance.

Before the passage of these Acts fruits and vegetables had been sold in a multiplicity of sizes, many of which were clearly intended to be deceptive. Forty different sizes of small fruit baskets were in common use, representing all sorts of odd sizes and fractional parts of the pint and quart; 31 different sizes of grape baskets were in common use. Peach hampers and round stave-baskets were so shaped as to be very deceptive as to their capacity.

### Types of regulatory legislation

Knowledge of quality is at least as desirable as knowledge of quantity and deception regarding it as undesirable. When a quart of milk changes hands it is as important that "milk" have the same meaning to buyer and seller as that "quart" mean the same. Legislation to protect the consumer from the standpoint of quality may have two purposes—safeguarding health and safeguarding money, and may proceed by two methods. It may prohibit the sale or offering for sale of certain kinds of food or those produced under certain conditions, or it may permit the sale but prohibit mislabeling, or require a certain kind of labeling. Illustrations of all types of regulation can be found in the legislation touching the production and sale of food. In this country, however, at the present time the major form is that which prohibits mislabeling. Only rarely and under specified conditions is a food or drink forbidden the market. Labeling requirements also are few. In the main our food legislation is designed to prevent and punish untruth and deception—on the label.

### Regulation of production and sale of meat and milk

Meat and milk are two articles of food that experience has shown may come on the market in a condition that makes them dangerous to health and in other respects unfit for hu-

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man consumption. The Federal government has since 1906 through the Meat Inspection Act kept from the channels of interstate commerce meat and meat products found "unsound, unhealthful, unwholesome, or otherwise unfit for human consumption." Many states also prohibit the sale of such meat as food within their borders. The Federal government has no control over the quality of the milk supply except that given over all foods entering interstate commerce through the Food and Drugs Act passed in 1906, to be discussed later. States and municipalities, however, very commonly regulate the quality of that offered for sale, and keep from the market that falling below a certain standard.

The present situation in regard to the control of the milk supply is discussed in Chapter XXI on Milk and Cream and the nature of the Federal control exercised over meat and meat products in Chapter XVII dealing with these commodities. Here it is desired primarily to emphasize that this type of legislative control is a health measure and that the method of enforcement is in the main inspection of the place and processes of production. To enforce the Meat Inspection Act, veterinarians inspect the animals before and after killing at the place of slaughter. The materials and processes used and the condition of production in meat-packing establishments are also subject to Federal inspection. No carcass, cured or canned meat or meat product in any form can be sold as food in interstate transactions that does not bear the U. S. Inspection stamp. Although the mandatory inspection powers of the Federal government at present extend only to meats, by amendment to the Food and Drugs Act in 1934 a similar inspection and certification service may be extended to packers of sea-food if they desire it. All costs of meat inspection are borne by the Federal government, but sea-food canners have Federal inspection only on a fee basis.<sup>1</sup>

<sup>1</sup> See p. 219 for method by which packers of poultry and poultry products secure Federal inspection and certification.

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Inspection of dairies and milk plants is one of the major methods by which the milk supply is safeguarded. To this is added laboratory analysis of samples to determine primarily the bacterial count. Pasteurization is commonly required, at least for all milk with bacterial count above a specified minimum.

### Prevention of adulteration

Under the provisions of the Federal Food, Drug and Cosmetic Act of 1938 adulterated foods may not be "introduced or delivered for introduction into interstate commerce." According to the definition of "adulteration" given, these products fall into six classes: (1) those foods bearing or containing by addition or otherwise a poisonous or deleterious substance which may render them injurious to health; (2) foods in containers which in whole or in part are composed of such poisonous or deleterious substances; (3) foods unfit for human consumption because they contain filthy, decomposed or similar substances or have been prepared or packed under insanitary conditions; (4) those foods from which a valuable constituent has been abstracted, in which any substance has been substituted, or which have been treated to conceal damage or inferiority, increase bulk or weight, reduce quality or strength, or make them appear better or of greater value than they are; (5) those foods which contain uncertified coal-tar colors; and, (6) confectionery which contains alcohol or non-nutritive substances other than harmless coloring or flavoring. These forbidden adulterations, it will be noted, are of two general types: (1) those which would be dangerous to health or offensive on aesthetic grounds, and (2) those which are not harmful in and of themselves but which represent "economic cheats" and thus would affect the consumer's pocketbook.

The law expressly forbids the channels of interstate commerce to any food bearing or containing a poisonous or deleterious substance which renders it dangerous to health. The use of containers as those made of lead that might make the

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contents injurious to health is also forbidden. Poisons in food are of two sorts: those which occur naturally in the food and those which are added by man at some stage of the production process. The question in regard to added poisons arises mainly in connection with sprays, bleaches, preservatives other than condiments, and coloring matter. If the quantities added are within certain limits the addition does not make the food unsafe to use. The Secretary of Agriculture is authorized by the Act to set legal maxima or tolerances for each poison on the basis of scientific investigation of their toxicity. Any food bearing or containing the prescribed substance in excess of this legal maximum is adulterated within the meaning of the Act. One unresolved question in regard to certain poisonous residues is the effect of cumulative ingestion, that is, the amount of a particular spray on one apple might not be dangerous but if a person's apple consumption were large the amount of poison taken might be toxic.

Colors and preservatives may not be used in food in such a way as to conceal damage or inferiority and only harmless colors and preservatives may be used. The Secretary of Agriculture is authorized to certify harmless coal-tar colors and only those so certified which come from tested batches of dye may be used.

The presence of poisonous or deleterious substances in or on a food or its container can be detected by chemical analysis but filthy or unwholesome conditions of production are not always detectable by chemical or bacteriological test. The power to inspect places of production, as granted in the law, is, therefore, indispensable to enforcing the sanitary provisions of the Act. In cases where the Secretary as a result of this inspection or otherwise has reason to believe that a food product is being contaminated with microorganisms dangerous to health in the process of manufacture or packing and that the injurious nature of the product could not be determined by analysis after it was ready for or on the market, he may exercise control by an emergency permit



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system. The products of such establishments may enter interstate commerce only after a permit is obtained and permits will not be given until the conditions of manufacturing or processing meet prescribed sanitary standards. This power to maintain emergency control is, however, only temporary, though the law sets no time limit on the period during which the Secretary may deem it advisable to maintain such control.

The second group of "adulterated" foods contains the "economic cheats," i.e., those representing attempts to deceive. Foods in this category include: (1) foods from which a valuable constituent has been omitted; (2) foods in which a substance has been substituted; (3) foods in which damage or inferiority has been concealed; (4) foods to which a substance has been added to increase bulk or weight, reduce quality or strength or make them appear of greater value than they are. These foods are undesirable only as the consumer buys them unwittingly and without having made, or been able to make, genuine price comparisons. Most of these "adulterations," therefore, quite properly may under the law be corrected by proper labeling, and may under these circumstances be freely offered for sale.

### Prevention of mislabeling

The Food and Drug Administration may censor the labels found on foods coming under its jurisdiction and charge violation of the law if analysis of a sample shows a discrepancy between the character of the foodstuff and what is indicated on the label, for interstate commerce is closed not only to "adulterated" but also to "misbranded" foods. What precisely is forbidden must be sought in the definition of "misbranding" given in the law. An article of food is "misbranded": (1) if its labeling is false or misleading in any particular; (2) if it is offered for sale under the name of another food; (3) if its container is so made, formed, or filled as to be deceptive; (4) if any information required by the Act is not placed prominently on the label in such

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terms that it can be readily understood by an ordinary person under the customary conditions of purchase.

The Food, Drug and Cosmetic Act passed in 1938 for the first time authorized the establishment of legal standards of identity and minimum quality of all food products.<sup>1</sup> The McNary-Mapes amendment to the Food and Drugs Act passed in 1930 gave the Secretary of Agriculture power to establish a minimum standard of quality for each kind of canned food except milk and meat. The 1938 Act extended this power to all foods with a few exceptions. For packaged foods a minimum standard of fill of the container may also be established. No prohibition of mislabeling could be enforced without a standard of identity or quality, that is a statement of what a food bearing a particular name is supposed to be. The definitions and standards set up by the Food and Drug Administration under the 1906 Act were purely administrative or advisory standards. In case of suit the standards set were presented as evidence of mislabeling but the defendant could if he wished attack the standard, thus opening the door to variations from place to place and time to time and making the burden of enforcement more onerous. The standards set under the new law will be legal standards. They will be set only after public hearings at which all interested parties must be heard, but after they are set a product purporting to be such a food must conform to the standard or be considered "misbranded." A discrepancy between a food bearing a particular label and the legal standard is a matter of fact, easily proven one way or the other. Foods for which no standard has been or can be set after the provisions of the 1938 law go into effect cannot escape regulation by assuming a distinctive name as "Creamo" or "Bred-Spred." Such foods must bear on the

<sup>1</sup> Exceptions were made of fresh and dried fruits and vegetables except avocados, cantaloupes, citrus fruits and melons, for which the Secretary is authorized to fix standards for maturity and effects of freezing. Butter is also exempted since its minimum standard is set by federal law.

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label the common or usual name of the food or its ingredients.<sup>1</sup>

The buyer must know the definitions or standards set in interpreting the statements on the label. Through them she will know, for instance, that an article marked "mayonnaise" must contain egg yolk or whole egg and not less than 50 per cent of edible vegetable oil; that "noodles" (not "plain noodles") must contain on a moisture-free basis not less than 5.5 per cent of egg solids. They must, that is, if these are the standards of identity or quality set, or the food will be held misbranded.

### Labeling requirements

There is a marked difference between the commandment, "The label shall not lie" and "The label shall tell the whole truth." In the main, Federal authority is invoked to prevent untruth. In this respect our law differs from the Canadian. The Canadian Meat and Canned Foods Act passed in 1907 requires that all packaged food shall be marked with a "true and correct description of the contents of the package." It is for the body administering the act to say what constitutes a true and correct description for each food. Under this provision they ordered in 1918 that certain canned foods for which quality grades had been worked out should bear the official grade on the label.

~~There are, however, certain positive labeling requirements~~ in our law. The most important general provision for making labeling informative declares a label to be misleading if it fails to reveal facts which are material in the light of other representations made, or with respect to the consequences which may result from the use of the article under the conditions of use prescribed on the label or under the

<sup>1</sup> By May 1, 1940, hearings had been held and legal standards of identity, quality and fill set for canned apricots, cherries, peaches, pears, peas and tomatoes. Standards of identity had been set for tomato products other than canned tomatoes, for all other unmixed, succulent canned vegetables except dried Lima beans, and for egg products.

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customary or usual conditions of use. In addition there are specific labeling requirements. Imitations must bear the word "Imitation" on the label directly followed by the name of the food imitated. Products purporting or represented to be foods for which standards of identity have been set must state that they fall below the standard. Slack-filled containers for which a minimum standard of fill has been set must bear this information on the label. Packaged foods must bear the name and place of business of the manufacturer, packer, or distributor, as well as an accurate statement of the quantity of the contents in terms of weight, measure, or numerical count. Foods for which a standard of identity has not or cannot be set must bear the common or usual name of the food, or in the case of a fabricated food the common or usual name of each ingredient. Foods designed for special dietary use must carry on the label such information about vitamin, mineral or other nutritive properties as the Secretary deems necessary to inform purchasers as to its value for such uses. Artificially flavored and colored foods except butter, cheese and ice cream, as well as those containing chemical preservatives, must also bear this fact on the label.

### Prevention of false and misleading advertising

The dangers from false and misleading advertising are the same as those resulting from mislabeling. There is no difference in kind between the label and the advertisement; both have possibilities of usefulness to the consumer and both have possibilities of injury and deception. In degree of both benefit and injury the advertisement has far and away the greater possibilities. It reaches more people; its message has greater force and effectiveness. Its use to inform the buyer or to induce purchase has increased so greatly that to regulate the label alone seems to strain at a gnat and swallow a camel.

Since 1914 a limited control over advertising has been exercised by the Federal Trade Commission. Section V of

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the Federal Trade Commission Act passed in that year prohibited unfair methods of competition and empowered and directed the Commission to prevent their use. Under the common law business concerns were protected against injury from unfair practices by their competitors but their remedy was suit for redress in the courts. By the statutory enactment of the common-law principle, responsibility for the prevention of unfair practices was transferred to a duly authorized body, the Commission. It may investigate trade practices on its own account or act upon information brought informally to its attention by others. If, after investigation, formal action seems warranted, the machinery is set in motion. The defendant may sign a stipulation of fact and agree to discontinue the unfair practice. If he does not do so and the Commission decides after a fair hearing that the practice is unfair, it orders the manufacturer or dealer to "cease and desist" from it.<sup>1</sup>

Many practices harmful to the consumer were brought to an end at least temporarily by the Commission under the powers given to it in 1914—adulteration, mislabeling, the passing off of imitations as the genuine articles, false and misleading selling schemes and false and misleading advertisements.<sup>2</sup> Yet the work of the Commission did not provide an adequate safeguard against false and deceptive advertising or other undesirable trade practices. Quite aside from other limitations as inadequacy of funds and the Commission's concept of its functions, there was the fact that the worst that could happen to a firm engaged in deceptive advertising was an order to cease. In other words, so long as the Commission took no notice and until the hearings were over, the practice might be engaged in without penalty

<sup>1</sup> The Commission also encourages and assists trade practice conferences at which members of an industry may agree upon standards of identity and quality to be used in labeling and advertising their products. See *Annual Reports*.

<sup>2</sup> See the annual reports of the Commission and their separately collected *Decisions*.

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Another limitation was that the law was designed to protect business firms against unfair competition, not consumers against deception. The courts held that injury to a competitor must be shown, not merely injury to consumers, in order to sustain a "cease and desist" order.<sup>1</sup>

In 1938 Congress passed the Wheeler-Lea Act which enlarged the powers of the Federal Trade Commission over false and misleading advertising in three important respects: (1) the Commission can now proceed against business practices which are injurious to consumers as well as those which are damaging to competitors; (2) penalties were enlarged and procedures changed to enable the Commission to enforce its orders more effectively; and (3) the Commission was given specific powers to prevent false and misleading advertising of foods, drugs, and cosmetics. However, the Commission can proceed only against advertising which is false and misleading in any "material" respect which would seem to allow for considerable trade "puffing" and leave a wide latitude for disagreement in interpretation.

The Copeland bill which in amended form subsequently became the Food, Drug and Cosmetic Act in 1938, originally contained provisions granting the Food and Drug Administration control over false and misleading advertising of these products. It was argued that false and misleading advertising of foods, drugs and cosmetics should be controlled by the same agency which enforced the law controlling the labeling of these products. Upon the other hand it was argued that control over the advertising of these products should be given to the agency already exercising control over the advertising of others.

### **Enforcement of the Food, Drug and Cosmetic Act**

A final analysis of the effectiveness of the Food, Drug and Cosmetic Act passed in 1938 can, of course, only be made by examining the record after it has been in operation for a

<sup>1</sup> See 283 U. S. 643.

## LEGAL PROTECTION OF THE FOOD BUYER

considerable period.<sup>1</sup> However, certain factors which will have a decided bearing on its effectiveness can be at least partially appraised at the present time. These include (1) the enforcement provisions of the act; (2) the effectiveness of the agency to which enforcement is entrusted; and (3) the adequacy of the appropriations made available to the Food and Drug Administration for the purpose of carrying out the provisions of the act.

The substantive provisions of the law itself will make certain aspects of enforcement less difficult than they were under the Act of 1906. For instance, the establishment of legal standards of identity and tolerances for poisons will relieve the Food and Drug Administration of the necessity of defending such standards before the courts. Provision for factory inspection will enable the Food and Drug Administration to locate danger points and take steps to remedy the situation without the delay of court action. The power of the Secretary to issue warnings in minor offenses without resort to the courts should save time and concentrate action on the major offenses. The power of the Secretary to issue public warnings in the press in case of foods dangerous to health or grossly deceptive to the consumer should also be effective in causing manufacturers to mend their ways without recourse to the courts.

Under the law of 1906 one of the most effective enforcement devices was the use of the power to make "multiple seizures" in widely separated parts of the country. The present law limits this power to cases where misbranding has been the basis of a "prior judgment in favor of the

<sup>1</sup> When the Act became law on June 25, 1938 it immediately "granted authority to begin the formulation of necessary regulations, including definitions and standards for foods, and continued in force the provisions of the Act of 1906 until the new law became fully effective. As originally enacted, the statute was to become fully effective on June 25, 1939. An amendment approved June 23, 1939, however, postponed the new labeling provisions and certain other requirements until January 1, 1940, with authority under definitely specified and limiting conditions for additional postponements by the Secretary of Agriculture until July 1, 1940." Report of the Chief of the Food and Drug Administration, 1939, p. 1.

## FOOD BUYING AND OUR MARKETS

United States"; where a food is dangerous to health; where labeling is fraudulent or would be in a material respect misleading to and injure or damage the consumer. The Act provides that the trial of seizure cases, which formerly took place at the place of seizure, usually in or near the consuming area, may at the request of the manufacturer or processor be removed to a court near his place of business or residence. There is, of course, the possibility that this provision may make it more difficult to obtain convictions in the courts. However, the use of the injunction, which may now be used as a substitute for criminal action, gives an effective and prompt method of forestalling offenses and preventing public injury.

The penalties imposed have been increased up to a maximum of \$10,000 and three years imprisonment. It is probable that these penalties are severe enough so that manufacturers and processors will find them a real deterrent and will not as they sometimes did under the 1906 law merely pay the penalty and continue to violate the law.

The enforcement of the Food, Drug and Cosmetic Act is entrusted, as was that of the 1906 law, to the Food and Drug Administration. The quality and scope of the enforcement work which this agency did under a defective law and with grossly inadequate appropriations would indicate that the interests of the consumer will be safeguarded as far as the limits in the provisions of the act and the adequacy of the appropriations permit.

### State and municipal regulations

The provisions of the Federal law, it must be noted, cover only those foods entering interstate commerce. Products produced and consumed within a given state are not, therefore, subject to any of its provisions. Food sold locally is subject only to state and municipal regulations. Very few states have as yet enacted legislation which affords the consumer the protection granted under the Federal Food, Drug and Cosmetic Act of 1938. In fact, the majority of states



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are still operating under laws modeled after and continuing the defects of the Food and Drugs Act of 1906. While many municipalities have passed food ordinances designed to protect the public health and a few have some ordinances regulating "economic cheats," there is wide divergence in their coverage. It is, therefore, important for the consumer who is trying to buy food wisely and economically to acquaint herself with the state and local regulations governing the sale of the food products she buys.

### Questions or exercises

1. Would statements concerning a product made in a radio broadcast constitute a warranty to the consumer-buyer?
2. What is the major weakness of the protection given the consumer-buyer by the common law?
3. Why has Congress exercised in such slight degree its power to establish a system of weights and measures?
4. Is any further legislation needed to protect the consumer against deception as to the quantity she gets for her money? If so, what?
5. Do the Federal Meat Inspection Act and the Food, Drug and Cosmetic Act represent the same type of regulatory legislation?
6. What is the difference between "economic" and other types of adulteration?
7. What is the exact difference between an "administrative" and a "legal" standard?
8. Why should the establishment of legal standards of identity and quality for foods make the enforcement of the law easier?
9. Under the 1938 law what labeling regulations would apply to a cheese food bearing a distinctive name that does not meet the standard for cheese?
10. Which is preferable, the Canadian method of regulating labeling or that typified by the United States Food and Drugs Act?

# FOOD BUYING AND OUR MARKETS

## SUGGESTED READINGS

- ANDRES, E. M., "History of Food and Drug Legislation in the United States," *Journal of Home Economics*, 27 (1935), 137-41.
- BALDWIN, L. G., and KIRLIN, F., "Consumers Appraise the Food, Drug and Cosmetic Act," *Law and Contemporary Problems*, VI (Winter, 1939), 144-64.
- CAREY, L. C., *Containers for Fruits and Vegetables*, U. S. Department of Agriculture, Farmers' Bulletin No. 1821 (Washington, 1939).
- COLES, J. V., *The Consumer-Buyer and the Market* (New York: John Wiley and Sons, 1938), Ch. XXIX-XXXII.
- HANDLER, Milton, "The Control of False Advertising under the Wheeler-Lea Act," *Law and Contemporary Problems*, VI (Winter, 1939), 91-110.
- U. S. Federal Trade Commission, *Annual Reports; Decisions*.
- U. S. Food and Drug Administration, *Federal Food, Drug and Cosmetic Act and General Regulations for its Enforcement*, Service and Regulatory Announcements, Food, Drug and Cosmetic No. 1.

PART II  
FOODS



## CHAPTER XII

### HOW TO BUY

**Select your store.** You need not limit your food buying to one store; but you will probably receive more interested and efficient service where you are a regular customer and the dealer knows your needs and tastes. Follow these suggestions in choosing the store or stores to patronize:

1. Survey the food stores in your neighborhood or city; compare prices charged, stocks carried, and services offered. Do not assume that competition will keep all prices in a neighborhood approximately the same. Investigations have shown wide variations in prices charged by dealers in the same block.

2. Observe, also, sanitary conditions in the stores and cleanliness of persons handling food. Note especially whether such food as meats and baked goods is exposed to dust and flies and whether precautions are taken to avoid touching with hands. Supplement your observations, if possible, with reports from city sanitary inspectors.

3. Learn what you can as to the honesty of the dealers. Only reliable stores should be patronized since no housewife has time to check all possibilities of dishonesty.

4. Considering your income, time, and strength, choose the stores which will meet your needs best, on the basis of your findings as to prices, stocks, services, sanitation, and honesty. The dealer carrying a complete stock of fancy groceries and offering credit and delivery can serve you with a minimum expenditure of your time and effort, but remember that all these services cost, and that the grocer offering

## FOOD BUYING AND OUR MARKETS

them must charge more than the cash-and-carry store and the store with a more standardized stock. If your income is quite limited, you may be wise to put all your money into food instead of putting part into services.

### Plan purchases before going to the store

1. Plan menus for at least one day and preferably for two, taking account of the nutritional needs of your family, and of left-over food which should be used. Save time by shopping for several days' needs on one trip, especially if you have a good refrigerator for storing perishables.

2. Take stock of supplies on hand, and list food needed for your menus. A list saves your time and that of the grocer.

3. Decide what quantities you can use most efficiently.

4. Keep your menu plans flexible. Often you will see new market offerings, or bargains which you can substitute for the food planned.

5. When your list is fully prepared, give your order by telephone or go to the market and make your own selections. If you patronize a store giving delivery, you can save time by telephoning for goods which do not need inspection. Upon the other hand, if you do not go to the market you cannot save, or improve menus, by seeing what is available.

6. Buy as early in the morning as possible. Many inexpensive foods require long cooking and cannot be bought just before a meal.

### Be businesslike at the store

1. Learn prices before buying.

2. Ask for definite quantities, as a specific weight or measure, or a can of standardized size, as No. 2.

3. When buying packaged or bottled goods, observe how much the container holds. Net contents must be marked on the label.

4. When buying meat or bulk foods, watch the dealer's scales to be sure that they register zero before a purchase

## HOW TO BUY

is weighed and that they register the weight you pay for.

5. Compute the amount of your bill. Even the most honest dealer may make mistakes.

6. Read labels of canned and packaged foods. They sometimes give useful information concerning size, color, ingredients and blends, and often furnish a basis for judging suitability to your needs.

7. Select fruits and vegetables yourself, when possible.

### **Economize on food purchased**

1. Save a little daily and your small economies will add to a worth-while total in time. A saving of from 15 to 20 cents on one day's purchases of \$1.50 may seem disappointingly small. But this means cutting food bills by 10 per cent or more, a percentage which would be considered significant by a business concern, and which begins to seem important for a family when computed as a \$50 saving on a year's food bill of \$500.

2. Remember that the most expensive food is not necessarily the best from the standpoint of health. Learn what foods will meet your family's health needs and then, if economy is essential or desirable, select those lowest in price. For instance, Brussels sprouts and cabbage have similar health values and even similar flavors but cabbage is usually much cheaper.

3. Adopt a questioning attitude toward price. Find out if possible whether high price is due to seasonal scarcity, appearance, demand for a particular brand created by advertising, a particular ingredient, or type of package. Sometimes it results from such irrational consumer preferences as those which cause dark red cranberries to sell at a premium in some localities and light colored ones in other, or white eggs to command a higher price than brown in New York while the reverse is true in Boston. Ask yourself whether the qualities of a product which are responsible for its high price are important to you.

4. Read advertisements of local dealers regularly, watch-

## FOOD BUYING AND OUR MARKETS

ing for opportunities to buy at reduced prices. The buyer who knows customary prices and therefore can recognize real bargains may save as much as 14 cents on the dollar if she buys food and cleaning supplies when they are marked down for special sales.

5. Watch for bargains, too, when visiting the store. Odds and ends of canned goods, assembled when the grocer sorts his stock, sometimes may be bought at one-half or one-third of their ordinary price. Nearly every grocer also offers occasional bargains in perishable fruits and vegetables when he is over-stocked and must sell to avoid loss through spoilage.

6. Compare prices on the basis of quantity offered. One box of corn flakes contains 8 ounces and costs 9 cents; another contains 10 ounces and costs 10 cents. The higher-priced package actually is 11 per cent cheaper per pound.

7. Consider waste in comparing prices of products. Often, the buyer cannot tell whether one product gives a better return for her money than another until she knows the waste from each. For example, small prunes cost less per pound than large, but because there are more small ones in a pound, the waste from their seeds is slightly greater. Despite the greater waste, the pulp from the small prunes usually costs less per pound than that from the large.

8. Know how to evaluate one measure in terms of another. (See tables of weights and measures, p. 186). Thus, it is important to remember how many quarts in a peck if one is to compute savings possible by buying in the larger quantity. Occasionally a bottle of flavoring is labeled in drams, so it is useful to know that there are 8 drams in 1 fluid ounce, in order to compare net weight and price with other bottles which may be labeled 1 or 2 fluid ounces. Know the difference between a dry and a liquid quart, too, since you will receive short measure if a huckster uses a liquid quart to measure the cherries you buy.

9. Buy staples, canned foods, and semi-perishable fruits and vegetables in quantities as large as your storage space



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and your family's needs permit. The price per dozen usually is lower relatively than the unit price on such things as canned goods and bars of soap. The price per ounce of food in a large container is less than that of the same quantity of food in a small container because of lower labor costs of handling large quantities and because one large container costs less than several small ones. Some stores purposely price goods to encourage quantity buying, as when they offer 3 cans of soup for 25 cents, but charge 9 cents or even 10 cents for a single can.

10. Buy by grade when possible, choosing the grade best suited to your needs.

11. Buy fruits and vegetables which are in season.

12. Buy products in bulk when cheaper rather than in packages, if there is no doubt as to cleanliness, sanitation and quality.

13. Remember that ready-to-serve foods usually cost more than those which are cooked at home, if materials of the same quality are used.

### Help reduce the grocer's operating costs

1. Do your buying as quickly as possible, using a list to save the salesman's time. This does not mean that you should not seek necessary information, however. Ask any questions you wish about flavors, merits, values or grades.

2. Give the salesman your written list of staples and let him take these from the shelves in one trip while you make your selection of fruits and vegetables.

3. Do not ask for more than one delivery a day. On some days none will be needed if you plan well.

4. Do not expect your dealer to stock unusual foods for you. Buy products which are generally used, so that your grocer need not carry a large number of brands or odd-sized containers.

5. Do not shop in rush hours.

6. Buy staples on days other than Saturday or Monday, the grocer's busiest days.

## FOOD BUYING AND OUR MARKETS

7. Do not ask your grocer to keep his store open evenings.
8. Do not ask unusual favors, as deliveries of purchases made elsewhere.
9. Do not handle foods unnecessarily.
10. Pay for credit purchases as soon as statements are received.

### Take care of foods after delivery

1. Check your orders at once. It is far easier for the dealer to trace errors if he knows of them promptly.
2. Put away food carefully, so it may be in as good condition when used as when delivered.

**Keep your stock of food complete.** Decide what foods you should keep on hand as a basis for family meals, stock your cupboards and refrigerator, and then replenish your stocks when necessary. If you are forgetful, make two food lists: one of staples, to be checked regularly each week, and the other of perishables to be checked daily. Keep pad and pencil in your kitchen to note any supplies running low. If you employ a cook, this listing should be one of her duties. Suggestions for a household food stock are given below, but every housewife should make her own list to meet the needs and tastes of her family.

Keep in the refrigerator: bacon, butter, cheese, eggs, lard, or other cooking fat, lemons, lettuce, milk, and salad oils.

Keep in the storage space for fruits and vegetables: apples, carrots, onions, oranges, potatoes, sweet potatoes in season.<sup>1</sup>

Keep on the supply shelves and in the kitchen cabinet: cereal foods—bread, breakfast cereals, corn meal, crackers, flour, macaroni, rice; beverages—tea, coffee, cocoa; for general cooking—baking powder, bay leaves, dried beans, chocolate, cornstarch, dates, flavoring extracts, bouillon cubes, gelatin, molasses or syrup, mustard, paprika, pepper, raisins,

<sup>1</sup> If the refrigerator is sufficiently large it should be used for storing oranges and carrots, to keep them at their best. See suggestions for storing different fruits and vegetables in Chapters XV and XVI.

## HOW TO BUY

sage, salt, soda, spices, granulated sugar, brown sugar, powdered sugar, tapioca, vinegar.

**Have a well-filled emergency shelf.** Every household has an occasional emergency when extra food is needed. You may want to pack a picnic supper hurriedly, may have an unexpected guest, or the grocer's delivery may be late. Keep an emergency shelf stocked to provide for at least one meal. Canned goods may furnish a soup, a meat, a vegetable, material for a salad and for a dessert. Crackers in tin containers and bottled fruit juices will refresh afternoon or evening callers.

**Equip your kitchen with reliable scales and use them.** The fully equipped kitchen contains tested scales to be used in determining weight of waste for making price comparisons, and in weighing ingredients for cookery processes where accuracy is necessary, since weights usually are more accurate than measures. Scales should also be used occasionally to reweigh purchases of bulk goods weighed by the grocer. Of 6,640 items purchased in bulk by Federal investigators, practically half (48.9 per cent) were found to be underweight.<sup>1</sup> Such short weighing may be due to carelessness rather than to deliberate dishonesty, but the household buyer should check weights sufficiently often to make sure that she is receiving the weight she pays for. She should also investigate the adequacy of the inspection of the weights and measures in use in her community. If the inspection service is what it should be, the customer need not be perpetually on her guard.

Probably the most convenient of reliable types of scales is a hanging spring scale, with a dial registering weights. Another reliable type has two platforms, upon one of which weights are placed. The popular type with a platform above a dial is less satisfactory because inaccuracies often occur when a spring must be compressed to register weight.

<sup>1</sup> *Supra*, p. 63.

# FOOD BUYING AND OUR MARKETS

## TABLE OF HOUSEHOLD MEASURES

### LIQUID MEASURES

- 4 gills = 1 pint (28.875 cubic inches)
- 2 pints = 1 quart (57.75 cubic inches)
- 4 quarts = 1 gallon (231 cubic inches)
- 3 1/2 gallons = 1 barrel = 126 quarts
- 2 barrels = 1 hogshead = 63 gallons = 252 quarts

### FLUID MEASURES

- 8 drams = 1 fluid ounce (approximately 2 table-  
spoonsful)
- 16 fluid ounces = 1 pint (liquid)

### DRY MEASURE

- 2 pints = 1 quart (67.2 cubic inches)<sup>1</sup>
- 8 quarts = 1 peck (537.6 cubic inches)
- 4 pecks = 1 bushel (2150.42 cubic inches)<sup>2</sup>
- 1 barrel = 105 quarts (7056 cubic inches)<sup>3</sup>

### AVOIRDUPOIS WEIGHT

- 16 ounces = 1 pound
- 100 pounds = 1 hundredweight
- 20 hundredweight = 1 ton = 2000 pounds

## Questions or exercises

1. What sanitary standards would you like to have your food dealer meet? Check so far as you can the degree to which his practices and premises conform to these standards.
2. What sanitary regulations does your state or local government impose on retail food-stores? How well are these regulations carried out by the retail food-store that you patronize most frequently?

<sup>1</sup> Note that this contains more than the liquid measure.

<sup>2</sup> Established under Standard Container Act of 1928. See p. 162. Makes inoperative all State weight-per-bushel laws so far as fruits and vegetables packed in baskets standardized by this law are concerned.

<sup>3</sup> Established under Standard Barrel Act of 1915.

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3. List foods which require inspection by the consumer-buyer at time of purchase. List foods which can be bought satisfactorily by telephone.
4. Check the weight, on accurate scales, of all bulk food purchases on your weekly shopping list. Do the weights obtained tally with the weights paid for? If not, how much did you gain or lose by incorrect weighing?

### SUGGESTED READINGS

BIGELOW, Howard F., *Family Finance* (Chicago: J. B. Lippincott Company, 1936), pp. 106-20.

MONROE, Day, and HENRY, Mary, *It Pays to Buy Food Wisely*, Cornell Bulletin for Homemakers, Bulletin 237 (Ithaca, 1932).

President's Conference on Housing and Home Ownership, Committee on Household Management, *Household Management and Kitchens* (Washington, 1932), pp. 68-73.

SMITH, Muriel, *Economical Food Buying*, University of Nebraska, Extension Circular 1175 (Lincoln, 1934).

See also,

ALBRECHT, A. E., *About Foods and Markets* (New York: Bureau of Publications, Teachers College, Columbia University, 1932), pp. 107-9.

Copies of the *Consumers' Guide*, a bi-weekly publication designed to give practical advice especially to the food buyer, may be secured from the Consumers' Counsel Division, United States Department of Agriculture, Washington, D. C.

## CHAPTER XIII

### CEREAL FOODS

#### FLOUR

**Wheat flours.** An understanding of the general structure of the wheat grain is necessary in order to differentiate clearly between the mill products of wheat. Briefly, it is made up of an outer bran layer containing most of the minerals of the grain; a layer of cells high in phosphorus and protein just beneath the bran; an endosperm (82 per cent of the grain), made up of cells in which starch granules are held together by the wheat proteins which form gluten; and the germ, which is high in fat.

Varieties of wheat differ in the relative proportions of starch and protein in the endosperm, and this fact is responsible for the two main kinds of white flour on the market, known as *bread* flour and *pastry* flour. Wheat high in the proteins which make gluten is more desirable for bread because it gives the dough elasticity and power of expansion and water absorption. This flour is usually more yellow than the pastry flours; it is slightly gritty, and does not hold its shape after being pressed with the fingers. Pastry flour contains less gluten and is more starchy. It is whiter than bread flour, smooth and soft to feel, and retains the imprint of the fingers when a small portion is pressed into shape. It is considered more desirable for pastry and for any other products in which tenderness is essential. The *family* flour on the market is a blend of these two for general home use.

A variety of wheat is called *hard* when it is high in gluten

## CEREAL FOODS

protein, and *soft* when more starchy. The five important main classes, according to Federal standards, are: *Hard Red Winter*, *Soft Red Winter*, *Hard Red Spring*, *White*, and *Durum*. Most bread flours come from Hard Red Spring and Winter wheats, while Soft Red Winter and Soft White wheat give most of the pastry flours used in cake, pies, and crackers.

First, then, wheat flours are differentiated on the basis of the variety of the wheat from which they are made, giving rise to the terms bread, pastry, and family flours. In the second place, flours are differentiated by the character of the milling process which they undergo, and we have *patent* flour, *middlings*, *entire wheat* flour, *red dog* flour, and numerous others whose names are seldom seen by the consumer. The milling process may be pictured as a series of grindings between rollers, and sifting through sieves and silk bolting cloth. The part to yield first to the rollers is the soft, starchy part of the grain. The harder part of the endosperm, rich in gluten (but not the bran), appears as a granular yellowish product after the grain is further rolled and sifted. This part is known as middlings; it is high in the gluten so important for bread-making. (The word middlings was formerly used to indicate a flour intermediate between white flour and bran.) Patent flours are high in purified middlings, although the term patent has no standardized meaning. *Short* patent has more gluten than *long* patent, and is therefore rated higher.

The miller blends the products from the different stages in milling in varying proportions to get different grades of commercial flours. Baking tests in testing kitchens are used to determine qualities of flours. *Straight* flours are the only kind beside patent used in making white bread, and they contain all the white-flour portion of the wheat. *Clear* flours, what is left after the patent flours are made, are used chiefly in making rye breads, but they are also found in the lower-priced flours sold for home baking. Low-grade flours (*red-dog*) are the cheapest flours sold, and are seldom used

## FOOD BUYING AND OUR MARKETS

in making white bread. As we go down the scale (patent, straight, clear, and low-grade), we find the flours have poorer gluten and are more colored with the bran.

Flour is sometimes bleached by means of chemicals to meet the demand for white flour and white bread. The Food and Drug Administration holds that such bleaching is not a violation of the Food and Drugs Act providing the added chemicals cannot be shown to be harmful or to injure the quality or conceal inferiority. All bleached flour must be marked as such. Unbleached flour is also on the market and some baker's bread is labeled "Made from unbleached flour."

**Whole wheat, entire wheat, and graham** flours are synonymous terms. As defined by the Food and Drug Administration, they contain in their natural proportions all the constituents of the cleaned grain. All of the whole wheat flours on the market do not conform to this standard. Sometimes part of the bran is removed or more is added. The Council on Foods of the American Medical Association holds that in order to warrant its seal, "These terms shall be used as food names only when the sole cereal and farinaceous ingredient is whole wheat. Their use of names for foods with other composition is misinformative and misleading." Their price is higher than that of white flour because they are produced in relatively small quantities.

**Gluten** flour is defined by the Food and Drug Administration as the product made from wheat flour by the almost complete removal of starch. It is used chiefly in special diets.

**Flours and meals other than wheat.** Meals in general are defined as the product made by coarsely grinding grain, whereas flours are both ground and sifted. *Rye* flour stands next to wheat in importance in bread-making, as it is the only other grain with qualities at all similar to those of wheat. However, wheat is usually mixed with it to make the loaf lighter. Bread made entirely from rye flour is called pumpernickel.

*Cornmeal* on the market is chiefly the new-process type, in which the germ and most of the bran are removed. The



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old-process cornmeal is prepared by grinding the entire kernel and sifting out only the larger particles. White cornmeal is made from white corn. A small amount of corn flour is made by bolting the white meal, and used in combination with wheat flour in baking.

*Buckwheat, barley, rice, soy bean, and potato* are other flours which can be bought on the market. Buckwheat is usually mixed with wheat because by itself it has a strong flavor. Patent barley flour is sold for infant feeding and the other three are used mostly for special diets, although some potato flour is sold for baking.

**Prepared flours** of various kinds are becoming more and more popular. Cake flours are very fine pastry flours. Self-rising and ready-to-use flours may contain only the leavening, or may be mixtures of dried milk, dried eggs, fat, flour, and baking-powder which need only the liquid added to them. Mixtures for gingerbread, pie crust, biscuits, pancakes, muffins, waffles, and other products are available. As with ready-to-serve foods, the cost of ingredients, time required and quality of the product made from prepared mixtures should be carefully compared with the time and money cost and quality of the home-made.

**Storage of flours and meals.** To prevent spoilage these products should be kept dry and protected against insects and vermin. Tightly covered containers are best, but where sacks or bins must be used the former should be tied shut, and the latter kept covered. They should be frequently inspected in the summer time. Whole-grain flours and meals containing the germ, such as entire wheat flour and old-process cornmeal, and any prepared flours containing much fat, need to be kept in a cold, dark place to avoid rancidity, if storing for any length of time. Ordinarily the cereal package shuts out the light, so a dark place is necessary only when the whole grain cereals are in glass containers.

**Quantity buying of flours and meals** depends upon the needs of the family and the kind of storage space. White flour can usually be bought in 5-pound, 24 $\frac{1}{2}$ -pound ( $\frac{1}{8}$

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barrel), and 49-pound ( $\frac{1}{4}$  barrel) sacks. Two-pound and 10-pound sacks are also available in some stores. There is a considerable saving by buying the 24 $\frac{1}{2}$ -pound rather than five of the 5-pound sacks.

### BREAD AND BAKERY PRODUCTS

Bread is usually obtained either from the local baker or from a large manufacturer who distributes through neighborhood stores; home baking of bread is becoming less and less common. Baker's bread is now available in many varieties, such as cracked wheat bread, whole wheat, fifty per cent whole wheat, many styles of rye and raisin breads, as well as white bread in various sizes and shapes. A loaf of baker's bread usually contains flour, liquid (usually part water and part milk), sweetening (either sugar or malt or both), shortening (usually lard or cottonseed oil), "bread-improvers" which increase the liquid-absorbing property of the flour, yeast and yeast foods to hasten fermentation. The Food and Drug Administration holds that if correctly labeled, white bread, milk bread and raisin bread must contain no more than 3 per cent of farinaceous substances other than wheat flour and that the liquid in milk bread must be milk, or milk solids and water in the proportions of normal milk. Raisin bread must contain 3 ounces of raisins per pound of bread if labeled. If bread is called "Butter-Nut" or "Honey Crust" it must contain those foods. Breads that are not shipped out of the state need not conform to the labeling requirements of the Federal Food and Drug Administration, but most states have laws similar to the Federal act. Sanitary conditions in bakeries depend upon the state law or the municipal ordinances.

Progress has been made in regulating the weight of a loaf of bread until now only thirteen states are entirely without bread-weight laws. Seventeen states have laws requiring that only loaves of specified weights be sold, such as  $\frac{1}{2}$ -pound,  $\frac{3}{4}$ -pound, 1-pound, 1 $\frac{1}{2}$ -pound. Nine states require that bread be labeled with its weight. Seven states delegate

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the regulation of bread weights to the city council. These regulations do not apply to fancy breads or rolls. It is important to note the weight and not the size of the loaf in buying bread, as by fermenting the dough excessively a large loaf can be made which weighs less than a smaller one less aerated. When weight is indicated it is possible to compare prices of different brands.

Marking bread with the date when baked has been suggested as a safeguard to the consumer, who has the right to know that he is not paying fresh-bread prices for day-old bread. Some bakers have already followed this practice. Day-old bread is sometimes sold at a reduced price in the less prosperous sections of cities and near bakeries. Many like it as well as fresh, and in any case there are uses for it such as plain toast, French toast, bread crumbs, puddings, and scalloped dishes. The stale bread problem has always presented one of the greatest difficulties of the industry, increasing the cost of bread to the consumer, who has consistently registered his preference for strictly fresh bread.

Other bakery products include the great variety of cookies, cakes, rolls, crackers, and pastries produced both by local bakers and by large manufacturers. The most common styles of plain rolls and buns are: sandwich buns, plain buns, Parker House rolls, finger rolls, Frankfort, and dinner rolls. Sweet rolls frequently found are: cinnamon roll, raisin bun, butter horn, butterfly bun, coffee pretzel, and pecan roll. Common styles of coffee cake are: braided coffee ring, streusel coffee cake, honey coffee cake, filled coffee ring, form cake, stollen, and apple cake.<sup>1</sup> In addition there are types which are more in the nature of pastry, due to the extra shortening rolled in. Plain rolls are considerably more expensive than bread per pound, due to the extra hand-labor in making, and the fancier varieties are still more expensive than the plain rolls.

Practically all retail food-stores carry a wide assortment of crackers and fancy sweet cookies, the latter varying con-

<sup>1</sup> Alexander Todoroff, *Food Buying Today* (Chicago, 1938), pp. 117-9.

## FOOD BUYING AND OUR MARKETS

siderably but always including such standbys as fig newtons and chocolate marshmallow cookies. Three points to be considered in buying this class of goods should be noted. First, make sure that in comparing costs, the same grade of goods is being compared. Graham crackers come in two grades put out by the same company, the cheaper being as much as 35 per cent less per pound than the better. As with other foods, as a rule the extra money goes for greater palatability rather than for more food value. In the second place, this class of goods is frequently found both in bulk and in package, and it is well to make comparisons. In one case the bulk was 13 per cent cheaper than the same product in a package, and in another case there was very little difference when buying in bulk. The best plan is to make one's own comparisons rather than to generalize. The sanitary factor must also be considered, and in self-service stores where customers help themselves from large containers this is of especial importance. The third problem is that of the size of the package. In a standard brand of plain crackers a reduction of 18 per cent was noted when the pound rather than the half-pound package was purchased. In a fancy cooky, the 6¼-ounce size was 17 per cent cheaper than the 2¼-ounce package when the costs per pound were compared. Freshness is desirable, but the danger of deterioration with the larger package should not be great if it is carefully stored, especially for such products as can be crisped in the oven.

**Home-made versus bakery products.** Comparisons of costs have shown that in standardized products such as bread the amount saved by baking at home is not so great as in the fancier products such as sweet rolls, fancy cakes, cookies, tarts, and pastries. However, we are safe in concluding that there is always some saving, possibly from 40 to 60 per cent.<sup>1</sup> Exact comparisons of home-made with bakery

<sup>1</sup> See Mrs. Ralph Borsodi, "The New Woman Goes Home," *Scribner's Magazine*, CI (February, 1937), 55. Mrs. Borsodi reported a saving of over 40 per cent through home baking of bread. Power and all overhead costs were calculated.

## CEREAL FOODS

products are difficult to make because it is not possible to know the exact kind and quality of ingredients used, and because the finished products are frequently quite unlike. Many families buy bread in order to have it fresh every day without the trouble of frequent baking.

**Storage of baked goods.** Bread needs a box with a little ventilation to avoid mold, and it should never be shut up air-tight in hot, humid weather. Cakes and soft cookies keep best in a tightly closed container. A slice or two of soft bread put in a box with cookies that have become hard will soften them, as baked products absorb and give off moisture readily. Crackers and crisp cookies should be kept tightly covered in separate containers. All containers should be scalded frequently.

The present practice of wrapping bread and many other bakery products in waxed paper or cellophane protects the consumer from bacteria accumulating on the products during the handling necessary in distribution. However, where the papers are left on when the food is put away in the bread or cake box, the micro-organisms on the paper contaminate the boxes. The bakers who use two papers on their breads, one to be discarded when the bread is put away, and the other to aid in keeping it, have found the ideal solution.

### OTHER CEREAL FOODS

**Breakfast cereals** are classified as the *ready-to-serve*; the *uncooked*, such as cracked wheat or farina; and the *semi-cooked* or *steam-cooked*, as rolled oats. Some of the last type on the market have been pre-cooked to the extent that only a few minutes' additional cooking is needed. The grains most commonly used in the manufacture of cereal breakfast foods are corn, wheat, oats, barley, and rice. Sometimes only one grain is used and sometimes a combination of grains. Other materials, as sugar, syrup, salt, honey, and malt are sometimes used. Most names of breakfast foods are trade-marked and refer only to the product of a particular firm, but a few of them have general signifi-

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cance. The word *farina* means the purified middlings of hard wheat other than durum. *Hominy* is the horny and starchy part of the corn left after the hull and germ have been removed. It is sold as pearl hominy, or flaked hominy, and is ground to make grits, the last being best known. *Steel-cut* oatmeal has been cut into particles by special cutting machines. *Scotch-style* oatmeal refers to coarsely ground oats. *Cracked wheat* is the rather coarsely broken up whole wheat grain.

In general the ready-to-serve cereals are more expensive than the uncooked as they have required more processing. The price per pound of some of the prepared cereals may be four times that of an uncooked product like rolled oats. However, there is also great difference in cost per pound between the various ready-to-eat cereals. They may vary in price from 18 cents per pound to 60 cents. In many cases there is no striking difference in palatability and no difference in the food value.

Bulk cereals that must be cooked can well be bought as an economy measure where they are available, but many stores no longer carry them. The larger packages usually cost less per pound.

**Barley** is sold chiefly as pearly barley, which has the germ and most of the bran removed and is polished. It may be purchased in the fine, medium, or coarse styles, and is used mainly in soups and gruels. A considerable amount of barley is used in prepared breakfast foods.

**Macaroni, spaghetti, vermicelli, and noodles.** Macaroni and spaghetti are usually the same price and the housewife will base her choice on her preference for the large or medium-sized tubes. Vermicelli with its tiny tubes is generally used in soups, and is sometimes more expensive. The dried paste can also be purchased in various fancy shapes such as elbows, soup rings, alphabets, sea-shells, and stars. It is made of water and either semolina (middlings from durum wheat); or farina (middlings from wheats other than durum); or wheat flour; or a combination of

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these. Semolina is the basis of most, and being high in gluten gives a product that is creamy yellow in color, and that holds its shape after cooking. If labeled either semolina or farina, that must be the only cereal ingredient used. Noodles, according to the definition of the Food and Drug Administration, are the shaped and dried doughs prepared from wheat flour and eggs, with or without water and salt. To be correctly labeled, there must be not less than 5.5 per cent egg in the finished product. They cannot be colored to appear to contain more egg, even though the label says "artificially colored." "Plain noodles" are made from wheat flour and water, with or without salt.

Rice is prepared for the retail market in three main ways, the usual method being to remove all bran by polishing with soft brushes, producing the familiar *white rice*. Some rice is left unpolished with the bran on, after the outer hull is removed, giving the *brown rice* which can also be purchased. *Coated rice* is treated with talc and corn syrup to give it still more lustre than ordinary white rice. This coating comes off when the rice is washed before cooking. *Rice polishings* can sometimes be purchased, although their keeping quality is poor due to the fat in the germ which is included. Brown rice is apt to become rancid and infested for the same reason.

The name "Blue Rose" frequently appears on packages of rice in the retail market. It refers to one of the most widely sold varieties, with a grain of medium length. *Early Prolific* is another rice from the same group. Rice varieties with a long slender grain are: *Honduras*, *Fortuna*, *Edith*, *Carolina*, and *Lady Wright*. Rice with a short grain is of the *Japan* type. These varieties should not be mixed, as they require different lengths of time for cooking in order to get the best possible product, that is, tender, creamy kernels that keep their shape.

There are five U. S. grades of white rice and a Sample

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grade which contains rice that does not meet the requirements for the other grades, or is inferior in other respects. The bases for grading are: (1) proportion of whole kernels and extent to which others are broken; (2) cleanliness; (3) freedom from foreign material, other varieties, and damage; and (4) color, which is white or creamy in the highest grades and may be grayish or reddish in the lowest grades. The five grades are: *U. S. No. 1* (extra fancy); *U. S. No. 2* (fancy); *U. S. No. 3* (extra choice); *U. S. No. 4* (choice); *U. S. No. 5* (medium). The term "head rice" frequently found on labels indicates that the rice consists mainly of unbroken kernels. The differences in grades are chiefly those of appearance, rather than flavor or cooking quality.

There are three U. S. grades for brown rice: *Extra Fancy*, *Fancy*, and *Choice*. In addition there is the *Sample* or sub-standard grade. The basis for grading is similar to that for white or milled rice, with the exception of the color requirements.

When available and cheaper, it is desirable to buy rice in bulk as it must be both washed and cooked before use.

### Questions or exercises

1. What state laws or municipal ordinances govern the production or sale of bread in your community?
2. Visit a bakery with modern equipment. Is it true that the bread is never touched by human hand?
3. What arrangements are made for ensuring a supply of fresh bread in retail stores? What is done with day-old bread in your city?
4. If possible visit a flour mill and observe the gradual reduction process.
5. Visit a well-stocked retail store and list the varieties, brands, and package weights of the "breakfast cereals" carried. How easy is it to make comparisons of price per ounce or pound?
6. Compare prices per pound of packaged and bulk cereals of the same kind; of the various packaged ready-to-serve



## CEREAL FOODS

cereals; of the various packaged uncooked cereals. Compare the cost per pound of large and small packages.

7. Read labels of packaged cereals, flours and meals carefully and try to ascertain what part of the grain or grains has been used.

### SUGGESTED READINGS

- SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), Ch. VIII.
- STEINBARGER, Mabel C., *Cooking American Varieties of Rice*, U. S. Bureau of Home Economics, Leaflet No. 112 (Washington, 1935).
- TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 5-9; 83-5; 117-9.
- U. S. Bureau of Agricultural Economics, *Corn and Its Uses as Food*, Farmers' Bulletin No. 1236 (Washington, 1924).
- U. S. Food and Drug Administration, *Definitions and Standards for Food Products*, Service and Regulatory Announcements, Food and Drug No. 2, Rev. 5 (Washington).
- WILDER, Susan, *Buy Cereals Wisely*, South Dakota State College, Extension Circular 352 (Brookings, S. D., 1935).

Copies of Government standards and grades for milled rice and brown rice can be obtained from the Agricultural Marketing Service, Washington, D. C.

## CHAPTER XIV

### CANNED FOODS

#### GENERAL GUIDES FOR BUYING

Technical improvements have made possible more uniform and higher-quality canned products than in the early days of the industry. The variety of such products on the market has become so great that it would be impossible to make anything more than a suggestive list of them. A fairly complete list includes 46 varieties of vegetables, 33 of fruits, 10 of juices, 27 of fish and shell fish, 41 of specialties, 23 of meats, 37 soups, 8 entrees. Baked apples, sweet potatoes, whole hams and chickens, meat loaf, roast beef, Hungarian goulash, tamales, fish balls, illustrate the wide range on the market. The kinds of canned soups available are increasing, and a great variety of prepared foods such as plum and fig puddings, Boston brown bread, macaroni, spaghetti, and sandwich spreads is appearing in cans and jars. In deciding between these products and those which can be prepared in her own kitchen, the housewife has to consider the money cost, the time cost, the kind of ingredients used in each, and the quality of the commercial product as compared with the home-made.

**Sizes of cans.** The buyer must know how much she is getting for her money in order to make price comparisons between the different brands of canned goods and between dealers. The net weight or measure of the contents is marked on all cans. But, as was said in Chapter XI, there are many sizes of cans on the market, some differing in capacity by only an ounce. The difference in height or

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diameter may be so slight that most buyers are unaware of it. It would be much easier for the consumer to make price comparisons if fewer sizes were used. Fewer sizes would also reduce the cost of production of the cans.

As early as 1923 the National Cannery Association signified its intention to reduce and standardize the sizes of the cans used in packing food products. In 1930 the Division of Simplified Practice of the Bureau of Standards submitted to the industry a recommendation reducing the number of can sizes from over 200 to 27. By 1934 this proposal had been formally accepted but a survey of the 1937 pack made by the National Bureau of Standards showed 155 different can sizes in actual use. In spite of the industry's failure to put the first Simplified Practice Recommendation into practice a second one was promulgated in 1937, reducing the number of sizes from 27 to 21. In 1939 still a third revision was being circulated for acceptance by the industry. The number of sizes was fixed at 44 in this proposal for simplification, 23 of special dimensions for use exclusively with individual commodities, asparagus, baby food, corn on the cob, cranberries, mushrooms, olives, pimentos, pineapples, and tomato sauce. The other 21 sizes were recommended for from 2 to 56 commodities, with never less than 2 sizes nor more than 10 recommended for any one class of fruits or vegetables.

The seventeen years of unsuccessful effort by the canning industry with the stimulation and aid of a Federal agency to simplify and standardize the containers in which its products are packed are an illustration of the difficulties in the way of standardization by voluntary effort.<sup>1</sup> If the confusing and unnecessary variety of cans is to be reduced, it appears that

<sup>1</sup> See Consumers' Union Reports, 5 (February, 1940), 29-31.

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it must be brought about by a law making such action mandatory. Legislation proposed for this purpose was discussed in Chapter XI.

The following list gives the sizes of the cans most used, the number of standard measuring cups per can, and the approximate weight of contents. The weights are only approximate due to the fact that some products are heavier than others.

Name	Approximate net weight	Number of cups	Approximate servings
8Z Tall .....	8 ounces	1	1½
No. 1 (Picnic) .....	11 "	1⅓	2
No. 300 .....	14 "	1¾	3
No. 1 Tall .....	16 "	2	3-4
No. 303 .....	16 "	2	3-4
No. 2 .....	20 "	2½	4-5
No. 2½ .....	28 "	3½	5-7
No. 3 .....	33 "	4	6-8
No. 10 .....	6 pounds 10 "	13	20-26

Meats and fish are packed in cans of many shapes and sizes. The small cans used for such foods as deviled meats, lobster, minced clams, sardines, and mushrooms show marked variations in weight.

Food in the larger cans is cheaper, so it is worth while to make an effort to use the largest size possible. The No. 10 can is larger than is needed by ordinary families. It pays to buy the large size when a number of people are to be served, as there is considerable difference between the cost per pound of food bought in that and in the smaller cans. The Bureau of Home Economics in 1933 when prices were low but economy essential for many issued these warnings:

A 6-ounce can of evaporated milk, bought for 4 cents, costs about 2 cents more per pound than a 14½-ounce can at 8 cents.

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If you buy vegetables in No. 2 cans you probably pay 2 to 4 cents less per pound than if you bought the same food in No. 1, or picnic cans. If you buy fruits in No. 2½ cans you probably pay 3 or 4 cents less per pound than if these same fruits were in No. 1 cans.

Tomato juice comes in a dozen or more different sizes, with contents from 7 ounces up to 6 pounds 6 ounces. A 12½-ounce can at 10 cents costs 4.8 cents more per pound than a 50-ounce can at 25 cents.

**Quantity buying of canned goods.** Some stores give a discount on a case or half-case of canned food, which usually represents a 5 to 10 per cent saving. Some stores have "specials" on popular brands of staple foods, especially on Fridays and Saturdays. Occasionally goods from the previous year are reduced just before the new pack comes in. The month the new pack usually arrives on the market is given below.<sup>1</sup>

Apples—November; Apricots—July; Blackberries—July; Blueberries—August; Cherries—July; Gooseberries—June; Loganberries—July; Peaches—September; Pears (California)—August; Pears (Eastern)—September; Pineapple—September; Plums—September; Raspberries—July; Strawberries—July.

Asparagus—June; Lima beans—September; String beans—September; Beets—August; Corn—October; Okra—September; Peas—June and July; Pumpkin and Squash—November; Spinach—April and October; Sweet Potatoes—November; Tomatoes—September.

**Storage of canned foods.** Properly canned and stored foods will keep indefinitely, although slight deterioration may possibly take place after considerable time. Storage should be in a moderately cool place, not over 70° F. Freezing makes canned goods less appetizing, and may cause a broken seal. Dampness causes rusting and if excessive this may also cause leaking at the seams. Canned foods may be left in the open can without harm to health, although

<sup>1</sup> Alexander Todoroff, *Grocer's Answer Book* (Chicago, 1931), pp. 56-7.

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in some cases the flavor is affected.<sup>1</sup> In the case of some foods, chiefly sulphur-bearing, as corn and peas, and highly colored fruits, the insides of the cans are lacquered or "enameled" to prevent the acid or sulphur from acting on the tin and bleaching or discoloring the food. When air is admitted after the can is opened the food is especially apt to react with the container, but no harmful effects have been found by the United States Department of Agriculture.

Cans that show signs of spoilage should be discarded. The following are danger signs: swelling of the can, as both ends should be flat or curved inward; a rush of liquid and outburst of air when the can is opened; mold; any off odor, best detected when the can is first opened; discoloration. Dents do no harm to a can unless they are deep enough to cause leaks in the seams.

**Grading of canned foods.** Buyers cannot see through a tin can. They must buy their canned goods first and see what is inside the can afterward. The situation is made still more difficult by the fact that there are so many brands on the market that it is impossible to try them all and find out the best. The labels often tell little and may even be misleading. In a survey made by a peach growers' association in California in 1929, it was found that 56 per cent of the sample cans of peaches taken from retailers' stock bearing labels which the packers stated they used on "Fancy" peaches were not "Fancy," and that 44 per cent of those supposed to represent "Choice" or "Extra-Standard" did not conform to that grade according to the standards of the Cannery Association.<sup>2</sup> Under these circumstances price comparisons are difficult and products of the same quality may vary greatly in price.

The very evident need for better guides in choosing canned foods has given rise to much discussion of the desira-

<sup>1</sup> Research Department, American Can Co., *Nutritive Aspects of Canned Foods* (Chicago, 1937), pp. 45-6.

<sup>2</sup> Quoted in F. M. Shook, "Grades on Labels of Canned Foods," *Journal of Home Economics*, 26 (1934), 98.

## CANNED FOODS

bility of official grading and grade labeling. The McNary-Mapes amendment to the Federal Food and Drugs Act passed in 1930 gave the Secretary of Agriculture power to establish a minimum standard of quality for each kind of canned food except milk and meat. Under the new Food, Drug and Cosmetic Act of 1938, the authority to promulgate minimum standards of quality has been extended to all foods (with a few exceptions). Any food product that does not measure up to the minimum standard must be conspicuously labeled, "Below Standard in Quality." On both fruits and vegetables, the statement is added, "Good Food—Not High Grade." Water-packed fruits which meet all minimum requirements except that for syrup density may be labeled simply, "In water."<sup>1</sup> While the McNary-Mapes amendment made mandatory the identification of the lowest grade of products, it gave no assistance in determining the grade of the better quality, which represent the bulk of the industry's output. In Canada since 1918 the labeling of the major canned foods with their official grade has been legally compulsory.

To facilitate and encourage the grading and grade-marking of canned goods the Agricultural Marketing Service has developed permissive grades for a wide variety of products. It will also furnish on a fee basis a grading and certification service. The grades developed correspond closely to those worked out by canners' associations to facilitate sale and price comparisons in the wholesale market. The number of grades and the specifications for each vary with the product but in general they are as follows: *U. S. Grade A* (fancy); *U. S. Grade B* (choice or extra standard); *U. S. Grade C* (standard); and *Off Grade* (sub-standard). Most canned goods fall in Grade C.

In general Grade A (fancy) vegetables include the best flavored, most succulent, and most tender products of each

<sup>1</sup> See U. S. Food and Drug Administration; Service and Regulatory Announcements, Food, Drug, and Cosmetic, No. 1, for details of mandatory minimum standards and labeling requirements.

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variety, and the size that is the most desired. Grade B vegetables may be more mature, but their flavor must be fine and they must be tender, and succulent. Grade C may be more firm, less uniform, and their flavor may be less delicate. Grade A and Grade B fruit must be uniform in size and ripeness, free from blemishes; in some cases they must be larger in size, and of better color, texture, and appearance than the Standard. Beyond setting a minimum for density of syrup in sweetened grapefruit and Grade C fruit, the U. S. grades established to date make no requirements as to the amount of sugar used. In actual practice, Grade A (fancy) fruits are usually packed in a syrup that is 40 to 60 per cent sugar, depending on the kind of fruit.<sup>1</sup> Choice fruits have 10 to 15 per cent less sugar than the Fancy, and Standard fruits have 10 to 15 per cent less than the choice.

The regulations governing the sanitary conditions of packing are the same for all grades and all have practically the same food value, so the person who buys top grade may assume that the extra money goes for appearance or for greater palatability, but not for more wholesome food. Puddings, pies, soups, fruit cup, and casserole dishes of vegetables offer good opportunities to utilize Grade C or even sub-standard fruits and vegetables. When a fruit or vegetable is served alone, the better grades A and B may be preferable, but if the amount of money available for food is small, use of Grade C is a possible economy.

To date, official grades in tentative or final form have been developed for the following fruits and vegetables: apples, apple sauce, apricots, red cherries, grapefruit, grapefruit juice, peaches, pears, plums, asparagus, dry beans, snap beans, Lima beans, beets, carrots, corn (whole and cream style), mushrooms, okra, peas, pimentos, pumpkins, sauerkraut, spinach, succotash, tomatoes, catsup, tomato pulp and tomato juice. The grades are seldom found marked on can labels, and retailers can rarely tell their customers with certainty

<sup>1</sup> Forty per cent sugar means that the weight of the sugar is 40 per cent of the weight of the syrup at 60° F.



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which brands carried are in each class. The Great Atlantic and Pacific Tea Company has been labeling its own pack of fruits and vegetables Grade A, Grade B, or Grade C, using the official grade standards in each case. In the year ending March 1, 1937, they sold 153,537,000 cans so labeled.

A movement is under way promoted by consumers' organizations to make the labeling of canned goods with their U. S. grades compulsory in order to increase price competition between products of the same grade and to enable the buyer to decide whether the difference in qualities between grades is worth the difference in price to her. Some canners argue that a description of the product on the label which would include such items as the style of pack, size and number of pieces, maturity, texture, color, seasoning, syrup density, would be more helpful to the consumer than a letter representing the sum of all the qualities. The Agricultural Marketing Service and many consumer groups, on the other hand, believe that the best help would be given by a label that covered such points as number of servings, count, size of pieces, density of syrup, and in addition gave the grade.

**Labels on canned foods.** At the present time, the law requires that the net weight of the contents of each can be stated in the largest possible units, as for example, 1 pound 2 ounces, rather than 18 ounces, and that no inedible contents such as the brine in which sausages are sometimes packed can be included in the weight. Liquids are customarily labeled in terms of liquid measure; for example, "1 pint, 2 fluid ounces" on tomato juice. As with quality standards, the 1938 Act extended the authority to promulgate standards of fill to all foods. The phrase "Slack-Fill," formerly required, was changed to "Below Standard in Fill."

Nothing on the labels of canned foods may be false or misleading. Unmixed foods cannot be sold under fanciful names but must be sold under their common or usual names.

## FOOD BUYING AND OUR MARKETS

Artificial coloring, flavoring, or chemical preservatives must be noted. If sodium benzoate is used it must be so stated, but with the improved methods of canning the use of preservatives is becoming less common.

It is now mandatory to put the name of the canner or distributor on the label. In addition, labels are appearing bearing the number of servings or cups per can, actual-size photographs of the food inside, and often descriptive terms such as whole or cut string beans, No. 2 or extra sifted peas, green or white asparagus. Until more information is available on the label in regard to quality, efficient buyers of canned foods should investigate brands for themselves, finding out the grade whenever possible, and making notes on such points as flavor, tenderness, size and number of pieces or servings, freedom from imperfections, density of syrup, and the cost per pound of the solid food when drained. Such a study is especially worth while in the case of those canned foods that are much used.

### GUIDES FOR SELECTING SPECIFIC CANNED FOODS

#### CANNED FRUITS

The general characteristics of the various grades were given in the discussion of grading. Only factors of importance for specific fruits are mentioned here.

**Apple sauce** is usually a blend of several varieties of apples. *Grade A* (fancy) must be of a heavy consistency, may be grainy but not lumpy, must have good color and score at least 90 on color, consistency, finish, absence of defects, and flavor. *Grade C* (standard) must score 70 on the same points, and *Off-Grade* (sub-standard) less than 70.<sup>1</sup>

**Apricots** used in canning are chiefly the *Blenheim* and

<sup>1</sup> There is no Grade B in the present tentative standard.

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the *Royal* varieties. The best grades must be of good size. They vary from around 24 halves per No. 2½ can of top grade to around 42 halves per No. 2½ can of medium. Whole peeled apricots cost a little more than unpeeled halves. Whole unpeeled are also sold. U. S. Grades are: *A*, *B*, *C*, *D* (*Seconds*), *E* (*Water Pack*), and *F* (*Pie*). The first three grades are scored for color, uniformity, absence of defects, and character of fruit, the color and character of fruit (tenderness, texture, and well-defined edges) being especially important. Grade *C* must have syrup not less than 16 per cent sugar.

**Cherries.** The two most important cherries on the market are the sour, red, pitted cherries, which are usually canned in a water-pack and so labeled, and the large, sweet cherry known as the *Royal Anne*. The most popular varieties of the former are *Montmorency*, *Early Richmond*, and *Morello*. U. S. Grade *A* of sour, pitted, water-pack cherries must be of good, red color, have a firm, fleshy texture, a fine, distinct cherry flavor, and practically all must be 9/16 of an inch or more in diameter. U. S. Grade *C* allows more that are less than 9/16 of an inch in diameter, and a lower rating on each of the other factors. Red, sour cherries are also canned pitted in syrup.<sup>1</sup>

Royal Anne cherries are pale yellow, with a pink blush that turns to tan when heated. Another sweet cherry is the *Black Bing*. Either of these varies in number from about 85 in the No. 2½ can for high quality to about 145 for the quality most commonly used. They are canned with pits. Grade *C* cherries must be canned in syrup at least 16° Brix<sup>2</sup> and the drained fruit must be not more than 12 per cent pits by weight. Each cherry must weigh at least 1/10 ounce.

**Fruit cocktail** is made from small pieces of fruit used in a definite proportion, and usually includes peaches, apricots, pineapple, pears, cherries, and grapes.

<sup>1</sup> There is no Grade *B* in the present tentative standard.

<sup>2</sup> The same as 16 per cent sugar.

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**Fruit salad** includes about the same fruits cut in larger pieces, and in slices.

**Grapefruit** is canned from the fully ripened fruit, which gives it a different flavor from the fresh. It is usually canned with sugar unless labeled unsweetened. Segments canned from very ripe fruit are broken and therefore cheaper, but have fine flavor. *U. S. Grade A* must have a drained net weight 60 per cent of the weight of the whole, and 80 per cent of the segments must be whole. They must have a firm but not fibrous texture, and the syrup must test 18° Brix. *Grade B* differs in that only 60 per cent of the segments need be whole, the drained net weight need only be 55 per cent of the weight of the can's contents, and the syrup must test 16° Brix. *U. S. Broken* is the third grade, which requires that 75 per cent of the drained fruit be whole or broken segments, and the weight of the drained fruit must be 60 per cent of the can's contents. The syrup should test 14° Brix. Federal grades have also been established for canned grapefruit juice.

**Peaches** are canned whole, sliced, and in halves, but the last is the most popular style. Clings are used most because they are not so apt to appear ragged after cooking, although some prefer the flavor of the free-stones. In addition to *U. S. Grades A, B, and C*, three Substandard Grades have been established: *D (Seconds)*, *E (Water-Pack)*, and *F (Pie)*. Color and character of the fruit are of importance in the scoring of canned peaches. The portions should be thick, meaty, unbroken yet very tender, and of fine texture. The number of halves in a No. 2½ can runs from 6 to 10 for Grade A, 6 to 12 for Grade B, and 6 to 21 for Grade C. The difference in thickness of syrup is noticeable in the different grades.

**Pears** canned commercially are almost all either the *Bartlett* or the *Kieffer*. They are canned in halves, quarters, sliced, or whole, the halves running about 6 to 12 in a No. 2½ can of Grade A or Fancy, 6 to 15 for Grade B or Choice, and 6 to 21 for a Standard quality.

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They are scored in practically the same way as are peaches, although the syrup required in Grade C is a little thinner.

**Pineapple** styles seem to be more varied than those of most fruits. The canned fruit can be bought sliced, in broken slices, crushed, diced, as tidbits, fingers, nuggets, or spears. Trimmings, fruit recovered from the shell, and irregular slices, as well as fruit too ripe to slice, are sometimes used for crushed and other forms. These should cost less per pound of solid fruit than the fruit in a can of sliced pineapple. Very low-priced crushed is apt to contain portions of the core and to be fibrous. The *Fancy* and *Choice* commercial grades are based on the perfection of the slices, ripeness, yellowness, and freedom from imperfections. There are usually 8 slices in a No. 2½ can.

**Plums** are usually canned with the pits, and the syrup density depends somewhat upon the tartness of the plum. The Italian fresh prune requires a heavy syrup because of its tartness. Other varieties canned are the tart *Green Gage* and the sweet *Yellow Egg*. The number of plums in a No. 2½ can varies with the variety of plum. Six official grades are recognized: *U. S. Grade A* (fancy), *U. S. Grade B* (choice), *U. S. Grade C* (standard), and three lower grades.

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Vegetables are canned with or without water, and with or without salt. Occasionally a little sugar is added. Color, tenderness and maturity, flavor, size, uniformity, and freedom from blemishes are factors to consider in buying most canned vegetables. The characteristics of the various grades were given in the discussion of grading. Only factors of importance for specific vegetables are mentioned here.

**Asparagus.** The color of canned asparagus may be green, white (bleached), or white with yellow, green, or purple tips, the first being grown above ground, the white cut before it has come through the ground, and the third

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cut when only the tips have come through. Asparagus is packed in various ways. *Salad points* are medium-sized tips, and the *Tips* are slightly longer. *Spears* refer to the whole stalk. *Cut asparagus* is the whole stalk cut up, whereas *Center* or *Soup cuts* are the cut stalks without the heads. Green asparagus is the kind usually used for this purpose. The thicker the stalk, the fancier the variety. Some of the very large stalks are peeled. U. S. grades are: *A* (fancy), *C* (standard), and *Off-grade*, the points most emphasized being tenderness and texture. Absence of defects, clearness of liquor, color typical of the type, and uniformity are also given weight.

**String beans** on the market are usually stringless, except in the lowest grades, either because they are a stringless variety, are immature, or are freed from strings before packing. They are either the *round pod*, known as the *Refugee*, variety, or the *flat pod*, and are either *green* or *wax*. The round varieties may be graded for size on a scale ranging from 12/64 of an inch in diameter for the smallest, or No. 0, to 27/64 for the largest, or No. 6. The largest is usually used for cut beans. The smallest beans cost the most. Probably the most expensive pack is the asparagus style, in which high quality beans are packed by hand parallel to the length of the can. These are popular for salads. The cut and asparagus styles have the highest weight of beans per can. U. S. *Grade A* string beans must be free from discoloration, strings, and stems; they must be immature; and (unless marked ungraded for size) they must conform to the size claimed for the grade. They must grade 90 on clearness of liquor, uniformity, absence of defects, maturity, and flavor. *Grade B* must score not less than 75 points, while in *Grade C* the liquor may be somewhat cloudy and score not less than 60.

**Lima beans** (immature) are graded on the basis of similar characteristics. The grades are U. S. *Grade A* (fancy), U. S. *Grade B* (extra standard), and U. S. *Grade C* (standard).

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**Dry beans** in cans are chiefly the *navy* and *kidney*, although there are some dried *Lima* beans in cans, labeled "Soaked" or "Prepared from dried beans." The size of the navy bean varies with the variety, and it is packed with various seasonings; plain sauce, tomato sauce, pork and plain sauce, pork and tomato sauce, and with molasses if marked New England or Boston style. If the word "baked" is used, the beans must be cooked by dry heat and not steamed. "Steam-baked" are not really baked. *U. S. Grade A* must be free from loose skins and mashed beans. It must score 85 on consistency (the proportion of beans to sauce), absence of defects, tenderness, texture, and flavor. Other grades are *C*, for which the beans must be reasonably whole and the total score 70; and *Off-grade*, with a total score less than 70.

*Red kidney* beans are usually so labeled to distinguish them from other types resembling them, such as red beans and red cranberry beans.

**Beets** that are small are canned whole and are the fanciest kind; larger beets being sliced, quartered, diced, and also sold as cut beets. *U. S. Grade A*, if whole, must be not over  $1\frac{5}{8}$  inches in diameter, and if sliced, with slices not over  $\frac{5}{16}$  of an inch thick. The total score must reach 85. Characteristics scored are color, uniformity, absence of defects, flavor, and tenderness and texture, with the last point having the greatest weight. *U. S. Grade C*, if whole, must be not more than 2 inches in diameter, and, if sliced, the slices not over  $\frac{3}{8}$  of an inch thick. Total score must reach 70.

**Corn** is put up as *cream* corn, *whole grain* corn, and a small amount is canned as *corn on the cob*, with about four ears to the can. In cream style, the tops of the kernels are cut off and the cream forced out. Whole grain is cut deep and not scraped, each kernel being whole and separate. *Shoe peg* corn is whole grain with extra long kernels. When the style is not mentioned, corn may be the kernels and the milky scrapings left from the cream corn. Both the *white* varieties (*Country Gentleman*) and *yellow* (*Golden Bantam*)

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are canned in all styles. *U. S. Grade A* cream-style corn must have cream-like consistency, be free from silk and husks, and score 90 on color, consistency, absence of defects, evenness of cut, maturity and flavor, the color and cut having the least weight. *Grade B* corn may be not quite so tender, and must score not less than 75, while *Grade C* may show a slight separation of liquor, and kernels may be in the dough (starchy) stage. Whole-grain corn is graded the same except that the grains must be substantially whole.

**Mushrooms** of the fanciest quality are small whole mushrooms or buttons (unopened buds) consisting of the whole cap and a portion of the stem, of light creamy or yellowish color, depending on variety. They have no breaks or spots and very little stem left on them. French mushrooms are commercially graded as *Extras*, *First Choice*, and *Choice*. There are *U. S. Grades A* and *C*, emphasizing color and uniformity, for whole, sliced, and "stems and pieces" or "hotels."

**Peas** are of two main varieties, the *Early June* with a smooth skin, and the *Sweet* (July) pea with a wrinkled skin. The *Early June* is sometimes called *Alaska*. Peas are graded for size, the smallest, No. 1, usually being called *Tiny* or *Petit Pois*; size 2, usually called *Small* or *Extra Sifted*; size 3, *Sifted*; size 4, *Sugar* or *Medium Large*; size 5, *Marrow-fats* or *Large*; size 6, *Telephone* or *Extra Large*. "Run of the Pod" peas are canned without grading for size. This latter practice is increasing. The very small peas are scarce and therefore high priced, but they are often immature and watery. *U. S. Grade A* requires young peas, of good flavor, free from skins and broken peas, with clear liquor. When older peas are used the starch clouds the liquor. *Grade B* is the same except that the can must be reasonably free from skins and broken peas, with reasonably clear liquor. In *Grade C* the liquor may be more clouded, and the total score lower.

**Pimentos** of *U. S. Grade A* must be whole, full red color, two inches long and two inches wide. *U. S. Grade A Pieces* are the same except that they need not be whole and uniform.



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The color of *Grade C* may be light red with yellowish tinge.

**Spinach** is scored on the basis of color, flavor, tenderness, texture, and absence of defects such as grit. Texture is given a rating of 40 out of the 100 points in *U. S. Grade A*. Stems must not be coarse, and the product must not be mushy. *Grade C* permits a lower total score.

**Tomatoes and tomato products** are canned with or without salt, but in no case may any water be added in the canning. If juice from other tomatoes is added in canning, it must be the same quality and quantity as would naturally be found in the tomatoes being canned. If strained residual matter from other tomatoes is added, a statement must be placed on the label. *U. S. Grade A* tomatoes must be whole or almost whole, all good red color, free from skins, and score 90. Points scored are proportion of whole tomatoes and the solidity (amount of liquid), color, absence of defects, and flavor. They are usually labeled "Whole." The drained solids should be 65 to 70 per cent of the whole weight. *Grade B* may be in large pieces, not quite so red, and must score 75. *Grade C* allows some under-colored parts.

*Tomato juice* is scored high for flavor and color. To be of good quality it must flow readily and not separate.

*Tomato pulp*, a concentration of strained tomatoes, is also graded on color and flavor; it must have 8.37 per cent of tomato solids to be labeled tomato pulp or puree.

*Tomato paste* is the pulp concentrated in a vacuum, and it must have 25 per cent tomato solids according to the Food and Drug definition. If coloring is added, it must be declared, and may not be used to conceal inferiority.

### JELLIES, JAMS, AND PRESERVES

The United States Food and Drug Administration defines a *preserve* or *jam* as the product made by cooking fruit with sugar or with sugar and dextrose (pure corn sugar). At least 45 pounds of fruit must be used to each 55 pounds of sugar. In a preserve the fruit is kept as whole as possible, whereas in a jam the fruit is cooked to a pulpy consistency.

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In *jelly* the juices of the fruit are combined with the sugar in no required proportion, but using only fruit juice, water if necessary, and sugar. The highest quality products of this type contain nothing but fruit, water, and sugar, and they should command the best prices. All other jams, jellies, and preserves must be labeled "Imitation" and must state the ingredients. Pectin (the jelling substance in fruits) as well as acid (usually tartaric or citric) may be added to further the jelling, but their presence must be indicated on the label. If two or three fruits are mixed the names of all must be stated. So long as the above requirements are met, the manufacturer can use any descriptive words such as "Pure" or "De Luxe Quality" on the label.

*Marmalade* differs from other products in this class in that it contains pieces of the fruit peel. *Apple butter* when correctly labeled must contain 5 parts of strained apples to 2 parts of sugar with nothing added but apple juice, boiled cider, spice and salt.

### PICKLES, OLIVES, RELISHES AND SAUCES

Some of the items in this class can easily run up the cost of food without adding much food value. They are not foods which can be economically bought in large-size containers, as few families have use for the large quantities. Sometimes products in tin containers are cheaper than the same food in glass, but not many tin containers are found on the market today. It is important to read the label carefully for the names of foods used and for net weights. This type of food is especially apt to be found in fancy containers, or those with indented sides and raised bottoms which make it hard to judge quantity. Extremely fancy packs, with contrasting foods in orderly rows, require extra hand-labor in packing and usually command an extra price.

**Pickles** are commonly prepared from immature cucumbers, although onions, especially the pearl variety, beets, beans, cauliflower, peppers, green tomatoes, and various fruits such as pears, peaches, figs, watermelon rind, man-

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goes, grapes, and crab-apples are also sold pickled. Fruits labeled "spiced" or "pickled" may not be merely the canned fruit with a little seasoning added, but must be really spiced and pickled as the home canner understands those terms. Vegetable pickles are defined by the Food and Drug Administration as those preserved in any kind of vinegar, with or without the addition of spices. The commonest pickles are the sweet, the sour, and the dill cucumber pickles, the last flavored with the leaves and flowers of dill. Mixed pickles usually combine such vegetables as cucumbers, green tomatoes, peppers, cauliflower, onions, and string beans.

The National Pickle Packers' Association has established standards for pickles based on shape, curing, color, and size. The names used for the different sizes are "midgets," "gherkins," "smalls," "medium," and "large."

**Olives** are classified chiefly on the basis of size. *Queen* olives are a variety of good quality that comes in large and medium sizes. Green olives are graded according to the number per kilogram (2.2 pounds) as follows:

70 to 80s.....	from 44 to 50 to a quart
80 to 90s.....	from 51 to 56 to a quart
90 to 100s.....	from 57 to 62 to a quart

The smallest of the twelve sizes are 240s to 260s, from 151 to 162 to a quart. *Manzanilla* is the name of a small variety.

Many ripe olives are of the *Mission* variety, and all have a high oil content as compared with the eight per cent of the green olive. Sizes are:

Colossal .....	35 to 45 to a pound..	1	inch diameter
Jumbo .....	45 to 55 to a pound..	$\frac{15}{16}$	inch diameter
Giant .....	53 to 60 to a pound..	$\frac{7}{8}$	inch diameter
Mammoth .....	55 to 70 to a pound..	$\frac{14}{16}$	inch diameter
Extra-large .....	82 average to a pound..	$\frac{3}{4}$	inch diameter
Large .....	70 to 88 to a pound..	$\frac{11}{16}$	inch diameter
Medium .....	88 to 107 to a pound..	$\frac{10}{16}$	inch diameter
Standard or small..	107 to 120 to a pound..	$\frac{9}{16}$	inch diameter

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A *Super-Colossal* running 30 to a pound is sometimes seen.

Since 1931 State inspection of ripe olives has been required in California. All labels must carry a cut showing the size of the fruit and a statement of the approximate number of olives in the container.

Pickles and olives can sometimes be bought in bulk. The sanitary condition of the store and the fact that they lack the brine in the jar which helps to keep them for a short time, are points to be considered.

**Relishes and sauces.** The commonest type is *catchup*, for which U. S. grades have been established. Like those for tomato juice, they are based on color, flavor, and absence of defects. Consistency is emphasized, that is, the liquid should not separate and the catchup should not be too "runny." For *Grade A* the specific gravity may not be less than 1.15 and for *Grade C* not less than 1.11.

Other pickles, relishes, and sauces which may be purchased on the market are: *capers*, *chow chow*, *chutney sauce*, *sauerkraut*, *chili sauce*, *horseradish sauce*, *tabasco sauce*, and *Worcestershire sauce*.<sup>1</sup>

### CANNED MEATS AND FISH

**Meats.** Some of the meat products available are canned roast beef, veal, mutton, tongue, corned beef and corned beef hash, Vienna sausage, veal and other meat loaves, pigs' feet, tripe, chili con carne, chipped beef, deviled meats for sandwiches, stewed kidneys, beef stew, Hungarian goulash, tamales, chop suey, beef steak, ravioli, whole ham, bacon, frankfurters, and various other kinds of foods and prepared dishes. Chicken is canned chiefly as boneless or boned, ground and seasoned for a sandwich spread, chicken a la King, chicken and noodles, chicken curry, and, more recently, as the whole chicken.<sup>2</sup>

<sup>1</sup> For brief descriptions see Alexander Todoroff, *Food Buying Today* (Chicago, 1938), pp. 87-9.

<sup>2</sup> Todoroff, *op. cit.*, pp. 78-81.

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Canned meats and meat products are not graded but since they come under the mandatory provisions of the Federal Meat Inspection Act, the processing is rigidly supervised; the materials used must be wholesome, the methods of processing and sanitary conditions must be satisfactory. Each can from a Federally inspected establishment bears on the label the number of the establishment and the words, "U. S. Inspected and Passed." No label may be used that has not been approved by the Department of Agriculture not only on this point but in all other respects.

Poultry and poultry products do not come under the Meat Inspection Act. But today the labels on most canned chicken and chicken products bear the legend, "U. S. Inspected and Certified by the Agricultural Marketing Service, United States Department of Agriculture." This is due to voluntary action on the part of poultry processors. Under the Farm Products Inspection Act, Federal inspection is available on a contract basis for those processors desiring it. The regulations are similar to those set up under the Meat Inspection Act. Labels must be submitted to and approved by the Department.

By the passage of the sea-food amendment to the Federal Food and Drugs Act in 1934, Federal inspection of their plants on a fee basis was made available to any packer of sea-food requesting it. In 1935 another amendment permitted the Federal Government to share the cost of inspection. Both amendments have been incorporated into the new Food, Drug and Cosmetic Act of 1938. Federally inspected sea-food products bear the legend, "Production Supervised by U. S. Food and Drug Administration." This inspection service is optional.

Products of the above type vary greatly according to the seasonings used by the packer, and therefore the only way to find the type desired is to try them out. In this respect they are like canned soups and other specialties. In com-

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paring the cost of canned with that of fresh meat, it is helpful to know that 12 ounces of canned meat equals 15 to 18 ounces of raw.

**Salmon** may be either deep pink or light in color, depending upon the species of fish. The five best known are given here. *Chinook* or *King* salmon brings the highest price. It is of a varying pink color, fine flavor, oily, and if labeled "Fancy" is the Spring catch; if "Choice," it is the Fall catch. The *Red* or *Sockeye* salmon comes next and often sells for much less than the Chinook. It is firm with a deep, red color, and if from Alaska is called *Alaska Red*. This is an important variety from the standpoint of quantity packed. The *Coho*, or *Silverside*, is like the Red in flavor, is fairly firm, and has a color lighter than the Red. *Pink* or *Humpback*; which rates fourth, has pale flesh that is rather soft, and has no oil. This salmon is very abundant. *Chum* has poor flavor, is very pale and soft, and has no oil. If no name is on the can, it is very apt to be one of the cheaper varieties. Salmon is usually sold in tall or flat one pound or flat one-half pound cans (sometimes 15½ or 7½ ounces). The heavy, center, steak cuts are sold in flat, oval cans, and are more expensive.

**Sardines** are small fish of the herring family, of various species including *pilchards*, *sprats*, and *bristlings*. They are graded according to their treatment in canning, rather than actual differences in the fish themselves. *Fancy* sardines are of uniform size, fried in oil, and packed carefully in layers in olive or cottonseed oil. The *Choice* grade is made up of steamed fish, packed in oil. For the *Standard* grade the fish may vary in size, and are steamed and packed in cottonseed or other vegetable oil. With the mustard or tomato-sauce pack, or the spiced-vinegar pack, larger fish are more often used, or those which have been broken in cooking. The label will tell the style of pack. Oil-fried are supposed to have a better flavor than steamed. If labeled "kippered," they are salted and smoked. They are frequently packed in a 3¼-ounce can.

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**Herrings**, the larger fish of the catch, are usually packed with seasonings such as tomato. When smoked and dried, they are called *kippered* herring.

**Shrimps** are put up in either a dry or wet pack, marked on the label. About 90 per cent of the shrimp canned in 1936 bore the Government label, "Production Supervised by the U. S. Food and Drug Administration." They are most frequently canned in a 5¾-ounce can. Those packed in glass represent the fanciest grade.

**Tuna** may be white meat, from the *Long-Finned* or *Albacore* species of tuna fish which is quite scarce, or it may be light meat from other varieties. The first is the most expensive. If the label reads "White Meat Bonita" or "White Meat of Yellow Tail," it means the meat is from those two members of the mackerel family, to which the tuna also belongs. They are not tuna fish, although similar. In packing tuna, an oil, usually cottonseed, is added to give it richness. Olive oil is used in the Italian style pack.

**Mackerel** is packed with vinegar and spices, or in oil, as "kippered mackerel," and as smoked mackerel. Oval cans are frequently used. It is also found on the market in a tall can, without seasonings. In appearance it is much like the lower grades of salmon.

**Clams** of the Atlantic Coast are either the *soft-shelled* (long neck) or the *hard-shelled* (little neck or quahaug) species. The little neck is canned whole as well as in such forms as juice, bouillon, chowder and broth. The large razor clam of the Pacific Coast is frequently canned minced and is important commercially.

Other canned fish products are: anchovies, a young fish of the herring family, of a very characteristic flavor; caviar or roe, which are fish eggs; crab; haddock and cod, sold as fish flakes and fish balls; lobster; oysters; fish pastes, many of which are a mixture of fish and shellfish and contain some cereal and added water and haddock, prepared as "Finnan Haddie."

Cans containing sea foods are frequently lined with parch-

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ment paper to prevent interaction with the tin from turning the meat black.

### Questions or exercises

1. Obtain sets of United States standards for grades of selected canned foods from the United States Department of Agriculture, Agricultural Marketing Service. After removing the labels and providing some other means of identification, grade the canned fruits or vegetables selected using the scoring methods described in the leaflets.
  - (a) Is your experience useful in suggesting what to look for in these products? Why?
  - (b) Does your experience suggest that grading must be done by a skilled person? Why?
  - (c) If a group is doing the grading do the scores of all members of the group agree?
  - (d) For what qualities is there the greatest variation in scores?
2. Compare the cost of a pound of peaches, drained weight, bought in a No. 1 can with the cost per pound of the same brand bought in a No. 2½ can at the same store. When is it desirable to buy the smaller can?
3. Buy, in the same store, a No. 2 can of two or more brands of a common canned food including if possible a widely advertised and a little advertised brand. After removing the labels and providing some other means of identification, compare the quality on the basis of U. S. standards.
4. Study the labels on canned foods. What useful information do they give?
5. How much can be saved by purchasing a case or half-case of canned foods at one time? Does this vary with the type of store? Why? Cite possible objections to the practice of large-quantity purchases.

### SUGGESTED READINGS

- EDWARDS, A. L., "Shall Canned Foods Be Graded?" *Advertising and Selling*, XXIII (1934), 22, 23, 46, 50, 52.
- HINTZ, V., "Study of Labels on Canned Goods," *Journal of Home Economics*, XXVI (1934), 551-3.



## CANNED FOODS

- Household Finance Corporation, *Fruits and Vegetables*, Better Buymanship No. 3 (Chicago, 1937).
- KELLOGG, M., "How Quality Grading Has Worked Out in Canada," *Advertising and Selling*, XXIII (1934), 29-30; 40-1.
- , "Marketing Canned Goods under the Canadian Grading Program," *Advertising and Selling*, XXIV (1934), 25, 40, 42.
- LYND, R. S., "Why the Consumer Wants Quality Standards," *Advertising and Selling*, XXII (1934), 15, 16, 46, 48, 49.
- National Canners Association, *Labeling Canned Foods* (Washington: National Canners Association, 1936).
- RILEY, A. W., "To Grade or Not to Grade," *Advertising and Selling*, XXIII (1934), 23, 42, 44.
- SHOOK, F. M., "Grades on Labels of Canned Foods," *Journal of Home Economics*, XXVI (1934), 98-100.
- Symposium, "Labeling Canned Foods," *Journal of Home Economics*, XXVII (1935), 425-31.
- TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), 33-40; 54-64; 70-6; 78-83; 87-9; 93-6.
- U. S. Food and Drug Administration, *Federal Food, Drug and Cosmetic Act of 1938 and General Regulations for its Enforcement*, Service and Regulatory Announcements, Food, Drug and Cosmetic No. 1.
- , *Definitions and Standards for Food Products*, Service and Regulatory Announcements, Food and Drug No. 2, Rev. 5.
- WILDER, Susan, *Buying Canned Fruits*, South Dakota State College, Extension Circular 355 (Brookings, 1936).
- , *Buying Canned Vegetables*, South Dakota State College, Extension Circular 354 (Brookings, 1935).

Copies of Government standards and grades for specific canned foods can be obtained from the Agricultural Marketing Service, Washington, D. C.

## CHAPTER XV

### FRUITS AND VEGETABLES

#### GENERAL GUIDES FOR BUYING

##### Suggestions for the fruit and vegetable buyer

1. Buy in season. The early arrivals on the market may seem like delicacies, but their quality is often poorer than mid-season and late-season produce, and their prices are usually higher. Tables XXIV and XXV show the monthly variations in the supply of certain fresh fruits and vegetables in one large city market. Usually the quality is best and the price lowest when the locally grown product is in the market. Information in regard to local seasons can be obtained from "A Fruit and Vegetable Buying Guide for Consumers" put out by the United States Department of Agriculture, which gives the shipping seasons of all fruits and vegetables from all states.<sup>1</sup>

2. Make the most of available information in regard to supplies in your local market. Most radio and newspaper market-news services are designed primarily for producers and market men, but the housewife who familiarizes herself with them can at least follow the trend of the market and learn whether available supplies are scarce or plentiful. In some localities services especially designed for the consumer have been established. The Department of Markets in New York City has a Consumers' Service Division which gives news of the market to housewives over the radio and through

<sup>1</sup> Miscellaneous Publication No. 167 (1936), pp. 5-8.

TABLE XXIV

TOTAL CARLOT ARRIVALS OF CERTAIN FRESH FRUITS IN CHICAGO: 1938<sup>a</sup>

Fruit	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Apples .....	493	493	469	399	241	207	219	281	767	926	840	630
Blackberries .....	...	...	...	...	...	7	9	15	5	...	...	...
Cantaloupes .....	...	...	...	5	83	994	1,205	756	309	31	...	...
Grapefruit, .....	515	333	504	393	228	145	26	58	92	352	377	369
Oranges .....	766	862	1,062	950	1,096	868	635	747	771	958	727	927
Peaches .....	...	...	...	...	38	396	1,128	875	424	4	...	...
Pineapples .....	8	5	22	62	451	153	7	...	2	3	11	10
Strawberries .....	23	93	181	383	491	189	17	2	...	1	...	3
Watermelons .....	...	...	1	2	125	1,087	1,558	898	67	3	...	...

<sup>a</sup> Source: U. S. Agricultural Marketing Service, *Arrivals and Unloads of Fresh Fruits and Vegetables at Chicago, Illinois* (1938). Arrivals by freight, express, and truck are reduced to carlot equivalents.

TABLE XXV

TOTAL CARLOT ARRIVALS OF CERTAIN VEGETABLES IN CHICAGO: 1938<sup>a</sup>

Vegetables	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Asparagus .....	...	...	22	289	127	70	10	...	...	11	9	...
Beans .....	115	116	119	195	250	217	177	167	185	119	190	133
Beets .....	26	15	17	29	38	56	58	28	26	29	39	24
Cauliflower .....	337	369	439	356	148	107	42	93	244	212	258	241
Cucumbers .....	13	13	35	190	253	310	219	161	110	37	28	29
Peas .....	119	66	89	162	558	318	242	437	359	214	106	12
Potatoes .....	2,156	2,007	2,718	2,358	3,127	2,948	3,081	1,713	2,468	2,462	2,291	1,979
Tomatoes .....	167	198	368	534	718	921	621	688	1,297	940	462	165

<sup>a</sup> Source: U. S. Agricultural Marketing Service, *Arrivals and Unloads of Fresh Fruits and Vegetables at Chicago, Illinois* (1938). Arrivals by freight, express, and truck are reduced to carlot equivalents.

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newspapers. These services are especially important in the case of fruits and vegetables, because the simultaneous ripening of an entire crop of a perishable food can cause a glut on the market. Too many shipments to one locality can have the same effect, and market-news services lessen the chance of gluts from this cause.

3. Select fruits and vegetables personally if possible. This is the most satisfactory way to make sure of good quality and a minimum of waste.

4. Learn to judge by appearance and odor. Fruits and vegetables should be handled only when absolutely necessary to judge their quality.

5. Study the grade specifications given in this chapter for specific fruits and vegetables in order to know the signs of good quality.

6. Buy highly perishable fruits and vegetables ordinarily in small quantities, not only because of possible waste, but because many lose some of their flavor on standing. Potatoes, onions, apples, citrus fruits and other produce which keep fairly well in cool, well-ventilated places outside the refrigerator may be bought in quantity under the following conditions: (a) when storage space of suitable temperature and humidity is available; (b) when the food is in good condition for storing, that is, free from cuts, bruises and decay; (c) when there is a significant price difference. It pays to lay in a supply when the price is temporarily low, or when the price by the bushel or crate is lower than by the single pound.

7. Use caution and judgment in buying slightly damaged fruits and vegetables for immediate use. Waste in preparation may easily wipe out any possible saving. At the same time real bargains are sometimes obtained in this way because the seller prices them low in order to move them quickly before they become badly wilted, decayed, or over-ripe.

8. Distinguish between blemishes that affect the quality of the fruit or vegetable and those that affect only the ap-

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pearance. Scars on grapefruit, soft spots that do not penetrate the rind of melons, tomatoes with a pucker at the blossom end, a small amount of reddish color on lettuce which is due to a natural change in the juice—are illustrations of the type of blemish meant. Always buy with the use in mind. For example, insect-bitten apples or those with specks caused by fungi may do for cooking. Sweet peppers that are not indented sell for more than those somewhat indented or irregular. The latter are satisfactory unless they are to be used whole, so long as they are not misshapen enough to be wasteful.

9. Buy by weight when possible, as measures vary with the way in which the food is packed, and weight affords an accurate method of making price comparisons between stores. Small containers such as till baskets should be avoided for peaches, tomatoes, and other large fruits and vegetables, as the weight of the contents may vary as much as 14 per cent, depending on the manner in which the fruit is packed.

10. Try the different kinds of fruits and vegetables afforded by the market. If a family learns to like many, the food buyer has more choice and a greater chance of obtaining good quality at low price.

### **Improvements in the quality of fruits and vegetables on the market**

Great improvement has been made in the quality of fruits and vegetables shipped from the major growing-districts to the large consuming-centers. Melons of superior flavor from a distance, beets and carrots with unwilted tops, and fresh peas from California at reasonable prices, have all been made possible by the improvements in refrigeration that have been recently made. "Pre-cooling," "top-icing," and "snow-icing" are phrases sometimes seen, and refer to various improvements of this type that have made it possible to pick the fruit or vegetable nearer the optimum stage of maturity from the standpoint of flavor.

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Cold storage at terminals has also been greatly improved. It has made possible the abundance of high-quality and reasonably priced fruits and vegetables from a distance found in all the larger markets today. Cold storage has made it possible to grow some varieties of excellent flavor commercially that formerly were known only locally because they did not ship well. Growers have also been making steady progress in producing varieties of good flavor that ship well.

### Standard containers

Three Federal laws, passed in 1915, 1916, and 1928, have fixed the sizes and to a certain extent the shapes of the containers in which fruits and vegetables may come on the market. The first regulates the capacity and the sub-divisions of the barrel, the second, the capacity and sizes of berry boxes, till baskets and Climax baskets and the shape of the last, and the third law, the capacity, sizes and shapes of hampers, round stave baskets and splint or market baskets. The laws of 1915 and 1928 were passed under the power of Congress to fix weights and measures, and they therefore affect all transactions within the borders of a state as well as between states, and supersede all conflicting state laws or city ordinances. The law of 1916 applies only to interstate commerce but many states have enacted laws similar to the Federal Act. Furthermore, since the Federal Act forbids the manufacture, sale, and shipment of the illegal containers either filled or unfilled, not many are likely to be available for use. The result of these laws was to remove from use a multiplicity of shapes and sizes of containers, extremely confusing and deceptive. Any container which by reason of its construction, shape, or manner of use, may be considered as a Climax basket, berry box, till basket, hamper, round stave or splint basket, must therefore conform to the requirements of the law. The standard sizes established are:<sup>1</sup>

<sup>1</sup> For capacity in cubic inches see p. 186.

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### Permitted sizes

Barrel for fruits and vegetables or other dry commodity .....	1/3, 1/2, 3/4 barrel
Climax baskets .....	2, 4, 12 quarts, dry measure
Berry boxes .....	1/2 pint, 1 pint, 1 quart, dry measure
Till baskets .....	Multiples of 1 quart, dry measure
Hampers and round stave baskets..	1/8, 1/4, 1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 2 bushels
Splint baskets .....	4, 8, 12, 16, 24 and 32 quarts, dry measure

### Government standards and grades

The Federal Agricultural Marketing Service has formulated standards for permissive grades for the most important vegetables and fruits, a difficult task since grade specifications must be broad enough to cover the different varieties of each product. In January, 1940, 82 sets of standards had been established for fresh fruits and vegetables. Although the use of these Federal grades is optional, about one-half of the million carloads of fruits and vegetables shipped in 1938 were officially graded. Practically all apples sold in barrels and baskets and all potatoes are bought and sold in the wholesale market on the basis of U. S. grades. Ordinarily the official grade of graded fresh fruits and vegetables is placed only on the wholesale container, the crate, box, or burlap bag. After they are removed from these original containers, they are no longer grade-marked. If the retail buyer is to have the guarantee that the grade-mark gives her that the product does not fall below a certain quality, the retail package must bear the grade. Since many fresh fruits and vegetables are not sold packaged, this is difficult to manage. Citrus fruits could be stamped with the grade, as they often are now with the brand name, and fruits in paper wrappers could be easily grade-marked. The housewife should watch for grade designations in the stores and in advertisements and ask for them.

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since it is advantageous for her to use them when possible.

The perishability of many fruits and vegetables hinders the use of grades in the retail market. Where U. S. grades are marked it must be remembered that the grade applies to the product at the shipping point, so far as percentage of decay is concerned. Any deterioration in transit or in the retail market is considered as affecting "condition" rather than grade. In other words, if the grade is marked the housewife has information in regard to maturity, freedom from injury, color, shape, and other qualities which determine grade. But she must still be on the alert for signs of spoilage since the packing and grading. Some students of marketing believe that the emphasis should be placed on the improvement of the quality of the products shipped and on the grading at production centers rather than sale by grade in the retail market. Although it is difficult for the consumer-buyer to find out the U. S. grade of the fruit or vegetable she is buying, a study of grade specifications is worth while because it shows her what defects are considered serious and what qualities important.

Obviously the grade specifications for no two fruits or vegetables can be identical, but they are similar in their main requirements. To be placed in the highest grade, the product must be: free from decay, from injury by damage or disease, insects, or mechanical means (as bruises or cuts), and from other defects; sufficiently mature for consumption, but not over-mature; of good shape (where shape is important, as for potatoes); and usually all the fruits or vegetables in a container must have the same varietal characteristics. In addition to these general requirements, which are practically the same for all fruits and vegetables, there are special requirements for those points which affect the desirability of a particular fruit or vegetable, as the solidity of cabbage or the greenness of cucumbers. These special requirements will be outlined for specific fruits and vegetables.

A point of difference between fruits and vegetables must be remembered, however, in judging desirability: fruits are



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at their best when fully matured, while vegetables usually are most desirable before reaching maturity. With maturity, or ripeness, a fruit develops a more desirable texture and flavor, becoming sweeter and often more juicy; while a vegetable may become less tender, more starchy, pithy or woody, and have harder, larger seeds. Since ripeness of fruits is so important, special efforts have been made to set objective standards for this quality. With grapes, for instance, maturity is determined by sugar in the juice: they "shall show a sugar test of not less than 17 per cent soluble solids in juice as determined by the Balling or Brix hydrometer," exceptions being made for sweet varieties which show a higher sugar content.

For many vegetables only one grade is established, *U. S. No. 1*. Sometimes there is a higher grade, *U. S. Fancy*, and sometimes one or two intermediate grades, *U. S. No. 2* and *U. S. No. 3*. For many fruits there are two Federal grades: *U. S. No. 1* and *U. S. No. 2*. For some, standards are set for a higher grade, *U. S. Fancy*, and for one lower grade, *U. S. No. 3*. For Fancy grade, fruits and vegetables usually must be free from injury from disease, insects, or mechanical means; for *U. S. No. 1*, free from damage; and for *U. S. No. 2*, free from serious damage.

*Unclassified* means that the product has not been graded. In buying unclassified fruits or vegetables, the housewife faces two possibilities. She may receive products which would qualify for a high grade if the producer or someone in the market wished to spend time and money in grading them, or products of such poor qualities that they would not qualify for a high grade. What she receives depends somewhat upon price levels, possible profits, and other market conditions. In a season when there is demand for high-grade products, and the price for them is considerably above prices for lower grades, there is a tendency to grade many fruits and vegetables. But when prices are low for all grades the growers and dealers may decide that it does not pay to

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grade, and may sell "run-of-the-field"—good, bad, and indifferent—in one lot, "Unclassified."

Federal grades do not specify size, except where certain minimum or maximum limits are set, because size too often depends on variety. Where size is important, however, the Agricultural Marketing Service urges that a shipper mark the size as well as the grade of the fruit or vegetable on the container. They require that officially graded apples in closed containers be marked either with the diameter of the smallest apples, or the number in the container must be stamped upon it. To facilitate the marking of size, the Service has set certain standards for terminology. How this differs with variety is shown in the case of cabbage, where the term "small" means a head under  $1\frac{1}{2}$  pounds if of the pointed type, under 2 pounds if of the domestic type, and under 3 if of the Danish type. For certain fruits, however, wholesalers use their own established terminology to describe size. Thus, the trade has standardized the size of container to be used in shipping oranges. Oranges, therefore, are not described as " $3\frac{3}{4}$ s" if of that diameter, but as "80s", the number of oranges of that size contained in a standard box. Similarly, the trade describes the size of prunes by the number contained in a pound, as "20-30s." Market terminology for size is more widely used by retailers than are Federal quality grades.

### FRESH FRUITS

#### GUIDES FOR SELECTING SPECIFIC FRUITS

Below are suggestions for buying those fruits most commonly found in the market. As in the case of vegetables which follow, no attempt is made to present a complete catalogue of the numerous varietal names; only those ordinarily used by retailers are given. Details of standards for Federal grades which may help the housewife make her market selections are noted. General requirements for the various grades, outlined above, which are practically the same for all fruits are not repeated but are to be taken for granted.

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**Apples** appear on the market during the greater part of the year and in many varieties.<sup>1</sup> In selecting apples it is most important to know whether you are going to use them for eating, for baking, for sauce, or for general cooking purposes such as pie, cobbler, and Apple Betty. For baking, it is important to buy an apple which holds its shape and yet bakes through thoroughly. For sauce, apples should be slightly acid and juicy, and should give a smoother texture and a light clear color. Somewhat the same type of apple is desirable for pie. In one test the following apples were found to be superior for sauce: *Gravenstein*, *Jonathan*, *Northern Spy*, *Winter Banana*, and *Wealthy*. A similar test showed superior baking apples in that locality to be *Wagener*, *Jonathan*, and *Wealthy*. General-purpose apples in the same test were *Baldwin*, *Jonathan*, *Wealthy*, *Northern Spy*, and *McIntosh*. If planning to store them, it is important to select a variety that keeps well, such as *Delicious*, *Rome Beauty*, *Winesap*, or *Yellow Newton*.

Medium-sized apples sell for less per pound than large, have greater poundage in a given container if buying by measure, and compare favorably with the large in flavor. They usually represent the most economical size to buy, although the large are sometimes desired for baking. In most markets red apples command a higher price than green or yellow for eating and to some extent for baking. This point may be kept in mind when buying with an eye to maximum nutritive value for minimum price.

If apples well-colored for their variety are chosen, they usually have the full flavor of that variety. If immature they will lack color, have poor flavor, and sometimes have a shriveled appearance after being in storage. Over-ripe or poorly stored apples yield to slight pressure and the flesh is often soft and mealy and lacking in flavor. As spring advances

<sup>1</sup> See U. S. Dept. of Agriculture, *A Fruit and Vegetable Buying Guide for Consumers*, Miscellaneous Publication No. 167 (1936), pp. 16-9, for table showing when each variety is in season, how to recognize it, its best uses, and its keeping qualities.

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apples are apt to become more mealy in texture. Brown spots, called "scald," develop from gases given off by the apples themselves during storage and transportation. They are found from December to the end of the season, more often on green than on highly colored apples. Mild cases only tint the skin but very dark brown spots mean considerable deterioration. Apples in oiled paper, either individually wrapped or packed in shredded paper, are less apt to have scald because the oil absorbs the gases. Severe injury, either from freezing or bruising, is shown by the brown, water-soaked, leathery-looking skin of the apple. Even though the injury is slight, their keeping quality is impaired. If buying any quantity of apples, cut one or two open and try them.

Boxed apples are used largely for eating, although to some extent for cooking: Nine-tenths of the boxed apples come from the Pacific coast, and the most important commercial varieties are *Winesap*, *Jonathan*, *Rome Beauty*, *Esopus*, *Spitzenberg*, *Yellow Newton*, and *Delicious*. Apples from east of Colorado are usually packed in barrels or baskets. In this class the *Baldwin* and the *Ben Davis* are leaders, with *Winesap* also ranking high. Western boxed apples are packed as *Extra Fancy*, *Fancy*, or *C* grade, or as a combination of these grades. These are commercial, not U. S. grades. Most of the *C* grade is sold west of the Mississippi River. In addition to grade, boxes are marked with the variety and the number of apples. Eastern apples are usually graded on the basis of the U. S. grades: *U. S. Fancy*, *U. S. No. 1*, *U. S. Commercial*, *U. S. No. 1 Early*, *U. S. Utility*, *U. S. Utility Early*, *Combinations* of the above, and *U. S. Hail*. The difference between *U. S. Fancy* and *U. S. No. 1* is in the amount of color required. *U. S. No. 1 Early* and *U. S. Utility Early* need not be mature, as they apply only to early varieties. The barrels and baskets, in which Eastern apples are generally packed are usually marked with the grade. The containers also tell the variety and the diameter of the smallest apples, as "U. S. No. 1 Baldwin, 2 $\frac{1}{8}$  inches minimum diameter." Apples are occasionally grade-marked for retail selling because they are not a perishable fruit.

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*To keep:* The colder the temperature of the storage room, above freezing, the more chance for apples to keep their crispness. They also need a dry place. All decaying fruit should be removed, and the apples separated as much as possible. The best way to do this is by wrapping them in oiled paper.

Apples can be bought by the pound, peck, bushel, barrel or box. There are three medium-sized apples in a pound, about 40 in a peck, and about 150 in a bushel. While there is now no standard weight per bushel it is approximately correct to assume about 48 to 50 pounds of apples in deciding how much can be saved by buying a bushel rather than a few pounds at a time. A comparison of the money to be saved by buying by the box rather than the pound can be made if you remember there are about 44 pounds per box. The number of apples per box varies from 100 to 175, as there is a great difference in size between varieties. If storage facilities do not warrant buying in quantity, buying by weight is most satisfactory.

**Apricots** should be orange-yellow, plump, and juicy to have their characteristic flavor which is lacking in green, hard or shriveled fruit. The best are tree-ripened, but because of their perishability ripe apricots seldom are shipped; hence the fruit marketed far from producing areas usually lacks flavor. Federal grades are: *U. S. No. 1*, with qualities outlined; and *U. S. No. 2*.

*To keep:* Cover and place in refrigerator, since the fruit is very perishable.

Apricots usually are sold by the dozen, the pound, or by the basket. A pound contains 8 to 12.

**Bananas** for immediate use should be plump and ripe, with mellow flesh, and with yellow or red skin flecked with brown. Green tips indicate under-ripe fruit and undeveloped flavor. Avoid over-ripe or bruised fruit, or that torn (instead of cut) from bunch, since broken skin exposes fruit and hastens decay. Avoid frozen fruit, also, since this lacks flavor.

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*To keep:* Store in a dry, moderately warm place (about 68° F.). Do not keep in refrigerator or below 50° F. since cold affects flavor.

Bananas are sold by the dozen or the pound, there being 5 very small, 3 medium, or 2 large ones to a pound. They also may be sold by the hand, the wholesale name for a portion of a bunch containing 10 to 20 bananas or "fingers."

**Berries and currants** should be ripe and well-colored, free from spots of green. Avoid stained boxes which usually indicate "leaky" fruit, over-ripe and often moldy. Avoid, too, sandy, dirty berries, which can scarcely be cleaned without damaging them. Large berries take less time to prepare than small, but may be of no better flavor. Since the top berries may be better than the bottom, the buyer should ask the dealer to tip the box so that she may see the entire contents. A berry box, according to the Standard Container Act, must hold a dry half-pint, pint, quart, or multiples of the dry quart, hence the buyer is fairly sure of receiving honest measure if the box is well filled.

**Blackberries, dewberries, loganberries, and raspberries** should be plump and free from green or off-color cells. Avoid caps since these indicate that berries were picked green. Permissive Federal grades for raspberries, dewberries, and blackberries are: *U. S. No. 1*, with qualities outlined above; and *U. S. No. 2*, containing not more than 10 per cent seriously damaged and not more than 2 per cent affected by mold or decay.

**Blueberries and huckleberries** are so similar that the names often are used interchangeably. However, blueberries usually are larger and milder and have smaller seeds than huckleberries. Bloom depends upon variety, as does color, which may range from blue to purple-black.

**Currants** may be red, white, or black, the first being the most common. Avoid fruit shaken from stems, since it probably will be over-mature and soft. For jelly making, avoid very mature fruit.

**Gooseberries** when ripe become light amber in color.

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**Strawberries** should be well shaped and free from white, green, or hard black tips. Absence of caps indicates rough handling or over-maturity. Permissive Federal grades are: *U. S. No. 1*, with qualities outlined, not smaller than  $\frac{3}{4}$  inch in diameter unless otherwise specified; and *U. S. No. 2*, free from decay or serious damage, and not less than  $\frac{5}{8}$  inch in diameter, unless otherwise specified.

*To keep:* Look berries over carefully, removing any soft or moldy fruit; spread out on a shallow tray or colander, allowing air circulation; cover and place in the refrigerator. Do not wash until just before using.

Berries are sold by the half-pint, pint, or quart. A quart of berries without caps yields about  $3\frac{3}{4}$  cups; a quart of strawberries or currants yields about 3 cups.

**Cherries** should be plump, bright, well-colored, and free from decay or damage. If stems are lacking, inspect carefully for decay where skin has been broken by stem removal. Inspect, too, for signs of worms, often difficult to recognize. Dull fruit and stained boxes indicate over-maturity and damage. Two types of cherries are marketed—*sour* and *sweet*, the former commonly grown east of the Rockies and the latter on the West coast. Of sour or "pie" cherries, the best known varieties are: *Montmorency*, light to deep-red, with yellow flesh; *English Morello*, larger, darker, and firmer than Montmorency, and suitable for preserves and pickles; *Early Richmond*. Sweet cherries, usually larger than sour, bought for eating raw, may have light flesh, and yellowish skin blushed with red, as the *Royal Anne* or *Napoleon*, or may be dark-fleshed with deep red to red-black skin, as the *Black Tartarian*, *Bing*, *Republican*, *Lambert*, and *Windsor* varieties.

There is one grade, *U. S. No. 1*, for sweet cherries.

*To keep:* Place in a pan of water and examine any which float, since these may be wormy. Drain, dry, spread on tray or shallow pan and place in refrigerator.

Sour cherries usually are sold by the quart, which yields

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about 2 cups when stemmed and pitted. Sweet cherries are sold by the pound, measuring about 4 cups, yielding  $2\frac{3}{4}$  cups, stemmed and pitted.

**Cranberries.** Variety affects color and size. Dark red berries usually are smaller and sweeter than bright red. Choose berries which are firm and not over-ripe for the best jelly. Avoid frost-bitten fruit which decays quickly and has impaired flavor.

A pound of cranberries measures a quart and yields about a quart of sauce.

**Fresh figs** must be fully ripe to be of good quality. They should be soft, free from mold, and greenish-yellow or purplish to almost black, depending on variety. Although ripe figs sour and ferment quickly, they are now appearing in northern markets, due to the great improvements in refrigeration in transit.

Figs are sold by the unit or dozen.

**Grapes** on our markets fall into two classes, the native *American* which are grown in the eastern and central regions, and the *European* which are grown in the West. The former are characterized by a thin slip-skin, a tangy flavor, and a round berry. The leading varieties are: the *Concord*, blue-black in color and much used for juice and jelly; the *Catawba*, with a reddish skin and a medium sized berry that is sweeter than the Concord or Niagara; the *Niagara*, greenish-yellow in color; and the *Delaware*, sweet, reddish, smaller than the Catawba and more expensive than the Concord. The European grapes, grown chiefly in California, are usually sweeter, more solid, and often larger than the American type. The skin and pulp do not separate. The four most popular varieties of this type are: the *Flame Tokay*, on the market from August through October or later, large, oval-shaped, with firm flesh and reddish color; the *Malaga*, yellowish-green in color, with a large, oval, slightly juicy grape that grows in large bunches; the *Emperor*, red to purplish-black, with excellent keeping and shipping qualities,



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on the market from October until the crop is damaged by rain or frost; and *Thompson Seedless*, a sweet, small light-green to yellow grape that is becoming very popular.

In choosing grapes, note whether they have a fresh appearance, are plump and well-colored, and stick to the stem when it is gently shaken. When choosing grapes for juice, maturity is most important and it does not matter if the berries shake off easily. Grapes for jelly should not be quite ripe. The stems should not be dry and brittle and the skin of the Eastern grape should separate easily from the pulp. High color usually shows high sugar-content. White or green grapes are best when their color is turning amber. Look for signs of over-ripeness and decay at the stem end, as well as for signs of mold, wetness, and for leaky or stained containers.

The United States standards for grapes of different types define the above points very exactly. Separate standards have been developed for the American and European types, and for juice and table grapes. The grades for table grapes both American and European types are *U. S. Fancy* and *U. S. No. 1*.<sup>1</sup> *U. S. Fancy* grade for Western or European types specifies that bunches weigh at least one-half pound. Standards are the same for Sawdust Pack applying only to the European type, but the bunches for *Fancy* grade must be at least six inches long and for *No. 1*, five inches.<sup>2</sup> For Sawdust Pack minimum diameters of  $\frac{5}{8}$ ,  $\frac{9}{16}$ , and  $\frac{7}{16}$  inches are required for the berries, depending on variety, both for *U. S. Fancy* and *U. S. No. 1*. American type grapes, both *U. S. Fancy* and *No. 1*, must have a diameter of  $\frac{9}{16}$  inches. Fifty per cent of the bunches of the *Fancy* grade American type must be compact and fifty per cent only fairly compact, whereas the *No. 1* grade allows eighty-five per cent to be fairly compact. To meet grade specifications the European grapes must have a sugar content of from 16 to 20 per cent soluble solids, depending on variety.<sup>3</sup>

<sup>1</sup> Minimum requirements are set up for "Unclassified" grapes.

<sup>2</sup> The minimum length requirements for the Almeria variety are lower.

<sup>3</sup> There are also U. S. standards for juice grapes, European type.

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*To keep:* Store in shallow pans or trays in a cold place and sort frequently. Cover if soft or if storing for any length of time. In the case of fancy fruit it may pay to wrap each bunch separately and store in sawdust.

Grapes are sold by the pound or by the basket, usually in 2, 4, or 12 quart Climax baskets. They are also sold in the oblong 1 to 4 quart till baskets, and sometimes in splint baskets. See page 229 for legal sizes.

**Grapefruit** is in the market the year round, but is scarce and higher priced in summer when storage fruit furnishes most of the supply. *Marsh Seedless*, containing almost no seeds, is the most important variety on the market from February to May. In selecting grapefruit, either a clear yellow color or the reddish-brown known as "russet" is desirable. Good quality are firm and not soft or flabby. If heavy for their size, they are apt to be thin-skinned and contain more juice than those that are light weight and spongy. Note the weight especially if they are pointed at one end, as this type is apt to be thick-skinned and therefore light weight. Many unimportant defects which do not extend beyond the surface are found on grapefruit, but look out for decay.

Florida and Texas grapefruit are packed in crates which are labeled according to the number in the crate. The following table gives the diameter in inches of the different sizes:

Size	Diameter in inches
36s .....	5 to $5\frac{9}{16}$
46s .....	$4\frac{11}{16}$ to $5\frac{2}{8}$
54s .....	$4\frac{6}{16}$ to $4\frac{13}{16}$
64s .....	$4\frac{3}{16}$ to $4\frac{9}{16}$
70s .....	$3\frac{15}{16}$ to $4\frac{5}{8}$
80s .....	$3\frac{12}{16}$ to $4\frac{2}{8}$
96s .....	$3\frac{9}{16}$ to $3\frac{15}{16}$
112s .....	$3\frac{7}{16}$ to $3\frac{13}{16}$
126s .....	$3\frac{5}{16}$ to $3\frac{11}{16}$

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The crate used in California and Arizona is slightly smaller than the standard Florida crate; therefore, the size of California 54s, for example, will be slightly smaller than Florida 54s. Two-bushel Bruce boxes are now being shipped from Florida and Texas, in which the box containing 74 has grapefruit of the former 64 size, the box containing 84 has fruit of the former 70 size, and so on.

The most popular sizes are 54s, 64s, and 70s. To decide which size is best in buying a quantity, it might be worth while to weigh one of each size and find the cost per pound.

Citrus fruits are frequently sold by grade. Those for the Florida and Texas grapefruit are: *U. S. Fancy*, *U. S. No. 1*, *U. S. No. 1 Bright*, *U. S. No. 1 Golden*, *U. S. No. 1 Bronze*, *U. S. No. 1 Russet*, *U. S. No. 2*, *U. S. Combination*, *U. S. Combination Russet*, *U. S. No. 2 Bright*, *U. S. No. 2 Russet*, *U. S. No. 3*, and *Culls*. The Fancy and No. 1 Bright allow only one-tenth of the surface to be discolored, whereas No. 1 allows one-third of the surface to be discolored. Other grades differ chiefly in regard to the amount of discoloration allowed. No. 2 may be slightly misshapen and rough and only fairly firm, whereas No. 1 must be well-formed, firm, and have fairly smooth texture; Fancy must have smooth texture.

The grades for California and Arizona grapefruit are *U. S. Fancy*, *U. S. No. 1*, *U. S. No. 2*, *U. S. No. 3*. Fancy must have smooth-textured, thin and well-colored skin. No. 1 must have a fairly smooth and well-colored skin, and not be excessively thick-skinned. No. 2 need be only slightly colored and only fairly firm. They may be slightly misshapen but not excessively rough. No. 3 may be slightly spongy, may be misshapen and rough, but not seriously lumpy.

*To keep:* Sort and store at a low temperature, preferably 40° to 60° F. Wrap in paper if storing a quantity for any length of time.

Grapefruit is usually sold by the unit. If a family uses

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enough, it is sometimes economy to buy by the crate or half-crate. Florida grapefruit weigh 80 pounds or more to the crate used in that section, and California weigh 60 pounds or more to the crate, varying with the quality and size of the fruit.

**The kumquat** is a small, thin-skinned, orange-like fruit about the size of a very large pecan. It is used largely in making preserves and in salads. The rind as well as the pulp is eaten.

It is sold in quart baskets.

**Lemons** should be heavy for their size and have a fine-textured, waxy skin. They should be firm and clear yellow, but not too hard nor too deep yellow as they might then be too green or too ripe. The highest grades are picked green and cured until yellow. Mold or a soft brownish spot at the stem end means decay. Shriveled or soft lemons are undesirable. Federal grades for lemons are *U. S. No. 1*, *U. S. No. 2*, *U. S. No. 3*, and *U. S. Combination*. Ninety-five per cent of our lemons come from California.

Large lemons pack 240 or 270 to a box; medium, 300, 360, or 432; and small, 490 or 540. Commercial quality grades are sold by unit or dozen.

*To keep:* Lemons can be kept in a jar of cold water. They are sold by unit or dozen.

**Limes** are smaller than lemons and nearly round. They are best when heavy for their size. The Mexican limes on the market are yellow, sometimes faintly green. The Persian variety is very green. Purple or brown spots may affect their appearance without penetrating into the flesh.

They are sold by the unit or dozen.

**Limequat** is the name given to a fruit produced by crossing the lime and the kumquat. It resembles the lime in size, texture, and flavor, but is more hardy, and has more of the light yellow color of grapefruit. As with lemons and

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limes, the limequat should be used when not quite ripe, for its acidity.

**Melons** are one of the most difficult fruits to select. In most melons a softening of the fruit at the blossom end indicates ripeness, but this softness can also be caused by too much testing. A ripe melon usually has a more pronounced odor and in many types color is an aid in selection.

*Cantaloupe* was originally the name of a certain type of muskmelon, but it has come to be used to refer to muskmelons in general, and especially to the smaller ones. The first of the crop comes on the market in May. There are three main classes on the market today. *Burrell Gem*, *Osage*, *Tip Top* and *Hearts of Gold* are examples of the *pink meat* variety, characterized by flesh that is orange or pink throughout and netting less developed than other types except over the blossom end. The first two varieties mentioned are elongated and somewhat pointed and the last two are slightly oval. The second type of cantaloupe has flesh with a *salmon tint*, greenish near the rind and salmon-colored toward the center. It is usually round with netting completely covering it. Well-known varieties are *Hales Best* and *Pollock 10-25*. *Netted Gem (Rocky Ford)* melons are the best known examples of the *green meat* type, having flesh green from the center to the rind, a round shape, and netting that completely covers them.

In selecting cantaloupes the following points should be observed: (1) The amount of netting varies, but whatever there is should be coarse and should stand out in relief. (2) There should be a characteristic musk fragrance. (3) The color of the rind should be lighter than when green, possibly gray or yellow but not too deep yellow, as that indicates over-ripeness. (4) The scar at the stem end will be sunken and calloused if the fruit was picked when fully ripe, otherwise known as "full-slip." If half the scar is rough or some of the stem is adhering, the melon was picked before ripe, or at the "three-fourth-slip," "half-slip," or even "one-fourth-slip" stages. Melons picked early do not have the sweetness

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of those ripened on the vine, and for that reason large Western producers are working on methods, such as pre-cooling, which will make it possible to get vine-ripened melons to the consumer at a distance. Locally grown melons have the advantage of vine-ripening. (5) Surface mold does not harm the fruit if it has not penetrated the rind, but moisture at the stem end, soft, sunken spots, and bruised areas are undesirable.

Special and winter varieties of muskmelon come on the market a little later than cantaloupes, for which the season begins in May and lasts until late fall and winter. The *Honeydew* melon is oval with a smooth rind which may be slightly netted, and varies considerably in size. It is usually creamy-yellow when ripe, is often clipped with one-half inch stem attached, and can be successfully kept to ripen. When ripe the blossom end yields to slight pressure and the flesh is sweet, fine-grained, greenish and juicy. The *Honey Ball* is a cross between the *Texas Cannon Ball* cantaloupe and the *Honeydew*. The above description of the *Honeydew* fits this melon with the exception that it is small, round, has a small seed cavity and thick flesh, and cannot be kept as long as the *Honeydew*. Some authorities say these melons should yield slightly to pressure all over. The *Honey Ball* has a distinct, fine aroma.

The *Casaba* melon is large and round with lengthwise furrows in the rind. A yellow color, which may vary even on the same melon, and softening at the blossom end, should mean a ripe melon with whitish, sweet, and juicy flesh without aroma. The *Casaba* is on the market from mid-summer until late fall or winter and is usually ripened off the vine. The *Santa Claus* melon comes on the market last of all and keeps the best. It is large and oblong. When ripe, the rind, which is green with broad bands of sparse netting, becomes slightly yellowed, and the flesh is white or yellowish-green, fine-grained, and sweet. Here again softness at the blossom end indicates ripeness. The *Persian* is a very choice winter variety, round, greenish, usually large with fine net-

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ting, with delicious meat similar to that of a cantaloupe. Sunken spots in these varieties indicate decay, but harm the melon only when they have penetrated the rind.

*Watermelons* of considerable size have long been favored, but the practice of selling part of a watermelon has been increasing. Because quality and flavor are impaired by standing after cutting, the Department of Agriculture is working on the development of a family-size melon. The *Tom Watson*, a large, long, dark-green melon with a medium-thick rind, is a popular variety. Others of good quality widely distributed are: *Irish Gray*, *Kleckley Sweet*, *Halbert Honey*, *Early Kansas*, *Klondyke*, *Pride of Muscatine*, and *Stone Mountain* or *Dixie Bell*. In selecting watermelons, keep the following points in mind: (1) Sweetness, the thickness of the rind, the shape and color of the melon and the color of the seed, all depend upon variety. Those with a deep-red color are most in demand. (2) They should be symmetrical in shape, have a fresh bloom over the surface, and have good color for the variety with yellowish color and not pale-green on the under side. (3) The best test is plugging, which should show flesh crisp, free from fibers, not dry or mealy, and ripe. Other tests are thumping to see if there is a dull, hollow sound, and scraping with the finger nail to see if the green skin comes off easily. (4) Avoid decay at the stem end, and a flat, dry spot at the blossom end. As with the other melons, sunken spots on the body of the melon do no harm if they have not penetrated the rind.

The *Winter* or *Christmas* melon differs from the winter varieties of melons mentioned in that it belongs to the watermelon rather than muskmelon family, and has no cavity. It is round, has a thin rind, and when properly ripened is very sweet.

U. S. grades for cantaloupes are: *U. S. No. 1* and *U. S. Commercial*, the same as No. 1 except for increased tolerance for defects. For Honeydew and Honey Ball melons the grades are: *U. S. No. 1*, *U. S. Commercial*, and *U. S. No. 2*.

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The first two are the same as for cantaloupes, and U. S. No. 2 differs only in that it must be fairly well-formed and free from serious damage. Grades for watermelons are U. S. No. 1, U. S. No. 2, and U. S. No. 3. They emphasize shape, U. S. No. 2 may not be "badly misshapen," and U. S. No. 3 has no shape requirements. During the year 1938-39, 2,479 carloads of cantaloupes and 1,136 of Honeydew melons were Government graded at the shipping point. Five states have regulations concerning the maturity of melons which can be shipped.

*To keep:* Keep cold if fully ripe, otherwise store at about 70° F.

**Oranges** can be divided into two types, the seedless and those with seeds. *Washington Navel*, the most familiar example of the former, comes to the market from California from November until about May. It is characterized by deep-orange color, a thick and sometimes rough skin, segments that separate easily, and the navel formation at the end of the stem. The *Valencia* orange is the best known of the type with seeds, and comes from Florida from early March through May and from California through summer and fall. It has from 1 to 6 seeds and thin membranes which prevent its being easily separated into sections. The skin of all Valencias is smooth, but somewhat thicker on the oranges from California than on those from Florida. Other varieties from Florida are the early *Parson Brown*, with about ten to nineteen small seeds, the mid-season *Pineapple* orange, and *Seedling* oranges (grown from seeds), which although seedy have good flavor and juice. The *Tangerine* and *Satsuma* type of orange comes chiefly from the Gulf states and differs from all others in its thin, easily removed skin, and distinctive aroma.

In buying oranges, be sure they are firm, heavy for their size, not spongy, and free from soft spots, as even a small amount of decay can ruin the taste of the entire orange.



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They should be well-colored except in the case of Valencias, some of which show green when ripe. Russetting is found on Florida oranges but does not affect the orange itself. In recent years the practise has grown of passing Florida oranges through a vat of coal-tar dyes to simulate the deeper color of the California oranges. The United States Food and Drug Administration has not been able to find that the dye has any adverse effect upon health, even when the peel is eaten. However, it has been held that staining is unlawful if used to conceal inferiority, even though the oranges meet the standard of ripeness of eight parts of sugar to one of acid. The words, "color added," must be conspicuously placed on all dyed oranges. These regulations apply to fruit shipped in interstate commerce.

Oranges are graded for size, the size number being the same as the number of oranges that will fit in the standard crate. This number is stamped on the end of the crate. The size grades for the Florida and Texas fruit are as follows:

Pack	Diameter in inches	
	Minimum	Maximum
96s .....	$3\frac{5}{16}$	$3\frac{11}{16}$
126s .....	$3\frac{3}{16}$	$3\frac{8}{16}$
150s .....	3	$3\frac{4}{16}$
176s .....	$2\frac{14}{16}$	$3\frac{2}{16}$
200s .....	$2\frac{12}{16}$	3
216s .....	$2\frac{10}{16}$	$2\frac{14}{16}$
250s .....	$2\frac{8}{16}$	$2\frac{12}{16}$
288s .....	$2\frac{6}{16}$	$2\frac{10}{16}$
324s .....	$2\frac{4}{16}$	$2\frac{8}{16}$

A new two-bushel box is being used in Florida, in which a count of 216 means that the oranges are of the size known as 176, and 368 contains the old size 288. California orange sizes are 100, 126, 150, 176, 200, 220, 252, 288, 324 and 344. They are packed in a box which is slightly smaller than the Florida crate, hence in comparing the prices of the two

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it must be remembered that a 200-size crate of the Floridas will have slightly larger oranges; in fact, will have about the same size oranges as a box of 176 Californias. The former weigh approximately 90 to 100 pounds to the crate, and the California about 70 to 80 pounds, depending on the size and quality. 150s to 176s are a good size for eating. Careful tests have shown that using small oranges makes the cost of orange juice at least one-third less than when large are used. Other tests have shown that the amount of juice per crate of oranges is approximately the same regardless of the size of the orange.

The growers' co-operative association, the California Fruit Growers Exchange, grades for quality, using the following classifications: *Extra Fancy, Fancy, Extra Choice, Choice, Standard, and Orchard Run*. The first three grades are sold as Sunkist, and about one-half to two-thirds of their crop qualifies for this trade-mark. The fourth grade is sold as Red Ball, and Standard and Orchard Run are marked only "California" oranges. For juice it may be desirable to buy the lower grades.

The U. S. grades for the Florida and Texas oranges are the same as for grapefruit: *U. S. Fancy, U. S. No. 1, U. S. No. 1 Bright, U. S. No. 1 Golden, U. S. No. 1 Bronze, U. S. No. 1 Russet, U. S. No. 2, U. S. Combination, U. S. Combination Russet, U. S. No. 2 Bright, U. S. No. 2 Russet, and U. S. No. 3 and Culls*. Those for California and Arizona oranges are: *U. S. Fancy, U. S. No. 1, U. S. No. 2, U. S. No. 3*. The "Fancy" must be well-colored and smooth-textured. "U. S. No. 1" may be of only fairly smooth texture, but must be well-colored except for the Valencia orange, which may be only fairly well-colored. Other requirements for the California and Arizona oranges are the same as for the "Fancy." "U. S. No. 2" standards are: fairly well-colored, fairly firm, only slightly misshapen, not excessively rough, and free from serious damage. "No. 3" differs from "No. 2" in that there are no color re-

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quirements and the oranges may be slightly spongy and rough.

*To keep:* Store in a cool, dry place, preferably 40° to 60° F. and observe other suggestions made for apples and grapefruit.

Oranges are sold by the dozen and by weight. If families use large quantities it sometimes pays to buy by the box or half-box. The number on the end of the box makes it easy to compare the cost of a dozen bought in this way with the price of the same size and quality grade bought by the dozen. Mesh bags have appeared as inexpensive containers for oranges. In some cases merchants untie them and remove the soft oranges, making the net weight stamped on them inaccurate. In some localities it is possible to buy oranges by the half-bushel or peck. Whatever the method of buying in quantity, it is well to cut open an orange to try it. The desirability of buying oranges by weight, as bananas are bought, has been suggested.

**Peaches** are of many types, both *white-fleshed* and *yellow-fleshed freestones* and *clings*. Most of the early varieties are white-fleshed, among them the *Early Rose* which is a white-fleshed cling. *Belle* and *Hiley* are examples of the white-fleshed freestones. *Carman* is an early white-fleshed peach, a semi-cling. The *Early Crawford* is a well-known yellow-fleshed freestone. Mid-season and late peaches of the same type are: *Elberta* (most important of all), *J. H. Hale*, *Late Crawford*, and *Salwey*. The clings are used chiefly for commercial canning, with the pit neatly removed by cutting. Freestones are most popular for table use, home canning, and general culinary use.

The riper the peach is when picked the better its flavor; therefore, those grown near enough to be at least partly ripened when picked are best. The background color should be whitish or yellowish, not green. Some peaches have a "blush" but this cannot be depended upon to show maturity. Peaches should be firm, and free from small punctures from which gum exudes, as these may mean worms. Brown rot,

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which causes much damage to peaches, begins with small circular brown spots and spreads fast. There is considerable waste in bruised or over-mature fruit, and in fruit with growth cracks.

The U. S. grades for peaches are: *U. S. Fancy*, *U. S. Extra No. 1*, *U. S. No. 1* and *U. S. No. 2*. The only difference between the two top grades is in the color requirement, only 50 per cent of *U. S. Extra* being required to meet the color standards of *U. S. Fancy*. *U. S. No. 1* has no color requirements but is otherwise the same. *U. S. No. 2* peaches cannot be badly misshapen and must be free from serious damage whereas the higher grades must be well-formed and free from damage.

*To keep:* Fully ripe peaches must be used at once. Firm, but not green, peaches can be kept for several weeks at a low temperature. If green are selected they will not ripen but will shrivel. Peaches in the refrigerator should be covered if storing for more than a short time.

Small quantities are now sold almost entirely by the pound, which is much better than in small baskets. Larger quantities are sold in baskets of various kinds, both splint and round bottom. See page 229 for legal sizes. In deciding whether to buy a large basket or buy by the pound, the figure of 48 pounds per bushel can be used as approximately correct, or 20 pounds per standard Western box. It is also possible to weigh the basket and compare with the cost when bought by the pound.

**Pears.** The *Bartlett* pear represents at least half the commercial crop. It is soft, juicy, and sweet, of bright-yellow color with a tinge of red on the skin, and comes on the market in late summer and fall. The *Seckel*, another soft pear, is small and very sweet, with a thick skin and yellow-brown to russet-bronze color. It is much used for home pickling. The *Bosc* is a mid-season to late pear of the soft type, partly russet in color. *Comice* is a green pear on the market later than the *Bartlett*, but before such russet winter pears as *Anjou* and *Winter Nelis*. The main type grown

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in the Central and Southern States, where pear blight makes the soft pears just mentioned out of the question, is the *Kieffer* pear, a harder and coarser pear of good size which keeps well. It ranks next to the Bartlett in quantity produced and is much used for canning, preserving, and stewing for immediate use.

Pears should be firm but not hard. If they are soft or yield to pressure at the base of the stem, they are all right for immediate use. Rotting at the core can be detected by examining the base of the stem. Pears are best if picked when slightly immature and ripened in a cool, dark place, but they should not be picked too green. If they are coarse and gritty they may have been tree-ripened. A mild case of scald (for description see apples) may discolor the skin without affecting the flesh to any extent.

The grades for pears are: *U. S. No. 1*, *U. S. No. 2*, and *U. S. Combination*. The chief difference between No. 1 and No. 2 is that the former must be fairly well-formed, the latter not seriously deformed.

*To keep:* Pears should be kept in a cool, dark, dry place so that they ripen slowly. They ripen rapidly at room temperature.

Pears for eating are sold by the unit or the pound. There are three medium-sized pears in a pound. They can be bought in larger quantities by the bushel or peck, or by the Western standard box or special pear box. Since they keep well it is sometimes practical to buy in the larger quantities and pick out the ripe ones frequently. There are about 50 pounds in a bushel of pears, and about 46 pounds in a Western box.

**Persimmons** are a tree fruit of considerable variation in size and shape. Varieties differ greatly, but the best known are puckery until ripe, when they turn very sweet, rich, and soft. Those on the market are usually picked green. They are used as dessert and to some extent in cooking.

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*To keep:* If carefully selected and perfect they will keep in a storage place that is cool and well-ventilated for some time.

They are sold by the unit.

**Pineapples** when ripe have a dark orange-yellow color and fragrant odor. Another way to tell ripeness is to pull one of the spines gently and see whether it will loosen easily. When ripe, the heaviest in proportion to the size will be the best. Pineapples picked too green to ripen properly will be dull, with eyes that are poorly developed instead of flat. Look for decay, sometimes characterized by an almost black color and sour odor, at the base and around the eyes.

Grades for pineapples other than Porto Rican are *U. S. No. 1* and *No. 2*, and for Porto Rican they are *U. S. Fancy*, *U. S. No. 1* and *U. S. No. 2*. The *U. S. Fancy* standard for Porto Rican pineapples requires that the tops be straight, at least five inches long, single and free from crown slips. *Fancy* Porto Rican pineapples must also be dry. *U. S. No. 1* must be fairly dry, with tops reasonably straight and not less than four inches long; they must be single and there may be not more than five crown slips. The *U. S. No. 2* standard requires only that the fruit be fairly well-formed, with eyes fairly well-developed. Tops in *No. 2* may have two stems. In all three grades tops must be of good green color and well attached to fruit. Tentative standards for pineapples other than Porto Rican are about the same for top grade but less explicit. *U. S. No. 2* includes all fruit free from serious damage that does not meet the *No. 1* grade.

*To keep:* To ripen at home, wrap in heavy paper and keep at a temperature of 65° to 70° F. Ripe pineapples can be kept at a temperature just above freezing for some time.

Pineapples are sold by the unit.

**Plums and fresh prunes** are on the market from June to October, the variety changing with the season. The prune is a type of plum which can be dried without fermentation of the flesh, and from which the pit can be separated when ripe.

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The great number of varieties makes it difficult to classify and describe them. The most important commercially is the *Italian prune* from Oregon and Washington, which is also dried and sold as a prune. It is medium size, dark-purple with yellow flesh, and is somewhat tart. The *Green Gage* or *Reine Claude* is an example of the yellow-green plum, having a rich golden-yellow flesh and a sweet flavor. The *Damson* is a small, tart plum used chiefly for jelly and jam. It is blue-black in color and is firm with amber flesh.

Plums and fresh prunes should be plump, fresh-looking, and soft enough to yield to slight pressure. Softening at the tip usually shows maturity. Avoid hard, shriveled fruit and any signs of moisture, which would probably indicate over-ripeness or decay. A brownish color on the cheek of the fruit often means sunburn, which is undesirable.

The U. S. grades for plums and fresh prunes are: *U. S. Fancy*, *U. S. No. 1*, and *U. S. No. 2*. In the first two grades the minimum size of Italian type prunes must be, unless otherwise specified, at least  $1\frac{1}{8}$  inches in diameter. *U. S. Fancy* Italian prunes must be well-colored and *U. S. No. 1* fairly well-colored. All *U. S. Fancy* plums must be free from hail-marks and sunburn, whereas *U. S. No. 1* need only be free from damage caused by hail-marks and sunburn. *U. S. No. 2* need not be well-formed but must be free from serious damage.

*To keep:* Plums in good condition can be kept several weeks at a low temperature, 40° to 60° F., covered and in a well-ventilated place. Spreading them out on shallow containers is an aid in keeping them.

Small quantities are sold by the pound (about 20 Italian prunes), although berry and till boxes are sometimes used. Larger quantities are sold in the various types of baskets, such as Climax, splint, round-bottom. There are approximately 56 pounds of plums per bushel, and 20 pounds per Western box, or 16 per Northwest suitcase box.

**Pomegranates** are about the size of a large to medium orange, with a hard, red-brown, leathery rind. They contain

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many seeds and crimson juice and pulp. They are in season in the fall and are used for salads, punch, fruit cocktails, and garnishing.

Good quality pomegranates have considerable juice, seeds tender enough to be good to eat, and a small amount of pulp.

*To keep:* They keep well for a number of months if the storage place is dry.

They are sold by the unit.

**Quinces** are in season in the fall and are used for preserving, flavoring, and jelly-making. Look for a greenish-yellow to yellow color, firm but not too hard consistency, in order to avoid immature fruit, which has a poor flavor. The presence of worms may be told in many cases by punctures in the skin.

*To keep:* Quinces must be handled carefully as they bruise easily and are undesirable when bruised. If in good condition they will keep for some time in a dry, cool place.

They are sold by the unit or pound, and sometimes in baskets such as the peck or half-bushel.

**Rhubarb** on the market in early spring is of a light color with under-developed foliage. This type is forced and differs from the field-grown which comes later and is dark-red with deep-green foliage. Good rhubarb has fairly thick stalks which are fresh and crisp, not wilted or flabby. Large leaves indicate old stalks, of poorer flavor than the young stalks. U. S. grades for field-grown rhubarb are: U. S. Fancy, U. S. No. 1, and U. S. No. 2. Stalks of the first grade must be 1 inch in diameter and 10 inches long; of the second,  $\frac{3}{4}$  inch in diameter and 10 inches long unless otherwise specified; and U. S. No. 2 stalks must be  $\frac{1}{2}$  inch in diameter and 8 inches long unless otherwise specified. U. S. Fancy must be very well-colored, U. S. No. 1 well-colored, and U. S. No. 2 fairly well-colored. U. S. No. 2 differs from Fancy and No. 1 chiefly in that tenderness is not a specification.



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*To keep:* Wrap in damp cloth or waxed paper and keep in the refrigerator. It is not very perishable so can be kept at room temperature for a short time if necessary. Wilted rhubarb can be freshened in a hydrator or other device for crisping vegetables.

One pound of rhubarb will make a scant two cups of sauce.

It is sold by the bunch or pound, the latter method being preferable.

### DRIED FRUITS

#### GENERAL GUIDES FOR BUYING

Dried fruits are usually cheaper than canned because they are processed without sugar and with lower labor costs; the boxes and cartons for the dried also cost less than cans; the dried fruit requires less storage space, and the transportation cost is less. One ton of fresh apricots when canned and packed weighs 2,800 pounds, whereas the same ton of apricots would weigh only 450 pounds if dried and packed for shipping. Most people consider the flavor and shape of the canned preferable, although many like the dried as well when properly prepared. Since the flavors are so different, it is largely a matter of taste.

Dried fruits on the market are either sun-dried or dehydrated. In the former method the fruit is spread on trays to dry in the open, whereas in the latter method artificial heat is used and the whole process is carefully controlled as to temperature, humidity, and air flow. The dehydrated fruits are superior for cooking, although not always better looking before cooking, and have been increasing in amount. All Northwestern prunes go through the dehydrator but half the California crop is still sun-dried. By the Federal Food and Drug Administration definition, apples, apricots, peaches and prunes may not be labeled "dried" if the moisture content exceeds 24 to 26 per cent, the amount varying with the fruit.

Peaches, pears, and apricots are sometimes treated with sulphur in order to improve their appearance and kill organ-

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isms that might cause spoilage. The words "sulphur dioxide" must appear on the label when this is done. Raisins and prunes are sometimes given a lye-bath to clean them and crack the skin for faster drying. They are later treated with a boiling rinse or live steam. The Food and Drug Administration has not been able to find any harmful effect on human health from the quantities of sulphur or lye that remain on the fruit.

Dried fruits are sold in bulk and in packaged form. The smaller fruit is usually the cheaper per pound. Net weights of the packaged fruits should be noted in making price comparisons.

*To keep:* Dried fruits keep well if clean, dry, and protected from vermin. Tight cans prevent their becoming hard due to evaporation.

### GUIDES FOR SELECTING SPECIFIC DRIED FRUITS

Dried apricots of good quality are usually either of the *Moorpark* or *Blenheim* variety. The former is more meaty and the latter is more tart and has the higher color. Commercial grades based on size are as follows: *Extra Fancy*, over 48/32 inches in diameter; *Fancy*, 48/32 inches; *Extra Choice*, 40/32 inches; *Choice*, 32/32 inches; *Standard*, below 32/32 inches. The term "slabs" refers to apricots which are irregular in shape and size, usually thin and flat due to over-ripeness, and often off color. They are cheaper than the graded. One pound of dried apricots is equal to about 5½ pounds of fresh. "Tenderized" apricots are a special brand which have a slightly higher moisture content which makes them cook more quickly. The added water is given on the carton. The new pack comes on the market in August.

Currants are imported chiefly from Greece, although California raises a similar fruit called Zante currants which are used chiefly by bakers. Currants are smaller and more tart than raisins. The new pack is on the market in October.

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Currants are usually sold in one pound or 15-ounce packages, but also come in other sizes and in bulk.

Dates are of two general types: the *black*, which are sweet and meaty with a small seed, a thin skin, and a rich, characteristic flavor; and the *golden-brown* type, which has a softer flesh, larger seed, and coarser texture. The *Fard* is one of the best known examples of the first kind and the *Halawi* (*Hallowi*) and *Khadrawi* are brown dates. The *Deglet Noor* is a date from Africa that is called semi-fresh because it is not as fully dried as other kinds. California produces a black date cured like the *Deglet Noor*, which is sometimes marked "Mission." Commercial grades for dates are: *Extra Fancy*, *Fancy*, and *Choice*, based on size, uniformity, ripeness, and firmness of the fruit. There may be some mashed and broken pieces in the lower grade. Pitted dates are on the market and are about 20 per cent more expensive than the unpitted. The new pack is on the market in November. Packaged dates are probably cleaner than those sold in bulk by the time they reach the consumer. Both should be washed before using.

Figs which we buy dried are either the *Black Mission* variety or the *white* variety, of which *Smyrna* (*Calimyrna* if from California) and *White Adriatic* are examples. The *Black Mission* are small and have a good flavor and tender texture. The *Smyrna* variety are large, and sweet, with nut-flavored seeds, thin-skinned, meaty. *White Adriatic* are smaller than the *Smyrna*, medium thin-skinned, less meaty, and less desirable. The commercial grades used in California based on size are as follows:

Name of grade	Number per pound		
	Black Mission	California	White Adriatic
Standard .....	93	135	143
Choice .....	64	62	82
Extra Choice .....	46	45	42
Fancy .....	37	33	37
Extra Fancy .....	33	22	32

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In the East, figs are graded as 4, 5, 6, 7, or 9 crown, meaning that the diameter of each fig in a flattened layer measures 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$  or 3 inches, respectively. Crowns are sometimes pictured on the label. Pulled figs are so called because they are pulled into square or oblong shapes. The large are used for this purpose and packed in boxes. Figs are slit and flattened into layers to produce the bricks of layer figs, for which the better grades of fruit are used. The least expensive figs are the other forms, such as the naturals which are unmanipulated and sold in bulk, and the strings of figs. The last two are used chiefly for cooking. The new pack is on the market in September.

**Dried peaches** when of the finest quality are of the *Muir* variety, or of other freestone varieties such as *Crawford*, *Lovell*, and *Elberta*. Dried peaches should be golden-yellow, firm but pliable, and low in moisture. The commercial grades are: *Extra Fancy*, *Fancy*, *Extra Choice*, *Choice*, *Standard*, *Slabs* or *Pie Fruit*. They are based on the following qualities in addition to those mentioned: flavor, size, uniformity, freedom from damage and extraneous matter, and maturity. Sizes are as follows: *Extra Fancy*, over  $58/32$  inches in diameter; *Fancy*,  $58/32$  inches; *Extra Choice*,  $50/32$  inches; *Choice*,  $42/32$  inches; and *Standard*,  $34/32$  inches. Slabs or Pie Fruit are wholesome but unattractive due to being mashed. The fanciest varieties are scrubbed until almost no skin is left and called "practically peeled." One pound of dried equals about 5 pounds of fresh peaches. The new pack comes on the market about the first of September.

**Dried pears** are generally graded the same as peaches, although there are no standardized sizes. They are unpeeled. Desirable qualities would be the same as for peaches, except for color. One pound of dried pears equals about 8 pounds of fresh. The new pack comes on the market in September.

**Prunes** are the cheapest of all dried fruits. The most important variety from California is the *French-Petite*,

## FRUITS AND VEGETABLES

which is medium-sized and very sweet. The larger and more tender *Sugar* prune, the very large *Imperial*, and the large yellow type known as *Silver* prune are also from California. The *Italian* prune is the chief variety from Oregon, characterized by its tartness. In an average year its size runs from 30 to 50 prunes per pound.

Prunes are classified by size according to the number in a pound, the extra large being known as "20-30s" and "30-40s," the large as "40-50s," medium-sized ones as "50-60s" and "60-70s," and small ones as "70-80s" to "100-110s." While there are more seeds per pound in the small, calculations have shown that at the most there is only about 15 per cent less prune meat per pound in the very small-sized prunes than in the extremely large. In some cases a pound of meat from 60-70s costs only about half as much as a pound from 30-40s. The trade specifies that the 20-30s shall be over  $42/32$  inches in diameter, with the sizes decreasing down to  $24/32$  inches for the smallest 120s.

Prunes should be soft, pliable, and glossy. Federal grades are *U. S. Grade A* (fancy), *U. S. Grade B* (extra choice), and *U. S. Grade C* (standard). The "tenderized" prunes on the market have had 5 per cent moisture added and are so labeled. They cook more quickly but are more expensive than the ordinary prune. The new pack is on the market in October.

**Raisins** of the *seedless* type are the *Sultana*, much used by bakers, and *Thompson Seedless* or *Sultanina*, which was developed from the *Sultana* and is more commonly sold now. The latter are more yellow in color and more tart than the *Thompson* and occasionally have some seeds. *Thompson Seedless* are sometimes bleached to give the light-amber color occasionally seen. *Seeded* raisins are *Malagas* or *Muscats* (also called *Muscatel* or *Alexandria*). They have a more pronounced flavor than the seedless. Many consider the flavor of the seeded superior to the seedless, although the latter may be preferred for puddings, salads, and other

## FOOD BUYING AND OUR MARKETS

uses where their plumpness is an asset. The grapes are seeded after drying. A patented process produces the puffed Muscat, which is not sticky, as is the ordinary seeded raisin. Seeded Muscats are sterilized by heat before packing, and seedless raisins are fumigated to kill any organisms. The third type of raisin, the *clusters*, are the fancy table-raisin on the stem.

Cluster and seeded raisins are graded for size as follows: *1 crown*,  $13/32$  inches in diameter; *2 crown*,  $17/32$  inches; *3 crown*,  $21/32$  inches in diameter; and *4 crown*, over  $21/32$  inches. The extra large Imperial cluster raisins are *6 crown*. Labels sometimes contain pictures of crowns to indicate size. Seedless raisins do not have such definite grades for size, although the terms "Fancy" and "Choice" are frequently used for quality grades. The term "Extra Standard" means meaty and plump raisins with shallow wrinkles, whereas "Standard" raisins are more skinny and lean. One pound of raisins is equal to 4 pounds of fresh grapes. The new pack is on the market the middle of October.

The common sized package contains 15 ounces and yields about  $2\frac{1}{4}$  cups.

### QUICK-FROZEN FRUITS AND VEGETABLES

In addition to the fresh and dried forms of fruits and vegetables available in the markets, quick-frozen or frosted fruits and vegetables are appearing in many localities. The process used differs from ordinary freezing in that the cell-structure of the food is not changed. The flavor is excellent as it is possible for the picking to be done at the ideally ripe stage. Berries, cherries, pineapples, peaches, cranberries, fresh prunes, green peas, fresh Lima beans, spinach, broccoli, string beans, corn cut or on the cob, asparagus, and cauliflower have been successfully treated in this way. For both peas and Lima beans grades have been established by the Agricultural Marketing Service. Fruits such as berries and peaches are sliced and sweetened before frosting.

## FRUITS AND VEGETABLES

### Questions or exercises

1. Make a list of the fresh fruits available in your market during the current month. Rank them in order of expense.
2. Which of the fresh fruits now available in your market were available in this market at the same season twenty-five years ago? What developments are responsible for this change?
3. What varieties of apples are sold in your market at their season of greatest abundance? What are the best uses of the different varieties? Answer the first question for oranges, peaches, pears, plums and grapes.
4. Ask your dealer which fruits he buys by grade and ask to see containers indicating grade or size classifications.
5. Ask your local fruit dealer to show you as many as possible of the types of containers mentioned in the text.

### SUGGESTED READINGS

- CAREY, L. C., *Containers for Fruits and Vegetables*, U. S. Department of Agriculture, Farmers' Bulletin No. 1821 (Washington, 1939).
- HILL, R. G., *A Fruit and Vegetable Buying Guide for Consumers*, U. S. Bureau of Agricultural Economics, Miscellaneous Publication No. 167 (Washington, 1936).
- Household Finance Corporation, *Fruits and Vegetables*, Better Buymanship No. 3 (Chicago, 1937).
- SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), Ch. X.
- TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 25-33; 41-53; 64-7.
- U. S. Bureau of Agricultural Economics, *Rules and Regulations . . . under the Standard Container Acts*, Service and Regulatory Announcements Nos. 104, Rev. 116 (Washington).

Copies of Government standards and grades for specific fruits can be obtained from the U. S. Agricultural Marketing Service, Washington, D. C.

## CHAPTER XVI

### FRUITS AND VEGETABLES (*Continued*)

#### FRESH VEGETABLES

##### GUIDES FOR SELECTING SPECIFIC VEGETABLES

Following is a list of the vegetables most commonly found in the market, with suggestions for their selection. The buyer should note that figures for yields given here are only approximate, as much depends on waste, which varies with size of vegetables, freedom from decay, injury or damage, thickness of peeling, and other factors.

Varieties are noted if a vegetable is widely marketed under a varietal name, as Golden Bantam corn, but no attempt is made to present a complete catalog of the numerous varietal names which are not widely used. A variety of fruit or vegetables well-known in one market may be unknown in others. The buyer, therefore, should learn all she can concerning varieties of vegetables commonly sold in her city, and use this information in her buying.

Federal grade specifications, necessarily, are involved and extremely detailed. Only those details are touched upon which give the buyer useful suggestions for judging qualities affecting desirability of the product. The general standards for the various grades outlined in Chapter XV, which are practically the same for all vegetables, are not here repeated, but are to be taken for granted.

**Artichokes** of the *French* or *globe* type are green, undeveloped buds of the artichoke plant, of two types, cone-shaped and more rounded. They should be properly



## FRUITS AND VEGETABLES (CONTINUED)

trimmed, well-formed, and compact with tightly clinging leaf scales; spreading scales and a fuzzy purplish center indicate over-development. Green color indicates freshness; the leaves or scales take on a brownish tinge and harden when artichokes are too mature, and show brown spots when they have begun to decay. Large artichokes may be as good as small, if fresh. Only the tender lower ends of the scales and the "bottom," to which they are attached, are eaten, the "choke" or "hay" in the center of the bud being discarded with the tough parts of the scales. Since waste is great and price relatively high, artichokes usually are to be classed as a luxury. However, they may be inexpensive in localities where grown, or in large cities where the demand for them is great.

Federal grades are: *U. S. No. 1*, meeting quality standards outlined above; *U. S. No. 2*, which may be slightly less compact but not badly spread.

Globe artichokes are sold by the unit, a medium-sized one weighing about  $\frac{1}{4}$  pound. Usually one is a serving, though large ones may be halved for two persons.

*Jerusalem artichokes* are tubers resembling potatoes in appearance and are cooked in many of the same ways. They should be selected for smoothness to avoid waste.

Jerusalem artichokes are sold by the pound or quart. Five medium-sized ones weigh 1 pound.

**Asparagus** should have unbroken tips and fresh tender stalks. Indications of tenderness are: stalks elastic to the touch, brittle at the cut end (pithiness here indicates toughness), standing straight, not wilted or drooping; bracts clinging closely to the heads. Spreading tips indicate lack of freshness or over-maturity. There are two general types: the *green*, generally preferred for home use; the *white*, with stalks white to pale-green after exposure to the light, and violet or reddish before, grown in California and largely used for canning.

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Federal grades for green asparagus are *U. S. No. 1* and *U. S. No. 2*. *U. S. No. 1* meets quality standards outlined above and, unless otherwise specified, consists of stalks  $\frac{1}{2}$  inch or more in diameter and green for two-thirds of their length. *U. S. No. 2* stalks may be slightly smaller and green for only one-half their length. Any deviation in greenness or diameters must be noted. Stalk length is not specified, but minimum length should be noted, as, *U. S. No. 1*,  $8\frac{1}{2}$  inch minimum. Classifications indicating diameter are: *very small*, less than  $\frac{5}{16}$  inch; *small*,  $\frac{5}{16}$  to less than  $\frac{8}{16}$  inch; *medium*,  $\frac{8}{16}$  to less than  $\frac{11}{16}$  inch; *large*,  $\frac{11}{16}$  to less than  $\frac{14}{16}$  inch; *very large*,  $\frac{14}{16}$  inch or more.

*To keep:* Wash thoroughly; cut off lower ends of stalks so they will absorb water; tie the bunch together; set in shallow water, tips up, in the refrigerator.

Asparagus is sold by the bunch (bunches vary) and by the pound. There are about 15 to 22 medium stalks in 1 pound, making 2 cups cut up for creaming.

**Avocados**, sometimes called alligator pears, are fruits, but classed here as vegetables because eaten as such. Do not confuse with the "sweet sop" or "alligator apple" sometimes called alligator pear. An avocado has a single large seed, surrounded by pulpy flesh, sometimes called "midshipman's butter" because of its fat content. Appearance depends upon variety, hence is not a guide to quality. The skin may be green or deep-purple; it may be smooth and thin or thick; or it may be rough and almost shell-like. When ripe and ready to eat, the flesh should be soft enough to yield to slight pressure, the thin-skinned yielding more readily than the thick. Light-brown markings on skin, known as "scab," do not affect quality of flesh, but dark, sunken spots indicate decay.

In California, a distinct type called *calavo* has been developed for market. Calavos are sold in wholesale markets by size number, which is the number per flat (crate). Small

## FRUITS AND VEGETABLES (CONTINUED)

fruit, 4 to 5 ounces each, are 42s; 5 to 6½ ounces, 35s; 6½ to 8 ounces, 30s; 8 to 10 ounces, 24s; 10 to 12½ ounces, 20s; 12½ to 15 ounces, 16s; 15½ to 19½ ounces, 14s. Very large ones, seldom marketed, range from 12 to 7 to the crate, these last each weighing as much as 3 pounds or more. The California varieties are in season from January through June, though there is production throughout the year. Florida fruit, sometimes marketed as *flavocados*, and Cuban mature mostly in summer and fall.

*To keep:* Ripe avocados are very perishable and should be kept in the refrigerator, wrapped in waxed paper, if cut. Do not lay on ice. Avocados not fully ripened should be kept at room temperature.

Avocados are sold by the unit as a rule, but occasionally by the pound. A small avocado, 4 to 5 ounces, makes two small salads.

**Beans, string or snap**, may be green or wax (yellow), and may have pods which are small or large, flat or rounded, stringy or stringless, depending on variety. High quality is indicated by pods which are bright and free from spots; crisp enough to snap when broken; smooth and slender. When seeds commence to bulge the pods, beans usually are over-mature and tough. Stringiness may be detected by breaking a pod. Federal grades are: *U. S. Fancy*, of quality as outlined, and of uniform size; *U. S. No. 1*, *U. S. No. 2*, and *U. S. Combination*.

Beans should be bought by the pound rather than by the quart, as packing of the measure varies. A pound measures approximately 1 quart. About 9 to 14 per cent is discarded in stems and strings, hence 1 pound yields about 3½ cups ready to cut.

**Beans, Lima**, may be bought in the pod or shelled. Pods should be dark-green, free from dark spots, crisp and not flabby, well-filled but not over-mature and bulging. Shelled beans should be light-green, with tender skins. Examine for mold, as they are very perishable, tipping the box

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to see beneath the surface layer. Size depends upon type, the "potato" beans being larger than the "butter" beans. *Fava* beans, or *English broad* beans, found in some markets, are similar to Limas, but the pod is larger and thicker, and the seed is rounder, thicker, and less tender. Lima bean grades are *U. S. No. 1*, *U. S. Combination*, and *U. S. No. 2*, based on freshness and fill of the pods.

*To keep:* Place shelled Lima beans, unwashed, in the refrigerator, as they mold quickly.

Shelled Lima beans are sold by the pound or the pint. A pound measures  $2\frac{3}{4}$  cups, hence a pint weighs less than a pound. One pound in the pod yields  $\frac{1}{3}$  pound (nearly 1 cup) of shelled beans.

**Beets.** *Young* beets, with fresh, undamaged tops, will furnish two vegetables, beets and greens. Leaves with heavy mid-ribs usually are tough, hence should not be bought for greens. The only grade for "bunched" beets is *U. S. No. 1*, tops fresh and beets firm and smooth. Federal classes for size are: *small*, less than 2 inches in diameter; *medium*, 2 to 3 inches inclusive; *large*, over 3 inches. A bunch usually contains 3 large, 4 medium, or 5 to 6 small. *Winter* beets, tops removed, are sold by the pound. *U. S. No. 1* is the only grade for "topped" beets. As beets age, they shed leaves, hence several circles of leaf scars at the neck indicate toughness. Red beets are often preferred to lighter-colored varieties because of appearance, though there may be little difference in flavor. In pickling and cannings, deep-red varieties, as *Detroit Dark Red*, hold their color.

From a bunch of beets with tops the yield may be: beets ready to cook, 56 per cent of weight; tops for greens, 17 per cent; waste, 27 per cent.

Five medium-sized topped beets weigh 1 pound, and yield  $1\frac{3}{4}$  cups cooked and diced.

**Broccoli**, one of the newer market offerings, is of two types, the most common being *Italian green sprouting*, with stalks 4 to 6 inches long, ending in clusters of heads of

## FRUITS AND VEGETABLES (*CONTINUED*)

green florets; and the other the *white heading*, similar to cauliflower. In selecting green sprouting, over-mature heads with buds beginning to open and showing yellow or purple blossoms should be avoided. Stalks should be tender and relatively free from leaves, as leaves, though eaten, are sometimes tough and are inferior to stems and heads in flavor. Heads vary greatly in size, but if large ones are chosen there will be a smaller proportion of leaves.

Federal grades for green sprouting are: *U. S. Fancy* and *U. S. No. 1*. For *U. S. Fancy*, heads are compact, not less than 3 inches in diameter unless otherwise specified, and well-trimmed (few leaves); *U. S. No. 1* is well-trimmed but heads may be smaller and less compact.

Broccoli is sold by the pound. A pound will serve four or five.

**Brussels sprouts** are diminutive cabbages, 1 to 1½ inches in diameter, marketed in fall and winter. They should be green (yellowness indicates maturity), firm and compact, with practically all loose outer leaves removed. They should be inspected for signs of damage by worms to which they are subject, and, if smudgy-looking or with loose leaves, for plant lice which cling to inner surface of leaves.

*To keep:* Wash, drain, and place on top shelf of refrigerator covered with damp cloth or waxed paper, or in hydrator.

Brussels sprouts are sold by the pound or quart. One quart weighs about 1 pound and contains 25 to 40 sprouts, which will serve four or five.

**Cabbage** should be well-trimmed (usually not more than four wrapper-leaves nor more than one-half inch of stem) and free from worm injury or yellow leaves. The core should be inspected for signs of decay which may start there and spread along the mid ribs. A head should be solid for its type, but solidity and size vary with the five

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recognized types, which are: (1) *Pointed*, small, normally conical or pointed heads, marketed in spring, including such early maturing varieties as *Jersey Wakefield*; (2) *Domestic*, heads flat or rounded according to variety but less compact than Danish type and of poorer keeping quality, including *Flat Dutch*, *Copenhagen* and *All Seasons*, marketed mostly in mid-season. Late maturing varieties are used for sauer kraut. (3) *Danish*, large, round, extremely tight-leaved heads, with good keeping qualities, including such varieties as *Cannonball*, *Roundhead* and *Ballhead*. Late maturing varieties furnish us with winter cabbage. (4) *Savoy*, the "curly cabbage," with green wrinkled outer leaves and head of yellow-green, about as solid as Iceberg lettuce. It has a pungent flavor and is popular in our foreign markets. (5) *Red* cabbage, attractive for salads because of its color, with heads of darker-colored varieties more solid than those of lighter color.

The Federal grades are *U. S. No. 1*, with qualities outlined above and *U. S. Commercial*. Standards for size vary with type: for *Pointed* type, *small*, under 1½ pounds; *medium*, 1½ to 3 pounds; *large*, over 3 pounds. For *Domestic*: *small*, under 2 pounds; *medium*, 2 to 5 pounds; *large*, over 5 pounds. For *Danish*: *small*, under 3 pounds; *medium*, 3 to 6 pounds; *large*, over 6 pounds.

*To keep*: Remove outer leaves, allow cold water to run over head, place on top shelf of refrigerator so that odors will not be absorbed by other foods. If not to be used soon wrap in damp cloth or waxed paper. If head is cut wrap in waxed paper so it will not dry and lose flavor.

Discard from outer leaves may be as much as one-third of the weight of early cabbage if it is not well-trimmed, or as little as one-twelfth of a good firm head of winter cabbage.

A pound of cabbage makes 3½ cups shredded for salad, or 2½ cups cooked.

**Carrots** should be orange (not pale-yellow), firm, smooth and shapely enough to avoid waste. For mild

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flavor they should be young (not overly developed), but age is hard to judge by size, since this depends upon variety. "Coreless" carrots have a uniform orange color throughout, a small core, and a mild flavor. Young bunched carrots are found in large markets throughout the year, but in winter are more expensive than the more mature topped.

The only Federal grade for either topped or bunched carrots is *U. S. No. 1*. *U. S. No. 1* bunched meet quality standards outlined above. A bunch contains 6 medium sized carrots, or a sufficient number of those of other size to be equivalent in weight of roots. *U. S. No. 1* topped carrots must be well-trimmed, not more than one-half inch of top.

*To keep:* Remove tops, scrub, drain, and place in hydrator to crisp if they are to be served raw. If to be cooked they may be kept wrapped in a damp cloth or waxed paper in the refrigerator.

There is very little waste, only 8 per cent for topped roots of young bunched carrots, or 14 per cent for old ones.

Young carrots are sold, with tops, by the bunch, 3 to 6 in a bunch. Six medium-sized ones weigh a pound, exclusive of tops.

Mature winter carrots are sold, topped, by weight, there being 4 good-sized ones to a pound which yields 2 cups cleaned and diced.

**Cauliflower** should be white or cream-colored. Dark color may indicate exposure to the sun and consequent strong flavor. Black specks are the beginning of decay. The head should be compact; looseness and spreading of the flower clusters indicate over-development. Jacket leaves should be fresh, bright, and well-trimmed, leaving only enough for protection; and no leaves should grow into the head. The one Federal grade is *U. S. No. 1*, with qualities noted.

*To keep:* Wash, allowing water to run over inverted head to remove dust from among the florets. Do not strip off all the green leaves. Wrap in waxed paper and place on top shelf of refrigerator, so odor will not reach other foods.

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Waste depends on trimming. It may be as high as 72 per cent if there are many jacket leaves to discard, or as low as 30 per cent.

Cauliflower is usually sold by the head. A large head frequently gives more for the money than a small one. One pound measures  $4\frac{1}{2}$  cups, cut up for creaming.

**Celeriac**, called turnip-rooted celery, or knob celery, is bought for the root, which may be used raw for salad or cooked. It is sometimes called celery root. As a rule it is found only in city markets.

Celeriac is sold by weight. A large root weighs 1 pound and yields  $2\frac{1}{2}$  cups diced to cook.

**Celery** should be well-blanching, that is, creamy-white in color; well trimmed, all damaged parts removed; and with a fairly large heart for the variety. Stalks should be brittle, free from strings (detected by breaking), and from pithiness. There are two types in the market: (1) the *self-blanching* varieties, with yellowish foliage, as *Golden Plume* and *Golden Self-Blanching*; (2) *green foliage* varieties as *Giant Pascal* and *Emperor*. The self-blanching varieties represent more than half the total crop, being preferred by many because of their attractive appearance. *Giant Pascal*, the leading green-leaved variety, is tender, of superior flavor, and nearly free from strings, but of small heart formation. Celery hearts, usually 3 or 4 bunched together, may be bought for serving raw, but in trimming them the dealer has discarded from 10 to 40 per cent of the stalks. The housewife can sometimes buy whole plants, use the outer stalks for salad or a cooked vegetable and the hearts as a raw vegetable, for but little more than the hearts cost.

Federal grades are *U. S. Fancy*, *U. S. No. 1*, *U. S. Combination*, and *U. S. No. 2*. Length of outer branches is considered in grading.

*To keep:* Wash but do not cut off root end. Place in



## FRUITS AND VEGETABLES (CONTINUED)

in a damp cloth, and place hearts with root attached in the hydrator.

Waste from whole celery is 20 to 25 per cent of the weight.

A small bunch (plant) weighs 8 to 10 ounces. Two half-pound bunches will serve 4 with hearts, and yield from  $\frac{3}{4}$  to 1 cup of celery for cooking or salad.

**Chard.** See Greens.

**Chicory.** See Salad plants.

**Chives.** See Onions.

**Corn** with dried yellow husks usually is old or damaged and should be avoided. However, green husks do not necessarily indicate tenderness. The only sure way of judging corn is to strip back the husks and inspect the ears. They should be free from discoloration, well-filled with kernels sufficiently tender to spurt milk when pressed. Kernels should be plump; if dry, shrunken, and pasty, they will be tough. Color of kernels is not a reliable indication of age as many varieties are creamy or yellow.

Varieties in the market depend on the season. The earliest maturing are white, and are considered less desirable than some later types. Of the mid-season varieties, probably the most desired is *Golden Bantam*, yellow, with small, slender ears, 5 to 7 inches long, and broad, shallow, creamy kernels. Another yellow variety of excellent quality is *Sunshine*, resembling *Golden Bantam*, but with slightly longer ears and maturing a little earlier. Some other yellow varieties are less tender. Later in the season comes *Country Gentleman*, white, with ears 7 to 8 inches long. Another good late variety is *Stowell's Evergreen*, with white kernels narrow to medium in width set in rows, ears 7 to 9 inches long.

Federal grades are *U. S. Fancy* and *U. S. No. 1*. Both *U. S. Fancy* and *U. S. No. 1* meet the quality standards noted, but the *Fancy* grade must show no injury from insects, while that of *No. 1* may show a small amount of injury but no damage.

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*To keep:* Remove outer husks and most of silk, but leave light inner husks to protect kernels. Wrap in slightly dampened cloth and place in refrigerator.

Sale of corn by the unit or the dozen is the only practical way as weight depends on size of cob and thickness of husks. A dozen medium-sized ears yield 3 cups of corn cut from cob.

**Corn salad.** See Salad plants.

**Cress.** See Salad plants.

**Cucumbers** to be sliced for salads should be fresh and firm, not shriveled; from 5 to 9 inches long; straight, not too thick, and with rounded rather than tapering ends. Very pointed or shrunken ends, or irregular shape leads to waste in peeling. Half, or preferably two-thirds of the surface should be green, a yellowish color indicating maturity and, with it, pithiness and large seeds. Hothouse cucumbers and those shipped from Florida in the spring are usually of darker green color and smoother surface than the field grown. Cucumbers for pickles should be small, straight, tender, fresh and crisp. *Gherkins* are a small prickly variety of cucumber used for pickling.

Federal grades for cucumbers to slice are *U. S. Fancy*, *U. S. No. 1* and *U. S. No. 2*. Those of Fancy grade must meet quality standards noted above, including that for color. Those of *U. S. No. 1* meet the standards except as to color and are only fairly well-formed. Those of *U. S. No. 2* must not be badly deformed and may be smaller (4 inch length).

*To keep:* Wash and place in hydrator. If wilted, slice into ice water and allow to stand for a half hour before serving.

Discard from peeling is about one-third of the weight.

A 9-inch cucumber weighs 1 pound and gives 25 to 30 slices. Cucumbers are sold by the unit.

**Egg plant** should be of uniform dark-purple (not streaked, light-purple, reddish or yellowish), and free from

## FRUITS AND VEGETABLES (CONTINUED)

brown spots indicating decay; firm and smooth, as the wrinkled or wilted may be bitter. An over-mature fruit may be seedy or pithy, but this should be judged by firmness rather than by size because some varieties must weigh from 2 to 3 pounds to reach proper development. About three-fourths of the commercially grown crop comes from Florida and New Jersey. There are two types in the market: (1) the long, cylindrical, as *Florida High Bush*; (2) the thick, chunky, dark-colored type as *Black Beauty* and the larger *New York Improved*. From the standpoint of flavor these are equally desirable, but the cylindrical is preferred by some persons for slicing and frying. Egg plant is usually cheapest in August and September.

Federal grades are *U. S. No. 1*, of qualities noted above; and *U. S. No. 2*, with no standards for color or shape.

*To keep:* If an egg plant larger than needed for one meal is bought, keep unused portion, unpeeled, wrapped in waxed paper in refrigerator.

An egg plant weighing 1 pound gives 3 cups diced to cook.

**Endive.** See Salad plants.

**Escarole.** See Salad plants.

**Garlic.** See Onion.

**Gherkins.** See Cucumbers.

**Greens** include a wide variety of plants, as beet tops, chard, chicory, collards, corn salad, dandelions, kale, lambs-quarter, mustard, spinach, sour dock, and turnip tops. Whatever the plant, the leaves should be young, fresh and unwilted, green, free from yellow or decayed leaves, from coarse stalks, seed stems, roots, and other plants and weeds.

*To keep:* (See Spinach).

All are sold by the pound or peck and yield about 1½ cups of cooked greens to the pound purchased.

**Chard**, or Swiss chard, has large dark-green leaves with prominent white midribs. The leafy portion is cooked for greens; sometimes the stalks and midribs are cooked in

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refrigerator wrapped the same way as asparagus, hence stalks should be crisp and tender, not coarse or stringy.

**Collards**, similar to kale, have large leaves curled at edges, which do not form heads. Plants may be large or small.

**Dandelions**, though widely used as greens, are seldom in the market, being picked in the meadows and sold from house to house.

**Kale** is marketed in winter, especially in foreign districts of cities. The leaves are large, usually dark bluish-green though some may be bronzed by cold weather. Such bronzing should be differentiated from yellowing due to age. Some varieties, as *Curled Scotch*, have leaves more curled than others. Federal grades are *U. S. No. 1* and *U. S. Commercial*; the latter may have slightly bronzed or yellowish edges on the leaves.

**White mustard** is grown in home gardens more often than for market. The Federal grade for mustard greens is *U. S. No. 1*, practically the same as for spinach.

**Seven-top turnips**, sometimes called Broccoli Raab, are grown exclusively for greens, the roots seldom being eaten. Tops of young garden turnips also are used for greens. There is one Federal grade for the latter, *U. S. No. 1*.

**Spinach** is of two general types: (1) the *smooth-leaved* varieties; (2) the *Savoy* type with wrinkled or "blistered" leaves. Where it is shipped long distances the Savoy type is preferred by shippers, because the leaves do not pack as closely as the smooth, and therefore do not heat and become yellow and wilted during shipment. For the housewife, however, the smooth-leaved is easier to clean, especially if sandy. *New Zealand spinach*, the tips of branches of a large plant growing sometimes 2 feet high, is easier to clean than true spinach grown on sandy soil, and has no discard from roots. It is marketed in summer when true spinach is scarce. Federal grades are *U. S. No. 1*, of quality standards outlined for all greens; *U. S. Commercial*, the same except with a

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"tolerance" of 20 per cent instead of 10 for slightly damaged leaves.

*To keep:* Place spinach in the refrigerator in a heavy bag or tight container. Do not wash until ready to use.

Waste may range from one-third to two-thirds of the weight bought, depending on number of damaged leaves and size of stems.

Spinach is sold by the pound or peck, either method somewhat unsatisfactory, the former because the buyer pays for water if spinach is iced or sprinkled; the latter because the measure may be tightly or loosely packed.

One pound of spinach yields 2 cups cooked, or less if discard is great.

**Kohl-rabi**, or "cabbage turnip," is much the shape of a turnip, though not a root, but an enlargement of the stem above ground. That most often marketed is pale-green, and about 2 inches in diameter; if too large it may be woody and tough.

Kohl-rabi is sold in bunches of 4 to 6; or, topped, by weight, there being 4 medium-sized in a pound. One pound yields 2 cups diced and cooked.

**Leeks.** See Onions.

**Lentils.** See Dried vegetables.

**Lettuce.** See Salad plants.

**Mushrooms** may be immature "buttons" with unopened caps, or "open caps" in which the cap has expanded, breaking the veil which joins it to the stem, and exposing the gills. Buttons are considered more desirable and cost more, but there is slight difference, if any, in flavor. Caps are more tender than stems, therefore stems should be trimmed to  $1\frac{1}{4}$  inches. Color ranges from white to deep-cream or brownish shade, according to variety. A spotted appearance indicates decay. It is important to examine below the surface layer in buying a box.

The only Federal grade is *U. S. No. 1*, which must be free from open caps and well-trimmed. Size classifications

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are: *small*, under 1 inch in diameter; *medium*, 1 to 1 $\frac{5}{8}$  inches; *large*, 1 $\frac{5}{8}$  to 3 inches; *extra large*, over 3 inches.

Mushrooms are sold by weight, a pound containing 20 to 30 mushrooms of medium size. They are usually on the market in one-pound paper cartons in the West, and three-pound baskets in the East.

**Mustard.** See Greens.

**Okra** or **gumbo** must be young to have crisp tender pods, as these become woody and their seeds harden with maturity. Length depends on variety, but the young range from 2 to 4 inches. Pods may be green or white. *U. S. No. 1*, fresh undamaged pods, is the only grade.

Okra is sold by weight, there being about 35 3-inch pods in a pound. One pound yields 2 $\frac{3}{4}$  cups, cut up for cooking.

**Onions** and the **onion family**. Dry onions should be mature; firm (not soft or spongy); with the seed stem undeveloped. They should be well-shaped (not pinched by hard soil), single bulbs, practically free from "split" or double bulbs. Stems should be less than 2 inches in length, small and dry. Abnormally thick necks, called "bottle-necks," often accompany badly developed bulbs. The thin outer skin should be clean, dry, and brittle, free from cuts, cracks, or smutty streaks.

Most of the dry onions in the market are of two general classes: (1) the *Early Southern* crop, or "mild"; (2) later maturing, called *Northern Grown*, *main crop* or *American type*, usually of stronger flavor than the early crop. Of *Early Southern* the most important are *Bermudas* from Texas and California, which supply markets throughout the country from the first of April to the last of June. They are mild in flavor, usually flat in shape, about 2 $\frac{1}{2}$  inches in diameter, or larger than the *Northern* varieties, and of poorer keeping qualities. About nine-tenths of the *Bermudas* are yellow-skinned, and practically all the rest white, called *Crystal Wax*. Of the same class are the *Creole* onions,

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varying in color from yellow to brownish-red, flat to globular in shape, slightly larger than Northern grown onions, but smaller than Bermudas. The large *Valencia* or Spanish type, grown in the southwest, is yellowish-brown or white, mild, and therefore popular for salads and sandwiches.

Northern grown or main crop onions are stronger flavored, smaller, of better keeping quality, and marketed later than the Southern. From 30 to 50 per cent of the fall crop is stored in warehouses in the producing districts in October, and shipped as needed. Onions of this class are yellow, white, or red, the color prevalent in a given market depending on local preference. Of yellow, the best known varieties are *Yellow Globe* and yellow *Japanese* or *Ebenezer*, larger and flatter than the *Globe*. *White Globe* and *Silver-skins* are well-known white varieties, the latter being semi-flat, sweeter, and milder than many late varieties, and hence desirable for stewed or creamed onions. The *Red Globe* is unpopular in some markets because of its strong flavor, but is good for seasoning.

Some imported onions are found in the market, among them the large, oval, golden *yellow Spanish*, mild in flavor; a *red Spanish* type; the *Egyptian*, imported in spring and less popular because of its strong flavor; the *Italian*, reddish-purple and even milder than the Spanish.

Federal grades for Bermudas are: *U. S. No. 1*, meeting quality standards outlined above; *U. S. No. 2*, which need not meet the requirement for maturity and shape; *U. S. Commercial*, a mixture of the two foregoing grades with at least 50 per cent of No. 1 grade. Unless otherwise specified, all grades shall be of medium size. Size classifications are: *small* (boilers), 1 to 2 inches; *medium*, 2 to 3½ inches; *large*, 2 inch minimum and more than 10 per cent over 3½ inches. The one grade for *Creole* onions is *U. S. No. 1*, of practically the same quality as Bermudas, and unless otherwise specified a minimum diameter of 1¾ inches.

Grades for Northern grown onions are: *U. S. No. 1*,

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with qualities as outlined, with skin 50 per cent intact, and unless otherwise specified of  $1\frac{1}{2}$  inch minimum diameter and at least 40 per cent over 2 inches; *U. S. No. 1 Boilers*, meeting requirements for No. 1 grade except that they are from 1 to  $1\frac{5}{8}$  inches in diameter; *U. S. No. 1 Picklers*, meeting No. 1 grade requirements and 1 inch and less in diameter; and *U. S. Commercial*, which need not meet requirements for shape and condition of skin. Size classifications are: *small*,  $1\frac{1}{2}$  to  $1\frac{3}{4}$  inches; *medium*,  $1\frac{3}{4}$  to  $2\frac{1}{4}$  inches; *large*, more than  $2\frac{1}{4}$  inches.

*To keep:* Store in a cool but dry place. If damp, onions are subject to root growth and decay.

Waste from skin and roots is from 3 to 7 per cent of the weight bought.

Onions are sold by the pound or peck, except the large ones, sold by the unit.

Four to six Northern grown onions weigh 1 pound. A  $3\frac{1}{4}$  inch onion weighs approximately  $\frac{1}{2}$  pound.

*Garlic* normally develops in clusters of small bulblets, called cloves, enclosed in one outer skin which may be red or white. It should meet the standards for maturity and firmness given above for dry onions. Federal grade *U. S. No. 1* must meet these standards.

Garlic may be sold by the pound or in strings of 50 or 100 bulbs, or by the single bulb.

*Green* onions, sold with tops in bunches, range from the immature, showing no bulb development, to the nearly mature summer onions. In selecting the young, bulbless onions, those with medium-sized necks and fresh-green tops, showing a white color 2 or 3 inches from the root should be chosen. They should be well-trimmed, free from dead, discolored or loose outer skin. These young, bulbless onions are sold as *scallions* though they may be bulbless because of variety or because so immature that the bulb has not formed. (True scallions normally develop thick necks and



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slight bulbs, but any variety may be sold under this name.)

*Shallots* (dry) are of more mellow flavor than most onions and therefore desirable for salads. They grow, like garlic, in cloves, which are of a violet color with greenish tinge at the base and enclosed in an outer skin shading from reddish to gray. The entire bulb is pear-shaped.

*Green shallots*, so immature as to have no bulbs or practically none, have a characteristic mellow flavor. Federal grades for bunched shallots are *U. S. No. 1*, blanched (white) for at least 2 inches and showing no bulb; and *U. S. No. 2*, blanched 1½ inches and only slight bulb.

*Leeks*, larger than shallots, normally show slight bulb formation and have flat leaves. They are eaten leaf and bulb cooked, or are used for seasoning. Characteristics to be sought are similar to those of green onions.

*Chives* have fine, almost grass-like tops, which are chopped and used for salads and seasoning. A pot of chives may have leaves sheared repeatedly and will continue to grow.

**Parsley**, our most used garnish, is of three types: *flat leaf*; *curled leaf*; and the *turnip rooted* or *Hamburg*, long-stemmed and usually sold with roots which are used for seasoning. It should be fresh, green, and free from yellow leaves. There is one grade, *U. S. No. 1*.

*To keep*: Wash, tie in bunch, place in the refrigerator in a little water, or in the hydrator, stems down. It also keeps well if put in a tightly closed fruit jar in the refrigerator, after washing.

Parsley is sold in bunches weighing about ⅓ pound each.

**Parsnips** usually are marketed in winter, being left in the ground until a temperature near freezing has developed their flavor. They should be smooth and straight; misshapen roots cause waste. Small or medium-sized roots are less likely than large ones to be woody.

Young parsnips sometimes are sold in bunches of 5 or 6. Winter parsnips are sold, topped, by weight, 4 medium-

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sized ones weighing a pound and yielding  $2\frac{3}{4}$  cups cleaned and cut in strips.

**Peas** should be mature enough that pods are filled, not flat, yet so young as to be sweet and tender. When old they become hard and starchy. Freshness is indicated by pods brittle enough to snap, and bright-green; discolored, yellowish pods indicate age. The buyer should not judge age by size since this depends on variety; there are larger and more peas in a pod of *Telephone* than of *Horsford's Market Garden*. The qualities of a variety also change with season and place of production. A variety of peas, known as *Sugar peas*, or *mange tout* because eaten pods and all, is sold in some markets. They must be young and fresh or pods will be tough.

Federal grades are: *U. S. Fancy*, pods more than two-thirds filled with fairly well to well-developed peas, of reasonably uniform maturity, and of qualities noted above; and *U. S. No. 1*, pods more than half-filled, and otherwise the same as *Fancy*.

*To keep:* Place peas in refrigerator, unshelled, in heavy bag or tight container. If shelled wrap in waxed paper.

Peas should be bought by the pound rather than by measure. One pound of well-filled pods yields 6 to  $6\frac{1}{2}$  ounces of shelled peas, measuring about 1 cup.

**Peppers** are of two types, the *sweet* peppers, used as a vegetables, and *hot* peppers, used for seasoning and making relishes. Sweet peppers may be sold green, or ripened to a red or bronze color. Shape depends upon variety, some being long, others (better suited for stuffing) being short and chunky. Quality is indicated by firm flesh and crispness; when shriveled or limp they may be tough. If badly indented or constricted (not smooth and well-shaped) there may be considerable waste. *Pimentos*, or Spanish peppers, mild-flavored, with thicker flesh than sweet peppers, are found in some markets. Seeds of all peppers are hot and should be removed.

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Hot varieties range from the small chili peppers to the large bell-shaped types. Usually they are sold when red and mature. Chili peppers are sold dried, the year round.

Federal grades for sweet peppers are: *U. S. Fancy*, with qualities noted above, well-shaped (only slightly indented), and unless otherwise specified minimum size for long varieties 4 inches long and  $2\frac{3}{4}$  inches diameter, for short, 3 by 3 inches; *U. S. No. 1*, 60 per cent well-shaped and the rest slightly indented, minimum dimensions (unless otherwise specified) for long  $3\frac{1}{2}$  by  $2\frac{1}{4}$  inches, for short  $2\frac{1}{2}$  by  $2\frac{1}{2}$  inches; and *U. S. No. 2*, only fairly well-shaped and no size requirements. Unless designated as red or mixed, color is green.

Sweet peppers are sold by the unit, or by weight, there being 6 medium-sized to a pound. At canning time they may be sold by the crate or peck. The small hot varieties are usually sold by the pound.

**Potatoes** should be bright and firm; flabbiness or shriveling indicates immaturity or too long keeping. Another indication of immaturity is "feathering," or the peeling back of the skin in feathery fragments. This is often seen in new potatoes and does not affect their flavor, but it does mean that they will not keep and so is a defect in those to be stored. To avoid waste in peeling, potatoes should be well-shaped (not knobby, pointed, or dumb-bell shaped), of fair size; smooth, with eyes not too numerous or too deep. Waste is caused also by sunburn which shows in green color on or just beneath the skin, and which may give a bitter flavor; by sprouting, surface scab, deep-pitted scab, cuts, decay, or any large amount of dirt, which of course must be weighed with the potatoes. Black heart and hollow heart are defects hard for the housewife to detect. Federal grades protect her against these defects because all graded potatoes must be free from black heart and relatively free from hollow heart. If she cannot buy by grade, she may avoid hollow heart to some extent by refusing to buy potatoes which

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are extra large for the variety, though some smaller potatoes have hollow heart, also.

If buying in quantity, the housewife should ask the dealer to cut a potato for inspection. The flesh should be firm and white; a coarse, watery, or hollow center indicates undesirable quality. A dark ring toward the outer edge is evidence that the potato has been frozen, and therefore will darken with cooking and have an undesirable flavor.

Market men speak of potatoes as *early crop*, *mid-season* or *intermediate early*, *late* or *main crop*. Some early potatoes are shipped during January and February from Florida, Bermuda, and Cuba. In March the real movement commences, with car-lot shipments from Florida, Texas, and Arizona. Shipments from those and other southern states reach their peak in May. During this time and through June old potatoes are in the market. The intermediate crop, quick maturing potatoes grown further north, furnishes almost three-fourths of the shipments during July and continues through August; Virginia, Maryland, Kansas and New Jersey being important producing areas. In August main crop potatoes also arrive in the market and by September constitute practically all shipments. These late potatoes are grown from Maine to Montana in practically all states north of the 39th parallel. Those not immediately used are stored for winter, having better keeping qualities than the earlier maturing.

Varieties are numerous and differ with locality and season. The buyer should learn which varieties appear in her market in different seasons—which are dry and mealy and therefore desirable for baking, and which are moist and will keep their shape when boiled. Some of the best known early ones are: *Spaulding No. 4* (*Spaulding's Rose*), from Florida, pink skin, round to oblong, shallow eyes, good for steaming, somewhat too moist for baking; *Triumph*, pink-skinned, rounded with blunt ends; *Irish Cobbler*, creamy-white, rounded, stem end deeply indented, early ones good for steaming and later ones for all purposes. Of the inter-

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mediate crop, the *Early Ohio* is grown in many middle-western states and is often given the name of the locality where it is grown, as *Kaw Valley*, or *Red River Valley*. It is pink with small russet dots on the skin, numerous shallow eyes, classed as long in shape, a good all-purpose potato. Of late varieties: the *Russet Burbank*, grown in the West on irrigated land, is long and cylindrical, the skin dull-brown and heavily netted. It is especially desirable for baking, the *Idaho* potato being of this variety. The *Rural*, classed as of the round white type, has a skin varying from white to russet. It is broad, flat, smooth, with few eyes, fine-grained, and desirable for mashing or making. The *Green Mountain* is oblong, with flattened ends, classed commercially with "round" whites, skin white to dull-yellow, usually netted, another all-purpose potato.

Federal grades are as follows: *U. S. Fancy*, all one variety, of qualities noted, free from injury; they must be at least 2 inches in diameter and, in addition, for long varieties 40 per cent or more must weigh at least 6 ounces, and for those of intermediate or round shape not less than 60 per cent must be  $2\frac{1}{4}$  inches or more diameter. *U. S. Extra No. 1*, fairly well-shaped and fairly clean, diameter at least  $1\frac{7}{8}$  inches; if long variety, not less than 60 per cent must be 6 ounces or larger and 30 per cent 10 ounces each. Thirty per cent of round or intermediate varieties shall be  $2\frac{3}{4}$  inches in diameter. *U. S. No. 1*, of similar varietal characteristics, not necessarily meeting requirements for maturity and brightness, fairly well-shaped and free from damage. Unless otherwise specified the diameter is not less than  $1\frac{7}{8}$  inches. *U. S. Commercial*, the same as No. 1, except with an increased tolerance for dirt and defects. *U. S. No. 2*, with no requirements for shape or firmness, but free from serious damage. Unless otherwise specified the diameter is not less than  $1\frac{1}{2}$  inches.

Small potatoes usually are cheaper than large and otherwise equally desirable and, though more time is spent in paring them, may be bought profitably where it is more

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essential to save money than time. A study of relative costs showed a saving of 7 cents in preparing 6 pounds of pared potatoes, by using small rather than large potatoes. It required 10 minutes of extra time to save the 7 cents. The housewife should decide whether such saving is worth while. Less time would be spent if potatoes were boiled before paring.

*To keep:* Store in the dark at a temperature of 40° F. to retain flavor and to keep potatoes from decaying.

Four medium-sized potatoes weigh 1 pound, yielding  $2\frac{1}{3}$  cups pared and cut into cubes.

New potatoes are sold by the pound early in the season and later by the peck. Main crop are sold by the peck or bushel or in 50- or 100-pound sack. A peck weighs about 15 pounds.

**Pumpkins** should have flesh of fine texture, not coarse or stringy. The *Sugar* or *New England Pie* pumpkin is small, weighing 4 to 5 pounds, of deep-yellow color, and sweet, fine-grained flesh, desirable for baking as a vegetable or for pies. A slightly larger pumpkin, the *Winter Luxury*, about 7 pounds, has smooth yellow skin, covered with russet netting, and sweet fine-grained flesh. The larger pumpkins, orange-yellow, often weigh 25 pounds and have coarse as the *Common Yellow Field*, or the *Connecticut Field*, flesh, hence smaller types are preferred even though more expensive.

Pumpkins are sold by the pound, yielding  $\frac{3}{4}$  cup cooked pulp for each pound purchased.

**Radishes** should be firm, crisp, well-formed, smooth, with leaves green and fresh. Yellowed leaves indicate pithiness and strong flavor. There are three general types: (1) *tiny round*, crimson varieties; (2) *olive shaped*; (3) *long cylindrical*, red or white. All are good if young, quickly grown, and freshly pulled.

Federal grade *U. S. No. 1* is of quality noted, and unless otherwise specified, at least  $\frac{5}{8}$  inch in diameter. However,

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they may be classified for size as *small*, less than  $\frac{3}{4}$  inch in diameter; *medium*,  $\frac{3}{4}$  to 1 inch; *large*, 1 to  $1\frac{1}{4}$  inches; *very large*, over  $1\frac{1}{4}$  inches.

*To keep:* Remove the tops, wash radishes and put into the hydrator.

There are 6 to 12 radishes in a bunch.

**Romaine.** See Salad plants.

**Salad plants** include lettuce (including romaine), chicory, endive, escarole, Chinese cabbage, corn salad, and cress.

*Lettuce* of four types is found in the market: (1) *leaf lettuce*; (2) *Crisphead*, usually called *Iceberg*; (3) *Butter* or *Big Boston*; (4) *Romaine* or *Cos*.

Leaf lettuce, once widely used, has been almost displaced in the market by head lettuce. Some, known as *Grand Rapids* lettuce, with light-green, "curly" leaves, is grown in hot houses and marketed nearby in spring; some is sold by local growers in small cities and towns; much is raised in home gardens; but car-lot shipments are relatively few. In buying, rather small light-green leaves will be found more tender and less liable to be bitter than the more mature, darker-colored.

Iceberg is the name given in market to several crisp varieties of head lettuce, as *New York*, *Hanson*, and others. Heads are firm, with light-green leaves tightly overlapping. Because it is compact and can be quartered or sliced, it is much used. It is widely grown in California and other western states where climatic conditions favor the formation of firm heads, and to some extent in the East. This type of lettuce is found the year round in small-town markets where formerly lettuce was unknown in winter.

Big Boston and other varieties of the "butter" type now have been displaced by Iceberg in many midwestern retail stores though they are still found in markets in the East and South. Heads are more round and less compact than those of the Iceberg. Outer leaves are deep-green, often bronzed

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at the edges. Inner leaves are yellow, and separate more readily than those of Iceberg.

Head lettuce should be firm and heavy for its type but the firmest Big Boston will be less compact than any good Iceberg. It should be fresh, though wrapper leaves and one or two head leaves may show signs of wilting; well-formed, the head well-shaped and midribs not abnormally prominent; well-trimmed, the stem cut close and badly damaged wrapper leaves removed. Heads should be inspected for brown spots of decay which may extend through the center. Sometimes defective leaves are removed and the remaining heads sold as hearts of lettuce or trimmed lettuce, which is inexpensive and free from waste.

Federal grades for head lettuce are: *U. S. Fancy*, of qualities noted above and free from damage by disease, insects, sunburn, etc.; *U. S. No. 1* and *U. S. Commercial*, which need not be so well-trimmed and, if Iceberg, may contain one head out of four of less firmness; *U. S. No. 2*, which need not meet requirements for freshness, firmness, or trimming, and is free from serious damage.

*To keep:* Wash lettuce, letting water run through the head, shake, place whole head (not pulled apart) into hydrator with cut base resting on bottom of pan. Romaine, endive, escarole, and other salad plants should be treated in the same way.

Discard from a head of lettuce may range from 17 to 40 per cent of the weight, evaporation of water with which it has been sprinkled being included.

Head lettuce is sold by the unit or by weight. A large head weighs about 1 pound and has 20 to 30 leaves. It makes 4 generous salads or garnishes 6 salads.

Romaine, sometimes called Paris White Cos, has tall heads, loose rather than compact. Leaves are long and rather narrow, with thick midribs, of about the same green as leaf lettuce. The texture is similar also, mature leaves being less tender than those of head lettuce. *U. S. No. 1*



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plants are well trimmed and so well headed that four or more inner leaves overlap each other.

*Chicory, Escarole, Endive.* All are related species of the chicory plant, classed together for grading by the Agricultural Marketing Service. They should be well-trimmed and fairly well-blanching, having a yellowish-white to white heart formation. Plants not well blanching sometimes have a bitter taste.

Curly Chicory, sometimes called curly-leaved endive, grows in heads which are finely divided and very curly. Escarole, sometimes called *broad-leaved Batavian* endive, produces similar heads but with broader leaves, more coarsely cut or fringed, with thick white midribs. The tender blanching leaves from the centers of the heads of curly chicory or escarole are used for salads and the outer leaves often cooked for greens.

The only Federal grade is *U. S. No. 1*.

*To keep:* (See Head lettuce).

A large head of curly-leaved endive or escarole weighs 1 pound and makes 4 salads.

*French endive*, the chicory plant sometimes sold as *Witloof chicory*, usually is imported from Belgium, and is our most expensive salad plant. It grows in heads 4 to 5 inches long and about 1½ inches in diameter, the leaves being slender, pale yellow or very pale green.

French endive is sold by weight, there being 4 to 8 heads in a pound which makes 4 large salads.

*Chinese cabbage*, often called celery cabbage, is not a true cabbage, despite its name. The hearts, crisp, white to pale-green, with delicate characteristic flavor, are used for salads, and the outer leaves, especially of large plants, cooked. There are two types: (1) *Petsai*, large, 12 to 15 inches high, its green outer leaves resembling those of chard; (2) *Wong Bok*, shorter and more compact.

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Chinese cabbage usually is sold by the head, a medium-sized head weighing about 2 pounds.

*Corn salad* has tender leaves used as salad plants or cooked as greens.

*Cress*, of two types, *water cress* and *garden* or *pepper cress*, is used for salads. Both types are sold by the bunch.

**Salsify**, sometimes called vegetable oyster or oyster plant, because of its flavor, is a root resembling the parsnip in shape, though usually smaller in diameter. Smooth, well-shaped roots, of medium size, should be bought.

Salsify is sold in bunches of 10 to 12 roots. Five medium-sized roots weigh 1 pound and yield 2 cups diced and cooked.

**Scallions.** See Onions.

**Shallots.** See Onions.

**Spinach.** See Greens.

**Squash.** *Summer* squash is of three types: (1) *crook neck*, sometimes white but usually deep-yellow, warted, with long curved neck. The Summer crookneck, 9 to 12 inches long is especially good for baking. (2) The *Marrows*, cylindrical, smooth and tapering toward the stem end; some white, but the variety best known in northern cities, the *Italian Marrow*, is dark green with light stripes running lengthwise. It is best when about 6 to 8 inches long, before seeds are too well developed. The Marrows are desirable for slicing and frying or cooking with meat. (3) The *flat scalloped* type, known as the *White* or *Yellow Patty Pan*. Those with hard shells should be avoided as they may be bitter.

Summer squash usually is sold by the unit, but occasionally by the pound. A medium-sized crookneck squash usually yields 1½ cups baked.

Of *Winter* squash, the *Hubbard* usually is considered most desirable, because of its sweet, dry flesh. The *Green Hubbard* is large, round to oblong, pointed at the blossom end, with hard, warted rind. The *Golden Hubbard*, earlier

## FRUITS AND VEGETABLES (CONTINUED)

than the green, is somewhat smaller, with flesh more orange-colored. A small Hubbard squash, known as the *Kitchenette Hubbard*, has been developed and is popular for small families. Another small variety suitable for baking is the *Acorn* or *Table Queen*, about 6 inches long, green and deeply ridged, half of which may be served to a person.

Typical of the smooth orange squashes is the *Boston* or *Orange Marrow*, orange-colored, large, oval, but without the curve or protuberance at the blossom end which characterizes the Hubbard. It is not so dry-fleshed as the Hubbard, and has a thinner shell.

In some markets squash is cut and sold by weight. However, since the cut portion may be handled carelessly at the store, some homemakers prefer to buy a whole squash, canning a part for pies. One pound of squash as purchased yields approximately 1 cup cooked.

**Sweet potatoes** should be firm, smooth, and sufficiently regular in shape to avoid waste in peeling. They should be inspected for signs of decay, discolored spots, or molds. Wrinkled ends indicate lack of freshness. Thick chunky potatoes are best for baking. There are two general types: (1) those with dry, somewhat mealy flesh and firm texture, produced mostly in the Northeastern states. The best known of this type are the *Jerseys*, whose flesh usually is pale-yellow, though some, as *Red Jerseys*, are deep-orange. (2) The so-called southern varieties, with moist, sweet flesh of soft texture, often called "yams." Most important, commercially, of this type are the *Porto Rico* and the *Nancy Hall*. Sweet potatoes of the same variety differ in size and shape, being short and thick or long and thin, their characteristics seemingly being affected by soil and other conditions of growth.

The market season for sweet potatoes has been lengthened until they are a year round offering in many markets. The season begins in July, but heavy shipments begin in August and last through March. From April until July there are few shipments.

## FOOD BUYING AND OUR MARKETS

Federal grades are: *U. S. Fancy*, *U. S. Extra No. 1*, *U. S. No. 1* and *U. S. No. 2*. In addition to the standards for quality given above, there are the following for size: For Fancy grade, diameter not less than 2 inches, length not more than 6 inches, and weight not less than 5 ounces nor more than 16 ounces. For *U. S. Extra No. 1*, unless otherwise specified, diameter not less than  $1\frac{3}{4}$  inches, length not over 8 inches, and weight not less than 4 ounces nor more than 16 ounces. For *U. S. No. 1*, unless otherwise specified, diameter not less than  $1\frac{3}{4}$  inches, length not over 10 inches, and weight not less than 3 ounces nor more than 24 ounces. For *U. S. No. 2*, diameter not less than  $1\frac{1}{2}$  inches, and not less than 3 or more than 36 ounces in weight.

*To keep:* Cured or "ripened" sweet potatoes should be kept at a temperature of about  $55^{\circ}$  to  $60^{\circ}$  F. with little humidity. They should be bought in rather small quantities as they deteriorate quickly.

Waste from paring is about 11 per cent with large potatoes, about 15 per cent with smaller ones.

Sweet potatoes are sold by weight, there being 2 to 4 to a pound.

**Tomatoes** should be mature, firm, uniformly ripened, smooth and regular in shape. "Nailheads" (small dark spots), a stem end which is deep, surrounded with cracks and scars, or partially unripe means loss in peeling. A spot of stem rot may necessitate discarding the whole tomato. Tomatoes of  $2\frac{1}{4}$  to  $3\frac{1}{4}$  inches in diameter usually command a premium in the market as larger ones are more likely to be badly shaped, difficult to peel, wasteful and unsatisfactory for slicing or to serve whole. Tomatoes are picked for market either when green ("green-wraps"), semi-ripe or pink, advanced pink, or ripe. The green tomatoes must be ripened by the wholesale dealer or jobber before being sold to the retailer. They are less juicy and of less good flavor than those picked when pink, hence should be avoided. Often they may be recognized by their shriveled appearance. The pink are seldom wrapped and usually are mature enough to

## FRUITS AND VEGETABLES (CONTINUED)

ripen during transit. Ripe tomatoes, being perishable, are marketed within 24 hours after picking, hence cannot be shipped far from the point of production.

Federal grades on the basis of qualities as outlined are *U. S. No. 1* and *U. S. No. 2*. Size is considered separately and growers urged to state numerical count or minimum size of fruit on packages.

Small oval red and yellow tomatoes, formerly used only for preserving, now are found in many markets.

*To keep:* Wash and place in the hydrator, on the rack so they are out of the water.

Waste from peeling may be as low as 5 per cent for well shaped tomatoes, or may range to 20 per cent for badly shaped.

Four medium sized tomatoes (about 2½ inches in diameter) weigh about 1 pound. A 2-inch tomato weighs approximately 2½ ounces, about 6 to the pound.

**Turnips and rutabagas** should be selected as are other root vegetables for smoothness and regularity of shape (to avoid waste), and for firmness, as wrinkled or spongy ones may have been kept too long or may be pithy. Over-maturity is indicated, too, by numerous leaf scars at the crown, by a large number of rootlets, and often by large size.

Young bunched turnips from southern truck gardens, marketed in late winter or early spring, usually are only 2 to 3¼ inches in diameter or smaller, being sold quite as much for tops as for roots. (See Greens.) Topped Winter turnips may be white or yellow, round, flattened or cone-shaped. Many markets prefer the white, which may have green, purple or white crowns, the sweet, fine-grained *Purple-Top Globe* being one of the best known varieties. However, yellow turnips of good quality are to be had.

*Rutabagas*, sometimes called *Swedish turnips*, are larger than the ordinary turnips. Although the best known varieties are yellow, there are white rutabagas, as the *White* or *Sweet Russian*.

The Federal grade for bunched turnips is *U. S. No. 1*.

## FOOD BUYING AND OUR MARKETS

Unless otherwise specified the minimum diameter for No. 1 grade is  $1\frac{3}{4}$  inches. They may be classed, however, as *small*, less than  $2\frac{1}{4}$  inches; *medium*,  $2\frac{1}{4}$  to  $3\frac{1}{4}$  inches; *large*, over  $3\frac{1}{4}$  inches. The grade for topped turnips and rutabagas is *U. S. No. 1*. There are no requirements for size

Waste from paring topped turnips is about 14 per cent.

Four medium-sized topped turnips weigh 1 pound yielding about 2 cups diced and cooked.

### DRIED VEGETABLES

#### GENERAL GUIDES FOR BUYING

The legumes, including beans of various types, split peas, and lentils, are the dried vegetables most used. Although corn and some other vegetables from home gardens sometimes are dried for family use, they seldom are marketed.

In buying, uniformity of size is important, since in cooking mixed sizes, the smaller ones become soft and mushy before larger ones are done. Freedom from broken pieces is important for the same reason. Skins of beans should be smooth, free from blisters, wrinkles, and checks. Carefully cleaned dried legumes contain a minimum of small stones and other foreign matter, therefore require less time for preparation.

#### GUIDES FOR SELECTING SPECIFIC LEGUMES

**Beans** of several types are available in most markets, though some families use only one—the *Navy*. Twenty different classes of beans are recognized by the United States Department of Agriculture:

1. Pea beans, the small white beans also known as navy beans, and grown in the Great Lakes region.
2. Red kidney, light red or brown.
3. Dark red kidney, of dark red or mahogany color.
4. White kidney.

## FRUITS AND VEGETABLES (CONTINUED)

5. Medium white, medium-sized white beans grown in the Great Lakes region.
6. Marrow, white beans, larger than the Mediums.
7. Yelloweye, with yellowish splotch around the seed scar.
8. Great Northern (white).
9. Mexican Pinto, short, buff splotched with brown.
10. Small white, from the Pacific coast.
11. Large white, from the Pacific coast.
12. California Pink, of brownish pink.
13. Small red, sometimes called Idaho or California red, or Red Mexican.
14. Bayo, of bay or chestnut color.
15. Cranberry or speckled cranberry, light buff with brown flecks, sold mostly in foreign districts.
16. Blackeyes, or cowpeas, sometimes called blackeyed peas, popular in the South because of their low price.
17. White Lima, of the large varieties, broad and flat.
18. Baby Lima, all the small white Lima varieties.
19. Butternut, large white beans grown in Southern Idaho.
20. Western Red Kidney, from the Pacific coast.

Federal grades have been established for each class: for most, four: *U. S. No. 1*, *U. S. No. 2*, *U. S. No. 3*, and *Sample*; for Limas, the *U. S. No. 3* is omitted, and a *U. S. No. 1 Extra* grade is added. For all classes except Pinto beans, the top grade contains a maximum of 2 per cent of split or damaged beans and of those of other types, and a minimum of foreign matter.

Red kidney and Baby Lima beans usually command a higher price in the wholesale market than do white beans because they are in demand for canning. Small white beans, both Pacific coast and navy, also are sought by canners, since large whites become mushy when canned, and therefore are the most expensive of the white types. California reds, Blackeyes, and Pinks usually are the cheapest beans to be had. This wholesale price classification, however, may not

## FOOD BUYING AND OUR MARKETS

hold true in all years, nor in all retail markets. The buyer should learn prices of the types available in her market.

The number of cups of dried beans to a pound varies with the type, there being about 2 cups of Navy and 3 cups of Baby Limas. One cup of dry Navy beans makes about 3 cups, cooked.

**Lentils** are small, round, flat, yellow to brown in color, about the size of split peas, and are used in much the same way as these or other legumes. They are sold by the pound.

Two and one-third cups of lentils weigh 1 pound.

**Split peas**, sometimes called chick peas, may be either yellow or green. They are used mainly for soup, though they may be baked with salt pork as are beans.

Two and one-third cups of split peas weigh 1 pound.

### Questions or exercises

1. Make a vegetable shopping list for use in your market during the current month. Rank them in order of expense.
2. Which of the fresh vegetables now available in your market were available in this market at the same season twenty-five years ago? What developments are responsible for this change?
3. Make a table of servings per pound ( $\frac{1}{2}$  cup = 1 serving) for five commonly used vegetables in order to determine the amount of waste involved in preparation. Using the cost per pound in your market and the number of servings per pound, determine the cost of each serving. Base your answer either on text material or on information gained from cooking experiments.
4. What varieties of potatoes, cabbage, lettuce, and onions are now on sale in your market?
5. Where were the spinach, carrots, lettuce, tomatoes, and peas now available in your market grown? Are these their points of origin during the whole year?



## FRUITS AND VEGETABLES (CONTINUED)

6. Ask your dealer to see containers marked with either a United States or a commercial grade.
7. What proportion of the fresh vegetables in your market can you identify? What proportion does your family use?

### SUGGESTED READINGS

- BEATTIE, James H., *Home Storage of Vegetables*, U. S. Department of Agriculture, Farmers' Bulletin No. 879 (Washington, 1936).
- HILL, R. G., *A Fruit and Vegetable Buying Guide for Consumers*, U. S. Bureau of Agricultural Economics, Miscellaneous Publication, No. 167 (Washington, 1936).
- Household Finance Corporation, *Fruits and Vegetables*, Better Buymanship No. 3 (Chicago, 1937).
- SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), Ch. IX.
- TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 43-53; 64-7.

Copies of Government standards and grades for specific vegetables can be obtained from the U. S. Agricultural Marketing Service, Washington, D. C.

## CHAPTER XVII

### MEAT

#### GENERAL GUIDES FOR BUYING

1. Become familiar with grades of meat, as given in this chapter, and the characteristics of different grades. When graded meat is not available, it is important to know the signs of quality, to be sure you are not paying a high price for a low-grade piece of meat. Choose a dealer who consistently handles the grade which you decide best satisfies your needs and fits your pocket-book.

2. Know all the cuts of meat and ways of preparing each: (1) in order to be able to substitute one for another according to what your market offers and the price; (2) in order to make full use of all cuts including the less expensive. There are more than a hundred cuts of meat from which to choose and numerous variations possible in cooking them. In one study made among home-makers three was the average number of cuts for steaks and 2.3 the average number of roasts which they could recognize.<sup>1</sup>

3. Find out from your dealer or from the market information given in newspapers what meats are currently most plentiful in your local market. The current supply depends on various factors, including the season. Spring lamb is on the market from May to July, and pork chops are usually more abundant in midwinter.

4. To reduce meat bills: (1) use chopped meat from the

<sup>1</sup>U. S. Department of Agriculture, *Consumer Habits and Preferences in Purchase and Consumption of Meat*, Department Bulletin No. 1443 (1926), p. 64.

## MEAT

cheaper cuts in various ways; (2) buy raw meat for stews, as it makes a more economical and better dish than roast leftovers or meat left from soup. Soup meat can be ground, seasoned, and used in casserole dishes, for croquettes and in similar ways. Meat from roasts costs more per pound and makes no better stew or meat pie than cheaper cuts.

5. The quantity of meat to be bought depends on the cut. The allowance commonly suggested of a half pound to each person is generous. One-fourth pound per person is usually sufficient if the cut is lean, as round steak or ground meat. Cuts with a medium amount of bone, such as sirloin, usually give about three servings per pound. Buy roasts large enough for more than one meal. Too small a roast does not carve well and becomes dry in cooking. A four-pound pot roast of solid meat will cut to good advantage and furnish two meals for a family of six ordinarily active persons.

6. Tell the dealer approximately how much meat you want, as it is the most satisfactory method of buying for both seller and buyer.

7. Ask for your meat trimmings. Use them for soup or cooking fat.

8. Watch the scales and compute the cost of your purchase.

9. Avoid rush hours and the dealer can give you more time.

### "U. S. INSPECTED AND PASSED"

Meat is the food most apt to be unwholesome or even dangerous to health because of the sanitary conditions under which it is handled or the diseased condition of the animal from which it is obtained. For that reason the Federal government has since 1906 required rigid inspection of all meats entering interstate commerce, under the supervision of the Bureau of Animal Industry. Provision is now made for veterinary examination of the animals before slaughter and of the carcasses and organs at time of slaughter. Sanitary conditions including water supplies of slaughter-houses and packing-houses must be approved, and only approved ingre-

## FOOD BUYING AND OUR MARKETS

dients, seasonings and preservatives used in meat products. Common salt, sugar, wood smoke, vinegar, pure spices, sodium nitrate or nitrite, and saltpeter may be used and sodium benzoate if its presence is stated on the label. Only harmless coloring as designated by the Secretary of Agriculture may be used.

Meat which has been inspected by the Federal government has the round purple stamp containing the words "U. S. Inspected and Passed" on all the major parts. Labels of packaged meats or meat products must carry a similar stamp. The dye used in the stamp is harmless and the shape may vary on packages or paper. Any animals which are condemned are used for fertilizer or other non-food products. In 1939, about 71 million animals passed inspection and about 200 thousand were condemned. While this seems like a small proportion (.3 per cent), the importance of the rigid inspection in keeping diseased animals from being brought to market must not be overlooked.

It is very important for consumers to be alert to the situation as regards inspection in their own municipalities and states, as only about two-thirds of the animals slaughtered enter interstate commerce and therefore come under Federal inspection. A few states and numerous cities have inspection. Every community has to see that all meat offered for sale in its stores is inspected, that is, that there is a municipal ordinance or state law covering the one-third not inspected by Federal officials, and that these are enforced.

### GRADING MEAT FOR QUALITY

Many meat buyers know that it is possible to buy a rump roast tender enough for oven (dry) roasting. At another time identically the same cut may be extremely tough. Here is a partial explanation of the fact that one retailer may advertise pot roast at 12 cents a pound when another is charging 20 cents for exactly the same cut. There is a great difference between the quality (palatability) of identical cuts of beef, pork, lamb or veal, a difference sufficiently great to

## MEAT

make some animals bring several times as much per pound as others when sold in the wholesale market. The characteristics that account for this difference in quality are the basis for the several classes and grades which have been worked out to aid both the buyer and seller.

There are two steps in the establishment of a system for measuring and designating the quality of meats: (1) adoption of a uniform system for classification of the animals; and (2) adoption of a uniform system for grading each class. One of the major bases for the primary classification of the animals to be graded is sex condition. All beef animals, for example, are divided into five classes as follows in order of superiority: steer, heifer, cow, bull, and stag. Another basis for classification is age; sheep are classified as lamb, yearling mutton, and mature mutton. Hogs, in addition to a grouping on the basis of sex condition, are further divided into sub-classes based on the use for which they are best adapted, as roasting, shipping, meat-type (bacon), fat-type (butcher), etc. Further segregation of the animals may be made on the basis of weight, since some consumers may prefer light-weight and others heavy-weight cuts.

The grade is the final commercial grouping and the most difficult. The live animals of each class, the carcasses, or the wholesale cuts are graded on three characteristics: "quality," "finish," and "conformation." "Conformation" is a term that applies to the general build, form, and shape of the animal, carcass, or cut. "Finish" refers to the thickness, color, and character and distribution of the fat. "Quality" is judged by the general appearance. "The grades for dressed meats exactly correspond in number and names with those of the live animals that produce them and are based on the same factors."<sup>1</sup> When the dressed meat is graded, quality may be judged by the color and texture of the flesh, the marbling, appearance of the tissues, and relative proportion of bone. The grader must do his work entirely by observation, match-

<sup>1</sup> U. S. Dept. of Agriculture, *National Standards for Farm Products*, Circular No. 8 (1935), p. 42.

## FOOD BUYING AND OUR MARKETS

ing what he sees with a standard that he has in his mind.

U. S. grades have been established for beef, calves, lamb and mutton and tentatively for pork. The Federal government also provides a grading and grade-stamping service on a fee basis for packers, wholesalers or retailers who desire it. Official graders will grade and label each carcass with its U. S. grade. The labeling is done by a roller that imprints the class and grade continuously in such a way as to insure that all major retail cuts will bear the printed label, such as U. S. Good Steer, U. S. Choice Heifer, etc. It can readily be seen that it would be a great advantage to the housewife to know the grade of the cuts offered, in order to make price comparison and to have greater assurance that what she gets is what she desires.

As yet only a small percentage of the meat sold in the country is so graded.<sup>1</sup> However, the amount is increasing so rapidly that it is safe to say the purple ribbon stamp will soon be a familiar sight to many buyers. The top grades are most apt to be found stamped. In 1935 the service was available in 25 principal cities, and graded meat could be ordered from those centers by meat dealers in other localities. At least two cities, Seattle, Washington, and Schenectady, New York, have made grading and stamping of retail cuts of meat compulsory. The most effective way to make grade-marked meat generally available is for housewives to ask their retailers for it. The retailer can get it and will if he thinks his customers want it.

Some meat packers stamp their top grades of meat with brand names to designate quality, using a purple ribbon imprint. The housewife must know which brand name indicates "Choice," which "Good," and which "Medium," in order to take advantage of these labels, and to compare the meats of different packers.

<sup>1</sup> The inspection stamp should not be mistaken for a grade stamp.

# MEAT

## CUTS OF MEAT

The amount of lean meat in a cut must be considered in deciding which cut gives the most for the money. The following proportions of lean will be found to hold approximately true in any good grade of steer cut by the Chicago method:<sup>1</sup>

	Per cent		Per cent
Flank steak .....	87	Porterhouse .....	60
Round (full cut) ..	81	Plate .....	58
Sirloin steak .....	70	Rump, with bone ..	53
Chuck roast .....	70	Fore shank .....	47
Rib roast .....	64	Hind shank .....	31

In general the cuts that have the highest prices will be the most expensive when the cost of the lean is compared with the cost per pound. In one study the cost of lean varied from 8.5 cents per pound for neck to 40.5 cents per pound for prime rib roast. There will be exceptions, when it will pay to spend a few cents more per pound for a cut that contains a little more lean than the cheaper cut.

**Variations in cuts of meat.** Cuts vary in different sections of the country, but the Chicago cuts are used more widely than any others and have been made the basis in this book for all kinds of meat. Some of the characteristics of the Boston and Philadelphia market cuts have been noted, but not in detail. The general divisions are sufficiently similar to enable a person to adapt herself to any market with a little study.

## BEEF

**Market terms.** *Native* and *Western* are two terms frequently used in connection with beef. They do not apply so much to locality as to the way in which the cattle are prepared for market. The native beef is grain fed, and has firmer flesh, with more fat through the muscular tissue. The Western beef has flesh of coarser grain, less marbling with

<sup>1</sup> *Consumers' Guide*, 2 (1935) 3.

## FOOD BUYING AND OUR MARKETS

fat, and longer rounds. In recent years there has been an increase in the proportion of fattened cattle and a decrease in range or Western cattle. *Yearling beef* differs from mature beef principally in the quantity and distribution of fat, and in the color, texture, and firmness of the flesh.

The weight of a side of beef varies greatly. A 450-500 pound animal furnishes cuts suitable for a small family and is therefore popular. The hotel trade buys heavier beef. There has been a marked increase in the demand for light cuts, that is, rounds, loins and other cuts from small animals, due to the small size of most families. As a result much yearling beef, baby beef, and other small-sized animals are being marketed.

**Market classes and grades.** All beef animals are classified according to sex and age as follows: *Steers* (superior to all other classes); *Heifers* (nearly equal to steers); *Cows* (usually next to the lowest in market prices); *Bulls* (the bulk used for sausages and dried beef, the lowest in market price); *Stags* (limited in supply and varying in price because of variability in quality). The seven U. S. grades for steers, heifers, and cows, as amended in 1939 from the original standards, are listed below. All three classes are not found in all grades, only steers and heifers reaching the first grade.

*U. S. Prime Grade.* This comes almost entirely from steers, usually those which were prepared for show purposes. Probably less than 1 per cent of the beef marketed falls in this grade.

*U. S. Choice Grade.* This grade comes mostly from steers, although a small amount is from heifers. Probably not over 8-10 per cent of the beef falls in this grade.

*U. S. Good Grade.* A very good quality, derived from steer, cow, and heifer classes in the order named. About a fourth to a third of the beef on the market may fall in this grade.

*U. S. Commercial Grade.* This grade comes equally from cows and steers, then heifer. It probably includes more than 50 per cent of the carcasses marketed.



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*U. S. Utility Grade.* This, the lowest grade commonly re-tailed, is chiefly from dairy cows and thin range animals.

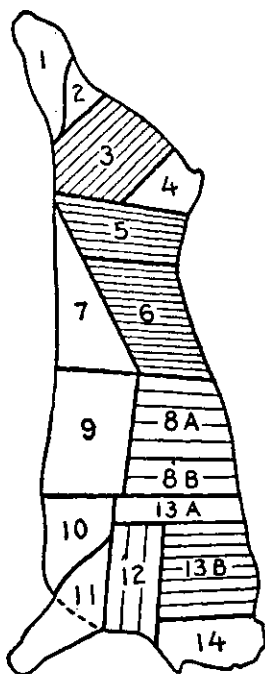
*U. S. Cutter Grade.* The meat is used chiefly for canning, sausage and dried beef. It comes chiefly from cows.

*U. S. Canner Grade.* This comes chiefly from cows. It is used mainly by canners and is seldom re-tailed. Bull and stag beef, if graded, must also be identified as "bull or stag beef." The grades differ from those for steers, heifers, and cows chiefly in that the top grade is *U. S. Choice*. Lower grades are *Good*, *Medium*, *Common*, *Cutter*, and *Low Cutter*. Each respective grade of bull or stag beef is not comparable with the corresponding grade of beef from steers, heifers, and cows.

**Beef selection by inspection.** In the absence of grade-marks, the buyer is obliged to appraise quality as best she can by appearance. If the lean portions of beef are well-marbled with fat it is usually tender. "Marbling" means that there are minute amounts of fat distributed through the lean. These fat deposits make the connective tissue less tough, the meat more juicy, and of a better flavor. The grain of good meat is sometimes described as smooth and glossy. Stringiness and coarseness mean toughness. It is also important that the flesh be firm. The cut surface of good meat becomes a rather bright cherry red shortly after it is exposed to the air. A soft, pinkish backbone indicates a young animal. As it ages the bone becomes hard and white. The outer covering of fat should be fairly thick, flaky, and of a clear, pale cream color. In the lower grades it is usually more yellow and softer.

**Cuts of beef.** The meat dealer buys a side or quarter of beef and cuts it in his shop. When he has unusual demand for any one part, he may have to purchase additional smaller cuts, such as rounds, loins or ribs. When meat is cut only as ordered it is not always possible for the buyer to specify which rib roast, which sirloin or other cut is desired; but she must take them more or less as they come.

## BEEF



### CHICAGO METHOD

- |   |  |
|---|--|
| 1. Shank—Soup; stew; hamburger.                           | 9. Plate, fresh or corned—Stew; boiling meat.    |
| 2. Heel of round—Stew; pot roast.                         | 10. Brisket, fresh or corned—Boiling meat; stew. |
| 3. Full round—Minute steak; Swiss steak; pot roast; stew. | 11. Fore shank—Soup; stew; hamburger.            |
| 4. Boneless rump—Pot roast; corned.                       | 12. Chuck round bone—Pot roast; stew.            |
| 5. Sirloin—Broiled steak; roast.                          | 13. Chuck—Straight cut:                          |
| 6. Porterhouse—Broiled steak.                             | A. Chuck blade—Pot roast.                        |
| 7. Flank—Braised steak; stew; hamburger.                  | B. Chuck—Swiss steak.                            |
| 8. Prime rib—7 ribs.                                      | 14. Neck—Stew; mincemeat; meat loaf.             |
| A. Prime rib roast—5 ribs.                                |  |
| B. Blade roast—2 ribs.                                    |  |

### OTHER EDIBLE PARTS

- |  |  |
|--|--|
| Heart—Stew; stuffed and braised.               | Tongue—(Fresh; corned; pickled; smoked); boiled. |
| Kidney—Stew; meat pie.                         | Tripe—Pickled; broiled; creamed.                 |
| Liver—Fried; braised; liver loaf; liver paste. | Oxtail—Stew; braised; soup.                      |

Courtesy of CONSUMERS' GUIDE. Consumers' Counsel Division,  
United States Department of Agriculture.

## MEAT

Where meats are cut up ahead this difficulty is overcome to some extent.

The Chart on page 304 shows the location of the various cuts. The table below shows that the loin (5 and 6) and ribs (8), the "tender" cuts, represent only 30 per cent of the total carcass.<sup>1</sup> This explains why they can command a high price; they are relatively scarce but at the same time usually palatable and easily prepared. Their tenderness is due to the fact that the muscles of the back (the loin and rib cuts) receive less exercise than those in the legs, neck and shoulders.

Cut	Percentage of total weight
Porterhouse .....	13.5
Sirloin .....	7.0
Prime rib .....	9.5
Round .....	15.0
Rump .....	5.0
Chuck .....	17.0
Flank .....	3.5
Plate and brisket .....	15.0
Shank .....	9.5
Neck .....	5.0
Total weight of carcass .....	
	100.0

The forequarter is slightly more than half of the side, and includes the ribs in demand for roasts, and the chuck, neck, plate, brisket and fore shank, which are among the less popular cuts. The cuts are taken in their order on the chart, starting with the neck at the front of the forequarter.

**Neck** (14) is an inexpensive cut, but requires careful cooking as it is not at all tender. It has from about 60 to 75 per cent lean meat.

**Chuck** (12 and 13). The end of this cut nearest the ribs contains the first five ribs of the beef animal. The 4th and 5th rib chuck roast is less expensive than the prime ribs, yet tender and juicy if from a high grade animal. It may

<sup>1</sup> Data from U. S. Dept. of Agriculture, *Market Classes and Grades of Beef*, Department Bulletin No. 1246, Plate XX.

## FOOD BUYING AND OUR MARKETS

be boned and rolled by the butcher. It contains about 15 per cent of bone.

The cuts in front of this may be used for steaks or roasts. Such steaks should be braised, or cooked Swiss style, since they are rather tough for broiling. The bone in such steaks will run from 7 to 22 per cent of the total weight. A steak one inch thick will weigh from 2 to 3 pounds.

A chuck *round-bone* or *shoulder arm* (12) pot roast that looks something like a cut from the round is sometimes taken from the side of the chuck nearest the brisket.

**Fore shank** (11) is a good soup bone, with considerable lean; more than the hind shank (1). The meat may be cut from the bone and used for chopped meat dishes.

**Brisket** (10) is sometimes included in the plate, being called the brisket end of the plate. Both have alternate layers of lean and fat and contain parts of the breast bone and rib ends. A three-pound piece may be boned and braised, or cooked as a pot-roast for five persons. It is good as chopped meat, or for corned beef.

**Plate** (9). The *short ribs* are often braised and served with vegetables. The percentage of bone and fat is about half of the weight, but the meat is tender and of good flavor. It can be used to advantage at a meal where a generous serving of meat is not needed. The meat cooked with vegetables improves their flavor.

The remainder of the plate, sometimes called the navel, is a thin piece of meat about one-third fat and 8 per cent bone. It is used for corning, chopped meat, stews or rolled pot-roast. In buying, it is important to allow for the high fat content.

**Skirt steak** is a thin muscle with long fibers, which lies on the inner side of the forequarter, beneath the ribs and plate. It weighs about one and one-half pounds, and may be stuffed, rolled and braised. It is most often used in hamburger and very little sold as steak. The outer membrane should be removed, and the long fibers broken by pounding in flour before the steak is cooked.

## MEAT

**Ribs (8).** This cut includes seven ribs, the sixth to to the twelfth, inclusive. The first two ribs next the loin (the eleventh and twelfth ribs of the beef) are known as *prime ribs*, and are the most expensive of the rib roasts. This roast may be boned and rolled or cooked as a standing rib roast with the bone left in. The former is easier to carve. A two-rib roast will weigh about six pounds, as purchased. The bone will be about 12 per cent of the weight.

The ninth and tenth ribs, included in the so-called second cut of prime ribs, make a tender roast. The price is usually less for the sixth and seventh ribs, which are nearest the chuck. The larger rib-roasts are juicier than the small. In buying a rib-roast, plan to use it for slicing, either hot or cold. This meat is too expensive to be used in making hash, after one or two meals from it have been served. If the butcher bones and rolls a rib-roast, be sure to ask for the bones for soup.

**Hindquarter** cuts most in demand are those of the loin, although in many sections the round is just as popular. As with the forequarter, the cuts will be taken up in the order in which they come on the animal, from front to back.

**Flank (7)**, a thin, boneless cut, about one-third fat and two-thirds lean, is used for meat pie, stews and chopped meat. The lean flank-steak, weighing from 1 to 2 pounds, is peeled from the flank, scored by the butcher, and may be stuffed and braised, or pounded and cooked in Swiss style. It is economical as there is no waste and it sells at a fairly low price.

**Loin (5 and 6).** This is sometimes divided into *loin end* (5), containing the sirloin cuts; and *short loin* (6), containing the porterhouse, and Delmonico or Club steaks.

Sirloin steaks are among the most prized cuts of beef. The cut next to the porterhouse is known as the *pin bone sirloin*. Then follow the *flat bone* steaks (double bone), then the *round bone* steak, and the *wedge bone* steak. The percentage of bone runs from 6 to 16. A sirloin steak cut one and one-half inches thick may weigh from 2½ to 3½ pounds.

## FOOD BUYING AND OUR MARKETS

The rest of the loin, called the *short loin* (6), is cut into steaks, those including the tenderloin and lying toward the loin end being known as *porterhouse steaks*. The steak next the pin bone sirloin is called the *hip bone porterhouse*. A porterhouse steak cut one and one-half inches thick will weigh from 1½ to 2½ pounds. It is one of the most expensive cuts of meat in the market. The small steaks from the end of the loin lying toward the ribs, with practically no tenderloin, are known as *Club steaks*, or *Delmonico steaks*. The term *T-bone* is also given to them, although T-bone is likewise used to refer to some porterhouse steaks. They are not so heavy as the porterhouse, a one-inch steak weighing about 1¼ pounds. This cut is used for the popular minute steak, cut about five-eighths of an inch thick. The bone in the porterhouse is from 6 to 12 per cent of the weight, and that in the club steak is about 12 per cent. If the tenderloin is cut from the porterhouse steak, it is then called *shell steak*, or in some markets it is sold as club steak. It is not a high-grade steak because the tenderloin is never taken from the highest grades of beef. A *Delmonico roast*, more expensive than the prime ribs, is cut from the end of the short loin, toward the ribs.

The **tenderloin** is a protected muscle lying beneath the backbone and supported by the kidney fat. It extends from the thirteenth rib to the butt of the loin. Parts of it are included in porterhouse and sirloin steaks, or it may be cut from the carcass and sold separately as beef *fillet*, at a very high price. A heavy tenderloin weighs from 6 to 8 pounds, but the dealer will cut the weight desired. It is solid meat with no waste, so two pounds will serve six persons well. It may be cooked as a roast or cut into sections which are flattened into "pats" for broiling.

**Rump** (4). The rump is about 20 per cent bone and also has considerable fat. It is usually boned and frequently rolled by the butcher. If from a high-grade animal it is tender and can be cooked as a rolled rib-roast. While it may not be quite so tender as prime ribs, it is less expensive. Or-

## MEAT

dinary rump-roasts or steaks are best when braised or used as a pot roast. A five-pound rump-roast, when sliced, will give a family of five two meals, and leftovers for a third.

**Round (3)** is characterized by freedom from fat and bone, and popular for that reason. The *top round* is the muscle on the inner side of the leg and is more tender than the bottom round, hence it is preferred for steaks, or for roasting. If it is to be used for a roast, it should be larded with fat, since it is rather dry. Whether the meat is tender enough to be roasted, fried or broiled depends on the grade of beef from which it comes. In most cases the meat is better if roasts are pot-roasted and steaks braised, than if they are cooked by dry heat. A steak of top round, one inch thick, may weigh from 1½ to 2 pounds.

The *bottom round*, from the outside of the leg, is best used for pot roasts, stews, and chopped meat, although the housewife would save money if she used some other cuts for her chopped meats and stews. A four-pound pot-roast will furnish meat for two meals for a family of five, with leftovers for a third meal. The round may be sliced clear across, giving a cut including both the top and bottom round. Such a steak, an inch thick, weighs about 2½ to 3 pounds.

The *heel* of the round (2), a wedge-shaped piece of meat, is sometimes called the *horseshoe cut* and sometimes the *gooseneck*.

**Hind shank (1)** is usually bought only for soup making and contains very little lean; in fact, it is most satisfactory to buy extra lean to put with it for soup. In buying the knuckle soup bone, you will get about four-fifths bone, and one-fifth meat.

**Cuts found in other cities.** In Boston, the division between the fore and hindquarters is made between the tenth and eleventh ribs. This means that the Boston loin-cut includes the roast described above as prime rib, first cut. These ribs, the eleventh and twelfth, make the so-called *tip of sirloin*. A part of the meat included in the loin end of the Chicago cut is included in the Boston rump cut. A Boston

## FOOD BUYING AND OUR MARKETS

rump steak may be the Chicago sirloin. The Boston "rattle" includes the Chicago fore shank, plate, and brisket. These are cut higher up in Boston and therefore include more of the ends of the ribs.

In Philadelphia all of the ribs are cut on the forequarter. The cross cut includes the Chicago neck, chuck, fore shank, and part of the brisket. The rest of the brisket is called the butt. The rump is cut larger to include more of the round on one side and the sirloin on the other.

In New York the division between the chuck, ribs and loin on the upper half of the carcass, and the brisket, plate and flank on the lower half, is nearer the backbone, making the chuck, ribs and loin cuts shorter. The shoulder may include the fore shank, shoulder clod, and the portion of the chuck lying just above the fore shank, leaving less meat in the square cut chuck and more in the shoulder. In the hind quarter a cut known as *short hip* includes the end of the loin and part of the Chicago rump. Another cut, known as the *top sirloin*, is made up of the tail of the Chicago sirloin and some of the round.

**Miscellaneous beef products.** *Smoked or dried beef* can be bought sliced by the dealer, or packaged in cellophane, or in jars. It is well to compare prices and qualities. One-half pound creamed will serve six persons generously.

*Tongue* may be bought corned, pickled, smoked, or fresh. The whole tongue weighs from 4 to 5 pounds, but it is inexpensive and will furnish meat for two meals for a family of six. It is usually boiled and needs long, slow cooking. The short bulky tongue of the steer is best.

*Tripe* is the thick, white inner lining of the stomach, and is practically flavorless. Plain tripe from the first stomach of cattle is considered less delicate than the honeycomb tripe from the second stomach. Much on the market is pre-cooked, and it is also pickled. It may be broiled or creamed.

*Beef heart*, as well as heart from other animals, should be firm, full, and surrounded by fat. It should be bright, dark red. It may be stewed, stuffed and braised, or otherwise



## MEAT

prepared, but it needs slow cooking to make it tender. A 4- to 5-pound heart will serve a family of six inexpensively, for two meals.

*Kidney, liver and brains.* Kidneys weigh about one pound and may be stewed or used for meat pies. They should be bright, brownish red. Beef liver should be soaked and the membrane carefully removed. It can be fried, braised, or made into liver loaf or paste. Yearling beef liver is similar to calves' liver. Brains of good quality are firm.

*Ox tail,* sold for soup, is largely bone with little meat, but a two-pound tail with the added vegetables will serve a family of six. It is also suitable for braising or stewing.

*Suet.* The best beef fat sold in the retail shop is kidney suet. This is used for mince meat, steamed puddings, chile con carne, and other dishes. It may be tried out and mixed with softer fats, as lard, for use in cooking.

All prepared meats, such as *cured, dry salt, corned, sweet pickled, dried, smoked,* as well as *meat loaf and hamburger,* are defined by the Food and Drug Administration.<sup>1</sup>

## VEAL

**Market terms.** Veal, as defined by the Food and Drug Administration, is meat from cattle one year or less of age. According to the regulations of the Bureau of Animal Industry under the Meat Inspection Act, veal entering interstate commerce must come from animals at least three weeks old. Some states and municipalities have laws governing the age when calves may be slaughtered.

For the purposes of grading it is necessary to divide the animals that are often called "veal" in this general sense into two groups, on the basis of age at the time of slaughter. The term *veal* is reserved for the meat from young animals not over 12 weeks of age at the time of slaughter, and the term *calves* for the more mature animals, which range from 3 to 10 months of age at time of slaughter. The latter group of

<sup>1</sup> See *Definitions and Standards for Food Products, Service and Regulatory Announcements, Food and Drug No. 2, Rev. 5, 1936.*

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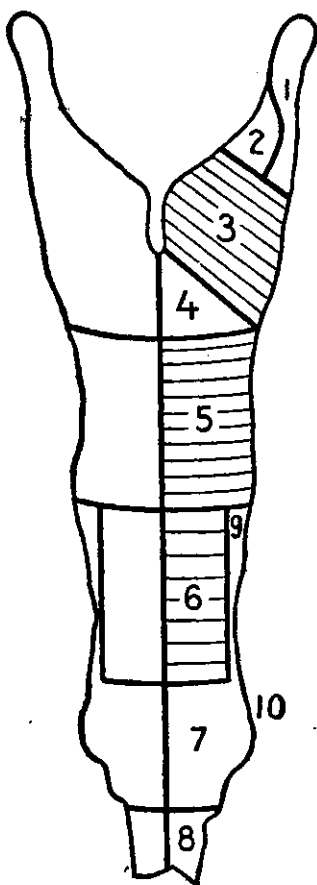
animals fall between veal and beef in their characteristics. Most of the veal carcasses are from milk-fed animals, ranging in age from 3 to 6 weeks. They are by-products of the dairy industry and the supply is therefore somewhat seasonal in character, coming on the market in greatest abundance from January to June. Calves come on the market mainly from June to November, and are largely grass-fed animals from the beef-producing areas of the West.

**Market classes and grades.** The quality grades developed by the United States Department of Agriculture for veal and calf cuts are *Prime* or *No. 1*, *Choice* or *No. 1*, *Good* or *No. 2*, *Medium* or *No. 3*, *Plain* or *No. 4*, *Cull* or *No. 5*. The weight of the animal is an important factor in determining the grading possibilities. The grade of a cut is usually the same as the grade of the carcass from which it is taken, although there are rare exceptions. A veal cut of a given grade usually sells materially higher than does a calf cut. The main difference between a calf and a veal cut of a given grade is in the color and texture of the flesh and color and distribution of the fat. There is practically no Prime grade of either on the market. Usually only legs and loins of Cull grade of calf are sold as fresh meat; the remainder is used for processed products.

**Selection by inspection.** The flesh of good veal is of a light pinkish color, with an edge of clear, white fat on the outside of the meat. It is fine-grained, velvety, and firm, fairly flabby flesh being an indication that the animal was killed too young. The bones are reddish, soft and porous. If skin is present it should feel soft and mellow. Calf carcasses have whiter and firmer fat than veal, darker red muscles, and larger, whiter and stronger bones than do veal carcasses. The flesh of calves is relatively coarse in texture and moist but, except in the lower grades, is generally more firm than that of veal.

**Cuts of veal.** The cuts of veal are similar to those of lamb, the small size of both animals making few cuts necessary. The carcass is divided crosswise, usually between the

## VEAL



1. Shank—Soup; fricassee; ground meat.
2. Heel—Fricassee; pot roast; ground meat.
3. Round—Cutlets; veal birds; roast.
4. Rump—Pot roast.
5. Loin—Braised chops; roast.
6. Rack—Braised chops; roast.
7. Chuck—Pot roast; fricassee.
8. Neck—Fricassee.
9. Breast—Fricassee.
10. Fore shank—Soup; fricassee; ground meat.

### OTHER EDIBLE PARTS

Heart—Stew; stuffed and braised.

Kidney—Stew; meat pie.

Liver—Broiled; fried; braised.

Tongue—(Fresh, corned, pickled, smoked) boiled.

Brains—Fried; braised; scrambled.

Sweetbreads—Broiled; creamed.

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twelfth and thirteenth ribs, although the division is also made just in front or back of this. The fore part is known as the *rack* (*foresaddle*), and the hindquarters together form the *saddle* (*hindsaddle*).

Numbers below refer to chart on page 313.

**Leg.** The *shank* (1), or lower part, may be cut off for soup or stews or jellied meat, and is inexpensive. It contains little meat. *Cutlets* (3) are sliced from the leg much as round steaks are cut. They may be pan broiled, braised, or breaded and fried. They are cut rather thin, and the slices vary from 1 to 1½ pounds, according to the part of the leg from which they are cut. *Cushion of veal*, for roasting, is cut from the thickest part of the leg. The lower part of the leg may be boned and roasted. The corner from the upper part of the leg (4), corresponding to the beef rump, is also used for roasting. The leg is one of the more expensive cuts of veal.

**Loin** (5) is also one of the more expensive parts of the veal carcass. It may all be used for chops, there being a few *rib chops* toward the front, the number depending on where the division between rack and hindsaddle is made. Back of them are the *loin chops*, which run 3 or 4 to the pound, depending upon the thickness of the cut and the size of the animal. The kidneys are frequently left in the chops. The loin may also be cut into roasts.

**Ribs or hotel rack** (6). A rack usually consists of 9 pairs of ribs, from the twelfth to the fourth inclusive, with breast removed. It is cheaper than the loin, and is cut into rib chops or sold for roasting. There are about four chops to a pound.

**Chuck.** This includes the shoulder with the first ribs (usually three), the neck, the breast, and the shank: The *shoulder* (7) may be boned and roasted, cooked in a casserole, or cut into slices for braising. It may also be stuffed and baked, and is an economical cut. The *neck* (8) and *breast* (9) are usually about the same price, and are among the inexpensive meats. They may be chopped and mixed

## MEAT

with a smaller amount of fresh chopped pork for meat loaf or patties. They may be used for stews or meat pies. On account of the gelatin present they may be cooked and made into jellied or pressed meats. The *fore shank* (10) is very rich in gelatin, and is used for making meat jelly, jellied soup stock, or other dishes.

**Miscellaneous veal products.** *Sweetbreads* usually refer to the thymus gland of the calf. They are sold by the pair, the round, compact, heart-half being preferred to the other half or throat-sweetbread. The weight of a pair is about 1¼ pounds. They spoil quickly and are rather expensive, although the fact that there is no waste must be considered.

*Liver.* Although other kinds of liver are sold, calf's liver usually is considered superior. It is sold by the pound, there being six medium-sized slices to the pound. It is more expensive than the liver from other animals.

*Heart* is quite inexpensive and is very good stuffed and roasted, or braised. It is more tender and delicate than the beef hearts.

*Kidneys* from calves are slightly lighter in color than from beef, and like all kidneys can be used in stew or meat pie.

*Tongue* may be bought corned, smoked, or fresh, and cooked to serve hot or cold. It is often pickled and packed in jars. It weighs from 1½ to 2 pounds.

*Brains* may be fried, braised, or scrambled.

## LAMB AND MUTTON

**Market terms.** Since 90 per cent of the sheep slaughtered in the United States are sold as lamb (80 per cent lamb and 10 per cent yearling mutton), that meat rather than mutton is of interest to American consumers. This preference is due to the more delicate flavor and greater tenderness of the lamb. Lamb is defined by the Food and Drug Administration as meat from sheep one year or less in age. Some states and cities fix a minimum age for the slaughter of lamb as for calves. *Spring lamb* is the term applied to lamb from 3 to 5 months old. It is comparable to chicken at the broiling

stage. It is on the market in April, May, and June. *Grass-fed* lambs are those from 5 to 8 months old, and are comparable to a frying chicken. They are on the market from August to December. *Fed* lambs are 8 to 12 months old, and like a rooster, they are larger and not quite so tender as the younger animals. They are on the market from December to May. *Hot-house* lamb, produced by special effort under favorable conditions, is on the market in very small quantity from January to March.

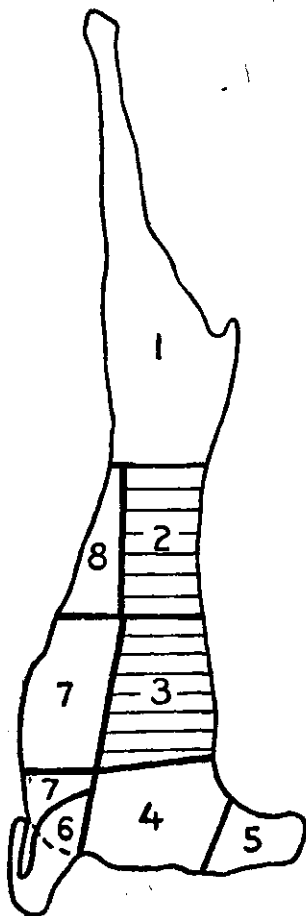
**Market classes and grades.** As in the case of beef and veal, permissive classes and grades for dressed lamb and mutton have been worked out by the Agricultural Marketing Service of the Department of Agriculture. They have been in practical use in all markets except the retail for many years. The three main classes are *lambs*, *yearling mutton* and *mature mutton*. Yearling mutton comes from sheep ranging from 12 to 20 months in age or slightly older. Mature mutton comes from the older animals.

The quality grades for each of these classes are: *Prime* or *No. 1*; *Choice* or *No. 2*; *Good* or *No. 3*; *Medium* or *No. 4*; *Common* or *No. 5*; *Cull* or *No. 6*. The last is used chiefly for canning. The bases for grading are those previously described.

**Selection by inspection.** The flesh of good lamb is light pink in color; that of yearlings is dark pink to light red; while mature mutton is still darker. There should be a smooth, even, thin covering of firm, white fat over the outside. The layer of fat on mutton is thicker than on lamb and may be slightly pinkish. Good quality of either should have a small amount of connective tissue and a high proportion of flesh to bone. Flesh should be fine-grained, smooth and velvety. Bones of lamb are tinged with red and are smaller and softer than those of mutton. The break joint of the foreleg best shows the age.

The *fell* is a reddish membrane under the skin, which is left on the meat to protect it during marketing. It should be removed as it gives a strong flavor to even the best cuts.

# LAMB



- Leg—Roast.
- Loin—Broiled chops; roast saddle.
- Rack—Broiled chops; crown roast.
- Sq. chuck—Boned roast; stew; Saratoga chops.
- Neck—Stew.
- Shank—Soup; stew; ground meat patties.
- Breast—Stew; stuffed roast.
- Flank—Stew; ground-meat patties.

## OTHER EDIBLE PARTS

- Heart—Stew; braised.
- Kidney—Broiled on toast.
- Liver—Broiled; fried; braised.
- Tongue—(Fresh, corned, pickled, smoked); boiled.
- Brains—Fried; braised; scrambled.

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## FOOD BUYING AND OUR MARKETS

**Cuts.** Instead of being split lengthwise, as beef, lamb is generally cut crosswise into two parts, the division being made between the twelfth and thirteenth ribs. The back part, including the legs and loins, is called the *saddle*. The ribs may be cut with this, forming the *long saddle*. The front part is called the *foresaddle*, *market rack*, or *rack*. The ribs alone are known as the *short rack*, or *hotel rack*.

The chart on page 317 shows the location of the various cuts.

**Leg (1).** This cut is one of the housekeeper's favorite roasts. For a small family, a six-pound leg may be purchased, chops cut from it for one day, and the remainder of the leg roasted. The bone can be used to make stock to combine with the leftovers in various ways.

**Loin (2).** *Loin chops* have less waste than rib chops and are sometimes less expensive when purchased. There are usually three to a pound, depending upon the thickness with which they are cut. The whole loin, which is about four pounds, makes a very good roast, tender and of delicate flavor.

**Rack (3).** This cut usually includes ten ribs, the third to the twelfth, inclusive. It is one of the most expensive of the lamb cuts, being in demand for rib chops. When these are trimmed so that only the "eye" of meat remains, they are spoken of as *French chops*.

The ribs also furnish the *crown roasts*. The number of ribs included depends upon the number of persons to be served; there are from 12 to 24. The bones of the chops are trimmed as for French chops and the backbone is trimmed off. The meat trimmings are ground and used for stuffing the center cavity. Other ground meat is sometimes used for stuffing also. The ribs are cut from both sides, so as to be symmetrical. The two sections are bent to half circles with the ribs outside. They are fastened together, forming a circular "crown" in the center, with the ends of the rib bones projecting upward from it. Then they are



## MEAT

cut the same length. In cooking they are protected by bits of salt pork to prevent burning.

**Breast** (7) is probably the most popular for lamb stews but can be used for roasts. Stuffed or rolled, it is delicious. The boneless lamb roll, made from the rattle (the shoulder, breast, and shank) boned, is tender enough for oven roasting; it slices evenly, and is inexpensive.

**Shank** (6) may be used for stews, chopped meat, or broth. It weighs only about one-half pound, but it is a desirable cut for small families, since it will flavor a stew or soup for two.

**Shoulder or chuck** (4) is one of the cheapest of the lamb cuts and a satisfactory substitute for the more expensive rib and leg cuts. It may be cut for shoulder steaks, served as a three-pound roast for a small family, or be cut in the same piece with the breast and shank for a rolled roast for a larger family. *Saratoga* chops are made from the under side of the shoulder, are lean, and can be cooked as rib or loin chops.

**Neck** (5) weighs about one pound. It may be cut in slices for braising, as steak, or used for stews, chopped meat or soup. It is very inexpensive and a good cut for the family of two.

**Other cuts.** The shoulder, neck, and shank cut together may be called the chuck, or the shoulder and neck may be given that name. The breast and shank may be cut together as breast. The shoulder, shank, and breast together are called the *rattle*. A cut similar to this is called the *wing* in Philadelphia. The loin of the entire animal (not split for quarters) is sometimes sold as a roast, called the *saddle*. The lower part of the loin may be cut off and sold as *flank* (8).

^ In Boston the division between the fore and hindquarters is between the fifth and sixth ribs, thus leaving all but three of the ribs included in the Chicago rib cut on the Boston hindquarter, instead of the forequarter. The Chicago rib cut includes the third to the twelfth ribs. The Boston loin,

## FOOD BUYING AND OUR MARKETS

therefore, includes some of the rib chops (sixth to thirteenth), the loin and the flank.

**Miscellaneous lamb products.** *Kidneys, liver, brains, tongue and heart* of lamb are slightly smaller than similar organs of veal and can be prepared in the same way. The kidneys are higher priced than those of other animals because more delicate, and can be broiled or used in meat pie. They should be brownish red tending toward purple. Tongue is usually pickled and packed in jars. Heart should be a bright, dark red, and can be stewed or braised. Lamb's liver may be broiled, fried or braised, and brains may be fried, braised or scrambled. The thymus gland of lambs is used for *sweetbreads*.

**Mutton.** The cuts are similar to those of lamb. *English* chops may be rib or loin, mutton or lamb, but they are always cut rather thick across the unsplit loin or rib. The vertebrae are removed and the two chops skewered together. The English *kidney chop* is a loin chop with the kidney left in. It should be cut thick and long and the end swung around so the kidney is in the center.

### PORK

Only from about 10 to 15 per cent of the pork carcass is sold as fresh pork, the rest being cured in various ways. The cured products, as hams and bacon, are often advertised and sold by brand. There is a wide range of quality and flavor from which the housewife may choose the brand that she likes best. Fresh pork is often less expensive than other meats on the market. It is important to remember that it must be well-cooked, as no meat inspection can protect against the possible presence of trichinae, the parasites that cause trichinosis.

**Market classes and grades.** Tentative classes and grades have been worked out for pork carcasses and fresh pork cuts. Live hogs and therefore pork carcasses are classified on the basis of sex into *Barrows, Gilts, Sows, Stags,* and *Boars*. Cuts from the last two classes do not usually

## MEAT

come on the market in either fresh or cured form, but are used for meat products or in the manufacture of inedible goods. The sex distinction between Barrows and Gilts is of little importance at present, since the majority of hogs now reach the market when between 6 and 12 months of age. The two important classes are, therefore, Barrows, Gilts, and Sows. The classes are again subdivided on the basis of weight and use, some being best for fresh pork, some for smoked meat, and others suited to dry salt or other treatment. Use classifications are: *Shipping*, *Roasting*, *Fat-type (Butcher)*, *Meat-type (Bacon)*, and *Sow (Packing)*. The Meat-type is in demand now because consumers prefer lean pork; and the increase in vegetable oil products has lessened the demand for lard. Barrows and Gilts alone qualify for the first four of these sub-classes, the class in which they fall depending upon weight. If too large, they may fall in the Packing group.

Four tentative official grades for carcasses and cuts in each of these classes have been worked out: *No. 1*, *No. 2*, *No. 3* and *Culls*. The first three cover all major pork cuts. The cuts are graded on the same bases as are the carcasses but neatness of trim is taken into account in grading the cuts as well as conformation, finish and quality.

No Federal grades are now being used for ham, sausage, bacon, frankfurters, bologna, meat loaf, meat pudding, and other prepared products. Products are subject to Federal inspection as are other meats.

**Selection of pork by inspection.** Quality variations of fresh pork on the average retail market are slight. High-quality flesh is fine-grained and firm, not soft or flabby. The color should be grayish-pink, although color differences between grades are not great except in the carcasses of older animals and very few of them are on the market. The skin should be thin, smooth, and free from wrinkles. Poor-

## FOOD BUYING AND OUR MARKETS

quality pork has a coarse and wrinkled skin. There should be a high proportion of flesh to bone in all cuts.

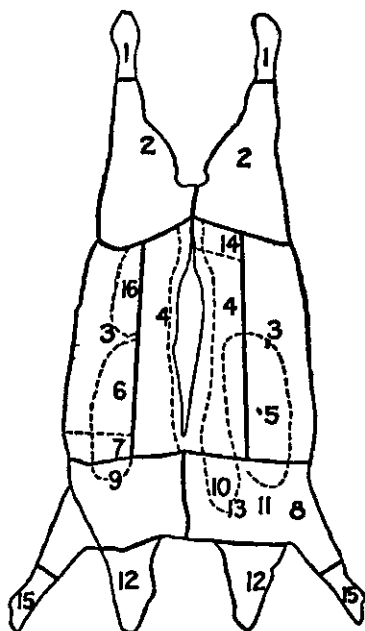
**Cuts.** The hog is split lengthwise, and then cut into sections, rather than into clearly defined fore- and hind-quarters.

Refer to chart on page 323.

**Ham** (2) is sold either fresh or cured. Top-grade hams are short and thick, with a rather small shank. A seven-pound fresh ham can be disposed of easily by a family of five. It may be roasted whole, and served hot, and later sliced cold; or slices may be cut from it and pan-broiled or braised, leaving a smaller roast. Cured hams weighing over 16 pounds are usually skinned and some of the fat removed. It is economical for a family of six to buy a whole cured ham of 10 or 12 pounds and bake it. It is much less expensive than ham bought baked or boiled, and can be kept for some time in a refrigerator. Half a ham can usually be bought for the same price per pound as the whole ham; slices may be easily cut off for broiling and the rest baked or boiled. Slices of ham may be bought singly, but this method of buying is much more expensive, as the price of these center slices is always high. Either the shank end or butt end of a ham, left after the retailer has taken out the center slices, may be bought for as much as 35 per cent less than the price per pound of the whole ham. They can be boiled with vegetables and the left-over meat used in various ways.

**Loin** (4). The back of the animal beneath the thick layer of fat is the loin. It furnishes our *pork chops*, and the popular *loin roast*. Pork chops are usually cut thinner than the lamb chops, so there are four to a pound. *Rib chops* are cut from the front and *loin chops* from the back of this cut. The loin roast may be of any size desired, according to the number to be served, a five-pound roast serving a family of five, and yielding meat enough for a second meal. It may be cut as a crown roast similar to the lamb crown roast. The roast from the section of this cut toward the rear is

# PORK



- |  |   |
|--|---|
| 1. Hind feet—Boiled and pickled.   | 8. Picnic, Cured—Baked or boiled; fried or braised.     |
| 2. Hams, Cured—Baked or boiled; fried, broiled, or braised. Fresh—Roast; braised steak.    | 9. New York style shoulder—Cooked like fresh ham.       |
| 3. Bacon—Broiled or fried.   | 10. Neck bones—Cooked like spareribs.                   |
| 4. Pork loins, Fresh—Roast; <b>crown</b> roast; braised chops. Cured—Canadian style bacon. | 11. Picnic butts—Cooked like ham.                       |
| 5. Spareribs—Baked or boiled.  | 12. Jowl butts—Sliced, fried; seasoning for vegetables. |
| 6. Spareribs—Half sheet—Baked and boiled.  | 13. Boston butts—Cooked like ham.                       |
| 7. Brisket (forepart of bacon)—Seasoning for vegetables.                                   | 14. Loin butts (end of pork loin)—Roast.                |
|  | 15. Fore feet—Boiled and pickled.                       |
|  | 16. Leaf fat—Rendered for lard.                         |

## OTHER EDIBLE PARTS

- |  |                                   |
|--|-----------------------------------|
| Heart—Stew; braised.                           | Brains—Fried; braised; scrambled. |
| Kidney—Stew; meat pie.                         | Tail—Boiled.                      |
| Liver—Fried; braised; liver loaf; liver paste. | Ears and snout—Boiled.            |
| Tongue—(Fresh, corned, pickled); boiled.       | Head—Headcheese; scrapple.        |

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sometimes sold at a premium because it contains the tenderloin. The *tenderloins* are short, rounded muscles lying beneath the backbones, extending from the butt end of the loin, forward almost to the ribs. They are cut from the large hogs and used for roasts, or cut into small sections called "pats" for pan broiling. A tenderloin weighs about one pound.

**Bacon** (3) is cut from the lower part of the side of a hog which is not too fat. The best quality is firm and well streaked with lean, and has smooth, thin skin, or rind. The fat should be white. It is cured and smoked, each packer having his own method of preparing it, in order to have his brand meet the desires of his customers. A strip of bacon of the best quality will weigh from 4 to 6 pounds. It is usually cheaper to buy bacon by the pound and have the dealer slice it than to buy it sliced and packaged. If slicing is done at home the bacon should be chilled first to harden it. A sharp knife must be used so that the strips will be of uniform thickness, or they will not cook evenly. Bacon in glass jars is usually of a fancy quality, and may be bought for the emergency shelf or for camping trips, but it is comparatively expensive.

*Fat back*, a thick layer of fat along the back of the animal, is used for salt pork. This is usually bought for seasoning baked beans, or meat loaf, or for larding. This part of the hog is sometimes used for lard.

**Spare ribs** (5 and 6). The lower ends of the ribs, with very little meat on them, are called spare ribs. They are usually cooked with vegetables for their seasoning, rather than as a separate meat dish. Because they are so largely bone, it is well to buy about one-half to three-quarters of a pound for each person to be served. They are generally sold fresh, but may be pickled or salted. They should have soft, red bones and fine-textured flesh to be best grade.

**Shoulder** (8 and 9). Fresh shoulder may be used as a roast or for steak, or it may be cured, smoked, and used in the same way as the true ham. *Boston butt* is the upper

## MEAT

half of the shoulder with the skin and some fat removed. It may be used for roasting or braising, or sliced for steaks and pan-broiled. Next to pork loins, it is the most popular cut of fresh pork. When the Boston butt is removed and the shoulder trimmed to look like a ham, the cut is called *Picnic*, sometimes referred to as *Cala* from the name "California ham." A picnic shoulder may be sold either fresh or smoked, usually weighs from 4 to 8 pounds, and is less expensive than ham.

**Picnic butt (II)** is a small lean and boneless piece of meat, sold smoked. It is also called *Cala butt* or *Cottage butt*. It is really the boneless, inside portion of the Boston butt, the remainder being used for sausage when the Picnic butt is removed.

**Hocks** are the part of the leg just above the feet and are used for stewed or pickled meat, and for making jellied meat.

**Miscellaneous pork products.** *Pork sausage* is defined by the Food and Drug Administration as chopped or ground fresh pork, with or without one or more of the following: herbs, spice, common salt, sugar, dextrose, syrup, water. If marked pork it may contain no other meat. If it contains cereal, vegetable starch, starchy flour, dried milk, or dried skim milk, in amounts up to  $3\frac{1}{2}$  per cent, it can still be called sausage, but must bear the label "cereal added" or "dried skim milk added," as the case may be. If the content of these substances goes over  $3\frac{1}{2}$  per cent, the product must be marked "Imitation." Casings may be colored by means other than smoke if so marked. If the sausage is taken out of the container by the retailer, the buyer may not see the label and lose thereby the protection given. The labeling requirements given apply only to sausage going into interstate commerce, and much is manufactured for local use. It is important to look out for excess of cereal and water in the cheaper grades of sausage that are not subject to Federal regulation.

Sausage is sold either as *links* or in *bulk*, and the kind to

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be purchased depends upon the preferences of the customer. There are 5 or 6 small links to the pound. A pound of bulk sausage will make about eight small patties. Since sausage is rich and often highly seasoned, it is served in smaller amounts than such chopped meat as beef.

The chief types of fresh sausage on the market are *pork sausage*, *liver sausage*, *bologna*, and *frankfurts*. The dry sausages are *cervelat*, *Holsteiner*, and *salami*. Variations are due to the kinds of seasonings used, the proportions of beef, veal and pork used, the method of preparation, and the size of the casings.

Heads are cooked, the meat removed and ground, seasoning and cornmeal are added, and the mixture pressed to make *head cheese*. It may then be sliced and fried. This product is similar to Philadelphia scrapple. *Pigs' feet* are inexpensive, and are usually sold by the piece. They are cooked fresh and are also pickled or jellied.

Pig's *heart* is coarser-fibered, softer and lighter-colored than those of the other animals. Pig's *liver* is generally cheaper than calf's liver, but it is tender and if carefully prepared is good. The *brains*, *heart*, and *kidneys* may be prepared by any of the methods used for similar organs from veal. *Tail*, *ears*, *snout*, *lungs*, and *jowl* are other edible parts of the pig.

*Roasting pigs*, weighing from about 15 to 25 pounds, are specially dressed for roasting whole at holiday time.

### Questions or exercises

1. Get prices in your locality for the ten cuts listed in the beef chart. Find cost per pound of the lean meat for each of the ten cuts listed, using percentages given. Rank them in order of cost per pound of lean meats. Do they follow the same order as when they are ranked according to cost per pound?
2. Compare the prices per pound of the least expensive and the most expensive cuts of beef, veal, lamb, and pork. Which has the wider price range? Why?



## MEAT

3. Get a local meat-dealer's permission to spend an hour in his shop on Saturday morning. Observe which cuts are most in demand. Do the buyers ask the price per pound? Do they watch the scale? Do they ask for a definite cut or merely for a "roast" or "meat for stew"?
4. What proportion of the meat cuts at your dealer's can you identify? What proportion does your family use?
5. Is there local or state inspection of meat and meat products in your city? If so, compare the regulations and the enforcement with those under the Federal Meat Inspection Act.

### SUGGESTED READINGS

- BELL, V. M., and HELSER, M. D., *Essentials in the Selection of Meat* (New York: John Wiley and Sons, 1930).
- DAVIS, W. C., *Beef Grading and Stamping Service*, U. S. Department of Agriculture, Leaflet No. 67 (Washington, 1936).
- DAVIS, W. C., and WHALIN, C. V., *Market Classes and Grades of Dressed Lamb and Mutton*, U. S. Department of Agriculture, Department Bulletin No. 1470 (Washington, 1937).
- DAVIS, W. C., and HARRIS, C. M., *Market Classes and Grades of Dressed Veal and Calf Carcasses*, U. S. Department of Agriculture, Circular No. 103 (Washington, 1937).
- DAVIS, W. C., MCCARTHY, B. F., and BURGESS, J. A., *Market Classes of Pork Carcasses and Fresh Pork Cuts*, U. S. Department of Agriculture, Circular No. 288 (Washington, 1933).
- DAVIS, W. C., and WHALIN, C. V., *Market Classes and Grades of Dressed Beef*, U. S. Department of Agriculture, Department Bulletin No. 1246 (Washington, 1936).
- HALLIDAY, E. G., and NOBLE, I. T., *How's and Whys of Cooking* (Chicago: University of Chicago Press, 1935), Ch. X.
- , *How to Buy Beef* (Chicago: University of Chicago Press, 1933).
- Household Finance Corporation, *Meat*, Better Buymanship No. 6 (Chicago, 1936).
- JOS, E. C., "National Meat Inspection in the United States of America," *Twelfth International Veterinary Congress*, III

## FOOD BUYING AND OUR MARKETS

(1935), 406-19. (Reprint available from Superintendent of Documents, Washington, D. C.)

MOHLER, John R., *The Inspection Stamp as a Guide to Wholesome Meat*, U. S. Department of Agriculture, Miscellaneous Circular No. 63 (Washington, 1936).

SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), Ch. VI.

TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938); pp. 110-6.

U. S. Agricultural Marketing Service, *Official United States Standards for Grades of Carcass Beef*, Service and Regulatory Announcement No. 99 (Washington, 1926), and Amendment No. 1 (Washington, 1939).

## CHAPTER XVIII

### FISH

As a nation we do not eat fish to the extent that it is eaten in foreign countries. Along the Coast fish is in the market throughout the week, but Friday is fish day. Inland there is often no fish to be had except on Friday. There is no reason why it should not appear more frequently on our menus. Although fish are a seasonal and extremely perishable food, improvements in methods of preservation are making them available when not in season and in localities distant from the places where they are caught.

**Methods of preservation.** The fish offered in most markets fall into three classes on the basis of the mode of preservation used.

(1) Chilled or refrigerated. Icing keeps fish sufficiently well to allow it to be sent to inland markets if it is shipped and sold promptly. Improvements in refrigeration and rapid transportation have made it possible to ship all varieties of fish to all large markets.

(2) Frozen (regular). Frozen fish are usually defrosted before sale. To be of good quality they must be frozen when freshly caught and used immediately after thawing. Fish should never be re-frozen. To cook frozen fish thaw gradually and cook in the same manner as fresh fish.

(3) Quick-frozen. This is a new process which preserves the flavor of the freshly caught fish better than refrigerating it for several days. Quick-frozen fish are sold packaged. Those now on the market include fillets (cod, haddock, mackerel, red perch, sole); steaks (halibut, salmon, swordfish); shellfish (clams, crabs, lobsters, oysters and scallops).

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Other methods of keeping fish, such as dry and brine salting, smoking, corning, and pickling, are used less than freezing and canning in the United States, although much used in other countries. Many of these cured fish are more concentrated than the fresh, and they are also usually cheaper.

If fish are well-iced when caught and kept that way, they remain in good condition for several days. In the home they should be wrapped in parchment paper and kept in the refrigerator until the cooking is started. To keep fish for several days, slices not over  $\frac{5}{8}$  inches thick may be cut, salted on all sides, placed in a deep dish, and stored in a cool place. This "corned" fish should be freshened before cooking. Salt or smoked fish can usually be kept in a cool place for several days without refrigeration, depending on the cure of the fish. In warm weather it is best to keep them in a refrigerator, especially if they are light-smoked.

**Market terms.** In most markets it is possible to purchase fish whole pan-dressed, or as fillets, or steaks. *Fillets* are the meaty sides of the fish cut lengthwise away from the backbone and are about  $\frac{5}{8}$  of an inch thick. The skin, with scales removed, may be left on one side. Fillets are usually cut from fish weighing  $1\frac{1}{2}$  to 4 pounds. *Steaks* are cut crosswise from whole fish which have been scaled or skinned. They have a thickness of  $\frac{5}{8}$  inches or more and are usually cut from fish weighing over 4 pounds. It is unwise to buy thicker cuts as they are much more difficult to cook.

No authority has as yet been granted by Congress for the official grading of fish, but in several states some grading has been done. Massachusetts has made a beginning and packers of salt-cured fish and some packers of fresh fish have done voluntary grading in Virginia. Emphasis in grading, according to the Bureau of Fisheries, should be placed on freshness, and sanitary methods of handling. It also recommends the use of parchment paper or other containers to prevent the bleaching out of valuable nutrients, which occurs

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when fish are in direct contact with ice. The general provisions of the Federal Food and Drugs Act prevent the sale of decomposed fish.

**Selection by inspection.** As has been said, fish remain in prime condition, especially as to flavor, for only a few hours after being caught unless handled very carefully. In order to get fish in as nearly this prime condition as possible, the following indications of freshness should be noted.

(1) Odor is probably the surest guide. Gills especially should be free from undesirable odor. An expert has described the desirable odor as fresh, sea-weedy, fishy, oily; and the undesirable as tainted, stale, or putrid.

(2) Appearance of the gills. In a fresh fish they are usually (but not always) red, the color of fresh blood.

(3) The eyes should be bright and shiny, full and prominent, not gray, dull or sunken.

(4) The flesh should be firm and should not pit readily on pressure.

(5) Scales should cling to the skin.

(6) When fish are not fresh, the flesh separates more easily from the backbone.

### SPECIES OF FISH

The kinds of fish found on any market will vary greatly with season and locality. The waters of New England, the South Atlantic Coast, the Gulf States, the Pacific Coast, and the Great Lakes region show many differences in species caught. It is wise to inquire of your fish dealer about species of good quality which are inexpensive because of large supply, or because buyers are not familiar with them.

The amount of waste in the fish should be considered in deciding which is most economical. Small fish have the greatest percentage of waste from bones; large whole fish have the next greatest percentage, and steaks and fillets have the least.

The best way to learn to buy fish is to go to the market

## FOOD BUYING AND OUR MARKETS

and become familiar with the characteristics of those most abundant locally. The following notes suggest some of the possibilities. The fish referred to are those most widely used.

**Alewife** (*branch and glut herring, or river herring*) is a small sea fish that comes upstream to spawn. It is popular in spite of the fact that it has many small bones. Alewives are found from the New England States to Florida, and are marketed as fresh, frozen, and smoked. The season is from January to June.

**Bass.** *Black bass* is well known to the inland fisherman. Small-mouthed black bass are found in lakes, and are usually about  $2\frac{1}{2}$  or 3 pounds in weight. The large-mouthed black bass weigh 7 or 8 pounds and are found in sluggish waters. The flesh is firm, white, and flaky. *Striped bass (rockfish)* is found in salt water along the Eastern Coast, chiefly from Massachusetts to North Carolina, and on the Pacific Coast. It is larger than the black bass, those on the market running up to 15 pounds. Narrow black stripes extend lengthwise of its body. It is in demand and brings a good price. *Sea bass (blackfish)* weighs usually from 3 to 5 pounds, and is considered a fine quality fish, with well-flavored white meat. It is marketed mostly fresh, and is caught along the Atlantic Coast. Both kinds of salt-water bass are in season all the year round.

**Bluefish** takes its name from its bluish color. It is an ocean fish, fairly large, 5 to 10 pounds being not unusual. In Chesapeake Bay the size runs only from  $\frac{1}{2}$  to 4 pounds. It is long, with a deeply forked tail, large mouth, and projecting lower jaw, and is found in warm waters along the Atlantic and Gulf Coasts. Its flesh is dark, with a small amount of oil, and it is considered an excellent food fish. It is marketed fresh, frozen, and smoked. It is available at all seasons.

**Butterfish**, with its deep, flat body, and small mouth, is caught chiefly along the Middle and South Atlantic Coast, and on the Central California Coast. It is 6 to 10 inches

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long and weighs usually about 5 ounces. It has become one of the more highly priced fishes, and is marketed fresh, frozen, or smoked. The season is from April to December.

**Carp** is a scavenger fish, living in inland streams and pools, chiefly the Mississippi River and its tributaries. It is 24 to 30 inches long and has a yellowish tinge to its sides. It does not rank high among fish because of its flavor but this can be overcome to some extent if it is used during the cold months and 5 to 8 pound weights are chosen. It is inexpensive as a rule, and is sold largely in the foreign section of cities. Europeans sometimes put the live carp in running water for several days before killing, to remove the muddy taste sometimes present. *Suckers* and *buffalo-fish* are of the same family as carp.

**Catfish** are found for the most part in fresh water. They live in the bottoms of small streams and their flesh may have a muddy flavor. They do not rank high as a food fish, but in many sections of the country they are almost the only fresh fish available. The stone catfish and mud catfish are small, about 5 to 8 inches long, but the Mississippi River type may be 5 feet long.

**Cod** is one of our most widely used staple fish as well as one of the least expensive. It is found in the North Atlantic and also on the Pacific Coast. The cod usually found in the market runs from 3½ to 10 pounds in weight. The color varies from gray to red. It may be recognized by its heavy body, three fins on its back and two underneath, and by the single short whisker at the tip of the lower jaw. Cod has a pale lateral line, is usually spotted, and the flesh is firm, white, and flaky. They are marketed whole and in fillets, fresh and frozen, fresh as sticks and steaks, dry-salted, boneless salted, smoked, and as canned fish cakes.

**Croaker** (*hardhead*) is a staple fish along the Middle Atlantic Coast, the average market size being ½ to 1½ pounds.

**Eel.** The fresh-water eel is growing in popularity and is found along the entire Atlantic Coast, going out to the

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deep sea to spawn but living in fresh water. They are snake-like in form and are marketed fresh and frozen.

**Flounder** is one of the best known of the flat fish. It lies on the sand, under water, and is white on the under side, while the upper side is dark-colored, so that it is not easily seen. Both of its eyes are on the upper side. It has long fins on each edge and is usually spotted on the dark side. The weight of *Winter* flounders is usually under 2 pounds, though *Summer* flounders may run as high as 6 pounds. The flesh is white and flaky and rather sweet. It is medium-priced and usually sold as fillets which are frequently substituted for sole. It is found on both the Atlantic and Pacific Coasts and is in the market all the year round.

**Haddock** is of the cod family and resembles cod except that it has a long dark-colored line running lengthwise along its sides, rather than the light line of the cod, and a black blotch at the shoulder. The usual size is about 24 to 28 inches long, smaller than the cod. The flesh is white, flaky, and rather dry. Haddock has increased in value, and the quantity caught in New England waters now exceeds that of the codfish. It is marketed all the year round; whole, fresh, and frozen; in fillets, fresh, frozen and smoked; as fresh sticks, dry-salted, boneless salted, and finnan haddie. The latter is salted and smoked and takes its name from the town of Findon, Scotland, where it was first prepared.

**Hake** is a staple fish found along the New England Coast. Its flesh resembles that of the cod, to which family it belongs. This fish is low in price, although the meat is good.

**Halibut** is one of our largest fish, with a weight ranging from 5 to 175 pounds. It is found in the North Atlantic and North Pacific and is a market staple. It is of the flat-fish family, light-colored on one side, dark on the other, and with both eyes on the dark-colored side. It is usually sold as steaks, oval in shape. Fillets are also cut. The flesh is firm, white and flaky, and there are no annoying



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small bones. *Chicken halibut* is the younger fish, weighing 5 to 10 pounds, and more delicate in flavor.

**Herring** is a salt-water fish which comes into rivers at spawning season. It is the most important food fish in the world. Its maximum length is about 18 inches. The small herrings are usually canned and sold as sardines, and the larger ones are sold in the following forms: salted, spiced, as soft and hard smoked bloaters, smoked boneless herring, and kippered herring. Fresh herring are in season throughout the year. The flesh is dark and somewhat oily. They are found in the North Atlantic and in the Pacific. *Lake herring* are one of the largest yields of the Great Lakes fisheries. They belong to the whitefish family and are sometimes sold as whitefish. They are marketed all year round, fresh, frozen, salted, and smoked. The catch of the various lakes vary greatly in palatability, that of Lake Erie being considered superior.

**King whiting** (*Kingfish whiting*) is one of the more desirable sea-fish of the Middle and South Atlantic Coast. They are not abundant and bring a good price. They are all marketed fresh. It averages less than a pound in weight, with a maximum of three pounds.

**Mackerel** is one of the best known, medium-priced sea-fish. The supply fluctuates considerably. It has a dark-bluish back, marked with wavy dark stripes. The mackerel is usually from 12 to 16 inches in length. They are found on the North Atlantic and Pacific Coasts and are marketed whole and as fillets, fresh and frozen; salted as fillets or split; and smoked. The season is from May to November. The *Spanish* mackerel does not have the dark stripes, but is dotted with oval, yellowish spots, which turn black after death. The average market size is usually from 1½ to 4 pounds. The flesh is firm and rich, with a distinctive flavor, preferred by some to the blander whitefish. It is in season from November to May.

**Mullet** is the most important food fish of the Gulf States. It is marketed whole, fresh, frozen, and salted, also

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as fresh fillets. The season of greatest abundance is from July to November. The flesh is dark and contains a quantity of delicately flavored oil.

**Perch.** The *yellow perch* is one of the best known fresh-water fish, abundant in the Great Lakes and inland waters of the Northeastern States. It may be recognized by its yellowish sides marked with dark bars. It usually weighs less than a pound, and is therefore best suited for broiling or pan frying. It is one of the best flavored of the fresh-water fishes, although it has many bones. It is in season throughout the year. Perch reach the market whole or filleted, both fresh and frozen.

**Pike** (*pickerel*) is a fresh-water fish that comes to the market in weights ranging from 4 to 6 pounds. It is of a blue-gray color with white or yellow spots arranged in rows on its back. The flesh is white, firm, and palatable, especially during the cold season. It is marketed whole or filleted, both fresh and frozen.

**Pollock** is of the cod family, heavier than the haddock, usually 24 to 35 inches in length and weighing 4 to 12 pounds. Its flesh is flaky and light, but not quite so white as that of the cod. It is in season throughout the year.

**Pompano** is one of the most prized southern fish and is found all the year round along the coast of Florida and the Gulf Coast. It is short, rather broad, and not very large—often about 2 pounds in weight.

**Porgy** (*scup* in New England) is one of the popular small fish. It is short and broad, and the upper parts are bluish-silver with the lower parts plain silvery white. The average market fish weighs about  $\frac{1}{2}$  pound, and is about 8 inches in length. It is usually inexpensive. It is in season throughout the year.

**Red snapper** comes from the South along the Gulf and is named because of its color. It is rather large, from 2 to 30 pounds or more in weight. Its flesh is white. It is in season throughout the year. It appears in the market fresh

## FISH

and frozen whole, as fresh and frozen fillets, and as fresh steaks. The throat is supposed to be the most desirable part.

**Salmon** comes for the most part from the Pacific Coast, though in the East, Penobscot River salmon is much prized. There are several different species and sizes, described under canned salmon. The housewife may buy any weight she wishes, since it is sold by the pound, usually in slices, or in pieces for baking. The flesh is flaky and ranges in color from light to deep pink. Fresh salmon is usually expensive. Smoked salmon is found on the market, and may be served as very thin slices or in canapés, sandwiches, or hors d'œuvres.

**Shad** is one of our best known fish and is of superior flavor. In season from December to July, it is more in demand than perhaps any other fish and the entire catch is consumed fresh. It is found along the Atlantic Coast and has been transplanted to the Pacific Coast. It is a fish of many bones, and a proof of its goodness is the fact that it is eaten in spite of them. The average weight of a shad is 3 to 4 pounds. The fish is thick, dark toward the backbone, with silvery scales and a reddish tinge toward the lower part of its body. The flesh is rather dark in color, rich, and with a distinctive flavor.

**Sheepshead** (*fresh-water drum, gray bass*) is a large fish, in season all the year round. It takes its name from the peculiar shape of its wide head. It is found in the larger lakes and sluggish streams of the Eastern half of the United States. The maximum weight is from 50 to 60 pounds. The flesh is rather coarse and not very expensive, but the waste is comparatively high because of the size of the head. The quality depends on the type of water from which it is taken, and on the age, the partly grown being better than the adult size.

**Sheepshead** (*salt-water*) is quite different in appearance from the fresh water. The maximum weight is about 20 pounds, with the average of those on the market much

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smaller. It is considered by many one of the most desirable of the salt-water fish. It is marketed fresh and frozen, whole.

**Smelts** are small fish found on the North Atlantic and North Pacific Coasts and also in fresh water. They are usually about 5 to 15 inches in length, depending on the kind. Large and small are usually considered of equally good flavor. The season is from September to May. Smelts have silvery sides with transparent and greenish color above. A large amount are frozen.

**Sole** is a flat fish, renowned for its fillets. It is scarce, so fillets of flounder are sometimes substituted. Fillets of halibut are also sold as sole, but are more coarse and flaky and not so delicate in flavor. The sole resembles the flounder in appearance, but the dark side is of a more brownish color. It is usually about 1 to 1½ pounds in weight. It is in season throughout the year.

**Sturgeon** is a large fish, sometimes 8 feet long, found on both coasts and in inland waters. It may be sold fresh, or smoked, and is of medium price. The true caviar is from the eggs of the sturgeon. *Short-nosed* sturgeon is smaller, being only about 2 feet long. Sturgeon is now commercially extinct in the Great Lakes region.

**Swordfish** has grown in popularity until now it is one of the highest priced fish on the market. It is usually marketed as fresh or frozen steaks. The usual weight is 200 to 300 pounds. It is found on the New England Coast and off southern California. The season is from June to October.

**Trout.** *Brook trout (speckled and rainbow)* have blue and red spots on back and sides, and weigh about 2 pounds or more. *Lake trout*, found in the northern lakes, are a larger fish, the average weight of those now taken being about 10 pounds. Their general color is dark gray and the body is mottled with pale spots. The flesh is of a very delicate flavor. They are marketed whole or filleted, and part of the catch is smoked.

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**Weakfish** (*gray sea trout* and *squeteague*) are better than their name indicates, but are not considered among the best fish, and are medium priced. They are of importance along the coast from New York to North Carolina and are marketed fresh or frozen. The season is from April to November. Their color is silvery with dark bluish-gray coloring along their backs, and the usual weight is less than 5 pounds.

**Whitefish** (including *common whitefish*, *menominees*, *lake herring*, *ciscoes* and *chubs*) rank first in value among fish coming from the Great Lakes. The common whitefish ranges from 1½ to 30 pounds in weight, about 4 pounds being frequently found. The flesh is white and flaky, and of high quality. A small percentage of the catch is smoked, but most of it is marketed fresh. The season is April to December.

## SHELL FISH

**Clams.** When buying clams in their shells make sure they are alive by noting whether the shells are held together tightly. Clams can also be bought shucked, and will keep fresh a relatively long time if properly handled. Two main species of clams are found on the Atlantic Coast, the *hard-shelled quahaug* or *little neck*, and the *soft-shelled long neck*. The latter are more prized and are in season during the summer. The hard-shelled *Cherry Stones* are in season the year round, their size making them suitable for eating raw, on the shell, or in cocktails. The *razor clam* is found chiefly on the Pacific Coast.

**Crabs.** During the moulting season the *hard-shell* crab loses its shell, and until the new shell hardens (about 24 hours) it is a *soft-shell* crab. The commercial soft-shell crab is usually the *blue-crab* of the Atlantic Coast, taken immediately after moulting and before the shell hardens. Soft-shell crabs are popular during the summer, when they are in season, as they are considered more desirable. The Pacific crab is undesirable during moulting.

**Lobsters** are darkish green when seen in the market alive, and like many other shellfish only take on a bright-red

## FOOD BUYING AND OUR MARKETS

color after cooking. There are two types of lobster, the one from the North Atlantic with claws, and one from Florida and California without. Both are prepared the same way. Both lobsters and crabs must be cooked alive. In buying lobster for cooking, it is important to make sure that it is alive. In buying cooked lobster, pay especial attention to the tail. If the lobster was alive when plunged into boiling water, the tail should be curled toward the body, and when straightened should spring back into place. Do not buy a lobster which was dead before cooking. The female is preferred by many persons because of its roe, the coral. It may be distinguished from the male by its broader tail, and the greater softness of the two uppermost fin-like appendages, nearer the body. Because so many lobsters were being caught, and the supply depleted, many states have passed laws that none less than 9 inches long may be sold. The average weight of a lobster is 2 pounds, that of the young *chicken* lobster being less. Out of season, lobster is very expensive, but during the summer it is cheaper.

**Oysters** are shipped successfully over the entire country, and are taken from many points along the Atlantic, Pacific, and Gulf Coasts. They are in the market during the eight months containing R because they are more palatable during that season, although it is safe to eat them at any time. Sanitary conditions are controlled by Governmental agencies. The *Bluepoint* is small, rather plump, and generally used for serving raw. *Cotuits* are very large, quite expensive, and are usually sold by the count. They are sought for roasting and broiling. The United States Food and Drug Administration has sought to protect consumers against adulteration by the excessive "blowing" of shucked oysters or letting them absorb water in other ways. Variation in the total solids of oysters have made this a difficult problem. Unscrupulous retailers occasionally add water to oysters. Oysters are marketed alive in the shell, shucked, and frozen. The Federal specification for shucked oysters is: "They shall be strictly fresh, solid packed, shall be free

## FISH

from chemical preservatives and added water, shall not have been placed in direct contact with ice."

**Scallops** are the hard part of the muscle used for opening and closing the large shells of the shellfish known as scallop. The best scallops are the small-bay kind, pinkish-white,  $\frac{3}{4}$ -inch cubes, which have a delicate flavor. The larger sea scallops, cubes 2 inches or more, should be split across the grain to a thickness of about  $\frac{5}{8}$  inch. The large scallops are good, but should be sold at a lower price than the small ones. Scallops are usually crumbed and fried in deep fat, but may be scalloped or stewed.

**Shrimps** may be bought uncooked, when they are a greenish-gray color which becomes pink with cooking, or they may be bought cooked. The firm meat in the "tail" or abdomen is the only part that is eaten. The principal shrimp fisheries are along the South Atlantic and Gulf Coasts. The period of greatest production is from August through November. The more important ways of marketing are as fresh headless, canned, sun-dried, fresh and frozen packaged, fresh cooked, and pickled. From 90 to 95 per cent of all shrimp packed in the United States is now Federally inspected and so labeled. Near the seacoast shrimps are relatively inexpensive. The *prawn* is similar to the shrimp, but larger.

### Questions or exercises

1. What varieties of fish can be bought in your local market now? How many varieties can you identify?
2. What is the price range per pound of the fish found in your local market? To what extent are there seasonal price variations?
3. What proportion of the fish sold weekly by your fish dealer is sold on Friday?
4. Approximately what proportion of the fish consumed in your city are shipped in? Are they largely fresh, refrigerated, frozen, or quick frozen?
5. For which fish is there the greatest popular demand in

## FOOD BUYING AND OUR MARKETS

your locality? The least? Check the statement, "Some varieties of little known fish of excellent quality sell inexpensively because consumers are not familiar with them."

6. If possible compare the cost *per serving* of a small pan-dressed fish, a large pan-dressed fish, a steak, and a fillet, of equal palatability.

### SUGGESTED READINGS

Household Finance Corporation, *Poultry, Eggs and Fish*, Better Buymanship No. 1 (Chicago, 1938).

LEMON, James M., *Developments in Refrigeration of Fish in the United States*, U. S. Bureau of Fisheries, Investigational Report No. 16 (Washington, 1932).

SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), pp. 254-77.

TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 76-8.

WEBSTER, Agnes I., and CONN, W. T., *Practical Fish Cookery*, U. S. Bureau of Fisheries, Fishery Circular No. 19 (Washington, 1935).

Copies of a series *Our Aquatic Food Animals* may be obtained from the U. S. Bureau of Fisheries, Washington, D. C.,



## CHAPTER XIX

### POULTRY

#### CHICKEN

**Market classes.** Price and proposed method of cooking should determine the market class of chicken chosen by the housewife. Broilers and fryers are young birds, tender enough to be cooked in the ways indicated by their market names. For a bird sufficiently soft-meated to be cooked by roasting or oven frying, the buyer may choose a roaster or a capon. For chicken casserole, chicken with dumplings, chicken pie, fricassee, chicken à la King, chicken loaf, or for other dishes in the making of which the meat may be made tender by long, slow cooking with moist heat, an older, tougher, but less expensive bird may be selected, as a fowl, slip, stag or cock. The housewife, therefore, should learn the qualities to be expected of each of these market classes.

#### BROILERS, FRYERS AND ROASTERS

A broiler may be of either sex, 8 to 12 weeks old, and weighing not more than 2½ pounds. It is dressed for cooking by splitting down the back, close to the backbone, and removing the internal organs. Sometimes the backbone is removed so that the bird may be placed flat on the broiler rack. Not only because of their initial cost, but because of the large amount of waste, due to the small proportion of meat to bones, broilers are expensive meat.

A fryer may be of either sex, 14 to 20 weeks old, and weigh 2½ to 3½ pounds. At this age, the bird's flesh is tender, and has more flavor than that of a broiler.

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A *roaster* is a young chicken of either sex, about 5 to 9 months old, weighing over  $3\frac{1}{2}$  pounds. In some markets roasters weighing less than 5 pounds are called "light," and those weighing more, "heavy."

**Grades.** The surest way to secure a young chicken of the desired qualities is to buy by grade. The Federal government provides a grading service on a fee basis. Federal standards for grades for dressed broilers, fryers and roasters are as follows:

*U. S. Special* or *Grade AA* is a young, fine-grained, soft-meated bird, with broad, full-fleshed breast, its entire carcass covered with fat, its skin soft and glossy, free from deformities and bruises, dry-picked or semi-scalded.

*U. S. Prime* or *Grade A* is a young, soft-meated bird, with well-fleshed breast, its entire carcass well covered with fat, its skin soft, glossy, dry-picked or semi-scalded. It may show slight skin bruises but not on the breast. About 60 per cent of the poultry crop fall into this class.

*U. S. Choice* or *Grade B* is a young, soft-meated bird, with fairly well-fleshed breast and carcass fairly well covered with fat, fairly well dressed, with few scattered pin feathers and not more than 3 slight bruises or skin abrasions. It may have slight deformities, and one broken wing or leg, provided bone does not protrude through flesh.

*U. S. Commercial* or *Grade C* is a young, soft-meated bird with poorly fleshed breast and with carcass poorly covered with fat. It may have numerous pin feathers and show abrasions, bruises and deformities. About 10 per cent of the poultry crop are in this class.

**Selection by inspection.** Since relatively few dealers sell chickens graded according to Federal standards, the buyer should know the following characteristics of young, tender chickens:

The body should be plump and wide, not long and "rangy." The breast should be full and well rounded, and the legs short and thick. The smaller the bones and the better fleshed

## POULTRY

the bird, the less is the waste in proportion to meat, and therefore the less the cost per pound of actual edible portion.

The breast bone should be flexible at the point farthest from the head; with age, the cartilage at the bone end hardens. Sometimes the market man breaks this "point" (to make it flexible), but if the bone is pressed, rather than bent, its softness can be judged.

The skin should be smooth and soft; it becomes coarse with age. Long hairs usually denote age, and pin feathers youth. A well-dressed chicken should be free from bruises, blotches, skin abrasions and pin feathers, and have an empty crop. The neck should be smooth; when rough, with loose skin, it indicates age.

The feet should have short sharp claws; claws become long and dull with age. The toes of a young bird are pliable, and the legs smooth; with age scales appear on the legs, and the spurs on a male become larger, more curved and hardened.

### CAPONS, SLIPS AND STAGS

A *capon* is an unsexed male bird, usually 7 to 10 months old, weighing over 4 pounds. By caponizing, the effects of maturity are retarded, and the flesh remains tender longer in a capon than in a stag. Because of its plump tender breast which carves well and its size, roast capon is popular for company dinner, but is somewhat more expensive than a roaster. Permissive Federal grades for capons are: *U. S. Special*; *U. S. Prime*; *U. S. Choice*; *U. S. Commercial*, the specifications for each being similar to those for roasters.

A *slip* is an incompletely caponized male bird, whose flesh development is similar to that of a stag. It weighs 4 or more pounds.

A *stag* is a male bird, more mature than a roasting chicken but not old enough to be called a cock. Its flesh is darker, more coarse-grained, and tougher than that of a roaster.

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## FOWLS AND COCKS

A *fowl* is a mature female bird, usually weighing 4 to 6 pounds, though weight may range as low as 3 or as high as 8 pounds. The younger the fowl the more tender, hence the buyer should choose a bird with a broad, full-fleshed breast, a soft glossy skin, and with the carcass covered with a layer of fat. Excessive fat over the abdomen should be avoided since no one wishes to pay the price of fowl for cooking fat. Scaly legs, a sign of age, should also be avoided. The four Federal grades for fowl are the same as those for younger chickens, and the quality specifications for each grade are similar, allowance being made for the maturity of the fowls.

A *cock* is a mature male bird, of any weight, but commonly 4 to 6 pounds with flesh darker and coarser than that of a fowl.

**Other buying guides.** Methods of preparing poultry for market, feeding and plucking, as well as season should be considered when buying. The term "dressed" usually means a bird with feathers removed but with head and feet remaining. It is undrawn, as a rule, since its keeping qualities are impaired when the body cavity is opened to remove the organs. Dressed weight, therefore, includes such discard as head, feet, and intestines. After selling a bird, the dealer cuts off its head and feet, and draws it, opening the body and removing the organs. Even though drawn, poultry should be carefully cleaned before cooking since bits of lung and kidney may be left in the body cavity.

Birds may be *fresh dressed*; *fresh hard chilled* (frozen only hard enough to be shipped to market); or *frozen solid*, and held long enough to give characteristic cold storage appearance. Frozen poultry is good and wholesome, but it should be cooked as soon as possible after taking from storage as it deteriorates rapidly after thawing.

Birds may be : dry plucked, the method generally preferred since there is less likelihood of injuring the skin and the

## POULTRY

birds keep better than when scalded; semi-scalded, or dipped in hot water before plucking; scalded, or immersed in scalding water.

*Milk-fed* birds are given a ration which produces light-colored skin and flesh, and deposits of fat throughout the connective tissue, making the meat tender and juicy. *Corn-fed* birds have yellow skin and thick layers of fat beneath the skin instead of scattered through the tissues. Such fat deposits do not add to the tenderness and flavor of the meat.

At any season, freshly dressed fowl and cocks may be had. Broilers and other young birds, commonly hatched in spring, reach the desired stage of maturity in summer and fall, and if not used then, or killed and placed in storage, they become "old." Seasons of greatest abundance of young chickens are: for light-weight broilers, June to August; for heavy broilers, July to September; for fryers, August to November; for roasters, September to January; for capons, January to April.

**Weight of edible portion and waste of chicken.** If a housewife purchases a live roasting chicken weighing about 4 pounds, she can count upon about  $2\frac{1}{2}$  pounds of flesh and giblets, its weight being distributed approximately as follows:<sup>1</sup>

	<i>Per cent</i>
Flesh .....	58
Giblets .....	6
Bones .....	7
Blood and feathers .....	13
Head, feet and intestines .....	16
	100
Total live weight .....	100

These figures may be used to determine differences in cost of dressed and undressed roasters.

When a dealer tells how many pounds a dressed chicken weighs, he customarily means weight of bird undrawn, in-

<sup>1</sup> The percentage of flesh varies with different breeds. The figures given are average for four breeds.

## FOOD BUYING AND OUR MARKETS

cluding head and feet. The percentage of the bird which is edible varies, it being least for a broiler which has little flesh on its bones.

Approximate percentage of  
chilled weight of fattened bird  
of specified market class

	Broiler	Fryer	Roaster	Hen
Edible portion, total: .....	60	67	64	71
Meat .....	39	43	41	38
Skin .....	10	13	13	15
Fat .....	4	6	5	10
Edible organs .....	7	5	5	5
Eggs .....	..	..	..	3
Inedible portion, total: .....	40	33	36	29
Offal .....	24	20	21	19
Bones .....	16	13	15	10
Total weight of dressed bird	100	100	100	100

The edible portion of a hen is greater than that of the three other market classes of chickens. However, if only meat, edible organs and eggs are considered (not taking account of skin and fat), the hen and roaster rank the same. Nevertheless, the hen will be the better bargain from the standpoint of quantity of meat received for a given sum, because of her lower market price.

A broiler serves 2 persons generously. A 4-pound roasting chicken yields 4 generous or 6 adequate servings. A 4-pound fowl yields about  $2\frac{1}{3}$  cups cooked meat for salad or creaming.

### TURKEYS

**Market classes and grades.** *Young* turkeys, less than a year old, are classed as: *young Toms*, males, weighing 9 to 18 pounds; *young hens*, weighing 9 to 12 pounds. Young birds are soft-meated and more tender than old, but more expensive. They are in season from October to February.

*Old* turkeys, more than a year old, are classed as: *old*

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*Toms*, weighing 16 to 30 pounds; *old hens*, weighing 10 to 15 pounds. Their flesh can be made tender by long slow cooking with moist heat.

In a number of cities, turkeys are sold, tagged to show whether young or old and their Federal grades as *U. S. Special, Prime, Choice, or Commercial*. Specifications for these grades are similar to those for chickens.

**Other buying guides.** If graded turkeys are not to be had, the housewife should remember these points in choosing a bird:

The breast should be broad and well-fleshed; the legs, short and plump. Thighs and back should be well covered with flesh. There should be streaks of fat along the sides of the breast, down the back, and over the hips.

The bird should be well dressed, practically free from pin feathers on breast and back, with the skin clean and free from bruises and torn places. There should be no food in the crop. The feet of a young bird are black; of an old, gray. The breast bone of a young bird is flexible.

The tendons of a turkey's legs should be drawn, as they become hard and bone-like when cooked. Since it is almost impossible to draw tendons after the bird's feet have been cut off, the dealer should be instructed not to remove the feet. Some dealers will draw the tendons if asked to do so. The market terms used to describe methods of plucking, dressing, finishing and chilling turkeys are similar to those given for chickens.

A turkey weighing 15 pounds, dressed but not drawn, yields 20 servings.

## DUCKS AND GEESE

*Ducks* should have well-fleshed bodies and be well dressed, as any other poultry. When young, the windpipe yields if pressed with the finger; when old, the windpipe becomes hard.

## FOOD BUYING AND OUR MARKETS

*Young* ducks are of either sex, usually 10 to 12 weeks old, and weigh 4 to 6 pounds, though some breeds are lighter weight. They are in season from April to October. *Old* ducks usually weigh 7 to 10 pounds, though some breeds are lighter; a male Muscovy may weigh about 10 pounds and a male Runner only 4.5 pounds. The male weighs 1 to 3 pounds more than the female. The flesh of an old duck is darker and tougher than that of a young.

According to market terminology, *green goose* is less than 4 months old, and is sold during the summer. *Young geese* more than 4 months old are in season from September to December. The weight of a goose varies with the breed; a young Toulouse gander may weigh 20 pounds, while a young wild gander or one of Chinese breed may weigh only about half as much (9 pounds). The females are 2 to 4 pounds lighter than the males. Old geese are often tough and difficult to cook. An adult gander may weigh as much as 26 pounds (Toulouse breed), or only 12 pounds (Chinese, wild or Canada breed). The upper bill of a young goose curves when bent, and its feet are smooth and yellowish. The breast should be full-fleshed and firm.

A 5-pound duck serves only 4 generous portions since the proportion of meat to bones is less than in chicken.

A 9-pound goose yields 8 servings.

### Questions or exercises

1. What is the difference in cost per pound between roasters, hens, fryers and broilers in your market at the present time? Using the information in the chapter, compare the cost of the lean meat.
2. If possible compare the cost per pound of home-cooked and canned chicken.
3. How is the poultry bought by your family prepared for market? Is this method of preparation the one you prefer? Why?
4. Find out to what extent graded chickens are sold in your market.



5. Is Special or Grade AA a suitable designation for top-grade chickens? Why?

## SUGGESTED READINGS

Household Finance Corporation, *Poultry, Eggs and Fish*. Better Buymanship No. 1 (Chicago, 1938).

SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), pp. 249-54.

TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 105-9.

Copies of Government standards and grades for dressed chickens and turkeys can be obtained from the Agricultural Marketing Service, Washington, D. C.

## CHAPTER XX

### EGGS

**Flavor.** In few foods is fresh flavor so important as in a breakfast egg. The slightest hint of staleness is unacceptable. Unfortunately, appearance of an unbroken egg does not enable a buyer to judge flavor. Despite the preference of some persons for white and of others for brown eggs, color of shell is no guide to interior qualities. When eggs are sold by grade, the buyer can know the qualities of the eggs she is purchasing. Without retail grades, the best she can do is to learn to recognize the characteristics of superior, good, and medium eggs when broken, and to patronize a dealer who will furnish her with eggs of the class she wishes. An egg of the best commercial grade shows the following characteristics, when broken:

The yolk is well-rounded, rising higher than the white. With age, the yolk flattens and the membrane surrounding it breaks easily. The color is determined by the food of the hen and may be light or dark-yellow. There are no defects as blood spots, and no visible germ-development.

The white is thick and firm around the yolk, with only a small thin outer portion. With age, the white becomes less firm, finally breaking down into a liquid. Because of the liquefaction, an old egg does not whip easily.

To economize, the housewife may buy the best eggs to poach or boil for breakfast and a cheaper grade for cookery where the flavor is masked by other ingredients. Price differences between grades vary with season and with changes in the general price-level. When eggs of the qualities of

## EGGS

"extras" retail at 29 cents a dozen, the next lower grade ("standards") may be 24 cents, or 5 cents cheaper. If strict economy is necessary, it is better to feed the family eggs of "standard" quality than to omit eggs from their diet.

**Federal grades.** The Agricultural Marketing Service of the Department of Agriculture has formulated standards for retail grades for eggs. Some states as New York have passed laws providing that eggs must be graded and grade-marked for retail sale, and have patterned their mandatory grades upon the permissive grades of the Federal government. The Federal grades are:

U. S. Special, the best eggs produced commercially, of excellent flavor and practically no odor. Relatively few eggs of this grade are marketed, hence they are seldom sold at retail, the limited supply being bought by clubs and hotels.<sup>1</sup>

U. S. Extra, usually the highest grade carried by retail stores, of flavor so good that they may be poached or boiled.

U. S. Standard, the bulk of the eggs in the market, especially during hot weather. Their slightly stale flavor may be disguised by scrambling with bacon, or by combining in omelettes with cheese or tomatoes.

U. S. Trade, the lowest edible grade, wholesome, but with sufficient "off" flavor that they should be used only in highly flavored dishes, as gingerbread, or spice cookies.

These Federal grades are based upon the interior qualities of eggs having clean sound shells. For eggs with dirty

<sup>1</sup> Federal grade specifications are based on the appearance of eggs when candled, hence they mean little to the household buyer. For example, standards for eggs of Special grade are: "Shells must be clean, sound and normal. The air cell must not exceed  $\frac{1}{8}$  inch in depth and must be regular. (As an egg ages, the air cell becomes deeper, due to evaporation of moisture.) The yolk must be well-centered, its outline indistinct. (The firm white holds it in place and blurs its outline.) It must be free from visible germ-development and other defects or blemishes. The white must be firm and clear."

## FOOD BUYING AND OUR MARKETS

shells three grades are provided: *U. S. Extra Dirty*; *U. S. Standard Dirty*; *U. S. Trade Dirty*. Eggs with checked or cracked shells are put in one grade, *U. S. Check*.

**Size of eggs.** Eggs vary in weight from  $1\frac{1}{4}$  to  $2\frac{1}{2}$  ounces each, usually weighing about 21 to 24 ounces per dozen. Small eggs should be and often are sold for less than large or medium. Thus, in New York City in 1932, when a dozen eggs (weighing 21.9 ounces or less) retailed for 24 cents, the medium large (24.4 to 26.7 ounces per dozen) were 5 cents more, while the very large (26.8 ounces or more) brought 32 cents. With higher prices for all eggs, the differences might be greater. The buyer should remember, however, that although the small eggs cost less, they yield less food.<sup>1</sup>

Federal standards for size are established separately from quality grades since weight does not affect interior qualities. Size standards are: *Large*, minimum average weight per dozen, 24 ounces; *Medium*,  $20\frac{1}{2}$  ounces; *Small*, 17 ounces. Cartons of officially graded eggs bear a certificate stating both quality and size—grade placed thereon by, or under the supervision of, an official grader. This certificate bears the date of grading and this should be noted by the buyer.

**Temperature as a factor in freshness of eggs.** The buyer should note where the dealer keeps his eggs, whether in a warm sunny window, or in a refrigerator. Eggs deteriorate far more rapidly when warm than when cold. Investigation showed that eggs kept at the temperature of a warm room deteriorated as much in 8 days as did well-refrigerated eggs in 100 days. Five lots of eggs of the same quality, when kept at 5 different temperatures, required the following lengths of time to reach the same deterioration point:<sup>2</sup>

<sup>1</sup> A. R. Gans, "The Relation of Quality to the Price of Eggs in New York City," *Farm Economics*, 79 (1933), 1846-9.

<sup>2</sup> H. E. Botsford, *Some Facts about Eggs and the Retailing of Them*. Mimeographed Bulletin C-3, New York State College of Agriculture.

## EGGS

Number of days	Storage temperature
3 .....	98.6° F.
8 .....	77.0° F.
23 .....	60.8° F.
65 .....	44.6° F.
100 .....	37.6° F.

These figures show that "freshness" of eggs, insofar as this means interior qualities, is more a matter of temperature at which they are held than of age. An egg kept in storage for three months may be "fresher" than a three-day old egg left in the nest in summer weather.

"Fresh," therefore, means little to the buyer unless the term is associated with quality requirements as in New York State. There, according to law, an egg may be called "fresh" only if it meets the state specifications for the two highest grades (corresponding to U. S. Special and U. S. Extra) and is less than 30 days old.

**Cold storage or "refrigerator" eggs.** Because hens lay more eggs in spring than in winter, some spring eggs (about 13 to 15 per cent of the year's production) are placed in cold storage. There they are kept in well-ventilated rooms, free from odors, at a constant temperature (29° to 30° F.) with humidity carefully controlled so that they will not lose moisture. Under such conditions, eggs deteriorate but little. In fact, eggs of good quality when stored in April may be better in 6 or 7 months than "freshly laid" eggs, not carefully handled. In some states dealers are required to label cold-storage eggs as such. The more satisfactory solution seems to be to sell them by grade which is a better indicator of quality than either the word "storage" or "fresh."

Sometimes cold storage is blamed for deterioration which has occurred after removal of eggs from the warehouse. If cold eggs are placed in a warm store, moisture collects upon the shells, and the eggs then absorb the odors of the store or of the filler used for packing. If placed in the retailer's refrigerator, such deterioration is avoided.

**Other market terms.** *Processed* or *shell-treated* eggs have been subjected to some preservative process. Often they are coated with mineral oil to seal the pores of the shell, and thereby prevent evaporation of moisture and entrance of bacteria, or absorption of odors. Eggs may be *fertile* or *infertile*, the former being more likely to deteriorate since the embryo develops when warm.

According to wholesale-market terminology, *hennery* eggs are sent directly from producer to market. *Fresh-gathered* are held only long enough to obtain shipping units. *Held fresh* do not qualify as fresh gathered, but have not been stored long enough to be called "cold storage."

*Frozen* eggs (whole, egg yolks or whites) are broken, mixed by machinery, packed in cans usually holding 30 pounds and frozen. They are bought mostly by bakers and other food manufacturers. One pound of frozen eggs is equivalent to approximately 10.2 eggs.

*Dried* eggs are seldom sold as such as retail, though they may be included in ready-to-bake mixtures of cake or gingerbread. About 3.6 pounds of whole egg make 1 pound, dried. They are used by manufacturers of food products.

Eggs should be kept in the refrigerator since they deteriorate as quickly in a warm kitchen as in a warm store.

### Questions or exercises

1. Does your dealer carry officially graded eggs? Is the carton marked with an official certification of grade? If not, how do you discover the quality?
2. Find out whether your state or city has any laws covering the sale of fresh eggs.
3. What are your state or city laws in regard to cold storage of eggs? How long may eggs remain in storage?
4. Chart the monthly variations in the price of a given grade of eggs. How would these fluctuations be affected if there were no cold storage?
5. Buy some eggs of each quality that your grocer carries

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and see if you can discover quality differences corresponding to the price differences.

6. Are brown or white eggs preferred in your community? Is this preference reflected in their price?

### SUGGESTED READINGS

- Household Finance Corporation, *Poultry, Eggs and Fish*, Better Buymanship No. 1 (Chicago, 1938).
- HUGHES, O., and CRAY, R. E., *Knowing and Using Eggs*, Ohio State University, Extension Circular No. 157 (Columbus, 1934).
- New York State Department of Agriculture and Markets, *Retail Grades and Standards for Eggs*, Circular 482 (Albany, 1934).
- SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), Ch. V.
- TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 108-9.
- U. S. Bureau of Agricultural Economics, *Handbook of Official United States Standards for Individual Eggs* (Washington, 1934).

## CHAPTER XXI

### MILK AND CREAM

#### LEGAL PROTECTION OF THE CONSUMER

**Safeguards for health.** Most buyers of milk have seen "Pasteurized," "Grade A," "Grade B," "Guaranteed," "Raw," "Standard," "Selected," or other terms on the caps of milk bottles. The word *pasteurized* means that the milk has been heated to a temperature of not less than 143° F., held at this temperature for not less than 30 minutes or it may be held at 160° F. for at least 15 seconds and then promptly cooled to 50° F. or lower. *Raw* milk is simply that which has not been pasteurized. The United States Public Health Service has found that there is no other practical method of controlling milk-borne infections and strongly recommends pasteurization of all milk. The Council on Foods of the American Medical Association says, "The public should demand pasteurized milk for drinking and the use of pasteurized milk in milk products." The food value is the same as that of raw milk. Some people consider the taste of the milk affected, but when milk is properly pasteurized, there is no change in flavor. This has been demonstrated by tasting tests.

The meaning of the other terms mentioned varies greatly from community to community. In addition, the terms used to describe the quality of the milk vary as well. Grade A in one place may not be the same as in another. A third may not use this term at all, either because it does not grade its milk or because it uses different terminology. In other words, the degree and character of the legal control of the



## MILK AND CREAM

milk supply varies greatly from place to place. Most cities and towns have some kind of milk ordinance, but many exercise very limited control or have unsatisfactory regulations. Large cities are likely to have more rigid and higher standards than small towns. The thoroughness of the inspection of dairies and milk plants varies also from community to community.

There are obvious advantages in a uniform system. At present people traveling from one community to another have no way of knowing local standards; it is difficult for milk producers to send milk from one jurisdiction to another and the health of those communities that fall below a satisfactory minimum standard is endangered.

The United States Public Health Service in 1923 began to promote the adoption of a uniform ordinance. They have drawn up a model ordinance and inspection code which have been adopted in about 875 American communities ranging in size from Chicago to small villages and counties.

As defined by the model milk ordinance, the grades for raw milk are Certified milk-raw, and Grades A, B, and C; for pasteurized milk, Certified milk-pasteurized, and Grades A, B, and C. The grading is done on a two-fold basis: (1) the bacterial count of the milk; (2) the rating from a sanitary standpoint of the conditions of production and handling. Certified milk is produced under thorough supervision by the Medical Milk Commission of the local Medical Society and a Health Officer, and conforms to the requirements of the American Association of Medical Milk Commissions.<sup>1</sup> Formerly it was always raw, but it is now sold both raw and pasteurized. It is expensive and is used chiefly for invalids and children. *Grade A* pasteurized milk is Grade A raw milk which has been pasteurized, cooled and bottled in a milk plant that meets specified sanitary requirements and in which the bacterial count does not exceed 30,000 per cubic centimeter. *Grade B* pasteurized is made

<sup>1</sup> According to these requirements the bacterial count may not exceed 10,000 per cubic centimeter.

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from raw milk of not less than Grade C quality. The bacterial count permitted is 50,000 per cubic centimeter but the milk plant must meet the requirements set for Grade A. *Grade C* pasteurized is pasteurized milk that does not meet the requirements of Grade B pasteurized. The bacterial count permitted for *A* and *B* grades of raw milk are 50,000 and 1,000,000 per cubic centimeter, respectively. *Grade C* raw is milk which does not meet the requirements for Grade B raw.

The following suggests the requirements for Grade A raw so far as cleanliness in production is concerned: Cows must be healthy, free from disease, well-fed and well-pastured. They must be kept clean. Dairy or milking barns must be provided, clean, well-lighted and ventilated. Cow-yards must be clean and well-drained. If milking machines are used, the suction nipples and all other parts must be sterilized. Milkers must wear clean outer garments and wash hands immediately before milking. Milk houses must be provided so constructed that they are easy to clean. They must be free from flies and well-screened. Milk house floors must be smooth and free from cracks which would hold filth. Utensils must be sterilized. No milk may be strained or poured outside the special milk house or room. Milk pails must be of approved design. Milk must be cooled immediately after milking to 50° F. or less.

Similar grades are recommended for cream, except that twice as many bacteria are permitted. Cream is at least one-half day or more older than milk when it reaches the consumer. A number of states have compulsory cream-grading laws which make the selling of cream by grade compulsory and effective.

The Public Health Service considers Grade A pasteurized as defined in their ordinance the safest grade of milk available in most communities. It is both properly produced and pasteurized. Certified raw and Grade A raw milk are as safe as raw milk can be, but they are not as safe as certified milk pasteurized and Grade A pasteurized. Grade A

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raw is included in the ordinance because there is still demand for raw milk. The lower grades of both raw and pasteurized are defined to facilitate enforcement but they do not represent a satisfactory standard. It might seem that the requirements for Grade A pasteurized would raise considerably the cost of producing it, but it has been found from actual experience that its cost of production exceeds that of the lower grades by less than one cent per quart.

"Dip" milk is illegal in many communities, the only kind permitted being bottled. The United States Public Health ordinance provides that, "No milk producer or distributor shall transfer milk or milk products from one container to another on the street, or in any vehicle or store, or in any place except a bottling or milk room especially used for that purpose." However, this regulation does not apply to cream which may be served from a dispenser approved for such service.

**Economic safeguards for the milk and cream buyer.** The proportion of cream in the milk is a matter of interest to all consumers. Each state and the District of Columbia has set a minimum butter-fat content for milk, from 3 to  $3\frac{1}{2}$  per cent. Where there is much competition between dairies and tests are made public, the percentage in the milk sold frequently goes considerably above three and one-half. Some states set minimum standards for the non-fat solids, ranging from 8 to  $8\frac{1}{2}$  per cent. Some set standards for total solids, usually about  $11\frac{3}{4}$  per cent. Only four states are without standards covering one or the other. These regulations tend to prevent watering or skimming milk, although skimming may still be done occasionally when the butter-fat content of the milk is above the legal requirement. The Commission on Milk Standards has recommended the general adoption of the standard calling for not less than  $3\frac{1}{4}$  per cent butter-fat and  $8\frac{1}{2}$  per cent total solids. It has also recommended the sale of milk on a basis of guaranteed composition. This would take care of the fact that

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legal minima must necessarily be low in order to cover natural variations in milk.

All states but one have minimum standards for the butter-fat content of cream. The usual requirement is 18 per cent, the same as the standard set by the Food and Drug Administration. Five state laws, as well as the Food and Drug definition, give 30 per cent as the standard for whipping-cream; one calls "30 per cent" cream "medium" and has standards above and below for "light" and "heavy." Heavy cream when defined varies from 34 to 40 per cent in butter-fat.

There is no connection between the percentages of butter-fat and the grades of milk or cream. Grade C is as rich as Grade A; they differ only in freedom from bacteria. A few companies offer milk of different fat-content in the same grade. Before spending extra money for milk that is claimed to be superior, consumers should know exactly in what respect it is of superior quality. They should not be misled by fancy names such as "Sanitary," or "Selected," but should find out exactly what quality the product is.

**How to check a local milk situation.** The local health officer can give information as to the ordinance in effect in the community, the grades of milk offered and what each represents. It is important to know whether local regulation gives as much protection as the ordinance recommended by the United States Public Health Service. If not, civic interest should be aroused to have it brought up to that standard. It is also possible to discover how adequately local ordinances are being enforced. The United States Public Health Service issues semi-annually a list of those municipalities whose milk-control work has been given a rating of 90 per cent or more by their respective state boards of health, using a rating method worked out by the Public Health Service. Thorough, consistent inspection is extremely im-

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portant. It is a local responsibility, and can best be secured by keeping the community informed and interested.

The local public health officer should be able to give information to anyone wishing to compare the dairies in her community. Bacterial counts, butter-fat tests, and the sanitary rating of the various dealers are all of interest. If the United States Public Health Ordinance is in effect, all bottles and other containers must be labeled with the name of the contents, whether pasteurized or raw; the grade and the name of producer if raw and of plant if pasteurized. With this information and a knowledge of definitions and grade specifications, the buyer need not be in ignorance as to the quality of her milk.

### FORMS OF MILK AND MILK PRODUCTS ON THE MARKET TODAY

**Cream.** Regulations of the purity and fat content of milk and cream have been discussed in connection with the regulation of milk. There is great variation in different localities as to the terms used in designating cream. "Coffee cream," "pastry cream," "whipping cream," "cereal cream," "route cream," and "table cream" are not standardized terms. Many cities have an intermediate cream between the 18 and 30 per cent, which has a fat content of about 23 per cent. It is necessary to find out from local dairies what each name means. The public-health officer can give information as to state and local cream standards.

**Skim milk** is not sold on the market to any great extent. Usually it must be plainly labeled. According to the definition of the United States Food and Drug Administration, it is that part remaining after removal of the fat in whole or part, and it contains all the food value except the cream. Much of it is used on farms, and some is made into cottage cheese and butter-milk at the dairy.

**Homogenized milk** or cream is defined by the Food and Drug Administration as milk "mechanically treated in such a manner as to alter its physical properties, with particu-

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lar reference to the condition and appearance of the fat globules." The process breaks the fat globules up so fine that they do not rise to the surface. Some milk buyers object, as it makes it impossible to pour the cream off the top, and sometimes makes it appear that there is less cream than there really is. Some dairies homogenize cream to overcome the slight separation due to pasteurizing. This makes it difficult to whip.

**Dried milk** may be either whole milk, skim milk, or partially skimmed, but dried skim milk is the form most used because the fat in the others tends to become rancid and makes them more difficult to handle. Federal standards require 26 per cent milk fat and not over 5 per cent water in dried whole milk, and not over 5 per cent water in dried skim milk. Dried skim milk is used extensively by food manufacturers and by institutions where little money is available. It can be conveniently transported, and gives extremely valuable food at a very low cost. When properly mixed with water, it looks and tastes like fresh whole milk. It offers a convenient way of increasing the total milk-solids in the diet as it can be added in substantial amounts to milk and various dishes without affecting the flavor. Because of its many advantages, it is desirable that it be made more generally available to the housewife. At present some manufacturers put up one- to five-pound packages, and dried whole milk is sold in sealed containers in some localities, but it is not generally sold in small amounts. Sometimes it can be purchased from an ice-cream factory or bakery. It is graded by the American Dry Milk Institute as *Extra*, *Standard*, and *3d Grade*.

**Evaporated milk** is practically the same as pasteurized milk in food value when diluted to the proper extent. Seventeen ounces of evaporated milk (the tall can contains 14½ ounces) is equivalent in solids to one quart of milk. It has the advantage of being uniform in content and absolutely sanitary, due to its sterilization. Government standards require in a product so labeled 7.8 per cent milk fats, 25.5 per

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cent total milk-solids, but not less than 33.7 per cent milk fat and milk solids combined. As most evaporated milk is shipped in interstate commerce, probably all conforms to these requirements. The products of different manufacturers may vary slightly, but there is little difference of importance between brands, as cleanliness and food content are safeguarded in all. There is no cream line because the milk is homogenized in the process of manufacture. It has a characteristic flavor due to the high temperatures to which it is subjected, sometimes as high as 226° to 240° F. for 30 to 60 minutes. If made from skim milk, the fact must be noted on the label.

**Condensed milk** differs from evaporated in that sugar is added, its composition being roughly 30 per cent water, 30 per cent milk, and 40 per cent cane sugar. For this reason it cannot be used in so many ways as the evaporated. For correct labeling, the Food and Drug Administration requires that it contain at least 28 per cent total milk-solids and not less than 8 per cent milk fat. It is processed at a lower temperature than evaporated milk (130° to 150° F.) and is usually more expensive than the latter. In all other ways condensed milk resembles evaporated.

**Butter-milk** usually refers to the milk left when fat is removed from sour milk or cream by churning, but it may also be that left from churning sweet milk or cream. The Federal standard is at least 8.5 per cent milk solids not fat. It is used as a beverage and can also be used instead of sour milk in cooking.

*Cultured* butter-milk is found on the market today under a variety of names. It is made by ripening milk with lactic-acid bacteria cultures and then stirring to break up the curd. Dealers sometimes treat the skim milk that remains as a by-product of the cream trade in this way.

**Vitamin D milk** is on the market in fresh, evaporated, and dried forms. The fresh is defined in the United States Public Health Service Ordinance as, "Milk the vitamin D

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content of which has been increased by a method and in an amount approved by the Health Officer."

**Ice-cream** manufactured on a commercial scale has greatly improved in quality during the last twenty years. Quality is based on four points, the first being purity or freedom from bacteria. A few states require pasteurization of the entire ice-cream mix, others provide for the pasteurization of all milk-products used. As a matter of fact, most large-scale manufacturers pasteurize the whole mix as a part of the process. In its buying the Federal Government requires pasteurization of the mix and sets a maximum of 50,000 bacteria per gram. Fourteen states have laws regulating the bacterial content and the others have no laws.

A second factor in quality is butter-fat content. Every state has a minimum for butter-fat, ranging from 8 to 14 per cent for plain ice-cream, but most ice-creams have more than the minimum set. The Federal Government requires 12 per cent in the ice-cream it buys. The minimum requirement for cream, it will be remembered, was 18 per cent. The third factor of importance is total solids. Twenty states regulate milk solids while others specify from 28 to 35 per cent for all solids in plain ice-cream. Fourth and last is the question, How much air is beaten into the ice-cream? It is desirable to have some, but there is a temptation to dilute it in this way since it is sold by measure. Government contracts specify a minimum weight of  $4\frac{1}{2}$  pounds per gallon (one pound, two ounces, per quart). Twenty-three states have regulations on this point, most of them making about the same requirements as the Federal Government in its purchases. A richer ice-cream weighs  $5\frac{1}{2}$  pounds to the gallon, and is about 42 per cent air. Some consumers prefer the less rich type and it is chiefly a question of getting the type preferred and of paying only for what you get.

**How to get the greatest return from the money spent for milk foods.** The following table of equivalents worked out by the Bureau of Home Economics makes it possible to



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find out how to insure an ample supply of milk foods for the family at the least possible cost. Prices will vary in localities but in most cases dried skim milk with an appropriate amount of butter in the diet will be found the very cheapest source of milk food.

- 1 quart fresh whole milk  
or
- 17 ounces evaporated whole milk  
or
- 1 quart skim milk plus 1½ ounces of butter  
or
- 4½ ounces dried whole milk  
or
- 3½ ounces dried skim milk plus 1½ ounces  
butter

Where the necessity for economy is not so great, fresh, pasteurized milk may be used for drinking and evaporated for cooking. It is more economical to buy extra milk and use the top for the cream needed, than to buy cream alone, as valuable skimi milk is also obtained. With more money to spend for food, a plentiful supply of whole fresh milk and cream may be secured.

Milk prices usually vary with the quantity bought. In some localities gallon and half-gallon containers are now being sold with substantial savings to consumers.

Milk by the quart is almost always cheaper than by the pint. Cream by the pint or quart is also usually cheaper than by the half-pint.

The housewife should be cautious about buying milk below the standard price; the reason for the lower price should be ascertained. Neighborhood milk-stations that do no delivering, have no telephone, no loss on bottles, and low rent, can afford to sell for less. When consumers bring their own containers the milk costs less, but the milk is not as free from bacteria as if bottled when pasteurized. Milk stations just outside the city limits must conform to the sanitary

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regulations of the state, but municipal regulations are usually more strict. In general, if buying from any source other than the established dairies under municipal regulation, it is important to find out whether the cows are tuberculin tested, whether the milk is pasteurized, and other facts determining the safety of the milk.

**The housewife's responsibility in caring for milk.** With so much effort being made to insure that pure milk is provided, it is essential that the one who is responsible for the food in the home take the best possible care of it. Cleanliness and low temperature are emphasized above everything else in production and delivery, and they should continue to be emphasized until it is used. The temperature should be 45° F. if possible, and the refrigerator should be tested to find the coldest part. If a good storage place is not available, milk and cream may be bought in small quantities and evaporated and dried milk used. Milk and cream should be out of the refrigerator only when being used.

They should be kept closely covered, as they absorb odors readily. Milk or cream delivered on different days should not be mixed, as the older will have more bacteria than the fresh. The milk bottle including the cap should be washed before it is put away. Milk bottles should be rinsed in lukewarm water, washed, and returned to the dealer promptly. Loss of bottles through the carelessness of consumers adds unnecessarily to the cost of milk. If raw milk is bought, it can be pasteurized at home. After opening, evaporated milk must be handled like fresh milk.

### Questions or exercises

1. Must all milk sold in your community be pasteurized?
2. Compare the state or local regulations governing the production and sale of milk in your community with the code recommended by the United States Public Health Service.
3. How adequately are the milk laws enforced in your community?

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4. What economic protection is given to the milk buyer in your community?
5. Milk is one of the few foods widely distributed from house-to-house. Discuss possible reasons why milk is so distributed.
6. List as fully as possible the advantages and disadvantages in using evaporated milk.
7. What are your state or local regulations governing the production and sale of ice-cream? Are they adequate for the protection of health? Do they provide adequate economic protection for the consumer?

### SUGGESTED READINGS

- CARPENTER, R. S., U. S. Department of Agriculture, *Milk for the Family*, Farmers' Bulletin No. 1705 (Washington, 1933).
- FRANK, Leslie C., *What Every Person Should Know about Milk*, U. S. Public Health Service, Supplement No. 150 to the Public Health Reports.
- Household Finance Corporation, *Dairy Products*, Better Buy-manship No. 11 (Chicago, 1940).
- SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), Ch. III.
- TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 20-2.
- U. S. Food and Drug Administration, *Definitions and Standards for Food Products*, Service and Regulatory Announcements, Food and Drug No. 2, Rev. 5 (Washington).
- U. S. Public Health Service, *Milk Ordinance and Code: 1939* (Washington, 1940).
- White House Conference on Child Health and Protection, *Committee on Milk Production and Control*, II C. 1932.

## CHAPTER XXII

### BUTTER, MARGARINE, AND OTHER FATS

#### BUTTER AND MARGARINE

##### BUTTER

**Market classes.** In buying table butter, the housewife may choose between that made from *sweet* and that made from *sour cream*. Each has its characteristic flavor. If in a large city, her dealer may offer her *unsalted* sweet-cream butter, but this has only a limited market because of its perishability and high price. Either sweet or sour-cream butter may be *fresh*, or it may be *held*, or *storage*, having been held in cold storage from time of peak production until period of greater scarcity. If properly stored, held butter changes but little in flavor.

In most urban markets there is little *dairy* butter, that made on nearby farms and sold to the consumer directly or through the local grocery store. Most of the butter now found on the market is *creamery-made*. Its quality is more standardized than that of the *farm-made* butter. Furthermore, it is made of *pasteurized* cream. Pasteurization cannot be practically carried out on the farm. The cream used at centralized creameries has often been shipped from cream stations located some distance away. As a result, it is often so sour that its acidity must be neutralized by the use of soda or lime water. The acidity must be standardized in any case for satisfactory pasteurization. The flavor of the butter made from fresher cream is more delicate than that made from the very sour cream. The characteristic flavor of the ripened cream butter is preferred by many, however,

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to the more bland flavor of that made from sweet cream.

**Grades.** Whether the butter is dairy or creamery-made, whether fresh or held, the surest guide to its flavor is its quality grade. Although grading is not compulsory, much of the butter sold in wholesale markets is graded according to the rating scale worked out by the Agricultural Marketing Service. The determination of quality (except for "no grade" butter) is based upon the ratings given for flavor, the absence of defects in body, color, and for salt. The official United States score is determined by deducting from the flavor rating of the sample, the amount by which the total rating of the defects in body, color, and salt exceeds that allowed for the flavor rating of the butter.

Nine United States score grades have been established: United States 85 to United States 93 score, inclusive. United States 93-score butter is the best usually found on the market; it must possess a fine flavor, and have a minimum of defects in body, color, and salt.

United States 92-score butter is more often found in retail markets than is 93-score. It must possess a pleasing flavor and may have slightly more defects in body, color, and salt than 93-score butter.

The remainder of the score butters may have flavors ranging from fairly pleasing (United States 91 and 90) to a pronouncedly obnoxious weed, onion, or garlic flavor (United States 85) with an increasing tolerance permitted for defects in body, color, and salt.

The Government will grade butter in accordance with the above scores, and a "Certificate of Quality," perforated to show the date of grading by a Federal grader, may occasionally be found enclosed in the carton of butter scoring 92 or more. Or the dealer may be able to tell the score if he is asked, since he probably demanded a certain score when he bought in the wholesale market. More and more grocery stores are selling high score butter; public eating places are advertising the use of this better quality product in the preparation of their food.

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**Laws.** According to the Federal Food, Drug and Cosmetic Act, butter must contain at least 80 per cent, by weight, of milk fat,<sup>1</sup> hence the buyer need give little heed to the selling claim that a given brand is of superior merit because made of extra rich cream. All butter contains approximately the same amount of fat; quality depends upon other factors, as has been shown. Federal law permits the use of harmless coloring in butter with no statement of the fact upon the label.

**Wholesale terms.** In addition to the two classes of table butter described (dairy and creamery-made), there are four lower classes, two of which are sometimes sold for cookery purposes: packing-stock butter, usually dairy butter which has been held until so rancid that it must be re-worked; ladle butter, made by re-working dairy or other butter; process or renovated butter, made by melting, refining, and churning packing stock or other butter; grease butter, unfit for food. Although ladle and processed butter sometimes are sold for cooking, the housewife may well consider substituting a margarine, lard, or some other fat which has led a less checkered career if she cannot afford higher grades than those.

In the wholesale market, the large exchanges have defined terms which indicate quality grades and are so well-recognized that they are used in buying and selling, and in published price-quotations. Thus, the grades of the New York Mercantile Exchanges are: *extras*, 70 per cent of the lot con-

<sup>1</sup> A mandatory standard set up in the law itself by an amendment to the original act in 1923.

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forming to standards similar to those for butter of score 92 and the balance not falling below score 91; *standards*, butter manufactured in one creamery and scoring 90; *firsts*, scoring from 91 to 88 and meeting certain other specifications; *seconds*, scoring from 87 to 84 inclusive; *thirds*, a grade below seconds. These terms seldom are used in retail markets and are less helpful to the consumer buyer than numerical scores.

Butter should be kept in a covered dish in the milk compartment of the refrigerator where it will not absorb odors of other foods.

Creamery butter is sold in pound or quarter-pound prints. It also may be sold as tub butter at a price slightly lower than that charged for the print.

### MARGARINE

Margarines of two types are marketed: those made from vegetable oils, cottonseed and coconut oil being most used; those made from a mixture of vegetable oils with animal fats such as lard or oleo oil (whence comes the name "oleo-margarine"). Either type may have vitamin A concentrate added to make it more similar to butter in nutritive value. Both types are usually mixed with milk in order to give them butter flavor. Some margarines are more yellow than others; taking their color from the yellow oils they contain. A Federal tax of 10 cents a pound applies to all yellow oleomargarine regardless of how its color is derived, which means that it is rarely colored. Some manufacturers place in the margarine carton a capsule of coloring matter which the buyer may add if she wishes.

Use may determine the type and brand of margarine chosen. If to be used for cookery, as for shortening, or in sauces, margarine which is white and neutral in flavor may be as desirable as any other. If to be served as a substitute for table butter, a yellowish color is more attractive than white. Some brands may have a more pleasing flavor than others, due to ingredients used. A brand with vitamin A

## FOOD BUYING AND OUR MARKETS

added may be bought, but the buyer should ascertain whether sufficient vitamin has been used to make such margarine equal to butter in vitamin content.

### OILS FOR COOKERY

#### FRUIT AND VEGETABLE OILS

**Oils for salad.** For salad dressings, the choice usually lies between olive oil, technically classed as fruit oil, and one of the vegetable oils. Olive oil, bought for flavor, is more expensive, usually about twice as much as the vegetable oils. Hence the buyer wants to be sure of getting olive oil when she pays for it. She should read the label carefully, since addition of other oil to olive oil must be stated, or, according to the provisions of the Federal Food and Drugs Act, the product is adulterated. Although the act also provides that labels must not be misleading, the buyer should not infer that an olive oil is unblended merely because the label shows foreign scenes, or trees resembling olive trees, or other devices which might suggest olive oil. The market term *salad oil* indicates either a vegetable oil or a blend in which some olive oil is used, and should not be taken to mean pure olive oil.

**Oils for deep fat frying.** In choosing an oil for deep-fat frying, the housewife may well consider the temperatures at which the different oils decompose or "smoke." Since the acrolein produced when fat decomposes is unpleasant to smell, hurts the eyes, and makes food less palatable, she should select an oil whose smoking temperature is higher than the highest temperature at which food will be fried, or above 390° F. Approximate decomposition temperatures of fats are:

Cottonseed and corn oils .....	432° to 450° F.
Hydrogenated fats .....	426° to 450° F.
Leaf lard .....	417° to 430° F.
Olive oil .....	333° to 347° F.
Peanut oil .....	302° to 320° F.



## BUTTER, MARGARINE, AND OTHER FATS

Of the oils, therefore, the choice for deep-fat frying would lie between cottonseed and corn, and may be determined by price. Olive oil should be ruled out because of low smoking temperature, and probably because of price, as well.

**Olive oils** are imported from Mediterranean countries, and also are produced in California. California oil has a bland nutty flavor and usually is less expensive than imported oil. However, the buyer's preference, whether for a bland oil or for one having a more decided olive flavor, should be taken into account as well as price. In general, olive oil of a light-yellow color will be more bland than that having the characteristic greenish tinge. There are no government standards for grades of olive oils. Formerly the market term *virgin* or *verge* indicated oil of the first pressing, and it still is so used on labels of some brands. However, it has come to be applied so loosely that it has little meaning for buyers.

**Vegetable oils**, sold under the market names *salad oils*, or *table oils*, are most commonly from corn (maize), cottonseed, or peanuts, though some are from rapeseed or soy beans. All are bland and almost tasteless except peanut oil, which has a characteristic flavor. Choice for salad dressings, therefore, would be largely on the basis of price. For deep-fat frying, the oils of high-smoking temperature (cottonseed and corn) are preferable to peanut oil as has been seen.

All cooking oils should be kept covered in a cool dark place as they tend to become rancid when exposed to heat, air, and light.

## LARD AND OTHER SEMI-SOLID COOKING FATS

For pastry making and other cooking processes requiring shortening, the housewife may choose between three types of semi-solid fats: lard; the hardened or hydrogenated vegetable fats (sold under such brand names as Crisco); and compounds. The compound usually is the cheapest of the three. Sometimes lard is cheaper than the vegetable fats, and some-

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times more expensive, hence the buyer should watch prices.

However, price cannot be the sole guide to choice. Research has shown that different fats have different shortening powers. Recent experimental work of the American Institute of Meat Packers indicates that lard has greater shortening value than the two other types, only about 75 per cent as much lard as vegetable fat or compound being needed to give wafers of equal crispness. If 3 pounds of lard are equal in shortening power to 4 pounds of compound, then lard at 16 cents a pound would make the total shortening bill of the family no higher than compound or vegetable fat at 12 cents. Flavor should also be considered.

Leaf lard produced from the "leaves" of lard in the hog's abdomen, excluding that adhering to the intestines, is considered superior to ordinary lard because of its firmer texture, its higher-smoking temperature, and its better-keeping qualities. Other lard, from clean fat, from other parts of the hog's carcass, is somewhat softer and may have a more pronounced flavor.

Neutral lard, usually made of the "leaves" of fat, is rendered at a low temperature and is practically free from flavor and odor. Little is sold at retail, practically all being used in manufacturing margarine.

Kettle-rendered lard is heated in open steam-jacketed kettles until the oil separates from the connective tissues. Kettle-rendered leaf-lard is lighter in color and of better flavor than kettle-rendered lard from other hog fat. Dry-rendered lard is similar to kettle-rendered, but is melted in a closed container under pressure to reduce action of oxygen upon fats, and thereby preserve flavor.

Steam lard is heated in closed tanks in the presence of steam, and then bleached and deodorized to remove the dark color and strong odors developed by the steam treatment. It is made from fats less desirable than those used in kettle-rendered lards. The greater part of the commercial lard is of this type, and is less desirable to those who prefer the flavor of the kettle-rendered, and usually less expensive.

## BUTTER, MARGARINE, AND OTHER FATS

Hydrogenated vegetable fats are semi-solid fats, similar in texture and appearance to lard, made by hydrogenating cottonseed and other vegetable oils. So transformed, the fats keep better at room temperature than the oils and lard and many prefer them for shortening. They are sold under brand names, with no quality grades, with resulting wide variations in price.

Compounds are mixtures of animal fats, or of animal fats and vegetable oils. They are cheaper than the good grades of lard, but inferior in shortening value, and considered by many to be of less desirable flavor.

Although semi-solid fats deteriorate less quickly than oils, they should be stored in a cool, dry place.

Semi-solid fats are sold in "prints" or in tin containers. Weight should be ascertained and cost per pound computed.

### Questions or exercises

1. Is officially graded butter available in your market? How is the official grade indicated?
2. Ask several dealers the score according to the Department of Agriculture rating scale of the varieties they carry. Do prices vary uniformly with score? Give possible reasons for any variations discovered.
3. Have you any assurance that the butter sold in your market was produced under conditions which you consider satisfactory from the standpoint of sanitation and cleanliness? If not, how can this condition be remedied?
4. Would you suggest any changes in the rating score for butter?
5. How many varieties of margarine does your local grocer carry? What is the difference in composition? What is the price range?
6. From the consumers' standpoint, is the high tax on artificially colored margarine justified?
7. Check labels and advertisements of several brands of oils and fats used for cookery to ascertain the type of product they represent.

## FOOD BUYING AND OUR MARKETS

### SUGGESTED READINGS

Household Finance Corporation, *Dairy Products*, Better Buy-manship No. 11 (Chicago, 1938).

SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), Ch. XII.

TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 10-2.

Copies of Government standards and grades for butter can be obtained from the Agricultural Marketing Service, Washington, D. C.

## CHAPTER XXIII

### CHEESE

#### GENERAL GUIDES FOR BUYING

Every French market has its cheese merchant's stall, stocked with a variety of cheese that would be found only in a city specialty shop in this country. The stock will include hard cheese to be ground, as Gruyère; the so-called soft varieties, Brie and Camembert, on beds of clean straw or dark, cool-looking leaves; small cream cheese, called "petit suisse"; Roquefort, with its marbling of green; flat discs of Coulommiers; probably Cheddar, imported from England; Italian Gorgonzola; and numerous other kinds.

Cheese is less used in this country than abroad, perhaps because we serve more sweet desserts. Nevertheless, our markets offer an increasingly large assortment of cheeses, and the household-buyer should become acquainted with those unknown to her.

For strict economy her choice may lie between American Cheddar ("store") cheese and cottage cheese, usually the two cheapest types in the market. The housewife who can afford to pay more, however, may base her choice upon proposed use of cheese and family tastes. For such cooked dishes as macaroni and cheese or cheese soufflé, she may select American Cheddar. For sliced cheese sandwiches, she may choose from Cheddar, Swiss, Brick, or Loaf (processed), or from the firm imported cheeses as Gouda or Cheshire. For sandwich spreads, she may choose a soft unripened cheese, as cottage, cream, or Neufchâtel, easily mixed with seasonings; or she may buy a cheese spread, ready for use. For grated cheese, to sprinkle over onion

## FOOD BUYING AND OUR MARKETS

soup or to pass with spaghetti in true Italian style, she may choose a very hard Italian cheese, Parmesan or Romano; or she may buy the less expensive American cheese, ungrated or grated. Roquefort and Gorgonzola hold a unique place as additions to salad dressing. For serving with crackers to accompany the salad course, or as a dessert, with coffee, she may choose one of the more unusual types, either hard, as colorful Pineapple or Edam, or a soft, mellow, ripe cheese as Camembert, Brie, or Liederkranz. Since relatively small amounts of such highly flavored cheese are thus served "at table," the cost actually may be no more than that of many other desserts.

Imported cheese is more expensive than domestic, and the buyer should remember that many foreign types are successfully duplicated in this country. Imported cheese in its original package is marked with the name of the country where made. However, when cheese is cut, this mark may disappear, and the buyer therefore may be unable to learn without asking whether a cheese is of foreign make.

In deciding whether to buy a cheese-spread ready to use, or to make one at home, the buyer should consider cost per pound, not merely cost per package. A spread with pimiento, salad dressing or other seasonings added may cost as much as \$1.50 a pound. This high cost is due largely to special packages, as glass jars; to the added cost of packing small quantities; and to advertising. Some consumers may be willing to pay for convenience and flavor; some may prefer to save money by mixing a home-made spread.

Nutritional value, as well as price and flavor, may be a factor in cheese selection. The consumer should differentiate between whole-milk cheese and varieties made from skimmed or partially skimmed milk, especially when he is planning low-cost meals where the allowance for other dairy products is not generous. To prevent mislabeling, the United States Food and Drug Administration has drawn up definitions for certain types of cheese, specifying whether they shall be made from whole milk, and the minimum per-

## CHEESE

centage of fat which they shall contain.<sup>1</sup> Thus the definition for Brick cheese specifies that it shall be made from whole milk and contain not less than 50 per cent milk fat. If made from skimmed milk, it must be so marked, and its price should be lower than that of the richer, whole-milk cheese. However, if a cheese customarily is made from partly skimmed milk, as is Swiss cheese, that fact need not be noted on its label. Types customarily made from whole milk are: Cheddar or American, Pineapple, Limburg, Brick, Stilton, Gouda, Neufchâtel, Cream (with cream added), Roquefort, and Gorgonzola. Among these made either from whole milk or from partly skimmed milk are: Edam, Swiss, Camembert, Brie, and Parmesan.

According to Federal definition, the word "cheese" used without qualification, means American Cheddar cheese, from whole milk and containing not more than 39 per cent water and not less than 50 per cent milk fat. Other types of cheese are sold under their characteristic names, as Swiss, Roquefort, or Cream. In addition, there are in market a number of so-called "cheese-foods," which do not meet the definition of any type of cheese, hence usually sold under brand names. The buyer should realize that such products may be of lower nutritive value than cheese, although they are often higher priced.

To help the buyer choose, the best known varieties of cheese are described below, classed in three groups: *hard and semi-hard; soft, ripened; soft, unripened*, milder than the ripened. Such a classification is only relative since hardness depends upon age, degree of ripeness, and upon fat and water content which in imported cheese, not subject to government standards, may vary widely. Cheeses from each country are grouped together.

*To keep:* Wrap cheese in waxed paper to prevent loss of moisture, and keep in refrigerator. A variety with decided

<sup>1</sup> Figures given for the percentage of milk fat in cheese are for milk fat in the water-free cheese, this being the basis for fat determination.

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flavor should be placed in a closed container, on a shelf near the air outlet where other foods will not be affected by its odor.

### THE BEST KNOWN VARIETIES OF CHEESE

#### HARD AND SEMI-HARD CHEESE

**Cheddar**, sometimes called American or "store" cheese, because it constitutes about two-thirds of the cheese made in this country, is classed according to degree of flavor as: *fresh*, newly made and unripened, hence mild; *medium cured*, with a "nutty" flavor; *aged*, fully ripened with a well developed, sharp flavor. When combined with bland foods, as with macaroni, aged cheese may be preferred; for serving at table, some persons would choose mild or even fresh. To learn the degree of flavor, the buyer must ask the dealer. Deep color does not indicate strong flavor, but may be due to added coloring.

In addition to knowing the degree of flavor, the buyer should know the quality grade in order to make price comparisons. The grading score used by the United States Agricultural Marketing Service rates different qualities of Cheddar cheese as follows: flavor, 30; body and texture, 40; finish and appearance, 20; color, 10; total points, 100. The quality rating of cheese is seldom given in the retail market, but the housewife should learn the characteristics of the better grades of cheese as described below.

Cheese scoring 95 and above, *U. S. Extra Fancy*, mild or aged, is of very fine, clean, highly pleasing flavor, with an agreeable aroma; is free from gas holes; is smooth and waxy in body; is of perfect shape; is free from cracks and mold; is uncolored, or medium colored with color uniform.

Cheese scoring 92 to 94 inclusive, *U. S. Fancy*, fresh, mild, or aged; has a clean and desirable flavor; is practically free from "Swiss holes"; if fresh, is of good body; if aged, is smooth and meaty; is of uniform shape, with a dry closed surface, free from cracks and fairly free from mold. Slight defects in color are allowed.



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Cheese scoring 89 to 91 inclusive, *U. S. No. 1*, fresh, mild or aged, has good flavor, though "cowy," "barny," "weedy," or "heated" flavors are permitted if only slightly objectionable; if fresh, has a fairly good body, and if aged is fairly meaty and smooth; is practically free from "pin holes," but may show a few "Swiss holes"; has a sound, dry surface, reasonably free from mold. High color is permitted in this grade, but it must be fairly uniform with only slight waviness.

Cheese scoring 86 to 88 inclusive, *U. S. No. 2*, has fair flavor, but "barny," "cowy," "slightly developed acidity" or "bitter" flavors are permitted to the extent that they are not distinctly disagreeable; has a reasonably good body if fresh, and is reasonably meaty and smooth if aged; may show pin holes, but must not be spongy or gassy; may have a slightly crumbly or pasty texture; has a reasonably smooth surface, reasonably sound, without open cracks or soft rot spots. It may be highly colored, and color may be slightly mottled or streaked.

Below these grades are: *U. S. No. 3*, cheese scoring 83 to 85 inclusive, which may have "off" flavors, disagreeable to taste and smell, and may have open cracks in the rind and soft rot spots; *Culls*, scoring below 83, having pronounced "off" flavors which are very disagreeable, showing spongy or gassy texture, and perhaps soft rot spots in rind.

In the wholesale market Cheddar cheese is found in the following sizes, under the names given:

Style or name	Weight Pounds	Diameter Inches	Height Inches
Cheddar .....	60-100	14-16	12
Flats (single or twin) .....	30- 40	14-16	5½
Daisies (single, double or triple) .....	20	12	4
Young Americas .....	8- 12	8	7
Long Horns .....	12	5	12
Squares .....		.....	3-4

English Dairy cheese, now made in this country, has a sharp flavor which makes it popular for Welsh rarebits,

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and for other culinary purposes. It is similar to American Cheddar but harder, hence it grates well, and may be substituted for the more expensive Parmesan cheese for sprinkling over spaghetti or onion soup.

**Loaf or Process cheese.** Cheddar or cheese of other types may be ground, treated with an emulsifier, heated until creamy and then molded, usually in rectangular loaves. Such cheese is popular because of its excellent keeping qualities, its smooth texture, and its convenient form. A slice is the right shape and size for a sandwich. In addition many persons like the specially flavored loaves, as the pimiento. Since this loaf cheese is more expensive than untreated Cheddar, sometimes costing twice as much per pound, the buyer should consider whether it is worth the added expense, especially if to be used for cooking.

The term "blended" on the label of process cheese means that two or more lots of cheese, perhaps of different degrees of flavor, have been mixed together. The term "pasteurized" means that the heating process has reduced the bacterial content to a minimum. According to Federal definition, under the Food and Drugs Act, processed Cheddar cheese contains not more than 40 per cent water and not less than 50 per cent milk fat. There are no regulations as to the kind or quality of cheese used.

Cheeses other than Cheddar, successfully made into loaves, are Swiss, Brick, Camembert, and Limburg.

A "loaf" may be had in different weights ranging from from  $\frac{1}{2}$  to 5 pounds.

**Pineapple** cheese takes its name from its shape; it is cured in a string net which marks it into sections resembling those of a pineapple. During ripening it is rubbed with oil so that the surface is smooth, hard, and bright yellow. It is similar to Cheddar cheese, but harder. When properly labeled according to standards set by the Food and Drug Administration, it is made from whole milk and contains not less than 50 per cent of milk fat.

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"Pineapples" are made in various sizes weighing up to 6 pounds.

Domestic Swiss cheese, Emmenthaler from Switzerland, and Gruyère from France are similar, all being characterized by large holes or "eyes" developed during ripening. All have a mild, sweet, nutty flavor, and a golden yellow color. According to Food and Drug Administration standards, Swiss cheese is from whole or partially skimmed milk and must contain at least 45 per cent of milk fat.

Swiss cheese is made in "cart wheels" weighing 60 to 220 pounds, or in blocks about 8 inches square and 28 inches long, weighing 25 to 28 pounds.

Cheshire cheese from Chester County, England, is colored a deep yellow with annatto and is aged until it has a sharp flavor. Formerly it was molded in the shape of the Cheshire cat; now it is of prosaic cylindrical shape. It is made from whole milk.

A cheese is 14 to 16 inches in diameter and weighs 50 to 70 pounds.

Stilton, the English member of the Roquefort family, has a greenish blue marbling, and is less salty than its French relative. It has a wrinkled or ridged rind and is cylindrical in shape. In England, for special occasions, holes are often bored in a Stilton and filled with port or ale, and the cheese ripened until permeated by the flavor of the liquor. Stilton is made of whole milk, the best having cream added. Domestic Stilton is now found in our markets.

A cheese is about 7 inches in diameter, 9 inches high and weighs 12 to 15 pounds.

Roquefort cheese, originally from France, is characterized by streaks of greenish mold through its interior. It is salty, of pronounced flavor, and, when well ripened, soft enough to spread with pressure. If dry and hard, it usually is under-ripe. French Roquefort is made from curd of

## FOOD BUYING AND OUR MARKETS

sheep's milk to which bread crumbs inoculated with a special mold have been added. Domestic Roquefort may now be made from cow's milk, but such cheese differs in flavor from the imported. The label need not state that it is domestic.

A cheese is drum-shaped and weighs 4 to 5 pounds.

**Gorgonzola**, an Italian cheese resembling Roquefort, is streaked with blue instead of green mold, and is somewhat firmer in texture. It is made from whole cow's milk.

A cheese weighs 15 to 20 pounds.

**Caciocavallo** cheese, commonly shaped like a squat bottle with a short neck, is often seen hanging in the window of the Italian grocer's shop. It is lightly smoked to give flavor, hence has a brownish exterior, but the interior is light yellow. The Italians sometimes eat it fresh, but that sold in this country is cured and hard and is used in much the same way as Parmesan, though less prized and cheaper. It is made from whole or partly skimmed milk.

A cheese usually weighs about 3 pounds but may weigh as much as 9.

**Parmesan** cheese, from Italy, is known there as Grana, or granular, because it is so hard that it cannot be cut but must be broken, and therefore lacks the smooth appearance of a cut cheese. The Italians recognize two distinct types, the Reggiano or Reggiano, and the less desired Lodigiano. To an Italian no cheese equals Parmesan for serving grated on soup or macaroni. It has a mild but characteristic flavor, and a rich yellow color. Its excellent keeping qualities are due to its hardness, its long period of curing, and its relatively low fat content, since it is made from partly skimmed milk. The surface of the cured cheese may be colored dark-green or black. This cheese is very expensive; it costs more if bought grated, in bottles, than if bought ungrated.

A cheese may be 18 or more inches in diameter.

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**Pecorino** cheese, one variety of which is called *Romano*, is another hard Italian cheese, made from sheep's milk. It is of close granular texture and is white or greenish gray, but is darkened on the outside as is Parmesan.

A cheese may weigh 2 to 25 pounds.

**Provolo** and the smaller **Provoloni** cheese, from Italy, are similar to Caciocavallo in flavor, texture, and color, but usually are oval or round. A cheese often is sold in the string net in which it hung during curing.

A Provoloni cheese weighs about 2 pounds; a Provolo, 4 to 6.

**Edam** cheese, from Holland, is a bright red ball, flattened at top and bottom. The harmless outer coloring does not penetrate the interior which is rich yellow, of close texture, and of well-developed flavor. Imported cheese bears the Dutch government mark showing fat content, as does Gouda. As defined by the Food and Drug Administration, Edam cheese may be from whole or partly skimmed milk. This cheese may be served whole, the top being cut off and cheese scooped from the shell as desired. Between meals the top should be replaced to keep cheese moist.

A cheese weighs about 4 pounds.

**Gouda** cheese, from Holland, has a mild flavor and close texture. It is made in flat discs with rounded edges, the rind often being stained yellow but sometimes red. According to Federal standards it is made from whole milk and contains not less than 45 per cent of milk fat. Dutch government regulations provide that the fat content shall be marked on each cheese. Thus, "45" indicates that percentage of milk fat. Cheese of Gouda type made from skimmed milk must be so marked when sold in this country.

A cheese usually weighs from 6½ to 44 pounds although "Baby" Goudas weighing approximately 1 pound are also on the market.

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**Leyden** or **Spiced Leyden** cheese, from Holland, is characterized by the cumin seed and cloves added for flavor, and by its reddish exterior and disc shape. Fat content varies from 20 to 35 per cent.

A cheese weighs about 25 pounds.

**Sapsago** cheese, from Switzerland, is green throughout, being colored by dried leaves of a clover-like plant, which give it a spicy flavor. Being very hard, it is excellent for grating. It is made of skimmed milk.

A cheese weighs about 4 ounces and is shaped like a truncated cone, about 4 inches high and 3 inches in diameter at the base.

**Gjedost** cheese, from Norway, made from goats' milk, is deep brown, almost the color of gingerbread, hard, and much sweeter than any American cheese.

**Mysost**, locally known as **Primost** cheese, from the Scandinavian countries, sometimes is called "brown sugar cheese" by tourists because of its brown color and its mild sweet taste. Being made from whey, it is not cheese in the true sense of the word. It is often sold molded in small cylinders, wrapped in tin foil.

### SOFT CHEESE RIPENED

**Brick** cheese has a sweetish flavor similar to that of Swiss, but stronger, hence its popularity in dark-bread sandwiches where a mild flavor might not be noticed. It has many small eyes, and is softer than Swiss cheese. According to Federal standards it is made of whole milk and contains at least 50 per cent of milk fat. As its name indicates, it is molded in brick-shaped loaves.

A brick is about 10 by 6 by 3 inches in size.

**Münster** cheese, from Germany, is pale yellow, stronger flavored than Brick, but less strong than Limburg. Sometimes it is seasoned with anise or caraway seed. It is made from whole milk and is drum shaped.

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**Limburg** cheese originally came from Belgium, but now this country supplies our market. Well cured, it is soft, with a strong taste and odor. According to Federal standards it is made of whole milk and contains at least 50 per cent milk fat.

A cheese is about 6 by 6 by 3 inches in size, and weighs about 2 pounds.

**Liederkranz** cheese, made in this country, is ripened by a special mold until it is soft; it has pronounced flavor and an odor somewhat like that of Limburg.

A cake, sold wrapped in tin foil, is  $1\frac{1}{2}$  by  $2\frac{1}{2}$  by 1 inch in size.

**Brie**, one of the best known of the soft French cheeses, is somewhat like Camembert in consistency though less yellow, and has a more pronounced flavor and odor. The outside is colored red by a mold, but, according to the French, a perfect Brie "should be neither too red, too blue, nor too white, but a mixture of these three colors." According to Federal standards Brie may be made of whole milk, with or without added cream, or of partly skimmed milk. The discs vary in size but are larger than the Camembert.

A cheese may be 6 to 15 inches in diameter, and 2 to 3 inches thick.

**Camembert** is probably the most popular of the dessert cheeses of France. The rind is thick and reddish yellow; the interior, yellow, waxy, and almost liquid, with a piquant flavor. Because it is so soft, it usually is shipped and sold in wooden boxes. According to Federal standards it is made of whole or slightly skimmed milk, and contains a minimum of 45 per cent milk fat.

A cheese is disc-shaped, about  $4\frac{1}{2}$  inches in diameter, and  $\frac{3}{4}$  to 1 inch thick.

**Livarot** cheese is similar to Camembert but stronger in flavor. It is made from partly skimmed milk.

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A cheese is drum-shaped, about 6 inches in diameter.

**Pont l'Évêque** cheese, from France, is similar in texture and flavor to Brie, but is made in small squares rather than discs. The best is made from whole milk with cream added, but some is made from whole milk alone, and some from skimmed.

A cheese is about  $4\frac{1}{2}$  inches square and  $1\frac{1}{4}$  inches thick.

**Port du Salut** cheese, made by Trappist monks of France by a secret process, now is made in Canada by the same order and is called *Oka* cheese, taking its name from that monastery. Its mild nutty flavor is appreciated by persons who do not like stronger cheese, yet want something unusual for dessert. The rind is firm; the interior is pale yellow and soft enough to spread readily, though less soft than Brie. It is a whole milk cheese.

A cheese is disc-shaped, 7 to 10 inches in diameter:

**Trappist** cheese, made by the Trappist monks in the monastery of Mariastern in Bosnia, is similar if not identical with the French Port du Salut. It is sold in Austria and Hungary.

A cheese may be 6 to 9 inches in diameter and weigh 2 to 10 pounds.

**Hand** cheese, from Germany, made of a mixture of skimmed milk and buttermilk, is so named because originally it was shaped by hand. It is very sharp and pungent, its flavor sometimes being heightened by the addition of caraway seeds. It is made in a wide variety of shapes and sizes and has different names in different localities, being known as *Bierkäse*, and *Kuhkäse*.

**Gammelost** cheese, from Norway, is made from sour milk and is stronger in flavor than our Cheddar cheese.

A cheese may weigh 24 to 65 pounds.



# CHEESE

## SOFT CHEESE UNRIPENED

**Cream** cheese, of soft velvety texture, is made from cream or a mixture of milk and cream; thickened with rennet or by souring. According to Federal standards it must contain not less than 65 per cent of milk fat. Usually it is sold in small rectangular cakes, wrapped in tin foil; but it may be had in loaves weighing 3 to 5 pounds, packed in boxes.

A cake weighs 3 to 4 ounces.

**Cottage** cheese, called **Schmierkäse** or **Dutch** cheese, is made from sour skimmed milk. Sometimes the curds are mixed with sweet cream.

Cottage cheese is sold by measure or by weight.

**Neufchâtel** cheese, originally from France but now widely made in this country, resembles cream cheese in appearance but is a little less smooth in texture and has a lower fat content, Federal standards providing that it contain a minimum of 50 per cent of milk fat. Usually it is molded in small cylinders which are sold wrapped in tin foil.

A cylinder weighs  $2\frac{1}{2}$  to 3 ounces.

**Petit suisse** cheese, made in France, is much like our cream cheese but is softer and smoother. A "petit suisse," covered with currant jelly, is a popular French dessert. This cheese is sold in small cylindrical shapes wrapped in paper.

## Questions or exercises

1. What varieties of cheese are available in your local market? How does the range of choice compare with the possibilities mentioned in the chapter?
2. How many of the varieties of cheese available are imported? What is the price range? How much difference in price exists between an imported cheese and a domestic cheese of the same type?

## FOOD BUYING AND OUR MARKETS

3. What useful information can be obtained from labels on cheese?
4. To what minimum standards must products labeled "cheese" conform? Are there similar standards for cheese foods sold under trade names?
5. How do you explain the low per capita consumption of cheese in the United States?

### SUGGESTED READINGS

- DOANE, C. F., LAWSON, H. W., and MATHESON, K. J., *Varieties of Cheese*, U. S. Department of Agriculture, Bulletin No. 608 (Washington, 1932).
- FRYHOFFER, C. W., and POTTS, Roy C., *Handbook for Use in the Inspection of Whole-Milk American Cheese under the Food Products Inspection Law*, U. S. Department of Agriculture, Circular 157 (Washington, 1932).
- SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), pp. 111-37.
- TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 20-5.
- U. S. Department of Agriculture, *Definitions and Standards for Food Products*, Service and Regulatory Announcements, Food and Drug No. 2, Rev. 5 (Washington).

## CHAPTER XXIV

### MISCELLANEOUS STAPLES

#### GENERAL GUIDES FOR BUYING

"Read the label" is the most important rule for efficient buying of the staple foods discussed below. These products usually are processed in large factories, packaged, and distributed through interstate commerce, hence their labels must conform to provisions of the Federal Food, Drug and Cosmetic Act. Moreover, the majority of states have enacted laws similar to the Federal, so that even locally distributed packaged foods usually are subject to some labeling regulations.

The label will give varied information, some required by law, some optional. Since the Federal law prohibits misbranding, "The label tells the truth."<sup>1</sup> However, it must be read carefully and interpreted in the light of Federal standards, if it is to be of maximum help. Most labels give the following facts:

1. Quantity—weight, measure, or count—of the food in the package.

2. Name of the food. The food so named must conform in kind and quality to the legal standard if one has been set. Thus if in the established standard of identity vinegar is defined as the fermented juice of apples with a specific acetic acid content, the buyer will have some information as to the flavor and strength of a product labeled "vinegar."

A manufacturer whose product does not have the qualities specified in the definition may give it a distinctive name.

<sup>1</sup> For a more complete discussion of the protection given by the Federal Food, Drug and Cosmetic Act see pp. 165-72.

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The label of this product must bear a statement of the ingredients in order of their importance if otherwise the label would be deceptive.

3. Whether a product is an imitation—as whether a flavoring is genuine vanilla or “imitation”—and the principal ingredients.

4. Whether a product is a mixture or blend—as whether syrup is pure maple, or a blend of maple and cane.

5. Addition of certain preservatives other than condiments.

6. Addition of artificial flavoring and coloring.

7. Market terms telling something as to qualities of a food, as Orange Pekoe tea.

8. Brand name which enables buyer to identify a food found satisfactory.

**Other suggestions for buying.** Although the staples described below are commonly sold packaged, some may be bought in bulk, often at a lower cost. Sanitary conditions of handling and probable protection given by the package against deterioration of the food should be considered, when deciding whether to buy bulk or packaged products.

Since many staples keep well, the buyer may save by purchasing in as large quantities as she can conveniently store. Thus, it was found that a pound of cocoa bought in five containers of 3 1/5 ounces each cost twice as much as the same amount in a single container. Relative costs should be figured carefully.<sup>1</sup>

### GUIDES FOR BUYING SPECIFIC FOODS

#### BEVERAGES

**Coffee.** Practically all coffee sold at retail is blended from different varieties of beans to give it flavor and body. The coffee merchant keeps secret his blend formula and the length of time of roasting, which together give his product a distinctive flavor. The housewife, therefore, has no oppor-

<sup>1</sup> See Chapter XII for additional suggestions as to purchasing staples.

## MISCELLANEOUS STAPLES

tunity to buy coffee by grade and is seldom told the varieties of beans used or the degree of roast. She must choose from many brands one which is satisfactory in flavor and price. She should seek the type of grind best suited to her method of making coffee. Since coffee loses freshness and develops a stale flavor soon after roasting if in contact with the air, she should also consider the method of packing to retain flavor.

Three types of grinding are in general use: pulverized, very fine, for making drip coffee in special pots; percolator ground, a little coarser, for use in percolators; medium ground, for boiled coffee. The medium ground is sometimes called "steel cut," but all grinds may be cut with special steel rollers. The most efficient grind is the pulverized, which permits water quickly to extract the most desirable flavors and aroma. Studies made at the Massachusetts Institute of Technology<sup>1</sup> indicate that one pound of pulverized coffee produces a beverage of practically the same strength as one and two-thirds pounds, coarsely ground. In addition, the flavor of the drink from the coarsely ground is less desirable since the longer cooking, necessary to extract the flavor-giving substances, causes loss of aroma and the extraction of some bitter constituents of the bean. The pulverized grind is not suitable for making boiled coffee because it mats when boiled. Apparently the housewife wishing to buy the more efficient pulverized coffee may have to replace the old-fashioned coffee pot with one which will brew coffee instead of boiling it.

Coffee may be vacuum-packed, put up in sealed tins, or in waxed paper bags, or sold in bulk. To evaluate these types of packing, the housewife should understand the problem of the deterioration of coffee. According to research by Dr. Walter H. Eddy and Dr. Percy W. Punnett of Teachers College, roasted coffee shows deterioration of two sorts when in contact with air: (1) loss of fresh flavor, due to loss of volatile aromatic constituents which are dissipated

<sup>1</sup> Helen Louise Johnson, *Scientific Coffee Brewing*, pp. 21-7.

## FOOD BUYING AND OUR MARKETS

as carbon dioxide is lost from coffee; (2) development of a new undesirable flavor, that of "staleness," caused by the oxidation of certain substances. Both changes occur whether coffee is in the bean or ground. Nine days after roasting, they found, ground coffee in slip-cover cans retained only 55 per cent of freshness, and coffee beans in the same type of can retained 70 per cent, a somewhat higher proportion, but scarcely enough to make home grinding worth while. After the tenth day, loss of freshness continued and development of staleness began also, especially in the ground coffee. Twenty-six days after roasting, the ground coffee was 80 per cent stale and that in the bean 18 per cent stale. Buying coffee in the bean, therefore, delays the date of staleness, but does not prevent the loss of freshness.

The housewife should note that the changes occur even when the coffee is in a covered can. To retain full flavor, therefore, two things must be done: volatile constituents must be kept from escaping, and air (oxygen) must be excluded. To fulfill these conditions, Eddy and Punnett advocate vacuum packing, saying:

A gas tight container, then, seems to be our only means of holding the flavor of coffee over a considerable period of time. The high pressure exerted by the escaping gases makes a hermetically sealed container impractical unless it is much stronger than ordinary tin cans. Vacuum packing permits the use of ordinary tin plate by compensating for the inevitable pressure with an initial vacuum. Furthermore, it fulfills the second condition for the preservation of flavor by removing over 90 per cent of the oxygen which otherwise would be in the can. It is one practical method of holding coffee without loss of flavor. Until another type of container is evolved of equal potency in gas retention, the only other protection against stale coffee seems to be close proximity of consumer and roasting plant, and the quickest possible distribution.<sup>1</sup>

<sup>1</sup> Percy W. Punnett and Walter H. Eddy, "What Flavor Measurement Reveals about Keeping Coffee Fresh," *Food Industries*, II (1930), 401-04.

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In this last connection, dated coffee is now being advertised. The housewife should ascertain, however, whether the date on a coffee label is that of roasting, or merely of removing the can from the warehouse. Obviously, the latter date would mean little.

After opening, vacuum-packed coffee loses freshness at the same rate as freshly roasted coffee exposed to the air. Keeping the can covered retards loss of freshness somewhat, but not much. The consumer, who wishes to get her money's worth of coffee flavor, therefore, will choose a vacuum-packed blend unless she is sure that coffee packed otherwise is freshly roasted, and will buy a quantity no larger than can be used quickly, once opened.

Classified on the basis of degree of roasting, coffees are of three types: light, of a cinnamon brown color; medium, a deep chestnut, the roast most used in this country; and high or dark, oily and chocolate brown, but not scorched, popular in some southern markets.

Varieties of coffee include: *Coffee Arabica*, both *Mocha* and *Java*. Mocha is produced in Arabia, the finest in Yemen province. Being tree-ripened, it is of superior fragrance and flavor. Java is of the same variety, but grown in Java. Since only limited quantities of these coffees are produced, they are expensive. *Brazilian* coffee, constituting almost two-thirds of that imported into this country, includes *Rio*, of heavy body and pungent flavor, often used to add body to blends; *Santos*, a milder flavor; *Bourbon Santos*, having a so-called vinous or acid flavor. Other South American varieties are: *Bogotá*, choice grades of which are of superior flavor; and *Maracaibo*.

Regulations of the Federal Food and Drug Administration prohibit the addition of chicory or any cereal product to coffee unless such additions are stated on the label. When varieties in a coffee blend are stated, the predominating one must be named first. A coffee cannot be called a Mocha blend unless Mocha predominates.

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One pound of coffee measures  $4\frac{3}{4}$  cups and makes approximately 50 servings of ordinary strength.

**Tea.** Here is another opportunity to be a connoisseur, so great is the range of choice in buying tea, and so many the fine points to be considered. To begin with, one may choose from three types of tea: *black*, made of fully fermented tea leaves; *green*, unfermented; and *Oolong*, semi-fermented. The choice of type is purely a matter of personal taste. In this country the preference in cities is for black tea, and for green in the rural areas.

In the second place, one may choose tea according to the country of its production. Tea is imported from seven countries: Japan, China, Formosa, India, Ceylon, Java, and Sumatra. A person who likes black tea may prefer either the mild flavor of a tea from one of the northern provinces of China, or a pungent "heavy" tea from the Darjeeling district of India, or choice may range between these two extremes.

The third opportunity for choice is among different grades or market classes of tea. Nearly every type of tea is packed for market in three or four different grades or classifications, or, where very particular grading is done, in as many as six or eight. Some of the classifying is according to the size of the tea leaf used, the more tender leaves at the tip of the branch, with a more delicate flavor, being used in the higher grade tea. But market classification, as will be seen below, is by no means as simple as that since it also is based on season, altitude of tea garden, and customs of the countries. Tea experts complain (or boast) that they have to know the basic thoughts of all the tea-producing countries to understand the varying factors that determine their method of tea classification.

Time of picking tea is an important quality factor in China and Japan, where leaves are more tender and delicate early in the season than later, and "first tea crop" on a label indicates delicacy of flavor. In Java, tea of the best flavor



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is obtained after the rainy season. In India, tea grown in the hills is darker and more pungent than that grown on the plains.

"Jasmine scented" tea, or teas scented with other flowers, are occasionally found in the market. They may or may not be teas of the better grades.

Black tea comes from India, Ceylon, Java, Sumatra (these countries produce black tea only), and from China. That from India is distinguished by strong and pungent flavor and "heavy" body. Tea from the Darjeeling district in the Himalaya Mountains is considered of specially fine flavor. Black tea from Ceylon is distinguished by sweetness, and that from China by mildness and lightness.

The tea from India, Ceylon, and Java is graded according to the size of the leaf, as follows: (1) *Flowery Orange Pekoe*, from the small leaf-bud at the tip of the branch; (2) *Orange Pekoe*, the second leaf; (3) *Pekoe*, the next larger leaf; (4) *Souchong*. Occasionally there is another grade, *Pekoe Souchong*, between *Pekoe* and *Souchong*. In these teas the term "Flowery" does not mean flower-scented.

China black teas are sold under trade names, some of which mean China black tea in general, while others indicate the locality of the production. The term *Congou*, a corruption of a Chinese term meaning "laborious" and referring to the labor of preparing black tea for the market, may be applied to any black tea from China. Similarly, the term *English Breakfast* may be used for any Chinese black tea. Other terms indicating districts include *Moning*, *Kee-mun*, and *Ichang*, all of which indicate North China *Congous* of high quality. These teas from the northern provinces develop a low percentage of tannin in the brewing.

Green tea is produced in China and Japan, the milder flavored coming from the former country. The label, "Japan Tea," always indicates green, no other being produced there.

Chinese green teas named for districts and graded according to beverage quality include: *Moyunes*; *Tienkais*; *Hoochow*s; and *Pingsueys*. Classed according to the size

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of the leaf and the way it is rolled, Chinese green teas are known as: *First* or *Pinhead Gunpowder*, small leaves tightly rolled; *Second Gunpowder*, leaves of the next size, rolled in balls; *Imperial*, large leaves, loosely rolled; *Young Hyson*, leaves smaller than Imperial, rolled in long twist; *Hyson*, leaves similar in size to Imperial, but rolled in twist.

Green tea from Japan is classed according to the method of firing: (1) *Basket-fired*, the long olive-green leaves being dried in bamboo baskets over charcoal and stirred by hand; (2) *Pan-fired*, dried in iron or copper pans with less labor cost; (3) *Natural leaf*, usually pan-fired at the field, containing leaves of various sizes. Basket-fired is considered of superior flavor, although larger leaves are used because more suitable for the process.

Oolong tea comes for the most part from Formosa, though China produces a small amount. The *Formosa Oolong* is superior in flavor. It is graded as (1) *Fancy*, (2) *Choice*, (3) *Finest* or *Fine*, (4) *Medium*, or *Common*, (5) *Cargo* or *Standard*. The grading is based partly on time of picking, the second crop or *Early Summer* producing the highest grades; the *Spring*, common to fine; and *Autumn*, the lower only. It is seldom labeled for grade in American retail markets.

*Blended* teas are of two types: first, blends made by experts in teas from different localities or having different characteristics, to give just the right amount of body and flavor; second, teas of different grades, as that labeled "Pekoe and Orange Pekoe." If the label fails to indicate the proportions in which the higher and lower grades are combined, the buyer has little idea of the qualities of the tea.

Since all of our tea is imported, it comes under the provisions of the Federal Import Tea Act, which provides for a board of experts to set standards each year for the tea which may be brought into this country. These standards provide that tea shall be free from impurities, reasonably free from stems, tea dust, and broken bits of leaves, and shall come up to the standard set for strength of brew.

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Any use of artificial coloring is prohibited. Government regulations also provide against misbranding, so that the buyer may depend on the truth of the label.

Tea deteriorates and therefore should be bought in small quantities and kept in air-tight containers.

One pound of tea makes 150 cups (strong) to 300 cups (weak), hence the difference in cost per cup of tea of high and low grade is not great.

**Cocoa and chocolate.** Neither cocoa nor chocolate is sold according to grades though both show considerable range of qualities. Choice must be made among brands, according to flavor and price. Both cocoa and chocolate are made from the cacao bean, the only difference in content being that chocolate contains more cacao fat (cocoa butter) and therefore costs more per pound. As cacao fat is expensive and adds little to flavor, the housewife should decide whether she wishes to pay the higher price of chocolate, or to buy cocoa and perhaps add cooking fat if the additional richness is needed. In buying sweetened products and those to which malted milk has been added, it is well to consider whether they may be mixed at home more cheaply.

*Chocolate.* Definitions of the Federal Food and Drug Administration provide that all chocolate must contain 50 per cent of cacao fat, and not more than 7 per cent crude fiber, whether labeled as *chocolate*, *plain chocolate*, *bitter chocolate*, *chocolate liquor*, or *bitter chocolate coating*. *Sweet chocolate* and *sweet chocolate coating* must meet the same requirements as chocolate, but have sugar and/or dextrose and flavorings added. *Milk chocolate* or *sweet milk chocolate* must contain at least 12 per cent of milk solids. There is no standard for the amount of sugar which may be added.

The buyer should note whether a mixture to be used in home-made beverages is *chocolate malted milk*, which must meet the requirements for malted milk, or whether it is *malted milk chocolate*, which must conform to standards

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for milk chocolate (see above). *Malt, milk, and chocolate* is still different, being made of dry (not malted) milk with malt and ground chocolate added.

*Cocoa* is chocolate from which some of the cacao fat has been removed, and which has been pulverized. If it is labeled *cocoa* there is no definite requirement for the amount of fat content, but *breakfast cocoa* must contain not less than 22 per cent. *Sweet cocoa* or *sweetened cocoa* may contain as much as 65 per cent of sugar. *Sweet milk cocoa* must contain at least 12 per cent of milk solids.

The term *Dutch-process* or *alkalized* applied to either cocoa or chocolate indicates the use of an alkaline substance to give greater solubility. Such cocoa or chocolate has a darker color, and so an appearance of greater richness than the usual types, but has no more food value.

One pound of cocoa measures approximately 4 cups, or 64 tablespoons. It will make 64 servings of strong cocoa, one level tablespoonful to a serving.

One pound of chocolate (2 half-pound cakes) is divided into sixteen one-ounce squares. Each square makes 4 tablespoons grated. For 1 ounce of chocolate substitute 3 tablespoons of breakfast cocoa and  $2/3$  tablespoon of cooking fat.

**Fruit juices and other fruit beverages.** *Fruit juice*, according to the definition of the Federal Food and Drug Administration, is "the unfermented liquid obtained from the first pressing of sound, ripe, fresh fruit or its pulp, and conforms in name to the fruit from which it is obtained." Sugar for sweetening is permitted, but no water may be added. Therefore, when choosing between products of the same sort, as different brands of grape juice, at different prices, the buyer need have no fear that a cheaper brand has water added. The difference in price is due to other factors. *Fruit ades*, defined as fruit juices to which sugar and water have been added, are rarely bottled.

So-called *fruit beverages* should not be confused with pure fruit juices as they contain only small amounts of fruit

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juice, having other cheaper ingredients added, as tartaric and citric acid and artificial flavorings. The presence of these ingredients must be shown on the label. Tartaric or citric acid may be indicated by the words "fruit acid." These beverages should be cheaper than those containing more fruit juice.

The terms "sparkling" or "carbonated" indicate that the beverage is made with carbonated water.

Other bottled soft drinks, as *ginger ale*, *root beer*, *birch beer*, *sarsaparilla* and other so-called "pops" are made from syrup, sweetened with sugar and dextrose, carbonated water, and small amounts of true fruit or other flavorings. If artificial color has been added or if they are flavored with synthetic flavors, these facts must be stated on the label. Use of saccharine in such beverages is prohibited if they are shipped in interstate commerce, but is permitted in some states if declared on the label. Ginger ale must, by definition, contain ginger flavoring. Caramel may be added for color, and capsicum or red pepper for pungency. The latter, if present, is indicated on the label.

Sarsaparilla is flavored with oil of sassafras and methyl salicylate (or oil of wintergreen or oil of sweet birch), and may contain other aromatic substances and caramel color. Root beer and birch beer contain practically the same flavoring ingredients as sarsaparilla. Vanilla, tonka, vanillin, or coumarin, singly or in combination, are used to flavor *cream soda*.

### CONDIMENTS

**Flavorings** may be grouped in three general classes: (1) *extracts*, in which the flavoring element is dissolved in a solution of alcohol; (2) *non-alcoholic flavors*, in which it is mixed with some non-alcoholic substance, as with oil or gum to form an emulsion, with sugar to form a powder, or with liquid or syrup; (3) *essential oils*, or basic flavoring elements, which are sold as such, usually in drug stores. Ex-

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tracts are the most commonly used, but non-alcoholic flavors and oils sometimes are equally desirable.

Flavoring elements according to the definition of the Federal Food and Drug Administration, are "derived from aromatic plants and from fruit and flowers of plants," hence the synthetic flavors from coal-tar products are not classed as true flavors, but as imitations. The label on a flavoring product must be true to the name of the plant from which the flavor is derived, and the addition of any synthetic flavor must be noted. The housewife should read labels to make sure that she is not given a cheaper synthetic product when she pays the price of a more expensive true flavor, or that the product is not otherwise diluted. Standards established by Federal definitions are given below.

An extract contains a specified amount of the flavoring element for which it is named dissolved in alcohol of specified strength. There are no grades, so that devices or statements, as triple X, which seem to indicate strength greater than Government requirements, have little meaning. Imitation extracts are solutions of synthetic products, giving flavors similar to genuine products. Compound extracts are those containing a mixture of true and synthetic flavors. The predominating flavor should be stated first on the label. Thus, a product labeled as "Vanilla and Vanillin" would have more of true vanilla flavor than one labeled "Vanillin and Vanilla."

*Vanilla* extract is made from the vanilla bean. The flavor is imitated in vanillin, a product made from oil of cloves or coal tar, and in coumarin. The addition of these synthetic flavors must be declared on the label. They are cheaper than vanilla, and extracts containing them should be lower in price.

*Lemon* extract is made from oil of lemon, derived from lemon peeling. Imitations may contain extract from a grass grown in India, called lemon grass or citral.

Flavorings from lemons and other citrus fruits sometimes are sold as *terpeneless* extracts. By eliminating certain con-

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stituents (the terpenes), the manufacturer can dissolve the essential oils of the fruits in a more dilute solution of alcohol than could be used for a standard extract.

Non-alcoholic flavorings are dissolved in oils, glycerin, or other non-alcoholic solvents. The special solvent used need not be stated on the label but this is sometimes done, as in the case of emulsions, where the oil or gum used is named. Any of these products must be true to name, and the addition of synthetic flavors must be stated. The true fruit flavors are made from the concentrated flavoring from fruits.

Essential oils must be pure if so labeled, and the addition of any other oil must be noted. Those most commonly used by the housewife are oil of peppermint and oil of wintergreen, bought for candy making because a concentrated flavoring is desired.

Federal advisory standards are established for volatile oils and extracts of the following: almond, anise, celery seed, cassia, cinnamon, clove, ginger, lemon, nutmeg, orange, peppermint, rose, savory, spearmint, star anise, sweet basil, sweet marjoram, thyme, tonka, vanilla, and wintergreen.

One fluid ounce of extract contains 8 drams and measures 6 teaspoons.

**Spices** are "aromatic vegetable substances, used for the seasoning of food. They are true to name, and from them no portion of volatile or other flavoring principle has been removed," according to the Federal Food and Drugs Administration. Since spices lose flavor rapidly, they should be bought in quantities small enough to be used quickly. Ordinarily they may be bought in one- or two-ounce containers, the two ounces costing only about as much as one and one-half ounces in the smaller container. However, for the ordinary family, the small amount is usually all that can be used before the flavor deteriorates. Spices should be bought and kept in air-tight containers.

Advisory standards have been set for each of the following: allspice, anise, bay leaves, capers, caraway seed, carda-

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mon, cardamon seed, red pepper, cayenne pepper, paprika, Hungarian paprika, pimenton or Spanish paprika, celery seed, cinnamon, Ceylon cinnamon, Saigon cinnamon, cloves, coriander, cumin seed, dill seed, fennel seed, ginger, Jamaica ginger, limed ginger, horseradish, mace, marjoram, mustard seed, mustard flour, nutmeg, paradise seed, parsley, black pepper, white pepper, saffron, sage, savory, star anise, tarragon, thyme and turmeric. Only those most commonly used are discussed below.

*Black pepper* is made from the entire immature berry of the wooded vine pepper plant, ground into a powder. *White pepper* is made from the same berry, but mature and with the outer coating removed so that it is less strong.

*Red pepper* is from the dried ripe fruit of any species of capsicum. *Cayenne pepper* is from a small-fruited species, much stronger than other red peppers. *Paprika* is made from a mild capsicum, *capsicum annum*. *Hungarian paprika*, bright to dark red in color, has the distinctive pungency and flavor of that grown in Hungary. *Rosenpaprika*, *rosapaprika*, or *rose paprika*, which is considered the finest flavored paprika, is Hungarian paprika made of selected pods from which the stems or placentas have been removed. *Koenigspaprika* or *king's paprika* is made by grinding the whole pods, without the removal of stems or placentas, and is therefore more pungent than the rose paprika. *Spanish paprika*, *pimenton*, or *pimiento* has the characteristics of that grown in Spain, being drier and less sweet than the Hungarian and lacking its characteristic pungency.

Cinnamon is of two types: *Saigon* from the bark of the cassia; and *Ceylon* from the cinnamon tree. Saigon cinnamon is darker in color and stronger in flavor. The best quality comes from French Cochin-China; a medium quality called *Batavia* from Dutch East Indies; and a third quality, not very highly esteemed, from China. The first two usually are more expensive than Ceylon cinnamon, and the Chinese is cheaper. Ceylon cinnamon is milder, more yellow in color, and loses flavor more quickly than Saigon.



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Mace and nutmeg both come from the nutmeg tree, the nutmeg being a hard seed, and the mace a coating which surrounds the seed in its outer shell. In general the East Indian mace, having a darker coloring, is superior to the lighter colored West Indian product. Ground nutmeg of light color is superior to darker, which may be made from shriveled nutmegs. The best whole nutmegs are brown. The white powder often seen on lower qualities is lime and adds nothing to flavor.

One ounce of ground spice measures 3 tablespoons.

**Salt.** The choice is between ordinary table-salt, usually sold in bags, and free-running, usually in cartons, to which has been added a small amount of carbonate of magnesia to prevent caking. Free-running salt is more expensive, sometimes nearly twice as much as that in bags, but more convenient. *Iodized* salt is marketed in the so-called "goiter belts" where there is not enough iodine in the soil and water to supply body needs. "The use of salt containing one part of sodium (or potassium) iodide to from 5000 to 200,000 parts of sodium chloride, as a *pre-ventive*, is simply a matter of normal nutrition. The added iodide is not to be regarded as a drug, but rather as restoring the table salt to something like its natural composition."<sup>1</sup> Salt loses iodine in the process of refining. Coarse salt for ice cream making may be bought in bulk. It is not sufficiently refined for use in cookery.

One pound of salt measures 1¾ cups.

**Vinegar**, to meet the Government requirements, must be of at least 4 per cent acidity (acetic acid content) but often it is stronger, and the label will show this with such statements as "5 per cent acidity." Sometimes stronger vinegar is reduced with water to the minimum requirement and then the label will show it to be reduced to 4 per cent

<sup>1</sup> Henry C. Sherman, *Chemistry of Food and Nutrition* (New York, 1937), pp. 343-4.

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acidity. Reduced vinegar should be cheaper than vinegar of greater strength. Acidity is sometimes expressed in terms of "grains," 40-grain vinegar being the same as 4 per cent acidity, 45-grain the same as 4½ per cent, and so on.

Good vinegar should be clear, free from sediment, and well aged (from 6 months to a year) to eliminate crude flavors and develop "bouquet." Vinegar aged in wood is considered superior in flavor to that aged in glass because air, entering through the pores of the wood, produces slow oxidation.

Vinegar appears in the market under names indicating: (1) the product from which it was made, as cider vinegar; (2) the addition of flavoring from aromatic herbs, as tarragon vinegar.

Vinegar, unless otherwise stated is *cider* or *apple* vinegar made from the juice of apples, and not from cores and peelings alone. It is inexpensive and the most widely used vinegar for all purposes. *Evaporated* or *dried apple* vinegar is made from an infusion of dried apples. *Grape* or *wine* vinegar, from the juice of grapes and of superior flavor, is made in California and other grape-growing localities, but is not widely marketed. It is of two types, red and golden yellow, depending on the grapes used. *Malt* vinegar is made from an infusion of barley malt or from cereals whose starch has been converted by malt. It is widely used in England both for the table and for pickling. *Sugar* vinegar is made from sugar syrup, molasses, or refiners' syrup; and *glucose* vinegar from glucose. All of the foregoing are produced without distillation. *Spirit, distilled,* or *grain* vinegar is made by the acetous fermentation of dilute distilled alcohol and is preferred to cider vinegar by some persons.

*Tarragon, garlic, shallot,* and *chili* are added to flavor vinegars sold under these names and used for salads, where the special flavor adds its distinctive note. They are relatively expensive.

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**Mayonnaise and salad dressing.** The buyer should distinguish between these products. *Mayonnaise* or *mayonnaise salad dressing* is defined by the Federal Food and Drug Administration as "the semi-solid emulsion of edible vegetable oil, egg yolk or whole egg, vinegar and/or lemon juice, with one or more of the following: salt, other seasoning commonly used in its preparation, sugar and/or dextrose. The finished product contains not less than 50 per cent of edible vegetable oil." *Salad dressing*, when not labeled mayonnaise, may contain little or no egg, be thickened with starch or other substances, and may or may not be made with oil. The buyer, therefore, should pay less for salad dressing than for true mayonnaise. Claims of virtues due to special methods of manufacture, as whipping, mean little.

### LEAVENING AGENTS

**Baking powder.** The housewife may select any type of baking powder which gives good results in cookery. Formerly it was feared that certain types were injurious to health, but research has indicated that none is harmful in the amounts used. The residues of some have a bitter taste, however, especially if used in excessive amounts, hence flavor must be considered in choosing the brand to be used.

Baking powders depend for effect upon the release of carbon dioxide gas, through the chemical reaction of acid constituents upon bicarbonate of soda. No other carbonate than bicarbonate of soda is permitted, according to Government standards. Classed on the basis of the acid constituents used, baking powders are of four types: (1) *tartrate*, in which the acid constituent is tartaric acid or its acid salts; (2) *phosphate*, in which it is acid salts of phosphoric acid; (3) *combination*, sometimes called *alum-phosphate*; (4) the so-called *alum*, in which the acid is a compound of aluminum. The fourth type is seldom found in the markets, 90 per cent of the baking powders sold being of the other three types.

"The different types of baking powder react somewhat

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differently when mixed into a dough or batter. A tartrate baking powder will react completely at room temperature, but, owing to the high viscosity of a batch of dough, the gas will be largely retained for a considerable period of time. A straight phosphate powder will yield two-thirds of its gas at room temperature, but heat is required to liberate the remainder. A combination powder will liberate one-fifth to one-third of the gas at room temperature, and the remaining gas after heat is applied.”<sup>1</sup> Because of these two reactions, one at room temperature and a second in the heat of the oven, the phosphate and combination types (Nos. 2 and 3 above) are often called “double action” baking powders.

This delayed action (the release of gas after oven heat is applied) is of advantage when dough or batter is prepared some time before baking, as when biscuits are mixed in the morning and placed in the refrigerator to be baked for dinner at night. It also effects a more economical use of the available carbon dioxide gas, because there is less loss of gas and a greater proportion of action after baking begins. As every labeled baking powder must yield 12 per cent carbon dioxide by weight, according to Government standards, it follows that a smaller amount of a “double action” powder is needed, than of a type which loses a larger proportion of its available gas at room temperature.

Regulations of the Federal Food and Drug Administration allow the addition of starch and flour, which improve the keeping qualities of baking powder by lessening their tendency to absorb water. Egg may be added, also, but it has no value as a leavening agent.

Baking powder should be kept in a covered, air-tight can to prevent absorption of moisture from air and consequent loss of carbon dioxide.

<sup>1</sup>L. H. Bailey, *Development and Use of Baking Powder and Baking Chemicals*, U. S. Department of Agriculture, Circular No. 138 (1931), p. 8.

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Twelve ounces of baking powder measure about 2 cups, or 96 teaspoons.

**Soda.** Ordinary baking soda is bicarbonate of soda, the same carbonate as that used in baking powder. Its chemical reaction with the lactic acid in sour milk is the same as that of the carbonate of baking powder with its acid constituent, resulting in the release of carbon dioxide gas.

One-half pound of soda measures  $1\frac{1}{4}$  cups, or 60 teaspoons.

**Yeast.** Yeast is of two types: *fresh* or *compressed*, and *dried*. Both contain yeast plants mixed with cereal, but the fresh compressed has a higher moisture content than the dried. Because of this moisture, compressed yeast is likely to spoil, and therefore should be kept in the refrigerator to prevent growth of bacteria, and used within a few days after purchase. In a city where there is good market distribution, a store can have a fresh stock of compressed yeast, but this is more difficult for a small store in the country.

Dried yeast keeps several weeks at room temperature and usually is less expensive than compressed yeast because of lower cost of distribution. However, it may be much less potent due to destruction of some plants during drying, and therefore act less quickly.

### STARCH PRODUCTS

**Cornstarch and arrowroot.** *Cornstarch* is the most widely used of the starch products purchased for cookery. It is relatively the cheapest, and compares favorably with the others in food value. *Arrowroot*, made from the root of maranta and sometimes from other plants, is marketed as a flour. It is little if any superior to the less expensive cornstarch which has practically displaced it.

One pound of cornstarch or arrowroot flour measures 3 cups.

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**Tapioca and sago.** *Tapioca* is manufactured from flour made of roots of a tropical plant, the cassava. For *pearl* tapioca the flour is mixed into dough, forced through sieves to form pellets, and baked. It is of two sizes, medium pearl, large pellets which stay in "fish eyes" when cooked; and fine pearl, smaller pellets. For granulated or minute tapioca the dough is baked and then ground. Because of its smooth mixing quality it has many uses for which even fine pearl tapioca is not suitable, as in making unstirred ice cream in the electric refrigerator, and sandwich fillings which will remain soft but not permeate the bread. Granulated or minute tapioca is more expensive than pearl, but saves time in preparation.

*Sago* is a product similar to tapioca, manufactured from the pith of certain palm trees. It is being displaced in the market by tapioca.

A ½-pound package of minute tapioca measures 1½ cups.

A ½-pound package of pearl tapioca measures 1⅓ cups.

### SWEETS

**Honey.** The buyer is protected against adulteration of honey by regulations of the Federal Food and Drug Administration, which provide that honey is "the nectar and saccharine exudations of plants," gathered and stored by bees, and that it contains not more than 25 per cent of water, nor more than 8 per cent of sucrose (sugar). This prevents the addition of sugar or syrup.

Honey is of three types: *comb*; *extracted*, which is separated from the uncrushed comb by centrifugal force or gravity; *strained*, removed from the crushed comb by straining or other means. The comb honey is frequently more expensive but is usually considered more attractive and convenient for the table. It may be of slightly superior flavor because volatile oils may be lost in the process of removing the honey from the comb.

The color and flavor of honey both depend on the flower

## MISCELLANEOUS STAPLES

from which it is gathered. Buckwheat gives it a somewhat strong flavor and dark color; clover, a lighter color and more delicate flavor. Some persons like honey from mixed flowers, usually of medium color and flavor.

There are Government standards for classifying honey according to color, and for grades, though these are seldom used in the retail market. Color classifications are: *water white, extra white, white, extra light amber, light amber, amber, and dark*. Grading is independent of color, taking into consideration appearance and other qualities, and, in the case of comb honey, the number of unfilled cells. Grades for comb honey are: *U. S. Fancy, U. S. No. 1, U. S. No. 1 Mixed Color, U. S. No. 2*. Those for extracted honey are: *U. S. Fancy and U. S. No. 1*. The minimum weight for *U. S. Fancy* comb honey is 12 ounces. The weight must be marked on the frame of the comb for interstate shipment.

One quart of extracted honey weighs about 3 pounds.

**Sugars.** *Granulated sugar* is refined sucrose from either of two sources—sugar cane or sugar beets. Some housewives have believed that beet sugar does not produce results equal to those from cane sugar in certain processes, as in jelly making. However, numerous carefully controlled experiments have shown that cookery products from cane and beet sugars are practically identical if made under the same conditions. The buyer need not worry about adulteration since Federal standards provide that granulated sugar and its different forms (cut, loaf, milled, and powdered) must contain at least 99.5 per cent of sucrose.

Granulated sugar keeps indefinitely without deterioration, if not exposed to moisture, hence it may be bought in any quantity convenient to store. It is marketed in packages containing 2, 5, 10, 20, 50, or 100 pounds, or in bulk by the pound. Sometimes sugar in packages containing 10 pounds or more is less expensive than bulk, owing to the labor of measuring and packaging bulk sugar in the retail store.

## FOOD BUYING AND OUR MARKETS

**Tapioca and sago.** *Tapioca* is manufactured from flour made of roots of a tropical plant, the cassava. For *pearl* tapioca the flour is mixed into dough, forced through sieves to form pellets, and baked. It is of two sizes, medium pearl, large pellets which stay in "fish eyes" when cooked; and fine pearl, smaller pellets. For granulated or minute tapioca the dough is baked and then ground. Because of its smooth mixing quality it has many uses for which even fine pearl tapioca is not suitable, as in making unstirred ice cream in the electric refrigerator, and sandwich fillings which will remain soft but not permeate the bread. Granulated or minute tapioca is more expensive than pearl, but saves time in preparation.

*Sago* is a product similar to tapioca, manufactured from the pith of certain palm trees. It is being displaced in the market by tapioca.

A ½-pound package of minute tapioca measures 1 ½ cups.

A ½-pound package of pearl tapioca measures 1 ½ cups.

### SWEETS

**Honey.** The buyer is protected against adulteration of honey by regulations of the Federal Food and Drug Administration, which provide that honey is "the nectar and saccharine exudations of plants," gathered and stored by bees, and that it contains not more than 25 per cent of water, nor more than 8 per cent of sucrose (sugar). This prevents the addition of sugar or syrup.

Honey is of three types: *comb*; *extracted*, which is separated from the uncrushed comb by centrifugal force or gravity; *strained*, removed from the crushed comb by straining or other means. The comb honey is frequently more expensive but is usually considered more attractive and convenient for the table. It may be of slightly superior flavor because volatile oils may be lost in the process of removing the honey from the comb.

The color and flavor of honey both depend on the flower



## MISCELLANEOUS STAPLES

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## FOOD BUYING AND OUR MARKETS

Granulated sugar sold at retail may be: *fine*; *extra fine* or *fruit powdered* (a very small grain which dissolves readily on fruit but is not "powdered"); *coating*, the finest grain of all, used in cake icings. The fine granulated is produced in greater quantities than any of the others. *Coarse*, *standard*, *medium*, and *manufacturers'* grades are produced for use in candy making and other food manufacturing, but seldom are sold at retail.

One pound of granulated sugar measures 2 cups.

*Cube*, *cut loaf*, and *powdered* sugars are manufactured from granulated sugar. The difference between cube and cut loaf is merely in the shape, the latter being of flat, domino shape. Powdered sugar is of three general classes: *coarse*, of about the same fineness as coating sugar; *standard*, somewhat finer; and *confectioners'*. The fineness of powdered sugar sometimes is indicated by the number of X's, XX being coarse, XXX standard, and XXXX confectioners'. However, refiners have not agreed as to what a given number of X's shall mean, hence the 6X sugar of one refiner may be finer than the 2X of another. Non-caking powdered sugar is prepared by the addition of 3 per cent of starch (sometimes by addition of 1 per cent tri-calcium phosphate) to prevent lumping.

One pound of cut loaf sugar contains: 110 small ( $\frac{1}{2}$ -inch) sugar cubes; 90 large ( $\frac{3}{4}$ -inch) cubes; 100 flat domino tablets.

One pound of powdered sugar measures about 3 cups (depending upon packing).

*Brown* sugar is not put through the same process of crystallization as granulated, so that it contains some molasses, and has a higher moisture content. Refiners grade brown sugar according to color in 15 classes, No. 1 being light, and No. 15 about the color of roasted coffee. The retailer, however, usually carries only three classes: light,

## MISCELLANEOUS STAPLES

medium, and dark brown, the darker containing more molasses than the light.

One pound of brown sugar measures  $2\frac{2}{3}$  cups.

*Maple* sugar is made by the evaporation of maple sap or maple syrup. It may be bought in the form described as *maple concrete*; or as *soft maple* sugar, in cans. It is used for flavor, being much more expensive than granulated sugar. It must be stored carefully during the summer as it is inclined to melt and then ferment.

Technically, there are other sugars (*dextrose*, *levulose* or *fructose*, and *maltose*), but these do not appear on the retail market and so need not be considered, with the single exception of a dextrose product made from corn and sold as *corn* sugar. It is less sweet than granulated sugar and less expensive. When sold in package it must be labeled "corn sugar" or "dextrose" or "glucose," and if sold in bulk must be declared to be "corn sugar."

**Molasses and syrups.** These terms, molasses and syrup, are often loosely used, consequently the difference between the two products is not always well understood. *Molasses*, according to the definition of the Federal Food and Drug Administration, is the product remaining after crystallized sugar has been removed from the juice of sugar cane or other sugar-producing plants. *Syrup*, on the other hand, is made either from whole juice of a plant, without the removal of sugar, or by dissolving sugar itself, or as a by-product in the refining of raw sugar.

Molasses of many different qualities appears in the market. The best is clear, and bright amber in color. Very dark colored, muddy molasses may have a strong or bitter flavor. The thickness depends to some extent upon the water content, which, however, is limited by Federal standards to 25 per cent. Calcium and other minerals used in clarifying the juice remain in the molasses giving it a higher food value than granulated sugar. An excess of such mineral matter is prohibited by the Federal standards which limit ash to 5

## FOOD BUYING AND OUR MARKETS

per cent. As there are no grades of molasses in the retail market, the housewife must choose among brands, according to flavor. Experiments have shown that some advertised brands are inferior in flavor and more expensive than some less widely known.

*Barbados* molasses of high grade has been considered superior to some domestic products, as it contains more sugar, and is of better flavor and color. *New Orleans* is a trade term loosely used to describe molasses produced near that city. It means little, since it represents no clearly defined qualities.

*Sugar-cane* syrup is made by evaporating sugar-cane juice. It is not quite so thick as molasses, 30 per cent water being allowed by Federal definitions. Since no sugar has been removed it may be sweeter than ordinary molasses. Its ash content is less than that of molasses, 2.5 per cent being the maximum allowed. The so-called "open-kettle molasses" made and used in the South, is, in reality, a sugar-cane syrup, cooked in an open kettle. Aside from this there is not a great deal of sugar-cane syrup on the market.

*Refiners' syrup*, sometimes called *treacle*, is so named because it is the syrup remaining when raw sugar is refined. According to definition, it contains not more than 25 per cent of water and not more than 8 per cent of ash. Syrups of this type are now displacing molasses in retail markets, being sold under the brand names of refining companies. They are usually lighter colored than the lower grades of molasses and not quite so strong in flavor.

*Sugar* syrup is made by dissolving sugar and cooking it until it is somewhat less thick than molasses, 35 per cent of water being allowed. It is bought for table use, but is less used for cooking than molasses and other syrups, partly because it has a less decided flavor, and partly because it tends to crystallize and is therefore less desirable for such products as candy.

*Corn* syrup, or *glucose*, a dextrose product (see corn

## MISCELLANEOUS STAPLES

sugar), is sold plain and flavored. The plain, almost colorless and with very little flavor, is useful in candy making, where it is added to prevent the crystallization of granulated sugar. When corn syrup is mixed with refiners' syrup it takes on flavor and color and is known as mixed syrup or "corn syrup with cane flavor." Maple syrup or maple flavoring is sometimes added, making a more expensive corn syrup. The corn syrups usually are less expensive than many other syrups, and the flavored ones are widely used for cooking and at table. They do not have so pronounced a flavor as molasses or refiners' syrups, hence the latter are preferred by some housewives for making molasses taffy or gingerbread, where the strong flavor is desired.

*Maple* syrup, made by the evaporation of the sap of the sugar maple tree, is considered to have a finer flavor than *maple sugar* syrup, made by dissolving maple sugar. Either product should contain not more than 35 per cent of water and weigh not less than 11 pounds to the gallon, according to Federal definitions. Maple products are expensive, and are bought for flavor. The housewife should read the label to see if a syrup is pure maple, or a blend in which some cane sugar is used. In buying a blend it would be well to ascertain the amount of cane sugar or syrup added, and see whether it could be added more cheaply at home.

*Sorghum* syrup, often called *sorghum molasses*, is made from evaporated and clarified juice of sorghum. It contains not more than 30 per cent of water, and 6.25 per cent of ash.

## GELATIN AND DESSERT POWDERS

**Gelatin** may be bought in bulk, in packaged form, or in dessert powders containing added sugar and flavorings. Relative cost should be computed on the basis of a pint of jelly made from either form. The ordinary one-ounce package of gelatin contains four tablespoonsful, enough to make four pints of jelly, while the usual package of dessert powder makes one pint. Sugar costs less than gelatin, and since

dessert powder may contain as much as 85 per cent sugar, the housewife should calculate costs carefully, or she may find herself paying a high price for sugar. A dessert made from gelatin and pure fruit juice may be more expensive than one made from dessert powder, which usually contains only a small amount of fruit juice, with citric or tartaric acid added. The pure fruit juice is more expensive than synthetic flavors, but has greater food value.

The same Federal standards which govern flavoring extracts and beverage flavors apply to the flavoring of gelatin dessert powders. Flavors must be true to name, and the presence of artificial flavors must be noted. Tartaric and citric acid are indicated by stating "fruit acid added."

In addition to the sweetened gelatin dessert powders, there are preparations for making puddings and pie fillings. The true pudding powder should contain powdered whole milk and eggs, sugar, perhaps corn starch or other thickening agent, and flavoring; but some of the powders sold under fanciful names may be little more than flavored and sweetened corn starch to which the cook must add milk and eggs. These latter are usually expensive, considering their food value.

### Questions or exercises

1. Compare the prices of the different brands of baking powder your dealer carries and on the basis of the discussion in this book explain the price differences.
2. Does the "vanilla" bottle on your pantry shelf contain vanilla? How can you tell?
3. What is the difference between "salad dressing" and "mayonnaise"? Which should be cheaper?
4. What are the labeling requirements for jellies and preserves containing pectin?
5. Can the buyer determine the proportion of maple and cane sugar in a blend?
6. May chicory be added to coffee without a statement of the fact on the label?

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7. Three products are labeled "cocoa," "breakfast cocoa," and "sweet cocoa." Are there differences between them that should be noted in conjunction with price?

### SUGGESTED READINGS

- SHERMAN, Henry C., *Food Products* (New York: Macmillan Company, 1933), pp. 306-08; 400-01; 469-545; 626.
- TODOROFF, Alexander, *Food Buying Today* (Chicago: Grocery Trade Publishing House, 1938), pp. 12-20; 85-7; 96-105; 120-4.
- U. S. Department of Agriculture, *Enforcement of Tea Act*, Miscellaneous Publication No. 48 (Washington, 1929).
- U. S. Bureaus of Entomology and Agricultural Economics, *United States Grades, Color Standards, and Packing, Requirements for Honey*, Agricultural Circular No. 24 (Washington, 1933).
- U. S. Food and Drug Administration, *Definitions and Standards for Food Products*, Service and Regulatory Announcements, Food and Drug No. 2, Rev. 5 (Washington).

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