

CORN AND HOG SURPLUS  
OF THE CORN BELT

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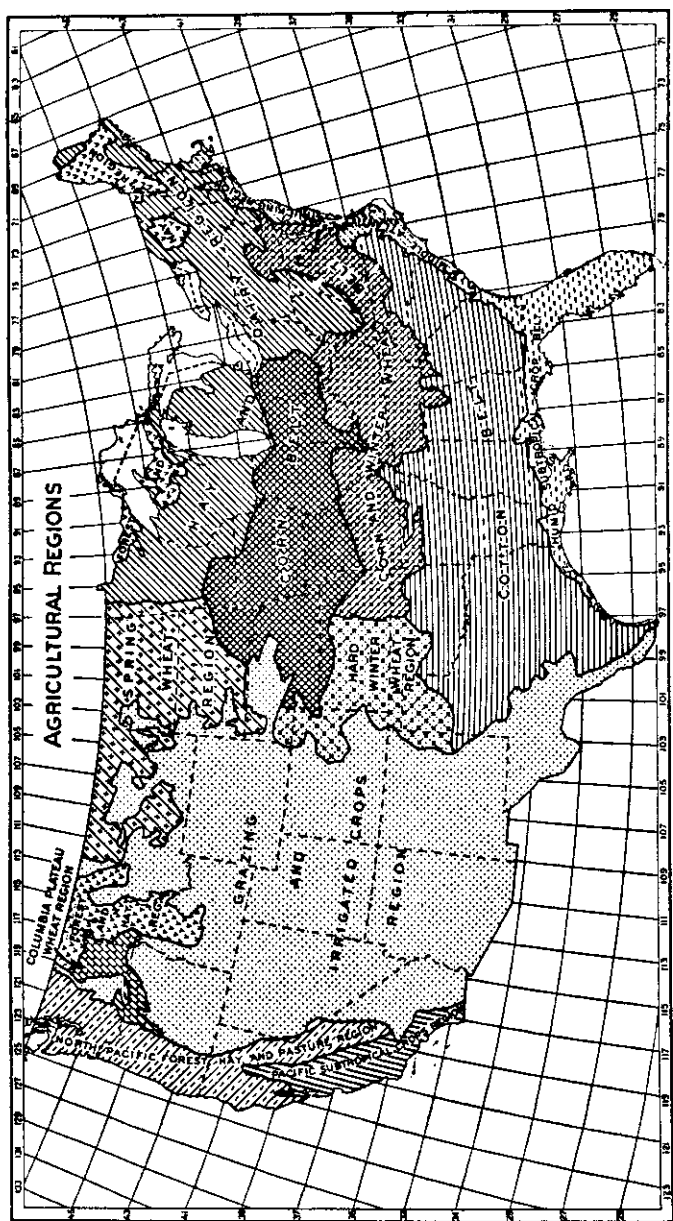
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MAP OF THE UNITED STATES SHOWING AGRICULTURAL REGIONS

# CORN AND HOG SURPLUS OF THE CORN BELT

By

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# THE FOOD RESEARCH INSTITUTE

was established at Stanford University, California, in 1921, jointly by the Carnegie Corporation of New York and the Trustees of the Leland Stanford Junior University, for research in the production, distribution, and consumption of food.

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## PREFACE

Before the World War few students of American agriculture foresaw the day when agriculture would plead for parity with industry in this country. The day has arrived, and leaders of agriculture have sensed a fundamental change. Not long since, Henry C. Taylor, in addressing the American Farm Economic Association, invoked a national policy of guidance for the farm-to-town movement. That fourth of the total population engaged in agriculture finds the occupation unsatisfying. The transition from the predominatingly agrarian state to the predominatingly industrial state was favored by technological developments, expansion of mass production in industry, mechanization of agriculture, decline in the rate of growth of population, and decline in per capita consumption of food. The World War accelerated and intensified the change and effected untoward dislocations. Huge increases in internal and external national debts and shifts in creditor and debtor positions influence international trade. Improvements in transportation, communication, and credit have unified the markets of the world, with intensification of competition. In consequence of the accelerated developments of the past fifteen years, we face new problems of agriculture in advance of their times.

The corn belt is a large central area with a highly developed agriculture. It exhibits in some respects the most distinctively American farming. It was not developed on Colonial traditions or royal grants of land; it was developed largely by frontiersmen and European immigrants on homesteads. The corn belt is scarcely more than a half-century old. No agrarian question is so typically American as the crop problem of the corn belt.

Within two decades the American corn belt has suffered a war-time expansion, a post-war boom, a post-boom deflation, and a trade cycle of unusual magnitude. Do-

mestic and international factors are mingled. Some of the domestic factors are agricultural; others derive from political, monetary, and industrial influences. Quite certainly both cyclical and secular influences have been at work. Unemployment in agriculture is as complex a problem as unemployment in industry. The declines in the price level and in land values are quite as conspicuous in the corn belt as anywhere.

Risk is perhaps the largest single factor in the profit economy. Subsistence agriculture secures a minimum of profit with a minimum of risk; cash-crop agriculture seeks a maximum of profit, but with a maximum of risk. In trying to combine the two, it has perhaps been unconsciously implied that a maximum of profit may be secured with a minimum of risk.

A shift is under way in this country in the relations of supply and demand. Using the term consumption in the broad sense (to include utilization and disappearance), we find on analysis that per capita consumption of ingestible agricultural products is declining. The implications of this trend become apparent when consumption is separated into its natural subdivisions—waste after harvest; ingestion by human beings; intake by work animals; intake by breeding stock; and intake by animals for production of edible food products. These are all declining. Waste after harvest is being reduced by improvements in harvesting, storage, grading, transportation, and distribution. Ingestion of foodstuffs by human beings is declining because manual work is being supplanted by machines. Food claims a declining share of the national income, whereas comforts, conveniences, and luxuries claim an expanding proportion. The feed requirements of the population of work animals are being reduced by decline in numbers. The feed requirements of the breeding stock of the national animal husbandry are being reduced by selection, increasing fecundity, prevention of diseases,



and care of young animals. The feed requirements of animals being used for production of marketable food products are being reduced by selection and application of efficient methods of feeding. Cumulatively, therefore, the per capita consumption of the population will decline year after year, perhaps for a couple of decades. The rate of growth of outturn of agricultural products is increasing per unit of area and much more per man. The rate of growth of population is lower. For the world as a whole, the rate of increase of outturn of foodstuffs has been certainly more than 2 per cent per annum, while rate of increase of population is scarcely more than 1 per cent per annum. In the United States the disparity is much greater. This implies that the gross requirement for ingestible American agricultural products will probably be no larger in this country in 1940 (or perhaps even in 1950) than in 1930. This limitation of the domestic market presses on the agriculture of all regions, but to a disproportionate extent probably on the corn belt, on account of the preponderance of staples over specialties in the agriculture of this area. The outlook for the next decade depends on the trend of production, the trend of consumption, the trend of substitution, and the trend of the price level, at home and abroad.

Beginning with the Joint Committee of Agricultural Inquiry in 1921, Congressional hearings and investigations have been more or less continuously occupied with the subject of farm relief. The testimony presented before Congressional hearings has frequently been improperly prepared; the statistical data have generally been poorly compiled and used without discrimination; a great deal of hearsay has been offered; and special pleading has abounded. And yet it is necessary to go through these pages if one wishes to distinguish between political and technical appraisal of farm distress and farm relief.

Those desirous of obtaining a comprehensive back-

ground of the post-war agricultural situation in the United States will find it advantageous to read, preferably in the order of their appearance, a half-dozen volumes on the subject. These are:

"The Agricultural Situation in the United States," *The Annals of the American Academy of Political and Social Science*, January 1925, CXVII.

*The Agricultural Problem in the United States*. (National Industrial Conference Board, Inc. New York, 1926.)

*The Condition of Agriculture in the United States and Measures for Its Improvement: A Report by the Business Men's Commission on Agriculture*. (Published jointly by the National Industrial Conference Board, Inc., of New York City, and the Chamber of Commerce of the United States of America, Washington, D.C., 1927.)

"Farm Relief," *The Annals of the American Academy of Political and Social Science*, March 1929, CXLII.

*The Economics of Farm Relief: A Survey of the Agricultural Problem*, by Edwin R. A. Seligman. (New York, Columbia University Press, 1929.)

*Agricultural Reform in the United States*, by John D. Black. (New York, McGraw-Hill Book Company, Inc., 1929.)

Numerous other works have appeared, of which one particularly is to be recommended—the chapter on agriculture by E. G. Nourse, in *Recent Economic Changes in the United States* (report of the Committee on Recent Economic Changes of the President's Conference on Unemployment, published for the National Bureau of Economic Research by the McGraw-Hill Book Company, New York, 1929, II, 547–602). Reviews on recent books on the agricultural situation, by J. S. Davis, are to be found in the *Quarterly Journal of Economics* for May and for November 1929. The *Journal of Farm Economics* contains many

articles dealing with the general problem and with special questions.

An excellent examination of the agricultural problem in Germany, the largest net importing country, is to be found in a recent technical collaboration, issued by Max Sering, "Die Deutsche Landwirtschaft unter volks—und weltwirtschaftlichen Gesichtspunkten," *Berichte über Landwirtschaft* (Berlin, Paul Parey, 1932), Neue Folge, 50, Sonderheft.

The problem of the corn belt contains elements of agriculture, physiology, chemistry, and economics, of which the interrelations are complex. To undertake a systematic analysis implies a competence in four fields which I do not possess. But since the approach is clearly indicated, I have ventured to make the trial. Some of the conclusions are inductions, others are more or less conjectural inferences. To a large extent the treatment consists in technical interpretation rather than in close demonstration. Realism is demanded. The treatise was not written to depict the immediate future on the basis of the immediate past. Broad historic trends and long-term technical developments justify the use of prophecy, and I have not hesitated to take the risk of forecasting. The argument includes prognostications which will be fulfilled or refuted within a decade. Every effort has been made to secure accuracy in data and technical description, but I feel that such inaccuracies as exist do not affect the argument.

It is possible that agriculturists will feel that I have extolled too highly the importance for animal husbandry of knowledge of the physiology of nutrition. It is possible that farmers will feel that I have emphasized too much the substitutability of vegetable fats and oils for animal fats and oils. It is possible that agricultural economists will feel that I have overstressed the effect of limitation of food and feed requirements on the demand for farm

products. I have sought to present a balanced consideration, because the inductive method is sound even if the treatment is faulty.

I have sought advice, information, and correction in many quarters, and the list of those to whom I am thus indebted is too long for individual acknowledgment. The Departments of Agriculture and of Commerce in Washington have been very helpful in providing statistical data. My colleagues in the Food Research Institute have read parts of the manuscript but carry no responsibility for the work. To my secretary, Elizabeth Brand Taylor, I am under deep obligation for indefatigable assistance in the preparation of the manuscript.

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December 30, 1931

# CONTENTS

MAP, CHARTS, AND TABLES . . . . .	xiv
-----------------------------------	-----

CHAPTER	PAGE
I. INTRODUCTION . . . . .	3
Influence of historical policies—Effects of the World War—Trends in the background and foreground of the discussion—Social and political considerations—Concluding observations	

## PART I. NATURE, EXTENT, AND CONSEQUENCES OF A SURPLUS OF CORN AND HOGS

II. CORN PRODUCTION AND DISPOSITION IN THE UNITED STATES . . . . .	43
Introduction—Production of corn—Disposition of the corn crop—Trend in utilization of corn—Definition and measurement of surplus of corn—Surplus of corn as determined by acreage or yield per acre—Tendencies making for surplus—Summary	

III. HOG PRODUCTION AND DISPOSITION IN THE UNITED STATES . . . . .	73
Introduction—Number of hogs—Disposition of the hog crop—Slaughter of hogs—Objectives of swine husbandry—Corn-hog ratio—Definition and measurement of surplus of hogs—Contrast between animal and vegetable fats and oils—Tendencies making for surplus—Factors working against surplus—Summary	

IV. EXPORTS OF CORN AND HOGS . . . . .	128
Introduction—Export of corn—Export of live hogs and fresh pork—Export of hog products—Summary	

CHAPTER	PAGE
V. DOMESTIC AND INTERNATIONAL FACTORS IN PRICES OF CORN AND HOGS . . . . .	163
Introduction—Factors determining the price of corn—Influence of European price on American price of corn—The price of hogs—Influence of European price on American price of hogs—Prices of live hogs at home and abroad—Prices of hog products at home and abroad—Summary	
VI. THE POST-WAR POSITION OF CORN GROWERS AND HOG RAISERS . . . . .	239
Introduction—Methods of appraisal—Farm operation and accounting—Gross values of corn and hog crops—Relative position of corn and hog prices—Change in the value of gold—Cost of raising corn and hogs—Burden of transportation expense—Land values—Farm debt—Farm taxes—Supply, quality, and cost of farm labor—Spread between producers' and consumers' prices—Cost of living—Contrast between farm income and urban income—Summary: major causes of difficulties	
<b>PART II. AMELIORATION OF THE CONSEQUENCES OF A SURPLUS OF CORN AND HOGS</b>	
VII. GENERAL STATEMENT . . . . .	343
VIII. THE EQUALIZATION FEE . . . . .	350
Statement of hypothesis—The equalization fee applied to corn—The equalization fee applied to hogs	
IX. THE EXPORT DEBENTURE . . . . .	443
Statement of hypothesis—Operative considerations—The export debenture applied to corn—The export debenture applied to hogs—Summary	
X. THE FARM ALLOTMENT PLAN . . . . .	467

# CONTENTS

xiii

CHAPTER	PAGE
XI. PRICE STABILIZATION . . . . .	474
Introduction—Stabilization of corn prices—Stabilization of prices of live hogs and hog products—Inflation of the price level—Summary	
XII. INTERNAL METHODS OF FARM RELIEF . . . . .	505
Introduction—Internal alleviations—Technical improvements in management and practice—Relation of factors of production to area—Adjustment of supply to demand—Potential expansion of demand—Tendencies making for reduction of corn acreage—Analogies and contrasts with industry—Consequences of contraction—Conclusions	

## APPENDIXES

	PAGE
APPENDIX A—TABLES I-XXV . . . . .	587
APPENDIX B . . . . .	632
APPENDIX C . . . . .	633
APPENDIX D . . . . .	636

## INDEX

INDEX . . . . .	641
-----------------	-----