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Types of Farming in Illinois

An Analysis of Differences By Areas

By H. C. M. CASE and
K. H. MYERS

UNIVERSITY OF ILLINOIS
AGRICULTURAL EXPERIMENT STATION

BULLETIN 403

In cooperation with Division of Farm Management and Costs, Bureau
of Agricultural Economics, U. S. Department of Agriculture

The Nine Major Type-of-Farming Areas in Illinois

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Types of Farming in Illinois

An Analysis of Differences By Areas

By H. C. M. CASE and K. H. MYERS¹

ILLINOIS ranks high as an agricultural state. It stands fourth among the states in the acreage of crops grown, third in the value of crops, and second in the value of livestock and livestock products. The production of a small acreage of cotton in southern Illinois and the necessity of growing early varieties of corn in northern Illinois in order to insure maturity indicate the wide range of climatic conditions found in the state. The average productivity of Illinois soils is high, tho wide differences exist in this respect, some land having little agricultural value and some being as productive as any in the entire corn belt.

The development of transportation facilities has had a direct effect upon the production of perishable products such as whole milk and truck crops. Railroads, waterways, and hard roads provide adequate transportation facilities for practically every community in the state. Chicago and St. Louis, the two leading railway terminal cities in the interior of the United States, provide rapid transportation facilities to all parts of the country and to the seaboard.

An area constituting less than one-sixth of the area of the United States, but in which is grouped more than half the population of the country, lies east of the Mississippi river and north of a line extending east from the southern point of Illinois. Thus Illinois is located relatively close to the great markets for agricultural products. A large part of the supply of many staple foods for this population of over 60 million people is produced in Illinois. Illinois alone has a population of more than 7 million people, only about one-seventh of whom live on farms. Hence even within the boundaries of the state is a large market for agricultural products. However, with a competitive system of agriculture highly developed thruout the country, Illinois farmers have tried to adjust their production to commodities that will make the best use of their resources and yield the maximum returns under their conditions, thus leaving to producers in other areas the job of supplying commodities and services that cannot be economically produced locally.

¹H. C. M. CASE, Chief in Farm Management; and K. H. MYERS, Associate Agricultural Economist, Bureau of Agricultural Economics, U. S. Department of Agriculture.

The state lies largely within the great region commonly known as the corn belt. Corn, hogs, beef cattle, and dairy cattle form the basis for the organization of farms over a large part of the state, but the relative importance of these products varies greatly in different sections, and in some localities other crops and classes of livestock are of greater importance than these. Only casual observation is necessary to make one aware of the differences in crop and livestock production from one part of the state to another. While these differences may be due in part to accident or to custom, in general they reflect the efforts of farm operators to adjust their production schemes to existing local conditions. In some areas declining soil fertility has led to the introduction of new crops and to the adoption of definite cropping systems in an effort to maintain yields.

The efforts of Illinois farmers to adjust their production to changing economic conditions is indicated by the changes which they have made and are continually making in relative acreages of different crops grown and in numbers of livestock kept. Market demands, prices, competition with other areas, and costs of production are forces that are constantly shifting, and by their shifting making necessary or advisable various changes in the organization and management of individual farms. This need for the more efficient organization and operation of farms has become especially evident during the recent low-price period. In fact some farmers, in order to cope with current conditions, have been forced temporarily at least to make changes which, continued over a period of years, would be highly undesirable from the standpoint of a permanent agriculture.

The development of state, regional, and local agricultural programs of production adjusted to current demands is receiving the attention of research workers, those interested in educational work among farmers, and other groups of farm leaders.

Objects of Study.—The objects of this bulletin are: (1) to portray in a general way the agriculture in the state by showing the kind and proportion of crops and livestock produced; (2) to delineate areas within which certain combinations of crops and kinds of livestock predominate; and (3) to show how the predominant types of farm organization in an area are related to the conditions existing in the area.

Such a study provides a basis from which farmers, teachers, extension workers, and those interested in research may view more clearly the problems of agricultural readjustment. It should also be of material assistance to those who are endeavoring to interpret the results of research in terms of agricultural practice by enabling them to make more specific recommendations for definite areas.

Sources of Information.—The data used as a basis for this study have been obtained largely from the following sources: United States Bureau of the Census; United States Weather Bureau; Bureau of Agricultural Economics, United States Department of Agriculture; Division of Agricultural Statistics, Illinois State Department of Agriculture; and Illinois State Geological Survey. Much detailed information has also been obtained from the various departments of the Illinois Agricultural Experiment Station and by interviews with individuals thruout the state.

Definition of Terms.—The term “type of farming,” as used in this study, does not refer to farming methods or practices, but to the general organization of a farm from the standpoint of the emphasis placed on one or several possible farm enterprises. The general organization of a farm is usually indicated by the sources from which the income is derived. It is shown by kinds and acreages of crops grown, kinds and numbers of livestock raised, and the relation between the livestock and crop enterprises. Crop sequence, methods of soil preparation, and the number of litters of pigs raised per sow per year, for example, may vary on different farms and the farms still class as the same type because of the similarity of the sources from which their incomes are derived.

By “type-of-farming area” is meant an area in which one or more dominant types of farming can, in most cases, be easily distinguished, and within which natural agricultural resources and biological and economic conditions are highly uniform. In order to describe an area adequately it usually is necessary to indicate at least a major type and one or two minor types.

Ordinarily the lines of demarcation between areas cannot be sharply defined, and no distinctly dominant type of farming can be recognized in the localities near the dividing lines. The organization of farms in these “transition zones” is determined by physical and economic conditions in both areas, and consequently the operators in these zones have more latitude in exercising their likes and dislikes than is practical for farmers in the main body of either area.

NATURAL CONDITIONS AFFECTING ILLINOIS AGRICULTURE

Illinois covers an area of 35,867,520 acres, or 56,043 square miles. The great length of the state from north to south, 385 miles, and the varying effects of the different glaciers that once passed over parts of the state have resulted in a wide variation in soil and climatic con-

ditions. Four large rivers—the Mississippi, Illinois, Wabash, and Ohio—lie within the state or touch its borders and have been important factors in the development of both industry and agriculture.

Land Surface

Illinois in remote times was covered by glaciers, with the exception of Calhoun county in the west-central part of the state, Jo Daviess county in the northwest corner, and the seven most southern counties. The last glaciers that covered the northern two-thirds of the state came at a much later date than those that covered the southern one-third. Nearly all the soils of Illinois are derived from the loess that was laid down over the glacial drift left by these enormous ice sheets. Variations in the age and thickness of this loess covering are responsible to an important degree for variations in the character of the soils in different parts of the state.

The land surface of Illinois varies from nearly level prairie land, where artificial drainage is necessary to remove the surface water, to rough, hilly areas, much of which cannot be cultivated and over much of which erosion is a serious problem (Fig. 1). Large areas of bottom land that are subject to overflow unless they are protected are found along the rivers. These variations in topography can be traced to the action of the glaciers during their advance and to the subsequent action of wind, rivers, and streams.

Small importance can be attached to variations in altitude, so far as types of farming in Illinois are concerned. The altitude varies from less than 300 feet above sea level in the extreme southern part of the state to nearly 1,250 feet in the northwest corner. Thirty-five percent of the land area is between 600 and 700 feet above sea level, and 87.5 percent is between 400 and 800 feet.

Drainage

Forty-two percent of the land area in Illinois is drained by the Illinois river or its tributaries, 25 percent by small streams flowing into the Mississippi, 17 percent by the Wabash river, 10 percent by the Kaskaskia river, 5 percent by the Ohio river, and 1 percent by streams flowing into Lake Michigan. Nearly half the land, however, requires additional drainage facilities before it can be made to produce maximum yields of crops. One-third of the farms in the state, and nearly one-third of the total farm land, had artificial drainage in 1930. Nearly 15 percent of the total land area of the state, or 5,032,682 acres, was included in organized drainage districts (Fig. 2).

FIG. 1.—RELIEF MAP OF ILLINOIS

(M. Lorenz)

The action of glaciers during their advance and the subsequent action of wind, rivers, and streams have resulted in wide variations in the topography of Illinois.

FIG. 2.—LOCATION OF LAND IN DRAINAGE PROJECTS

Less than one-third of the land area requiring artificial drainage was in organized drainage districts in 1929.

A large proportion of the land which has been drained is at the upper end of the watersheds in east-central Illinois, where the land surface is very flat. Drainage of this land is accomplished by means of open ditches alone or by tile drains which empty into the ditches. Protection of the larger areas of bottom land from overflow and the removal of excess water require levees and pumping plants. A large part of the land in need of further drainage is bottom land, a considerable part of which is now in timber. This bottom-land timber soil often is highly productive if cleared and properly drained and protected.

Adequate drainage is a serious problem in southern Illinois, where the subsoil on the flat areas is tight clay, which prevents the economical use of tile drains. Also, the naturally low fertility of the soil does not warrant much expense for the reclaiming of many large areas of overflow land.

Soils

Variations in type and productivity of soils are due to differences in age, in the parent material from which the soils were derived, in the topography and drainage of the land surface, in climate, and in organic activity.

The soils of Illinois have been divided into sixteen groups based, in most cases, on the color of the surface soil and the character of the subsoil with reference to permeability and lime content. The geographic location of these soil types, together with the names descriptive of their general differences, are shown in Fig. 3. A detailed discussion of each type is not necessary but a knowledge of some of the more important differences between types may help in studying the relation of soils to types of farming.

For the purpose of this study the soils may be divided into three groups: dark-colored soils, light-colored soils, and sandy soils. The dark-colored soils are younger and more productive than the older light-colored soils. The light-colored soils in the northern two-thirds of the state are more productive than those in the southern part, owing to the fact that they are younger. The sandy soils vary greatly in productivity, but in general they occupy an intermediate position. The areas of dark soils correspond very closely with the original prairie areas in the northern two-thirds of the state, while the light soils represent the original timber areas (Fig. 4). In the southern third of the state all the soils are light colored except in limited areas of bottom land and upland swamp.

Provisional Soil Map of
ILLINOIS
 University of Illinois Agricultural Experiment Station
 September, 1928
 Revisions June, 1929
 D.S. Smith E.A. Horton

FIG. 3.—SOIL GROUPS AND LOCATION OF EXPERIMENT FIELDS IN ILLINOIS

The soils of Illinois have been divided into sixteen groups based, in most cases, on the color of the surface soil and the character of the subsoil with reference to permeability and lime content.

FIG. 4.—DISTRIBUTION OF PRAIRIE AND WOODLAND SOILS IN ILLINOIS

The Illinois grassland or prairie soils in general are dark colored, while the forest or woodland soils are light. Dark-colored soils are found generally in the northern two-thirds of the state, while the less productive light-colored soils are found in southern Illinois or along streams.

The dark-colored and young soils are much higher in available nitrogen and phosphorus and require less limestone to correct their acidity than do most of the light-colored and older soils where leaching has removed much of the natural fertility. Drainage of the dark soils is a comparatively easy task and is highly profitable, but the presence of a tight subsoil near the surface of some of the light soils in southern Illinois makes the use of tile impossible and on others where tile is effective, the returns often do not justify the drainage cost. Evaporation is much more rapid from the light soils than from the dark soils, and with the shallow root system which plants develop as a result of the tight subsoil, there is greater damage during periods of drouth to the crops growing on the light soils than to those on the dark soils.

Only small areas of sand are found in Illinois. The relative productiveness of the sandy areas depends largely on the coarseness of the sand and on the amount of organic matter present.

Rainfall

The average annual rainfall in Illinois has varied during the fifty-two years 1881-1932 from 25.72 inches to 49.38 inches. The average during this period was 37.26 inches and the average deviation from this amount less than 4 inches (Fig. 5). The annual precipitation varies normally from about 34 inches in the northern part of the state to 44 inches in the southern part (Fig. 6 and Appendix Table 19).

FIG. 5.—ANNUAL RAINFALL IN ILLINOIS FROM 1881 TO 1932

The average annual rainfall in Illinois has varied during 1881-1932 from 25.72 inches in 1901 to 49.38 inches in 1927, with an average during this period of 37.26 inches.

This amount of rainfall is sufficient to produce abundant crops if properly distributed over the growing season (Appendix Table 20). Dry periods of 3 to 6 weeks during the growing season, however, often occur over the state generally or in small areas and may cut down crop yields materially even during years when the total rainfall is sufficient. Tho the rainfall during the six months April to September is slightly

FIG. 6.—AVERAGE YEARLY RAINFALL AND LENGTH OF GROWING SEASON

The average total rainfall is sufficient for abundant crop production in all parts of Illinois when properly distributed during the growing season. The number of days from the last killing frost in the spring until the first in the fall normally varies from 150 in northern Illinois to 200 in the southern part of the state.

greater in southern than in northern Illinois, crop damage due to drouth is more frequent in the southern part of the state because of the character of the soils and differences in temperature.

Winter precipitation in the form of snow is often important in determining the level of crop production. Water from melting snow sinks into unfrozen soil with less run-off than does the same amount of rainfall and, more important, the snow affords protection to winter crops such as wheat, alfalfa, and clover. The average snowfall in

southern Illinois is about 15 inches and in the extreme northern part of the state about 35 inches.

Temperature

Over a long period of years there has been a difference of 11 degrees (F.) in mean temperature from the northern to the southern boundaries of Illinois and a difference of four and one-half weeks in the average length of growing season. The greatest geographical difference in temperature occurs during the winter and spring months. Over a period of years the mean temperature was 21.8° F. during the winter months in the northern part of the state and 70.4° during the summer months. The mean temperatures during the same seasons in the extreme southern part of the state were 37° and 77.4° respectively. The average maximum temperature is 95° in the northern area and 97° in the southern area, but the average minimum temperature is -14° in the northern area and 4° in the southern.

The temperature of the soil is important in determining rate of plant growth and biological activities in the soil. Soil temperature differs somewhat from that of the air depending on the following soil conditions: (1) moisture content; (2) color; (3) physical characteristics, such as compactness; (4) vegetative covering or amount of snow; and (5) inclination of the surface to the sun rays. The dark-colored, well-drained soils of central and northern Illinois are relatively warmer than the light-colored soils of southern Illinois, where much of the surplus water does not soak into the soil but must evaporate.

The temperature of the air, the relative temperature of the soil, and the length of the growing season (Fig. 6) are important factors in determining the crops that can be successfully grown in any given area and the varieties that will produce the highest yields.

GENERAL DEVELOPMENT OF ILLINOIS AGRICULTURE

The settlement of Illinois for agricultural purposes started early in the nineteenth century. The population of the state in 1820 was 55,211, and was confined largely to the southern part of the state, chiefly in the vicinity of the Wabash, Ohio, and Mississippi rivers (Fig. 7).

The early settlers who came into Illinois from the south and east followed a self-sufficient type of agriculture. Because their chief source of food was wild game, and because of the transportation fa-

cilities afforded, they followed the rivers and streams, avoiding the level prairies on which game was scarce and which were believed to be infertile because of poor drainage and lack of trees. Moreover, timber, to supply lumber and fuel, and drinking water were necessities which could not easily be obtained on the prairies.

Following the opening of the Erie Canal in 1825, settlers began to come to Illinois from New York, Pennsylvania, and the New

FIG. 7.—DENSITY OF POPULATION IN ILLINOIS IN 1820 AND IN 1850

The earlier settlements were made in the southern part of the state, chiefly along the larger rivers which furnished transportation from the south and east. Northern Illinois was opened for settlement with the completion of the Erie Canal in 1825. As late as 1850, however, the flat prairies in the eastern part of the state and a smaller area in the northwestern part were still sparsely settled.

England states. These settlers came from a rigorous climate where a poor soil made industrious habits necessary, and they were naturally thrifty, energetic, and ingenious. They first settled near the timbered areas but soon began to till the prairie land. As late as 1850, however, when the population of the state was 851,470, the flat prairies in the eastern part of the state and a smaller area in the northwestern part were still sparsely settled (Fig. 7). During the next ten years the population more than doubled, the acreage of farm land increased 74 percent, and the acreage of improved land increased 160 percent. Much of this increase in farm land was on the flat prairies. In Champaign county, a typical prairie county, the area of farm land increased from 58,173 acres in 1850 to 246,806 acres in 1860.

The rapid settlement of the prairie land from 1850 to 1860 was due, not only to a scarcity of good land near the rivers, but also to the development of railroads. In 1850 there were only 110 miles of railroads in Illinois; rivers provided virtually the only means of getting products to market, and poor roads made it difficult to haul grains and other bulky products long distances to the rivers. By 1860, 2,867 miles of completed railroads provided improved transportation facilities to nearly all parts of the state (Fig. 8).

FIG. 8.—RAILROADS IN ILLINOIS IN 1850 AND IN 1860

Railroads built during this period provided transportation facilities which led to the complete settlement of prairie land in nearly all parts of the state.

Settlement of farm land continued rapidly from 1860 to 1880, when the acreages of all farm land and of improved land in farms were reported as greater than at the present. Much of the improved farm land at that time, however, was not highly productive because it was not naturally well drained; particularly was this true of the level prairies. The full development of some of the most fertile farm land awaited artificial drainage.

Changes in Land Values

The development of agriculture in Illinois was accompanied by a rapid rise in land values. In 1850 the 12,037,412 acres of land in farms was valued, with improvements, at \$8 an acre. In 1880 the value had advanced to \$32 an acre, and in 1900 to \$54. This advance in price continued until 1920, when farm land and improvements was valued

at \$188 an acre. With the drop in prices of farm products, however, land values declined and in 1930 the average value of land and improvements was \$109 an acre. The average value of land and buildings per farm in 1880 was \$3,948; in 1920 it had increased to \$25,289; and in 1930 it had dropped to \$15,553.

Previous to 1850, before the construction of railroads in Illinois, most of the rich prairie land was practically valueless because of inadequate transportation facilities. The railroads built during the fifties provided much needed transportation and caused a rapid rise in farm land values. Drainage, which was begun in the seventies and continued rapidly during the next thirty years, also added to the productivity and value of Illinois farm land.

Land values have remained lowest in the southern part of the state where the soil is naturally of low productivity and large areas can be used only for pasture or timber. With the exception of the Chicago area, where land speculation still plays an important part in determining land values, the highest values have developed in the east-central part of the state (Fig. 9). The relation of land values to soil conditions can be seen by comparing Fig. 9 with Fig. 12 which shows the distribution of crop land in 1929.

Changes in Size of Farms

Another significant development in Illinois agriculture is evidenced by the changes that have taken place in size of farms. During the period from 1850 to 1880 the average size dropped from 158 acres to 124 acres. This can be attributed, in part, to the fact that large tracts of land granted to the Illinois Central railroad were eventually divided and sold in small tracts for farming purposes. During this period the number of farms increased nearly three and one-half times, while the acreage in farms increased only two and one-half times. From 1880 to 1900 there was little change either in the number or in the size of farms.

Since 1900 the average size of farm has increased from 124 acres to 143 acres, or 15.3 percent. In several southern counties the farms average less than 100 acres, while in Mason and Piatt counties in the central part of the state they average more than 200 acres (Fig. 10). The total number of farms has decreased nearly 20 percent and the acreage in farm land 6 percent. The change in size and number of farms has been more pronounced in some size-groups than in others (Fig. 11). The most conspicuous changes are a constant decrease in the number of farms consisting of 20 to 100 acres and an increase

DOLLARS PER ACRE

UNIVERSITY OF ILLINOIS AGRICULTURAL EXPERIMENT STATION

FIG. 9.—VALUE OF FARM LAND AND BUILDINGS PER ACRE

FIG. 10.—SIZE OF FARMS IN ILLINOIS, 1930

Farms are largest in the central part of the state, where land values are highest and natural conditions are adapted to extensive methods of farming.

in the number in the 175-to-500-acre group. Farms with 100 to 174 acres are the most common in Illinois, 33.7 percent being in that group.

The changes that have taken place in size of farms have been due, in part, to the combining of farms in order to make it possible to use larger implements and power units with greater economy. There were, however, only 88 farms in 1930 that might be classed as large-

FIG. 11.—CHANGES IN SIZE OF FARMS IN ILLINOIS, 1900-1930

The most significant changes in the distribution of farms during the past thirty years are the decrease in number of farms from 20 to 99 acres in size, and the increase in number of those from 175 to 259 acres.

scale farms on the basis of acreage, income, amount of capital used, and amount of labor employed. Of these 26 were livestock farms, 9 were strictly dairy farms, 11 were cash grain farms, 20 were fruit farms, 13 were farms on which truck crops, principally sweet corn and peas for canning purposes, were important, and 2 were poultry farms. The other 7 farms were general or miscellaneous types. There were 190 farms containing 1,000 acres or more and 2,061 farms with 500 to 999 acres. The value of all products sold, traded, or used by the operator's family in 1929 amounted to \$10,000 or more on 1.6 percent of these farms and to \$6,000 or more on only 6 percent.

The number of farms consisting of less than 20 acres does not change greatly. At the present time such farms constitute only 7.8 percent of all farms in Illinois. A large number of these are truck or poultry farms, tho many are small tracts near towns and cities, which are operated on a part-time basis by urban workers.

ECONOMIC AND BIOLOGICAL FORCES INFLUENCING TYPES OF FARMING

The natural conditions, such as topography, soil, and climate, that have influenced the development of Illinois agriculture have been described in the foregoing pages. Some of the basic changes that have taken place in the agriculture of the state as a whole have also been briefly indicated.

An explanation of the differences that are found in the agriculture of different parts of the state requires, in addition, an understanding of the economic and biological forces that have developed or grown in importance with the industrial and agricultural development of the state. Topography, soil, and climate can be said to determine what crops can be successfully grown in an area, and these, in turn, the kinds of livestock that can be kept. Economic and biological forces help to determine not only the crops and kinds of livestock that will be produced, but the relative amounts of each and the way in which they will be marketed.

Competition between areas or regions and competition or interdependence of crop and livestock enterprises within an area are the two great forces that determine the most profitable combinations of crop and livestock enterprises for the individual farm. In the case of a single commodity the farm price received for it and the cost of producing it determine the comparative advantage that one area may have over other areas in its production. As a matter of fact, however, the crops and livestock grown in an area are those which, *in combination*, will return the most value from the available resources, in so far as individual farmers are able to determine such combinations. Thus while one area may hold a potential advantage over another area in the production of a certain commodity, it may not produce that commodity because of the greater advantage it has in the production of other commodities; or an area, because there is no product that will fit into its farming scheme and return a better income, may be forced into the production of some crops in direct competition with areas that have superior advantages for those crops.

As agriculture has developed from a self-sufficing industry to a highly competitive commercial undertaking, the influence of economic and biological forces on the type of agricultural production in any given area has increased greatly in importance. This competition between regions has led to specialization of products sold from the majority of Illinois farms.

Economic Forces Affecting Illinois Agriculture

Some of the more important economic forces that have influenced the type of agriculture to be found in a region include size and proximity of markets, transportation facilities, supply of capital, availability of labor, types of land tenure, technic of farming, legislation, and the characteristics of the people. Space will be given to a brief discussion of some of the most important of these forces as they have influenced Illinois agriculture.

Markets.—Among the states Illinois ranks fourth in the proportion of urban dwellers; hence few agricultural areas of the country have close at hand such extensive markets for agricultural products as has Illinois. The population of Illinois has grown from 55,211 in 1820 to 7,630,654 in 1930. Seventy-four percent of the population lives in cities and towns of 2,500 or more. There are 192 cities and towns with a population of 2,500 or more and 211 with 1,000 to 2,500 inhabitants. The proportion of people living on farms varies from less than 1 percent in Cook county to 72 percent in Pope county. Omitting four counties in the Chicago area, in which 56 percent of the total population of the state lives, 28.7 percent of all the inhabitants live on farms.

The industrial centers in Illinois have developed, in a large measure, because of the wealth of natural resources and the ready transportation facilities. No other part of the United States is better situated than Illinois with regard to the combined advantages of readily available supplies of food, fuel, iron, and certain other raw products. Illinois is therefore apparently destined to remain both an important industrial state and an important agricultural state, with advantages for both interests enjoyed by few other areas.

As agriculture passed from the self-sufficing stage, industrial developments in cities not only took over many of the processes formerly performed upon farms but also provided new markets for agricultural products. Milk condenseries, cheese factories, creameries, vegetable canning plants, soybean oil mills, and other such industries have created special markets for farm products. The development of these industries in certain localities was, no doubt, brought about partly by the type of farming existing in the vicinity; but the presence of these industries has also lent impetus to the production of the particular raw products which they use. Such industries influence the organization of the farms of an area so long as they provide a relatively profitable market for the farm products which they use.

After supplying local market demands, Illinois farmers must look to more distant markets for the disposal of their surplus products. The ability to compete with other areas in the sale of products to distant markets is dependent to a large extent upon transportation facilities.

Transportation Facilities.—Farm products that are low in value in relation to bulk or weight and those of high perishability tend to be produced near consuming centers. The present extensive railroad system and the extensive construction of hard roads thruout the United States have, however, placed within easy reach of the farms both local and distant markets for large quantities of farm products. Furthermore the position of Illinois with relation to population centers of the United States and the advantage which Illinois holds with regard to freight-rate classification make it possible for Illinois farmers to produce many products for more distant markets. Transportation facilities have been developed in Illinois until they are seldom limiting factors in agricultural production, even in limited localities. Calhoun is the only county not crossed by one or more railroads. With the extensive system of hard roads, livestock and perishable products are now trucked in large quantities into terminal markets and consuming centers.

The freight-rate structure in Illinois is such as to favor certain areas for some products. The part of Illinois north and west of a line drawn from Chicago down the Illinois river to East St. Louis is in the Western Classification Territory and south and east of this line is in the Official Classification Territory. Freight rates on livestock to either Chicago or St. Louis favor the former territory and on grains the latter.

Hard roads have extended the area from which whole milk and fresh vegetables are hauled. In some localities this has changed the organization of farms along the roads tho the general type of farming in the area has not greatly changed.

Capital.—Availability of capital and the rates which must be paid for its use have not been restraining factors in determining types of farming in Illinois. The large near-by industrial centers represent a ready source of capital for farming purposes in practically all parts of the state. Illinois has been regarded as a good farm loaning territory, as shown by the relatively large volume of loans made on farm property by insurance companies and the fact that the average farm-mortgage rate in Illinois prior to the passage of the Federal Farm Loan Act in 1916 was lower than in most other states. No doubt the

proximity of the large population centers was a factor partially responsible for this situation since it assured close at hand a relatively stable demand for certain products.

The amount of capital required to finance individual farms depends on the proximity of the farm to large cities, the character of the soil, and on the commodities produced. The capital investment is highest in

FIG. 12.—CROP LAND PER PERSON ENGAGED IN AGRICULTURE

The crop land area per person ten years old and over gainfully employed in agriculture is greatest in the central part of the state, where grain and live-stock production are common, and is lowest in the fruit and truck farming areas in southern Illinois and near Chicago.

areas near large cities, where land values are highest and the type of farming most intensive. The amount of capital for buildings and equipment is larger per acre of farm land in the intensive dairy areas usually found near cities than in the grain-farming areas.

During recent years the need to increase farm incomes has influenced the type of farming to some extent in nearly all parts of the state. Larger incomes have frequently been obtained by making more complete or efficient use of the labor already on the farms, and this in turn has required more operating capital. The introduction of dairying on many farms is an example of this change.

Labor.—Neither the supply of farm labor nor the kind of labor required has been a limiting factor in the development of different types of farming in Illinois. The density of population and the high proportion of the population living in cities and small towns make available an adequate supply of labor except in periods of marked industrial activity. There is, however, some competition between industry and agriculture for labor, as is evidenced by the higher farm wages that are usually paid near the industrial centers.

The fruit and truck enterprises in southern Illinois and the dairy and truck enterprises near the larger cities in the northern part of the state require relatively more agricultural workers than the less intensive systems of livestock and grain production in the central part (Fig. 12). In 1930 the crop land area per person ten years old and over gainfully employed in agriculture was less than 40 acres in the fruit and truck farming areas in southern Illinois and averaged about 50 acres near the larger industrial centers. In parts of central Illinois, where the land is fertile and nearly all tillable and there are no large industrial centers, there were more than 90 acres of crop land per person.

Land Tenure.—Forty percent of the farms in Illinois were owner-operated in 1930; 43 percent consisted entirely of rented land; 16 percent were rented in part and owned in part by the operator; and 1 percent were operated by hired managers. While there is a definite relationship between the different systems of land tenure that have developed and types of farming, it is difficult to say which is the cause and which is the result. Land tenure, however, is now an important factor in determining changes in types of farming.

The sale of land in large tracts by the Illinois Central railroad during the fifties seems to have been the beginning of tenancy in Illinois. Some of these large tracts were operated as single units for many years, but many were immediately broken up into smaller units and leased on shares. Prior to 1880 land was available at low prices and most farms were owner-operated, only 31.4 percent being operated by tenants.

The increase in the amount of tenancy following 1880 was due to several causes: (1) the steady increase in the value of land made it possible for many farmers to retire and lease their farms; (2) many farms were purchased by business men as a permanent investment and leased; (3) with the prospective advance in land values, many speculators bought farms and leased them with the intention of selling as soon as a profit could be realized; and (4) the rapidly rising value

of farm land acted as a growing barrier to ownership for many with limited capital. Since 1920, when land values reached their peak, there has been little change in the amount of tenancy in Illinois (Fig. 13).

FIG. 13.—TENURE OF FARMS IN ILLINOIS, 1880-1930

The amount of tenancy in Illinois increased from 1880 until about 1920, when land values and prices of farm products reached their peak. Since 1920 there has been little change.

The amount of tenancy is greatest in the east-central and northern parts of the state, where large farms, highly productive soil, and large equipment requirements call for large investments per farm (Fig. 14). Because of limited resources and uncertainty of tenure, a tenant farmer usually cannot make changes in the organization of a farm that require the outlay of much new capital or a period of years to complete. Except on farms where there is unusual cooperation between the landowner and tenant, adjustments to meet changing economic conditions will be made more slowly on tenant farms than on owner-operated farms.

Cash tenancy was most common on Illinois farms about 1910, since which time it has declined. It is most common at present in the live-stock areas, particularly on dairy farms in northern Illinois (Fig. 14). In Cook, Lake, and DuPage counties more than 80 percent of all tenant farms were leased for cash in 1929. Under a cash system of tenancy the landowner has a more constant income and the operator has greater freedom in the management of the farm.

Cash tenure is more common on livestock farms than on grain farms for two reasons: (1) labor is a more important factor in live-stock farming, particularly dairying, than in grain farming, and cash tenure enables the operator to use available labor to the fullest extent

without dividing the proceeds with the landowner; (2) greater risk is involved in livestock production than in grain farming unless the operator is a superior farmer, and frequently the landlord is not willing to supply the additional capital necessary for the livestock enterprises.

In grain farming cash tenancy encourages extractive methods: hence a combination of the crop-share form of tenancy with a cash form is the most common arrangement in areas where grain farming

FIG. 14.—FARMS OPERATED BY TENANTS AND TENANT FARMS RENTED FOR CASH, 1929

The largest percentage of tenant farms is found in the east-central part of the state, where the capital invested per farm is largest. Cash tenancy is most common in northern Illinois, where dairying is important and where on many farms other classes of livestock are produced in large numbers.

prevails. *Crop-share-cash leases* provide for the payment by the tenant of a share of the grain crops as rent and the payment of a cash rental for all pasture and hay land. This arrangement has an advantage in that the main part of the rental is based upon the physical production of the farm, both tenant and landlord sharing in the uncertainty of crop production. It tends to discourage livestock production, however, since the landowner's share of the crops is usually sold from the farm. *The livestock share lease*, however, under which the landowner main-

tains a part interest in the livestock, is becoming more general in Illinois as the need for greater effort to maintain or improve the soil becomes more apparent.

Technical and Scientific Developments.—Level topography, extensive areas of all-tillable land, and good physical conditions of the soil, which are characteristic of a large part of Illinois, favor the use of large-sized mechanical equipment. With the development of this new machinery, Illinois began to gain advantages in the production of many crops over areas having less favorable topography and soil conditions. The invention of machines adapted to specific operations, such as the rotary hoe for soybean cultivation and the combine for soybean harvesting, has done much to assure crop profits.

Advancing scientific knowledge has led to the introduction into Illinois of many new crops, as well as to the continued profitable production of older crops in competition with new areas. The development of methods of controlling diseases and insect pests has been in part responsible for the successful competition with new areas, as has also the building up of the soils by the use of limestone and the production of legume crops, particularly alfalfa and sweet, red, and alsike clovers. Improved varieties of wheat, barley, oats, and soybeans have encouraged the extension of these crops into areas of Illinois not formerly so well adapted to them. Improved types of livestock, resulting from careful breeding and better feeding practices, have encouraged many farmers to expand their livestock production.

The control of hog cholera thru vaccination and the control of various hog parasites thru sanitation have been important factors in encouraging a greater production of hogs thruout the state.

Apple production would not flourish in many parts of Illinois where it is now an important industry were it not for the control of various insects and diseases thru spraying. Crop rotations have proved effective in wiping out or controlling many crop diseases and pests.

Legislation.—Restrictions upon the importation of agricultural products into the United States represents perhaps the chief form of legislation influencing the development of types of farming in Illinois.

Tariffs on the importation of soybeans and wool are among the most important legislative measures at the present time directly affecting farming in Illinois. The tariff on soybeans has served to protect that industry from competition with soybeans grown in eastern Asia. Tariff protection for this crop was especially important during the experimental period, when varieties were being improved and farmers were attempting to determine the best method of handling the crop.

In order to encourage sheep production in the United States, a tariff was placed on wool, this country having usually been a deficit area so far as wool production is concerned. This tariff has been an important factor in encouraging the raising of sheep, particularly in states like Illinois, where a farmer has considerable latitude in choice of products and type of farming.

Restrictions placed by other countries on importations of products from this country are of as much importance to Illinois farmers as are tariff duties placed by this government on importations into this country. The high tariffs recently adopted by certain foreign countries to restrict wheat importations from the United States have greatly reduced the amount of this crop exported. The resulting decline in the price has led to a reduction of the wheat acreage on many farms.

Legislation of any kind that tends to restrict or to expand either domestic or foreign demand for agricultural commodities produced in Illinois will have a direct influence on the types of farming followed in Illinois.

Characteristics of the People. — The characteristics of the people settling in different sections of Illinois and their customs have influenced, to some degree, the types of farming in areas where there is considerable choice as to the products that may be grown. A good example of this fact is found in Stephenson and Jo Daviess counties, which were early settled by many people from New York state, the Scandinavian countries and Switzerland. The dairy industry, particularly cheese production, was developed in these counties not only because the industry was better adapted than grain farming to that area but also because of the training and knowledge of these early settlers. The introduction of cotton in southern Illinois was due in part to the presence of some Negro farmers who, because of their experience in growing the crop farther south, undertook its production in Illinois.

Personal preferences influence many farmers to continue a certain type of farming rather than adopt some other type for which natural conditions are more favorable. The promptness with which new crops and new methods are adopted in an area is often determined mainly by the racial characteristics of the farm operators. Some adopt new enterprises quickly; others are slow to give up old practices.

Biological Forces Affecting Illinois Agriculture

Insects and diseases attacking plants and animals are the biological factors that may prohibit, temporarily or permanently, the production of certain crops or classes of livestock in some areas, or they may

dictate the crop sequence or method of handling and marketing a product that must be followed in order to obtain satisfactory returns.

As the agriculture of an area becomes older, more diseases and insects are introduced that require adjustments in agricultural methods and practices. The introduction of corn diseases and insects, for example, has been an important influence leading to the adoption of definite crop rotations. In the less favorable localities for apple growing, the San Jose scale has been a direct influence in reducing or eliminating apple production, even after the trees were well grown. Losses from animal diseases and parasites, while not severe enough actually to prohibit the production of livestock, have increased until many farm operators have adopted a more definite rotation of pastures and other control measures as a means of maintaining animal production on a profitable basis.

UTILIZATION OF LAND IN ILLINOIS

Of the total land area of Illinois 85.6 percent, or 30,695,339 acres, was classed as farm land in the 1930 federal Census. The remaining 14.4 percent, or 5,172,181 acres, was occupied by cities, railroads, roads, or public institutions; was used for industrial purposes; was too rough and unproductive to be used for farming; or was used for recreation.

In Livingston county, where the soil is highly productive, where 94 percent of the land is tillable, where there are no large cities and only a small amount of manufacturing, 96.6 percent of the total land area was included in farms in 1930. In Cook county only 36 percent of the land was in farms, most of the remainder being in cities or used by industries, railroads, or roads, or devoted to recreational purposes. Much of the land area in the southern part of the state is rough and the soil is low in productivity. Less than 75 percent of the land in some of the southern counties was classed as farm land in the 1930 Census (Fig. 15).

Of all Illinois land in farms in 1929, 82.2 percent was classed as tillable, either as crop land or tillable pasture; 11.5 percent as pasture land that could not be cultivated; 2.4 percent as unpastured woodland; and 3.9 percent as "other land," including waste land, building lots, and roadways. The proportion of farm land classed as tillable varied from less than 50 percent in the unglaciated areas and along rivers to more than 95 percent on the prairie land.

The proportion of farm land classed as crop land in 1929 varied from 32.6 percent in Hardin county to 84.8 percent in Livingston

FIG. 15.—DISTRIBUTION OF ILLINOIS FARM LAND

The land area in farms in 1930 varied from less than 75 percent in many counties in southern Illinois to more than 90 percent in most parts of central Illinois. Crop land, including harvested crops, idle or fallow, and crop failure, equaled 69 percent of all land in farms in 1929; pasture land, 25 percent; and woodland not pastured, less than 3 percent.

county, and averaged 69 percent for the entire state (Fig. 15). The total state areas so classed included 1,480,423 acres of idle or fallow land and 701,147 acres of land on which there was a crop failure. A large part of the land on which there was a crop failure in 1929 was in drainage districts, where good crops are normally raised. Most of the idle land was in the southern one-fourth of the state.

Twenty-five percent of the farm land of the state, or 7,607,035 acres, was classed as pasture land in 1929. The proportion varied from 11.1 percent in Mason county to 49.4 percent in Brown county (Fig. 15). Over half the land in pasture was classed as tillable. On many farms in east-central Illinois there is no untillable land, altho some land is devoted to pasture. Along rivers and streams and in unglaciated sections most of the land used for pasture cannot be cultivated. Some of it has timber growing on it and the rest is too rough to permit cultivation. The carrying capacity of pasture land varies greatly but is usually much higher in the central and northern parts of the state than in the southern part.

The farm area in Illinois includes 731,936 acres of timber not used for pasture and 1,216,461 acres of "other land." Most of the area used for timber only is rough land or the less productive land. "Other land" amounts to less than 6 acres per farm and represents building sites, roadways, and waste land.

FIELD CROPS GROWN IN ILLINOIS

During the early period of settlement of Illinois, corn was the most important grain crop grown. It was easy to grow, readily stored, and produced large quantities of nourishing food for man and feed for animals. Before transportation facilities were available these were important factors in determining types of agriculture. Since livestock, which could be driven to market, were easier to market than grain, cattle and hogs early became important agricultural products. Wheat was the most important crop grown directly for use as food and was hauled long distances overland to waterway markets. With the establishment of mills for grinding the grain, flour entered commercial channels in large quantities.

The acreages of corn, oats, wheat, and tame hay grown in Illinois annually from 1866 to 1930 are shown in Fig. 16 and Appendix Table 16. Following 1860 the greatest increases in farm land area were in the prairie sections. When drained, the rich soils in these areas were particularly well adapted to grain farming. Conditions were less

favorable for livestock farming. Moreover, fencing and lumber for buildings had to be shipped in and were high in price.

From 1860 to 1880, as the prairie areas were drained, the acreage of corn increased rapidly. From 1880 to 1900 the acreages of corn and oats increased, while there was some decline in the wheat acreage. The most significant changes in agriculture in Illinois since 1900

FIG. 16.—ACREAGES OF CORN, OATS, WHEAT, AND HAY IN ILLINOIS, 1866-1931

During the past thirty years there has been little change in the acreages of the principal grain crops grown except for a marked increase in wheat production for a short time during the World War period.

have been the addition of minor cash or feed crops to the cropping system and the tendency toward specialization, the various crops becoming most highly concentrated in the areas best suited to their production. These changes have been prompted or necessitated by soil conditions, by the competition of these areas with other agricultural areas, and by changes in economic and biological conditions.

Corn

The area of corn grown in Illinois reached a peak of more than 10,500,000 acres during the period 1900-1905 (Fig. 16). During the next twenty years the annual acreage slowly declined until, during the five years 1926-1930, an average of only 8,862,000 acres was grown. A general decline in the acreage of farm land during this period accounted in part for the smaller corn acreage tho, with the exception of the northeastern part of the state, the proportion of tillable land in

corn was less in 1929 than in 1899. The decline in corn acreage has been greatest in areas where the natural fertility of the soil is lowest. In such areas a large acreage of legume crops is being grown for soil-improvement purposes or the land is being allowed to stay in grass.

Corn was harvested from 8,574,608 acres in Illinois in 1929, an area equal to 45 percent of the total area from which crops were harvested and equal to 34 percent of all tillable land in the state. Corn is grown both as a feed and as a cash crop in Illinois. The farm value of the corn crop was equal to nearly half the value of all crops in 1929; the income from sales of corn amounted to over 40 percent of the income from sales of all crops. Nearly one-third of the crop was shipped out of the county where grown, chiefly to neighboring counties, to the New England and southern states, or for exportation. Much of the corn sold is sold to farms in the same county.

The distribution of corn acreage in 1929 is shown in Fig. 17. The relative acreage of corn, its value in relation to the value of all crops, and the proportion which is sold vary widely in different parts of the state. A distinct relationship exists between the acreage of corn and the character of the soil. Highest yields of corn are obtained on the dark-colored prairie soils, which are high in humus and nitrogen. Total rainfall is sufficient over the entire state for good corn yields, but periods of low rainfall occurring during the growing season often limit corn production. The ability of corn to withstand these periods of drouth depends to a large extent on soil conditions. The shorter growing season and the lower average temperature make the extreme northern part of the state less favorable for corn growing than the central parts and necessitate the use of early maturing varieties in northern Illinois in order to lessen the damage from frost.

The relative acreage of corn is greatest in the east-central part of the state, where 45 percent or more of the tillable land area was in corn in 1929. Corn is chiefly a cash crop in this area, from 60 to 70 percent of it being shipped out of the county where grown. From 40 to 45 percent of the tillable land in the north-central part of the state and west of the Illinois river is in corn, but the proportion of tillable land in these areas is lower than in east-central Illinois. From 25 to 30 percent of the tillable land in the extreme northern part is usually in corn. Corn is almost entirely a feed crop in this area, and large acreages are cut for silage and fodder. Late corn, which might otherwise be damaged by frost, is saved and utilized in these ways. From 25 to 35 percent of the tillable land in the south-central part of the state is normally in corn, nearly all of which is fed to livestock.

FIG. 17.—ACREAGES OF CORN, OATS, WHEAT, AND BARLEY

Corn is grown thruout the state, with the heaviest production in the east and north-central parts. Oats are important in the northern two-thirds of the state. Wheat is an important crop in central Illinois, in several counties adjacent to St. Louis, and in the Ohio and Wabash river valleys. Barley is important only in northern Illinois.

The light-colored poorly drained soils in the southern part of the state are not suitable for extensive corn growing. Only 15 to 20 percent of the tillable area is generally in corn, and the amount produced is sufficient only to provide feed for work stock, dairy cattle, poultry, and a few hogs.

Corn is the most important crop on the bottom lands along the rivers in all parts of the state. Along the Wabash and Ohio rivers in southeastern Illinois are small areas where 25 to 35 percent of the tillable land is in corn and from which considerable amounts of corn are sold.

Oats

The acreage of oats in Illinois increased until about 1900, since which time it has remained nearly stationary at about 4 million acres (Fig. 16). Some decrease in oats acreage has taken place in the northern part of the state and some increase in the south-central part. A total of 3,998,589 acres, an area equal to 21.1 percent of the harvested crop land in Illinois, or to 15.8 percent of all tillable land, was grown in 1929.

The importance of oats is due more to their value as a small-grain crop in the rotation than to their value as a cash or feed crop. Oats are sown before work on corn is started and are harvested after most of the corn cultivation is completed. They are an excellent nurse crop for hay and pasture seedings, and follow corn better than does wheat.

Oats are an excellent feed for work stock, dairy cattle, and for growing young stock, but the amount of feed produced by an acre of oats is less than half that realized from an acre of corn. The farm value of the oats crop was only 12 percent of the value of all crops during 1924-1928, and while one-third of the crop was shipped out of the county where grown, the value of oats sold made up only 12 percent of the income from all crop sales.

The east-central and northern parts of the state have the greatest acreages of oats (Fig. 17). Grown in a cropping system with corn as the major crop, oats usually occupy 25 to 35 percent of the tillable land in east-central Illinois. Their value as a feed crop for dairy cattle makes them an important crop in northern Illinois. Since oats grow best in areas where the soil and climate are both cool and moist, they are not an important crop in southern Illinois.

Wheat

Crop land planted to wheat reached a peak of more than 3 million acres in Illinois about 1880, declined to about 2 million acres during

the period from 1890 to 1905, then increased gradually until the demand created by the World War brought it to a high peak of over 4 million acres in 1919 (Fig. 16). Since 1920 it has declined to about 2 million acres. The area harvested in 1929 totaled 2,093,399 acres, or 11 percent of the harvested crop land and 8 percent of the tillable land area of the state. Nearly 95 percent of the wheat grown was winter wheat. The value of all wheat harvested was only 9 percent of the value of all crops, but the income from sales of wheat made up 17 percent of the sales of all crops.

Wheat is grown in all parts of the state but is especially important in three areas, as shown in Fig. 17. A wheat belt extends entirely across the central part of the state, with the heaviest production centering in Mason and Menard counties near the Illinois river. Wheat was grown on 80 percent of the farms in these counties in 1929 and occupied over 25 percent of the tillable land. From 20 to 25 percent of the tillable land in Cass, Morgan, and Scott counties was in wheat. In the second wheat area centering in Monroe, St. Clair, and Washington counties in the western part of the state over 30 percent of the tillable land area in 1929 was in wheat, and 25 to 30 percent of the area in several other adjoining counties was in wheat. A smaller area is found along the Wabash and Ohio rivers in southeastern Illinois. The total acreage in this area is small compared with the acreage in the other two areas, but it ranks next to the corn acreage in this area and is an important crop in the cropping systems.

The kind and amount of wheat grown are influenced by soil and climatic conditions as well as by competition with other crops. Production of winter wheat in the northern part of the state is hazardous because of winterkilling. The same risk is involved in central Illinois to some extent, particularly on the heavier types of soil. Where corn is grown on 50 percent or more of the harvested crop land, wheat does not fit readily into the rotation. Hard winter wheats are commonly grown in the northern part of the state and soft winter wheats in the southern part.

The reaction following the general increase in wheat acreage during the war period has been different in different parts of the state. In northern Illinois the acreage has been reduced to about what it was before the war. In the east-central part of the state the acreage, tho still small, has increased about two and a half times; in the central wheat area it has increased about 15 percent; while in some of the southeastern counties it has been reduced to less than 50 percent of the pre-war acreage.

Barley

Barley is a cool weather crop and for highest yields requires a porous, well-drained soil, conditions most nearly found in the northern part of the state. It is grown over the entire northern half of the state but reaches its greatest importance in the northeastern corner, where it is raised mainly as a feed crop for dairy cattle (Fig. 17). In this area it was grown on 10 to 15 percent of the harvested crop land in 1929.

Prior to 1917 barley was grown on less than 60,000 acres in Illinois. The acreage increased steadily, 600,000 acres being harvested in 1928. This increase was due largely to the greater use of barley for feed and, in some localities, to the use of barley to replace oats in the rotation. The 1928 barley crop, however, was heavily infested with scab, which caused difficulties in feeding it. With this experience farmers reduced their acreages, and in 1929 barley was harvested from only 369,903 acres on 22,137 farms.

Soybeans

The acreage of soybeans grown alone increased from a few thousand acres prior to 1917 to 427,175 acres in 1929. In addition, soybeans are used extensively as an interplanted crop, particularly with corn for silage, or they are used for pasture.

From 50 to 60 percent of the soybeans grown alone in Illinois are cut for hay, the proportion varying greatly in different parts of the state and from year to year, depending on the need for hay. Soybeans are widely used in many parts of Illinois as an emergency hay crop when the clover does not survive the winter. Soybean oil factories have been the principal market for the grain, tho the amount of grain fed has greatly increased during the last few years.

Soybeans are grown thruout the central part of the state but are most important in a relatively small area including and extending from Macoupin and Bond counties to Vermilion county (Fig. 18). In this area the acreage planted to soybeans alone constitutes nearly 7.5 percent of the total harvested crop land, an average of 16 acres of beans being grown on 40 percent or more of the farms. The greatest acreages are in Macoupin and Christian counties, where about 11 percent of the harvested crop land was in beans in 1929.

Certain characteristics of soybeans have influenced their acreage and distribution in recent years. Soybeans grow well on soils that are too acid to grow alfalfa or clovers and are therefore popular as a hay crop in the southern half of the state. The high nitrogen content of

the grain and of the hay has led to the production of soybeans on many livestock farms in the central part of the state. Their adaptation to the poorer types of soil in south-central Illinois has made them a relatively profitable cash grain crop in that area. The high yield of

FIG. 18.—ACREAGES OF SOYBEANS AND OF SWEET-CLOVER PASTURE

Soybeans, a relatively new crop, are important thruout central Illinois, with the heaviest production in the region from Macoupin county to Champaign county where they are grown largely as a grain crop. Sweet clover, within the past fifteen years, has become an important pasture crop thruout the state. In addition a considerable acreage is grown for soil-improvement purposes.

soybeans on the more fertile soils in east-central Illinois has made them a profitable grain crop, replacing oats and sometimes corn in the rotation. In this area three-fourths or more of the beans are harvested for grain, while in the southern third of the state a larger proportion is cut for hay.

Hay and Pasture Crops

One-third of the farm land in Illinois was in hay or pasture crops in 1929. About one-third of this hay and pasture area is timber land or land that is too rough for cultivation. Hay was harvested from 2,917,631 acres in 1929, and 4,091,718 acres of tillable land were used

for pasture, the total area occupied by these two crops making up 27.7 percent of all tillable land.

The proportion of all pasture which is tillable is greatest in the east-central part of the state, where the relative acreage of all pasture is smallest (Fig. 15, page 125). Acreage in pasture gives little indication of the amount of feed produced, the carrying capacity depending on soil conditions, on type of pasture, and on methods of management. In the northern part of the state mixed timothy and clover pastures are most common, while timothy, redtop, or other native grasses are most common in the southern part. Sweet clover for pasture and for soil improvement has become popular during the last few years in areas where it can be grown. The total area of sweet clover used for pasture in 1929 was reported to be 135,310 acres, on 9,013 farms (Fig. 18). The Illinois State Department of Agriculture estimates that 748,000 acres of sweet clover were sown in 1929.

The relative acreage of meadow harvested for hay varies from less than 5 percent of the tillable land area in east-central Illinois to more than 30 percent in the south-central part. Timothy and mixed hays made up 47 percent of the total hay acreage in 1929, clover 20 percent, annual legumes 11 percent, alfalfa 7 percent, and other tame grasses 14 percent. Small amounts of small grains and wild grasses made up the remainder. The average acre-yields reported in 1929 were: timothy and mixed hays, 1.22 tons; clover, 1.45 tons; alfalfa, 2.19 tons; annual legumes, 1.23 tons; and other tame grasses, .62 ton.

Timothy and mixed hays were reported on 43 percent of the farms in the state in 1929. These kinds of hay are most important in the area west and north of the Illinois river and in a belt extending east across the south-central part of the state (Fig. 19). From 60 to 70 percent of all hay on most farms in these areas is of this type. Clover hays are grown over most of these same areas, but it is a common practice to sow a seed mixture to insure a stand of grass if the clover should not survive the winter (Fig. 19). The limestone is necessary to grow clover in the area adjoining St. Louis, the acreage of clover hay in this area is the highest of all hays. The reason for the high proportion of clover hay is that it meets the urgent demand on many farms for leguminous roughage for dairy cattle.

Annual legumes harvested for hay consist of soybeans and cowpeas; the importance of these legumes for hay follows closely their distribution for all purposes.

"Other tame grasses" harvested for hay in Illinois consist almost entirely of redtop. Redtop is grown in a relatively small area in south-

FIG. 19.—ACREAGES OF HAY AND GRASS SEEDS

Timothy and mixed hay make up about 50 percent of the total hay acreage of Illinois and are found in all parts of the state; clover hay makes up 20 percent, with the heaviest production in the western half and in the north; and alfalfa hay, 7 percent, with a distribution similar to clover hay. The heaviest production of grass seeds (redtop and timothy) is in southeastern Illinois.

eastern Illinois where it is threshed for seed and the straw used for hay. Soil conditions make it difficult to grow most legumes in this area, tho some soybeans and cowpeas are grown for hay.

Alfalfa is grown on less than 15 percent of the farms in Illinois. The total acreage is relatively small, but the higher yield per acre than other legumes and the greater feeding value make it an important crop on many farms. Distribution of the alfalfa acreage has been influenced by soil conditions as well as by demand. The greatest acreage is in the northern part of the state where there are many soils on which alfalfa can be grown successfully without the application of limestone or with very light applications (Fig. 19). Alfalfa is also an important hay crop in the St. Louis area altho here large quantities of limestone are necessary to grow it successfully.

Grass and Legume Seeds

Grass and legume seeds were harvested from 563,114 acres in Illinois in 1929, or from less than 3 percent of the harvested crop land. The clovers, principally red and alsike, together with some sweet clover, made up over 48 percent of the total acreage of harvested grass and legume seeds; timothy seed made up 11 percent; and "other grass seeds," almost entirely redtop, made up nearly 40 percent (Fig. 19). Clover seed was harvested, however, on less than 10 percent of the farms in the state, timothy seed on only 1.7 percent, and other grass seeds on 2.7 percent.

The production of redtop is confined largely to Marion, Clay, Richland, and Wayne counties. Over 40 percent of the timothy seed was produced in Effingham, Jasper, and Clay counties, with the remainder produced in small areas over the state. Clover-seed production is fairly evenly distributed over the state except for the northeast corner and the southern part where little or no seed is produced.

Other Field Crops

The crops that have been discussed occupied over 98 percent of the harvested crop land in Illinois in 1929; their value was equal to 87 percent of the farm value of all crops during the five years 1924-1928; and the income from their sales equaled 83 percent of the cash income from all crops. Other field crops, which are grown on a relatively small total area in Illinois but which are important in small localities and on many individual farms, are broomcorn, cowpeas, sunflower seed, rye, cotton, buckwheat, sugar beets, and mixed grains.

Broomcorn was grown in 1929 on a total of 21,403 acres on 772 farms, an average of 27.7 acres per farm. Its production is confined

FIG. 20.—ACREAGES OF BROOMCORN, COWPEAS, SUNFLOWER SEED, AND MIXED GRAINS

Broomcorn production in Illinois, altho limited to a small area centering in Coles county, is second largest in the United States. Cowpeas are important chiefly in southern Illinois. Sunflower production is confined almost entirely to Moultrie county. Mixed grains, consisting largely of oats and barley, are important as a feed crop in west-central and northwestern Illinois.

to a small locality in and about Coles county (Fig. 20). It was grown on 14 percent of the farms in this county in 1929 and on 5.2 percent of the harvested crop land, but the value of the crop equals a much greater proportion of the value of all crops in the county. It is an important cash crop.

Cowpeas were grown on 11,812 farms in 1929. The total area occupied by cowpeas grown alone was 99,420 acres, while 6,939 acres were grown with other crops. Cowpeas grow well on soil of low productivity, and for this reason are most important in southern Illinois (Fig. 20). Mason, Cass, and Tazewell counties, however, form an important center of production in central Illinois, cowpeas being grown on the sandy soils in that area. Cowpeas are raised as a hay crop or as a grain crop. The proportion cut for hay is much larger in the southern part of the state than in the central area.

Sunflower seed was reported as grown on 592 farms in 1929. The total area reported was 13,567 acres. Practically this entire area is in Moultrie and surrounding counties (Fig. 20).

Rye was grown on 62,051 acres on 4,010 farms in 1929. As a grain crop it is most important in Mason and Cass counties and in northern Illinois. Generally rye is grown on the more sandy soils. It is often used as an early spring pasture crop on livestock farms.

Cotton is grown only in the extreme southern part of Illinois. The total area in 1929 of 1,613 acres was grown on 136 farms. The acreage in 1924 was nearly ten times as great as in 1929, but with the drop that occurred in the price of cotton, production declined.

Buckwheat was harvested from 5,738 acres on 440 farms in 1929. It is grown mostly in the northern part of the state, tho some is found in the south-central part also.

Mixed grains, not separated in threshing, were harvested from 95,220 acres on 4,387 farms in 1929. These grains in most cases are a mixture of oats and barley grown as a feed crop. Frequently some other grain is drilled in a thin stand of wheat. Mixtures are most common in the west-central part of the state and in the northwest corner (Fig. 20).

FRUIT AND VEGETABLE PRODUCTION

The orchard fruits—apples, peaches, pears, cherries, and plums—are produced in all parts of the state. Apples are most common, being reported on 44 percent of the farms in 1929. Peaches were grown on 27 percent of the farms, cherries on 21 percent, pears on 20 percent,

and plums on 17 percent. Many other farms having only a few fruit trees probably reported none. Commercial production of these fruits, however, is limited to a relatively few farms in selected areas.

Less than 1 percent of the land in harvested crops in Illinois was in orchards in 1929, and the value of the fruit was less than 3 percent of the value of all crops. In the commercial fruit areas, however, the value of the fruit was equal to 40 to 60 percent of the value of all crops, and sales of fruit were the most important source of income on many farms.

Apples

The number of apple trees in Illinois has declined steadily during the past thirty years. The number of trees of bearing age reported in 1930 was less than one-third the number in 1900. Most of this decrease was due to the abandonment of small farm orchards. The setting of new trees in commercial orchards was heavy during the years 1915 to 1925. A survey in 1928 indicated that 20 percent of all apple trees in commercial orchards that year were set during the four years 1915-1919 and that 45 percent had been set since 1919. Thirty-nine percent of the apple trees reported in the Agricultural Census of 1925 were under bearing age, compared with 32 percent in 1930.

During the four years 1924-1927 an average of 5,362 carloads of apples were shipped annually by Illinois producers, the number varying from 3,178 to 6,627 carloads. The three important commercial apple areas in the state are shown in Fig. 21. Sixty percent of the apples shipped during the four years 1924-1927 were grown in the western area, which includes Calhoun, Greene, Jersey, Pike, and Adams counties. Many new trees have been set in this area in the last ten years, particularly in Calhoun county, where the number of trees has more than doubled.

Cumberland, Jasper, Richland, Clay, and Marion counties, together with parts of Crawford and Effingham counties, make up the second most important commercial area in the state. Nineteen percent of all shipments made by Illinois growers in 1924-1927 were from those counties. This area was the first important apple-producing center in the state, but the industry here is now distinctly on the decline. The number of trees of bearing age in 1930 was less than 12 percent of the number in 1900.

Many early apples are produced in the third area, which includes Union, Johnson, and parts of Jackson and Williamson counties. Carload shipments from this area made up 13 percent of the state total from 1924 to 1927. The number of trees declined in this area between

FIG. 21.—FRUIT AND VEGETABLE PRODUCTION IN ILLINOIS

The areas of important commercial apple, peach, and vegetable production are shown in the above maps. Tho the heaviest vegetable shipments are from Union and Pulaski counties, vegetables grown for canning are important in east-central and northern Illinois, and for direct consumption near Chicago, St. Louis, and in the extreme southern part of the state.

1900 and 1924 but has increased nearly 30 percent since 1919, the greatest increase occurring in Union and Johnson counties.

Peaches

The total number of peach trees reported in Illinois in 1930 was 4,027,456, nearly three-fourths of which were trees of bearing age. The number declined more than 50 percent between 1910 and 1920, the greatest decline being in the small farm orchards. From 1920 to 1925 the total number increased from 1,851,037 to 4,139,100 trees. A survey conducted in 1925 indicated that 77 percent of all peach trees in commercial orchards at that time had been set in 1920 or later. From 1925 to 1930 the number of trees declined slightly, and only 25 percent of the trees were of nonbearing age in 1930, compared with 45 percent in 1920.

The annual production of peaches in Illinois fluctuates greatly with climatic conditions. During the last ten years it has varied from practically none to 4 million bushels. During the four years 1924-1927 an average of 1,509 carloads of peaches was shipped annually out of peach-producing areas. Shipments varied from 579 carloads in 1925 to 4,636 carloads in 1929.

Commercial peach production is limited largely to the two areas shown in Fig. 21. Union county has always been the most important center of peach production in Illinois. Fifty-five percent of the total volume shipped during the four years 1924-1927 was from Union, Johnson, Pulaski, and Jackson counties. The number of trees in this area in 1930 was two and one-half times as large as in 1920.

Thirty-eight percent of all carlot shipments of peaches from 1924 to 1927 were from Marion and the adjoining counties. In 1900 there were more peach trees in Marion county than in any other county in the state. The number declined until about 1920, when many new trees were set out. Peach growing in this area is subjected to a greater risk of frost damage than it is in the areas farther south. Crop failures are common. This fact, coupled with low prices for peaches, has resulted in a rapid decline in the number of trees during the last few years.

Pears

One-third of the pear trees of bearing age in Illinois are in Marion county, and nearly 60 percent of the carlot shipments of pears during the four years 1924-1927 came from there. Pears are produced on farms in all parts of the state but the crop is of commercial importance on few farms. The number of trees in the state declined

rapidly from 1910 to 1920, increased somewhat immediately following the war, and then declined about 30 percent between 1925 and 1930.

Plums and Cherries

Plums and cherries are produced in all parts of Illinois but are of little commercial importance except in local trade. During the last twenty years the number of cherry trees has declined 70 percent and the number of plum trees 65 percent. Forty-one percent of the farms in the state reported cherry trees of bearing age in 1910 and only 21 percent reported them in 1930. Twenty-seven percent reported plums in 1910 and only 17 percent reported them in 1930.

Grapes

Grapevines of bearing age numbering 1,750,332, and 168,257 vines not of bearing age, were reported on 57,901 farms in 1930. The commercial crop of grapes is grown almost entirely in Hancock county, where an average of over 500 vines per farm was reported on 30 percent of the farms in 1930. An average of 17 carloads of grapes was shipped from this county annually during the four years 1924-1927.

In 1900 there were over 3 million grapevines of bearing age reported in Illinois. At that time there were nearly as many vines in Pulaski county as in Hancock county, but the number declined rapidly from 1900 to 1910. The number of vines per farm reported outside of Hancock was only 22 in 1930.

Small Fruits

Strawberries were reported on 7,800 acres in Illinois in 1929, raspberries on 1,508 acres, blackberries on 1,270 acres, and other small fruits on 201 acres. An average of 213 carloads of strawberries was shipped annually out of the counties where produced in 1924-1927. Sixty percent of all carlot shipments was from Union, Pulaski, and Massac counties, 25 percent from Fayette and Marion counties, and 12 percent from Adams county. From 1,000 to more than 3,000 quarts of strawberries were produced per farm in these areas in 1929.

Vegetables

Production of vegetables, including potatoes, may be divided into two classes: those grown only for home use and those grown for sale. The value of vegetables grown in farm gardens for home use was estimated at more than $7\frac{1}{2}$ million dollars or \$45 per farm in 1929. More than $14\frac{1}{2}$ million dollars' worth of vegetables and potatoes were harvested from 170,082 acres, and while this acreage is small compared

with the total crop acreage, it is important in distinguishing the type of farming in some localities.

The distribution of vegetables harvested for sale is shown in Fig. 21. In Cook, Peoria, Madison, and St. Clair counties, vegetables are produced largely for immediate consumption in near-by large population centers. In Union, Pulaski, and Alexander counties they are grown largely for immediate consumption in distant markets. In Iroquois, Vermilion, Ford, Woodford, and Tazewell counties in the central part of the state, and in Boone and DeKalb counties in the northern part, large acreages of vegetables are produced exclusively for canning purposes.

An average of 1,628 carloads of *fresh vegetables* were shipped annually from Illinois producing areas during the four years 1924-1927 (Fig. 21). Fifty-five percent of these were from the Union county area. The acreage of vegetables grown for sale was much greater in Cook county and in St. Clair and Madison counties, but most of the production in these counties is absorbed by local demand. Onions, cabbages, and carrots are the only vegetables shipped out of Cook county in appreciable amounts; asparagus is the only important vegetable crop shipped from Madison county; and mixed vegetables and spinach make up most of the shipments from St. Clair county.

Sweet corn, *green peas*, and *pumpkins* are the principal vegetable crops grown in Illinois for canning purposes. The acreages of these crops are not large enough to affect the prevailing type of farming in the areas where grown, and yet they occupy important positions in the cropping systems on many farms and affect materially the farm income.

White potatoes were reported as harvested from 46,721 acres on 128,459 Illinois farms in 1929. Most of this acreage represents production for home use only, tho some potatoes are grown for sale in the area adjacent to St. Louis and in northern Illinois.

Sweet potatoes were reported as harvested from 4,764 acres on 19,341 farms in 1929. Nearly two-thirds of the total acreage was in the extreme southern part of the state, 1,147 acres being reported for Union county alone.

LIVESTOCK PRODUCTION

Livestock holds an important place in Illinois agriculture. Feed and pasture crops are grown on more than three-fourths of the farm land in the state and a large part of these crops is fed on the farms

where produced or on other farms in the same locality. Sales of livestock and livestock products make up nearly 60 percent of all agricultural sales, and the meat, dairy, and poultry products consumed in the farm home represent an appreciable part of the family living. The value of all livestock on farms on April 1, 1930, was estimated at \$290,199,219, or \$1,353 per farm. Sales of livestock and livestock products in 1929 amounted to \$280,093,841, or \$1,306 per farm. Few farms have less than two classes of livestock contributing to the cash income or providing food for the farm family.

Livestock is not of the same importance in all parts of the state, nor does each class of livestock fill the same place in the livestock organization in all areas. The differences that exist are due chiefly to local conditions, such as soil type, topography, pasture and crop combinations, and to market influence. A study of the distribution of each class of livestock brings out more clearly the importance of these factors.

Work Animals

The number of horses and mules on farms in Illinois declined from an average of 1,486,000 during the five years 1911-1915 to an average of 887,000 during the five years 1926-1930. The number of colts born in 1929 was about 60 percent less than the annual average from 1911 to 1915. Horses and mules, however, are still the major source of farm power. On some of the truck farms and on many small farms at the edge of cities and towns, the necessary horse work is hired.

Horses and mules are distributed over the entire state, the acres of farm land per horse depending on size of farm, proportion of land cropped, type of farming followed, and use made of motor power. The number of work animals two years old or over that were on farms in 1930 varied in different parts of the state from an average of less than 40 to more than 80 on each 1,000 acres of crop land harvested in 1929 (Fig. 22). The number was lowest in the east-central part of the state, where the acreage per farm is largest, nearly all the land is tillable, the number of tractors is highest, and where a more extensive type of farming is practiced. The relative number of work animals is greatest in the southern part of the state, where farms are small, a large proportion of the land is rough, and intensive types of farming are common.

Dairy Cattle

Dairy cattle are the most common class of productive livestock, excepting poultry, kept on Illinois farms. Cows are kept mainly for

FIG. 22.—DISTRIBUTION OF WORK ANIMALS, DAIRY COWS,
AND MILK AND CREAM SOLD

The number of horses two years old and older per 1,000 acres of crop land harvested in 1929 and the number of dairy cows in Illinois in 1930 are shown in the two upper maps. Gallons of whole milk and pounds of cream sold per 1,000 acres of crop and pasture land are shown in the two lower maps.

milk on more than 90 percent of all farms. The number of cows per farm, however, and the form and the quantities of dairy products sold vary greatly. On some farms dairy cows are kept only to supply milk, cream, and butter for the farm family. On many the dairy enterprise is relatively small but sales of dairy products, principally cream or butter, make up an appreciable part of the total farm income. In some parts of the state, and on a few farms in nearly all parts, dairying is a major enterprise and is the principal source of income. Whole milk usually is sold from these farms, either for daily consumption or to condenseries or cheese factories.

The number of milk cows in the state has changed little during the past thirty years. There were 921,107 cows over two years of age and 166,385 two-year old heifers kept mainly for milk on April 1, 1930 (Fig. 22). More than three-fourths of the milk produced in the state is sold as whole milk or is separated and the cream sold as butterfat (Fig. 22). Less than 5 percent is sold as butter or sweet cream. Farms on which whole milk is sold are found near all cities. Cream is sold in varying quantities in all parts of the state. Sales of cream are of greatest importance in proportion to the total farm income in the southern part of the state, altho the greatest amounts are sold in the south-central and western parts. Sales of dairy products, generally, are lowest in east-central Illinois.

Beef Cattle

The beef-cattle enterprise is found in several different forms in Illinois, all of which must be considered in studying the distribution and importance of the industry. Beef cattle are most important in the area west of the Illinois river and extending north to the Wisconsin line. Topography in this region is such that a considerable part of the land can be used only for pasture. Most of the soils produce good yields if properly handled, but pasture and hay are usually necessary to maintain yields.

The number of all cattle other than milk cows in Illinois declined from about 2 million head in 1900 to 1.5 million in 1910, then increased to over 1.7 million in 1920, and has since declined to about 1.3 million. All classes of beef cattle have declined in numbers but the greatest decline has been in beef cow herds. The type of feeding cattle has also changed, the number of yearling calves fattened for market being much greater now than in 1900. Beef breeding herds are most common in the area west and north of the Illinois river and east of the river in the south-central part of the state (Fig. 23). Beef breeding

FIG. 23.—DISTRIBUTION OF BEEF COWS, FEEDER CATTLE, HOGS, AND SHEEP

The distribution of beef cows two years old and over and of cattle shipped in for feeding purposes is shown in the upper two maps. The distribution of hogs and sheep in Illinois in 1930 is shown in the lower maps.

herds are usually found on farms with a large proportion of untillable land or land which, for other reasons, must be left in pasture or hay.

A type of beef-cattle enterprise in which calves or steers are purchased, either locally or from distant markets, is most common thru the area extending from McDonough county to Henry and Bureau counties and up into DeKalb county. Some cattle feeding is scattered over all the heavy corn-producing areas of the state. Feeder cattle may be calves or heavy steers, and they may be fed only a short time or for a long period. Usually this type of cattle is found on farms where nearly all the land is in crops, but pasture may be utilized in carrying light feeders thru the summer and fall. The number of cars of cattle shipped into the different areas of the state in 1922 is shown in Fig. 23. Tho prepared from old data, this map indicates the chief cattle-feeding areas at present, as they have changed little since 1922.

Hogs

Sales of hogs made up over 40 percent of the cash income from livestock during the five years 1924-1928, and from this standpoint hogs are the most important class of livestock on Illinois farms. They are not found on as many farms as are dairy cattle, but they are a major enterprise and an important source of income on a much larger proportion of the farms. They are important only in areas where relatively large quantities of concentrated feeds, particularly corn, are raised. A supplementary relationship often exists between the hog enterprise and other classes of livestock. In the northwest part of the state, where large quantities of cream are sold, the skim milk is fed to hogs. On farms where beef cattle are fed, hogs salvage feed which otherwise would be wasted.

The number of hogs has varied from year to year with changes in the relative price of corn, hogs, and beef cattle. From 1910 to 1923 there was a general tendency to increase hog production, but a general decline in numbers has taken place since that time.

Pigs usually are raised and finished for market on the same farm, altho some feeder pigs, amounting to about one percent of the total number marketed, are shipped in. Brood sows bred to farrow in the spring of 1930 were reported on the majority of farms (Fig. 23). In McDonough county and in several counties farther north hogs were reported on 70 to 80 percent of the farms in 1930, and 8 to 12 sows were reported as farrowing in the spring on each farm. From McDonough county south to Pike county and extending east to Sangamon county, an average of 6 or 7 brood sows bred to farrow in the spring of 1930 was reported on 60 to 70 percent of the farms. The number

of sows bred to farrow in the spring does not indicate accurately the relative number of pigs raised in these two areas, however, since the proportion of farms on which two litters of pigs are raised each year is greater in the southern area than farther north.

Sows were reported on 60 to 70 percent of the farms in east-central Illinois in 1930, but the average number per farm was less than 5 in most counties. In the southern part of the state an average of less than 2 sows was reported on about one-third of the farms in most counties; in a few counties where corn is an important crop sows were reported on more than half the farms.

Sheep

Sheep are not an important class of livestock in Illinois. During the five years 1924-1928 the sales of sheep, lambs, and wool made up less than 2 percent of the sales of all livestock and livestock products. Sheep were reported on only 15 percent of the farms in 1930, and on those farms there was an average of only 16 ewes per farm. On some farms sheep are an important source of income; on others they are important chiefly as a means of marketing low-grade roughages and other unsalable feeds.

In general the raising of sheep is most important in areas where there is a high percentage of untillable land and other low-grade pasture land and where the production of concentrated feeds in proportion to pasture crops is not great enough to feed beef cattle (Fig. 23).

The feeding of lambs is important on a few farms thruout the heavy corn- and oat-producing areas. During the six years 1925-1930 the shipments of sheep and lambs into the state were equal to 36 percent of the stockyard receipts from Illinois. Most of these sheep and lambs were fed at a few large feeding stations in DeKalb and Kane counties. From ten to thirty thousand or more lambs are finished for market at some of these stations annually.

Poultry

Production of poultry and eggs is an important farm enterprise, whether considered from the standpoint of income or from number of farms on which produced. Chickens over three months of age were reported on nearly 95 percent of all farms in the state in 1930. During the five years 1924-1928 the sales of poultry and eggs made up 16 percent of the sales of all livestock and livestock products. In addition about one-fourth of the eggs produced and a large number of the chickens raised were consumed on the farms. During the past twenty

years the number of chickens raised annually has increased nearly 25 percent and the number of eggs has increased 45 percent.

Poultry is most important in the south-central part of the state, where an average of more than a thousand hens is kept on each thousand acres of crop and pasture land (Fig. 24). There were more than 200 hens in 23 percent of the flocks in this area on April 1, 1930,

FIG. 24.—DISTRIBUTION OF CHICKENS AND OF EGGS SOLD

Altho chickens are found on practically every Illinois farm, they make up a larger proportion of the farm income in the southern fourth of the state. Farm sales of eggs in 1929 per 1,000 acres of crop and pasture land are shown on the map at the right.

and in only 38 percent were there less than 100 hens. In the central and northern parts of the state poultry is a minor enterprise on most farms, eggs and chickens being produced primarily for consumption on the farms where produced. Fifty percent of the flocks in Illinois had less than 100 hens on April 1, 1930, and on only 11 percent of the farms were there more than 200 hens.

The importance of the poultry enterprise in southern Illinois is even greater when the income from sales of poultry and eggs is considered in relation to the total farm income (Fig. 24). Sales of poultry and eggs per farm are not only much larger in southern than in central

and northern Illinois but they make up 25 percent or more of the total sales from the farm, compared with less than 10 percent in the central and northern parts of the state.

Other Livestock

The raising of turkeys, geese, ducks, and goats are minor farm enterprises in Illinois. Turkeys were reported on only 3 percent of the farms in 1930, geese on 14 percent, and ducks on 19 percent. On a few specialized farms these kinds of poultry are important, but in most cases they are found on large farms and contribute only a small part of the total farm income.

Goats are found on a few farms. On some farms they are kept in order to utilize brush land which can be used for no other purpose, and on others, particularly on small farms near cities, they are used for milk production.

Bees

Bees were reported on 12 percent of the farms in Illinois in 1930. These farms were widely distributed over the entire state. An average of 165 pounds of honey, valued at about \$25, was produced per farm.

CROP AND LIVESTOCK COMBINATIONS IN DIFFERENT PARTS OF ILLINOIS

The distribution of the various crops and classes of livestock over the state and the relative importance of each in different parts of the state have been shown in the preceding discussion and charts.

The next step in determining the principal types of farming and in delineating the areas in which the various types predominate is to observe how these crops and classes of livestock are combined in the productive organization of farms in different parts of the state. The best means of ascertaining in a general way how crops are combined on farms in different parts of the state is to note the distribution of the crop and pasture areas. The relative importance of the various classes of livestock in the different areas is indicated by the number of each class in relation to the extent of the crop and pasture acreages. These relationships are shown in Fig. 25 by counties.

In Fig. 25 winter wheat and rye are shown together as fall grain. Oats, barley, spring wheat, and mixed grains are included as spring grain. Fruits, vegetables, soybeans, broomcorn, etc., are classed as "other crops." Land on which the planted crop failed, or which was idle for other reasons in 1929, is also shown in order to account for

FIG. 25.—CROP AND LIVESTOCK PRODUCTION IN ILLINOIS BY COUNTIES

The crop and pasture land data are for 1929; livestock numbers are for 1930.

the entire crop and pasture area. The relative importance of each class of livestock is indicated by the number of mature animals. Corn, it will be noted, is grown on as large a part of the tillable land as is possible in nearly all parts of the state. Soil fertility definitely limits the acreage that can be grown and yields maintained. Available labor and equipment, the need for small grain and hay crops, and other factors further limit the amount of corn that can profitably be included in a rotation.

Where the acreage of wheat is greatest, the acreages of both corn and oats tend to be reduced. Since wheat does not follow corn well in the rotation unless the corn is cut for silage or fodder, a longer rotation that will give place to both oats and wheat is necessary, tho it reduces the acreage of corn that can be grown.

In counties where the corn acreage is greatest, the amount of hay and pasture in the rotation and the numbers of livestock kept are lowest. Where the acreages of hay and pasture are largest, dairy cattle, beef cows, and sheep are found. In many counties where a relatively large amount of the land can be used only for pasture, the acreages both of corn and of hay and pasture are high and the feeding of steers and hogs are important enterprises. Hogs are not fed in large numbers in counties where the corn acreage is small. Neither are hogs always found where corn acreage is high, but they are almost always found in the less intensive dairy areas and where beef cattle, either steers or cow herds, occupy an important place.

Poultry is produced over the entire state but is found in largest numbers where acreages of grain crops and numbers of other livestock are low. In such areas some enterprise such as poultry is necessary in order to absorb available labor and to increase the total farm income.

DOMINANT TYPES OF FARMING IN DIFFERENT AREAS AND CONDITIONS CONTRIBUTING TO THEIR DEVELOPMENT

In further analyzing the foregoing facts concerning crop and livestock combinations in different parts of Illinois, we find that the state may be divided into nine major areas according to type of farming pursued (see frontispiece). These areas are drawn, it will be noted, without reference to county lines, having been determined by data, such as that concerning soil characteristics, which does not follow county lines and by other data available on a township basis. Information obtained from farmers living in the different areas and from

others intimately acquainted with a particular locality has also been used in delineating the areas. Areas 4 and 7 include some minor areas that have markedly different types of production from the prevailing type in the major areas.

The general position of each area and the dominant type of farming¹ in each are as follows:

1. Northeastern, Dairy and truck area
2. Northwestern, Mixed livestock area
3. Western, Livestock and grain area
4. East-central, Cash grain area
 - (a) Corn and oats
 - (b) Corn and wheat
5. West-central, General farming area
6. Southwestern, Wheat, dairy, and poultry area
7. South-central, Mixed-farming area
 - (a) General farming
 - (b) Redtop, fruit, and poultry
 - (c) General and part-time farming
8. Southeast, Grain and livestock area
9. Southern, Fruit and vegetable area

The marked differences that exist in the types of farming found in these different areas is indicated by the relative amounts of income received from different sources (Fig. 26 and Appendix Tables 12 and 13).

The average income per farm, including the value of all products sold, traded, or used by the operator's family, varied in 1929 from \$842 in Area 7c to \$3,321 in Area 4a. Crop sales varied from 58.3 percent of the total income in Area 4a to 11.6 percent in Area 7c. Sales of livestock made up 52.5 percent in Area 3 and 17.3 percent in Area 6. Sales of livestock products, including dairy products, poultry, eggs, and wool, equaled 51.1 percent of the total income in Area 1 but only 13.5 percent in Area 4a. Sales of forest products made up less than one percent of the total income in all areas except Areas 7c and 9, which are in the southern part of the state. The value of farm products used by the operator's family made up less than 10 percent of the total income in the northern half of the state but constituted nearly 20 percent of the total income in most of southern Illinois and as much as 29.7 percent in Area 7c in southern Illinois.

¹Nine types of farms recognized by the U. S. Census of 1930 are important in Illinois on the basis of source of income in 1929, namely: cash-grain, animal-specialty, dairy, general, self-sufficing, poultry, crop-specialty, fruit, and truck. Another group included abnormal farms such as those connected with public institutions, country estates, and part-time farms. For a farm to be classed in a given group it was necessary that it should derive 40 percent or more of the total value of all products grown from the source indicated by the description. When 50 percent or more of the total value of all products was used by the operator's family, the farm was classed as a self-sufficing farm.

While a dominant type of farm can be recognized in each area, practically all farms in Illinois receive income from more than one source and there are a good many farms in each area that are not of the dominant type. Distribution of farms by type is shown in Figs. 27 and 28. (See also Appendix Tables 14 and 15.)

FIG. 26.—DISTRIBUTION OF INCOME BY FARMING-TYPE AREAS, 1929

The bars indicate the sources of income in the various farming-type areas and the relative amounts received from each source.

It can be seen from these figures that livestock farms, which are typical of western Illinois, are found in the grain farming area in eastern Illinois, and that other variations occur in other areas. This does not mean that the off-type farms are not organized to the best advantage; it may mean that their soil and topography are more like

FIG. 27.—DISTRIBUTION OF CASH GRAIN, LIVESTOCK, DAIRY, AND GENERAL FARMS

On cash grain farms more than 40 percent of the gross income comes from the sale of grain crops; on livestock farms, more than 40 percent comes from the sale of beef cattle, hogs, and sheep; on dairy farms, more than 40 percent comes from the sale of dairy products and dairy cows and calves; and on general farms, not as much as 40 percent comes from any one source nor more than 40 percent from two main sources.

FIG. 28.—DISTRIBUTION OF SELF-SUFFICING, POULTRY, CROP SPECIALTY, AND FRUIT AND TRUCK FARMS

On self-sufficing farms 50 percent or more of the products are used by the operator's family; on poultry farms more than 40 percent of the income is from sale of poultry and eggs; on crop specialty farms more than 40 percent is from a single crop; while fruit and truck farms receive more than 40 percent of their income from the sale of fruit and truck crops.

those of western Illinois or it may mean that the operator prefers, for personal reasons, the organization he has chosen. In general, however, the dominant type of farming in an area represents the conclusions of the greatest number of farmers as to the type of production that is best adapted to the area.

Area 1, Northeastern, Dairy and Truck

Types of Farms.—Two types of farms, dairy and truck, predominate in Area 1 in the northeastern part of Illinois, 53 percent of the farms being classed as dairy farms in 1929 and 12 percent as truck farms. Only 8 percent were classed as general farms, 7 percent as livestock farms, and 5 percent as poultry farms.

FIG. 29.—MODERN BUILDINGS ON A WELL-ORGANIZED DAIRY FARM

Large, well-equipped dairy barns and silos are characteristic of a large proportion of the farms in Area 1.

Approximately 51 percent of the gross farm income¹ in this area in 1929 was from sales of livestock products; 24 percent from sales of livestock including dairy animals; 18 percent from sales of crops, with 60 percent of the crop sales made up of sales of vegetables. Produce used by the operator's family accounted for the remaining 7.5 percent.

The capital investment per farm is larger in Area 1 than in most parts of the state because the types of production are more intensive; the amount of labor used is greater; and the gross farm income is higher than in any other section except the grain farming area (Fig. 30).

¹U. S. Bureau of Census. In the following discussion "gross farm income" will be used to include the value of all products sold, traded, or used by the operator's family.

Crops Grown.—Since a large part of the crops of an area are usually fed to livestock, their relative importance is not reflected in a general statement of sources of farm income. It is therefore necessary to give them special mention.

FIG. 30.—VALUE OF LAND AND BUILDINGS AND GROSS INCOME PER FARM

Land values are influenced by location in respect to urban centers and by productivity of the soil. The average gross income per farm in 1929 varied from less than \$1,000 in several southern Illinois counties having a large number of self-sufficing farms to more than \$4,000 in several central Illinois counties having large average-sized farms and highly productive soils.

Corn was reported grown on 87 percent of all farms in Area 1 outside of Cook county in 1929, oats on 76 percent, and barley on 63 percent. Timothy and mixed hay made up 64 percent of the total acreage of hay; alfalfa made up 14 percent; and clover grown alone, 15 percent. Vegetables harvested for sale made up only 2.2 percent of the crop and pasture land, but in Cook county 41 percent of the farms were classed as truck farms.

Feed crops, including corn, oats, barley, and hay and pasture, occupied 89 percent of the crop and pasture land in 1929 (Fig. 31). The yields of corn are not high when compared with those in some other parts of the state. Nearly 30 percent of the corn crop was cut for silage in 1929 and 13 percent for fodder, which percentages are more

than twice those in any other farming-type area. This method of harvesting makes it possible to utilize corn which otherwise might be damaged by frost and provides the maximum amount of feed for dairy cattle.

The acreage of oats was greatest in this area in about 1900. The acreage of corn continued to increase until about 1920. The acreage of barley was nearly five times as great in 1929 as in 1909. The de-

FIG. 31.—CROP AND LIVESTOCK PRODUCTION IN ILLINOIS BY TYPE-OF-FARMING AREAS

Fall grain includes winter wheat and rye; spring grain includes oats, spring wheat, barley, and mixed grain. Brood sows include brood sows and gilts farrowing January 1 to June 1, 1930; chickens, those over 3 months. The crop data are for 1929; livestock numbers are for 1930.

crease in acreage of hay and pasture was due in part to the greater use of legume crops. The use of alfalfa and sweet clover for hay and pasture has reduced the acreage necessary to produce the required amounts of roughage and has made it possible to produce more grain crops without lowering crop yields.

Cash crops other than truck crops have never been important in this area except during the World War period, when wheat was grown on 10 percent of the farm land. The danger of winterkilling makes winter wheat a doubtful crop.

Factors Influencing Type of Development.—The urban population of over 4 million people in Area 1 provides a market for large quantities of whole milk and fresh vegetables. The consumption of whole milk in Chicago alone was 122,929,810 gallons in 1930. Soil and climatic conditions are especially favorable for the production of feed

crops for dairy cows. With proper care, the soils of this area produce good grain crops, but a relatively large proportion of hay and pasture in the cropping scheme is necessary to maintain grain yields. Alfalfa can be grown on some of the soils without the addition of limestone.

Size and Number of Farms.—During the past thirty years the amount of farm land in this area has decreased 23 percent and the number of farms 26 percent. Most of this decrease in farm land has

FIG. 32.—DISTRIBUTION OF FARMS IN ILLINOIS BY SIZE
ACCORDING TO TYPE-OF-FARMING AREAS

been due to the growth of cities, to the building of new roads, and to the use of land for parks and other recreational purposes. The largest decrease in number of farms was among farms of 20 to 100 acres. Farms of 100 to 174 acres are most common, as is true of the state generally, but the number below 20 acres is much greater in Area 1 than in other areas (Fig. 32). Approximately 30 percent of all farms include less than 50 acres. The trend toward larger farms is less pronounced in this area than in most other parts of the state.

Farm Tenure.—Tenants operated 42 percent of the farms in Area 1, nearly three-fourths of which were rented on a cash basis in 1929 (Appendix Table 17). Cash tenancy is common on the dairy farms and truck farms, where labor makes up a large part of the expense of operation.

Local Changes in Type of Farming.—With changes in the demand for whole milk, in prices for it, and in the amount available, the limits of Area 1 have gradually shifted. The area from which whole milk is drawn for use in Chicago and its suburbs has tended, during the past few years, to become more and more restricted. In 1930, 57.3 percent of the milk used in Chicago was produced in Illinois, 30 per-

cent in Wisconsin, and 12.7 in Indiana.¹ High prices, improved transportation facilities, and the loss of many cattle condemned as tubercular extended the whole-milk area westward into the cheese and condensary area of northwestern Illinois and northward into Wisconsin during the middle of the last decade. Lower prices, the rebuilding of herds following the test, and a more regulated milk supply have since tended to restrict the area.

Dairy Farms.—Dairy farms in Area 1 represent the most intensive type of dairying found in Illinois. These farms, averaging 141 acres in size, returned an average gross income of \$3,939 in 1929, about two-

TABLE 1.—AREA 1: FACTS REGARDING PRINCIPAL TYPES OF FARMS¹

Item	Dairy farms	Truck farms
Percentage indicated farms are of all farms in area.....	53.3	12.3
Average size of farms, acres, 1929	141.1	30.8
Crop land, acres.....	92.8	23.4
Pasture, acres.....	27.5	2.2
Value of land and building per farm, 1930.....	\$24 464	\$25 971
Value of land per acre.....	123	759
Total value per farm of all products sold, traded, or used by operator's family, 1929.....	\$ 3 939	\$ 2 862
Value of crops sold or traded.....	181	2 602
Value of livestock sold or traded.....	607	23
Value of livestock products sold or traded.....	2 860	80
Value of forest products sold or traded.....	4	0
Value of products used by operator's family.....	287	157

¹Additional data for this area are shown in Appendix Table 10. Only the counties located entirely in the area were used in calculating the data for the area. This is true also of Tables 2-9, 10, 12, 18; see page 227.

thirds of which was from dairy products (Table 1). An average of 17 to 18 cows were milked per farm, these cows producing an average of about 35 gallons of milk per farm per day, 96 percent of which was sold as whole milk.

An average of 4.5 head of work stock was reported on 91 percent of these farms in 1930; 37 percent reported an average of 4.5 brood sows; and beef cows were reported on less than 2 percent of the farms.

The cropping system is designed to produce a maximum amount of grain and roughage for dairy cattle, but on many farms large quantities of mill feeds and some grain are purchased. An average of \$423 was reported spent for feed on 83 percent of these farms in 1929.

¹Annual Report, Department of Health, City of Chicago, 1930.

Eighteen percent of the farms reported the purchase of \$100 worth of fertilizer in 1929, much of which was ground limestone. Nearly 70 percent reported an average of \$547 spent for labor.

Truck Farms.—Truck farms represent the most intensive type of farming in Illinois. They are found close to the population centers and the investment in land is usually high. Most of the truck farms in Area 1 are in Cook county, and in 1929 averaged 31 acres in size with 23 acres devoted to crops (Table 1). The land was valued at an average of \$759 an acre, or \$23,404 a farm. The average gross income was \$2,862, 91 percent of which was from crop sales.

Only crops of high value per acre are grown on these farms, and large quantities of labor and fertilizer are required. About three-fourths of the farms reported in 1929 an average of \$748 spent for hired labor and \$193 for fertilizer, consisting more largely of mixed fertilizer than on dairy farms. Practically no livestock other than one or two head of work stock is kept on these farms, altho a cow and chickens are found on some.

Forty-one percent of the farms were operated by tenants in 1929; of these tenant farms 97 percent were rented on a cash basis.

Area 2, Northwestern, Mixed Livestock

Types of Farms.—Farming in Area 2 in northwestern Illinois is best described as a mixed livestock type, with dairy cattle, beef cattle, hogs, and sheep as important sources of income. ~~Forty-eight~~ percent of the gross farm income of the area in 1929 was from sales of livestock and 28 percent was from livestock products. Thirty-eight percent of the farms were classed as livestock farms, on which beef cattle, hogs, or sheep were the major sources of income. Dairy cattle provided most of the income on 22 percent. The relative importance of these different classes of livestock varies widely from farm to farm.

Hogs are important on both dairy and beef-cattle farms in this area. On the dairy farms they utilize large quantities of skim milk or whey. On the beef-cattle farms they save much of the grain fed to steers that otherwise would be wasted. On farms where most of the land is tillable, hogs are often the only important class of livestock.

Twenty-two percent of the farms in this area were classed in 1929 as general farms, the income from no one source amounting to more than 40 percent of the total income.

Cash grain farming is found in the bottom lands of the Rock and Green rivers in Whiteside and Lee counties. Outside this small locality

sales of grains amounted to only 15 percent of the gross income in 1929, tho some grain crops are sold on about 90 percent of the farms.

Land values per acre are much lower in Area 2 than in Area 1, and with less dairying the value of improvements is less.

Crops Grown.—Corn is commonly grown on about one-third of the tillable land in Area 2, spring grains on one-fourth of the area, and hay or pasture on most of the remainder (Fig. 31, page 160).

FIG. 33.—LEGUME PASTURE PROVIDES ECONOMICAL FEED FOR HOGS

Pasturing hogs on rotated legume pasture is becoming a common practice thruout Illinois. It is a means of securing cheap feed and of controlling disease.

Winter wheat was grown on a few farms in 1929, but the danger of winterkilling and the importance of livestock production leads to the raising of feed crops on most of the land. Winter wheat is important chiefly in the southern part of the area, where cash grain farming is more common and where the sandy type of soil lessens the danger of winterkilling. Some spring wheat is grown, but yields are not large enough to make this grain a highly profitable crop.

Factors Influencing Type of Development.—The proportion of untillable land in this area is relatively high. In some localities as much as 50 percent of the farm land cannot be cultivated. The soils are not naturally so productive as in some parts of the state but they are well drained and, when properly handled, produce good yields.

The necessity of producing a relatively high proportion of grass crops has led to the development of a type of livestock farming in which large amounts of pasture and roughage can be utilized. The

choice between classes of livestock is dependent on the market for dairy products and on the proportion and quality of tillable land on the individual farm. In this area the operator may permit his personal likes and dislikes to play a more important part in choice of type of farming than in most areas of the state.

A market for large quantities of whole milk and cream has been created by the condenseries, cheese factories, and creameries in this area, particularly in the northern part. During the middle of the last decade, the shortage of milk in the Chicago area, as explained in the discussion of Area 1, diverted a large amount of whole milk from the condenseries and cheese factories and caused a considerable increase in dairying in Area 2. The rebuilding of herds in the Chicago area, the lower prices paid for milk, and the transportation costs, however, have now practically closed the Chicago market to producers in Area 2.

Low transportation costs are an important factor in the production of dairy products for condenseries and cheese factories. In localities where dairy markets are not readily available, meat animals become of more importance. They also become of more importance on many farms where the kind of feed produced is not suitable for dairy cattle. On farms that are more nearly all tillable and highly productive, more grain and less hay and pasture is produced; hence the crops grown are especially adapted to beef-cattle feeding and hog production.

Size and Number of Farms.—The amount of land in farms in Area 2 has declined about 4 percent in the past thirty years, and the number of farms 10 percent. The proportion of small farms has tended to decline during the past thirty years and is now less than in Area 1. In proportion to the total number of farms, the number having 100 to 174 acres has increased 10 percent and the number having 175 to 259 acres 20 percent since 1900 (Fig. 32).

Farm Tenure.—The proportion of rented farms in Area 2 is 45.4 percent, and 44.1 percent of these are rented on a cash basis. This is more cash tenancy than is found in any other part of the state except Area 1. During the last twenty years the proportion of tenancy in this area has increased 15 percent, but the amount of cash tenancy has decreased nearly 25 percent.

Livestock Farms.—Except for the small group of cash grain farms, the livestock farms in Area 2 are larger, on the average, than any other type, averaging 184 acres in 1929 (Table 2). The gross income was 30 percent higher than from the cash grain farms, which stood second in amount of income. The average value of the land per farm was \$19,088; and the average gross income was \$3,769 per farm.

TABLE 2.—AREA 2: FACTS REGARDING PRINCIPAL TYPES OF FARMS¹

Item	Livestock farms	Dairy farms	General farms
Percentage indicated farms are of all farms in area	38.4	21.7	21.9
Average size of farm, acres, 1929	183.7	145.2	129.6
Crop land, acres.....	107.9	82.4	77.9
Pasture, acres.....	39.1	40.0	30.5
Value of land and buildings per farm, 1930	\$19 088	\$16 004	\$13 938
Value of land per acre.....	71	72	73
Total value per farm of all products sold, traded, or used by operator's family, 1929	\$ 3 769	\$ 2 899	\$ 2 063
Value of crops sold or traded.....	256	177	384
Value of livestock sold or traded.....	2 540	928	656
Value of livestock products sold or traded....	667	1 522	714
Value of forest products sold or traded.....	8	5	8
Value of products used by operator's family..	298	267	301

¹Additional data for this area are shown in Appendix Table 10.

Sales of livestock made up about two-thirds of the gross income on these farms. Hogs were the most common class of livestock, an average of 11.3 sows and gilts kept to farrow in the spring being reported on 90 percent of these farms in 1930. Beef cows and heifers to the extent of 11.9 head per farm were reported on 18.5 percent of the farms; 16.7 head of "other cattle," which grouping includes steers and calves, were reported on 95.1 percent of the farms. No data are available on the number of livestock farms on which sheep were important, but an average of 29 sheep and lambs were reported on 23.2 percent of all farms in the area. Milk cows were found on 87 percent of the livestock farms, an average of 8 cows being reported per farm. On many farms these milk cows were kept only to supply the operator's family with dairy products, but on many other farms the sale of dairy products was an important source of income.

Purchased feed and hired labor are important items of expense on the livestock farms of this area. An average of \$412 was spent for feed on 74 percent of the farms, and \$366 was paid for hired labor on 65 percent.

Farms of 100 to 174 acres were most common; 42.6 percent were larger than this and only 17.2 percent were smaller. Forty-three percent of the farms were rented by the operator in 1929, and 41.2 percent of these were leased on a cash basis.

General Farms. — The sale of livestock products and livestock in 1929 made up about two-thirds of the gross income on general farms

in Area 2. The value of the products sold, traded, or used by the operator's family averaged \$2,063 per farm. The farms averaged 130 acres in size, with 78 acres in crops and 30 acres in pasture. Thirty-seven percent were less than 100 acres in size, 41 percent varied from 100 to 174 acres, and 22 percent were more than 174 acres.

FIG. 34.—SMALL FLOCKS OF SHEEP ARE KEPT ON MANY ILLINOIS FARMS

Sheep are of more importance in western Illinois than in other areas. Except on a few farms where western lambs are fed, sheep are kept chiefly to utilize waste feeds and to destroy weeds.

Dairy cattle were the most common class of livestock on the general farms, an average of 7.5 cows being reported on 92.3 percent of the farms. Hogs were reported on 72.6 percent, with an average of 6.6 brood sows kept to farrow in the spring of 1930. The sale of cream is important on many of these farms and the skim milk is fed to the hogs. Beef cows were reported on only 5.2 percent of the farms in 1930.

Dairy Farms.—The organization of the dairy farms in this area is most clearly shown by comparison, not only with other farms in the same area, but with the dairy farms in Area 1. They are very different from those in Area 1 because an entirely different market exists for dairy products. While 80 percent of the milk produced in Area 2 is sold as whole milk, most of it goes to cheese factories and condenseries at a much lower price than is received in Area 1. The farms in Area 2 are slightly larger than in Area 1, but the gross income per farm in 1929 was 26 percent less, and a much smaller part of the total was from the sale of dairy products.

The dairy farms in Area 2 averaged 145 acres in size in 1929, which was 20 percent smaller than the livestock farms, and among the dairy farms the proportion having less than 100 acres was much greater. The land was valued at \$72 an acre, or \$10,390 a farm. Buildings were valued at \$5,614, which was nearly 10 percent lower than buildings on the livestock farms, the lower valuation being due to the smaller size of the dairy farms; and they were 20 percent lower than those on the dairy farms in Area 1 owing to the use of less intensive farming methods in Area 2.

The average income on these farms was \$2,899 in 1929, compared with incomes of \$3,769 on the livestock farms in the same area and \$3,939 on the dairy farms in Area 1. The sale of livestock products made up only 52.5 percent of the total income on these farms and livestock sales 32.0 percent, compared with 72.6 percent and 15.4 percent respectively from these sources on the dairy farms in Area 1.

An average of only 12 cows per farm was reported for these dairy farms in 1930, compared with 17 cows in Area 1. Other livestock is of greater importance than in Area 1. An average of 7.7 brood sows and gilts kept to farrow in the spring of 1930 was reported on nearly 80 percent of the farms. Beef cows are found on some farms, often being milked as well as used for the production of calves; and sheep are quite common.

Feed was purchased on three-fourths of these farms in 1929 but the amount purchased per farm averaged only \$235, or 55.5 percent as much as was purchased on the dairy farms in Area 1. Labor was reported hired on 55 percent of the farms, an average of \$307 being paid per farm for labor.

Area 3, Western, Livestock and Grain

Types of Farms. — Beef cattle and hogs are the most important sources of income in Area 3, with sales of grain second in importance. Sales of livestock made up 52.5 percent and crop sales 25.2 percent of the gross farm income of the area in 1929. The sale of meat animals made up 40 percent or more of the total income on 44.5 percent of the farms, and grain sales were equally important on 25.8 percent.

Many forms and combinations of the beef-cattle and hog enterprises are found in the area. On farms where considerable land must be left in pasture, beef cow herds are common, altho steers are also fed on pasture. Hogs are the most common class of meat animal, being fed in combination with steers or by themselves.

Eighteen percent of the farms were classed as general farms in

1929, but on these the sale of livestock and grain made up over half the total income. Livestock, grain, and general farms, which constitute over 88 percent of all farms in Area 3, are intermingled over the entire area, their location depending largely upon soil conditions. Together they occupy 92 percent of the total land area.

Dairying was the principal enterprise on 4 percent of the farms in the area in 1929. Dairying has increased on all types of farms in this area particularly during the past ten years and is the major source of income on a small group of farms near Peoria and other larger cities in the area. On many farms other than the dairy farms the sale of dairy products is an important source of income.

Crops Grown.—Ninety-six percent of the farm land in this area was used for crop production or for pasture in 1929 (Fig. 31, page 160). Land which could not be successfully cultivated because of timber or rough topography constituted 14.4 percent of the total crop and pasture area. Corn was grown on 42.3 percent of the tillable land, spring grains on 21.4 percent, and hay or pasture crops on 27.3 percent. An average of 62 acres of corn was grown per farm on 91.6 percent of all farms. Oats are the principal small grain crop, an average of 32 acres being reported on 74 percent of all farms, but barley is an important spring grain on many farms in the northern part of the area. Clovers and mixed timothy and clover are the principal kinds of hay grown. Alfalfa was grown on nearly 15 percent of the farms, while sweet clover for pasture was reported on less than 3 percent.

Little change has taken place in the cropping systems in Area 3 during the past thirty years except in the kind of hay grown. The acreage of wheat was doubled during the war and corresponding reductions made in the acreages of corn and oats, but by 1929 the distribution of crops was nearly the same as in 1909.

Altho a considerable part of Area 3 is devoted largely to grain farming, the area as a whole does not produce a large surplus of grain feeds. Most of the feed grains and hay that are sold are purchased locally by farmers who do not raise enough of these crops to supply their own needs.

Factors Influencing Type of Development.—Soil and topography are the primary factors in determining the types of farming in this area. Most of the soils are dark prairie soils with noncalcareous subsoils and potentially are as productive as any in the state. Many small rivers and streams flow thru this area, however, and along them a light-colored timber soil is common. Where tillable, the light-colored soils are productive if properly handled, but a greater proportion of

such soils than of the dark-colored soils must be kept in hay and pasture crops. On many farms both dark and light soils are found, making possible the production of large quantities of feed grain crops but also making livestock necessary in order that the hay and pasture land may be utilized.

The personal preference of the operator is an important factor in the adoption of certain systems of farming in this area. Frequently

FIG. 35.—BEEF STEERS AND HOGS ARE OFTEN FED TOGETHER
ON ILLINOIS FARMS

The feeding of beef cattle with hogs following to save grain that otherwise would be wasted is a common practice on many Illinois farms. On farms where all the land is tillable and devoted mainly to the growing of grain crops, hogs are often the only important class of livestock.

hog and steer feeding are important enterprises on highly tillable farms because of the operator's training or preference for that type of farming.

The fact that freight rates both to Chicago and to St. Louis are lower in this area than in the area east of the Illinois river gives some advantage to this area in livestock production.

Size and Number of Farms.—Farms in Area 3 in general are larger than in Areas 1 and 2, averaging 165 acres. Twenty-seven percent were less than 100 acres in size, 36 percent were 100 to 174 acres, and 37 percent were more than 174 acres in 1929 (Fig. 32). In the past thirty years farm land in this area decreased only 3 percent, while the number of farms decreased 11 percent. The proportion of farms under 100 acres has declined nearly 25 percent, while the number with more than 174 acres has increased about 25 percent.

Farm Tenure.—The proportion of farms operated by tenants is higher in Area 3 than in Areas 1 or 2, and the number has increased steadily during the past thirty years. Fifty-one percent of all farms were rented in 1929. The proportion of cash tenants, however, is lower in this area than in Areas 1 or 2, only 27 percent of the tenant farms being leased for cash. Cash tenancy is most common on the dairy farms and least common on the livestock farms. Sixty-eight percent of the grain farms in this area were operated by tenants, while 45 percent of the livestock farms were so operated.

Livestock Farms.—Livestock farms in Area 3 averaged 192 acres in size in 1929, with 120 acres in harvested crops and 44 acres in pasture. These farms are only slightly larger than those in Area 2, but the value of land and building per farm was 33 percent higher and the gross income per farm was 16.3 percent larger (Table 3). The value

TABLE 3.—AREA 3: FACTS REGARDING PRINCIPAL TYPES OF FARMS¹

Item	Livestock farms	Cash grain
Percentage indicated farms are of all farms in area. . . .	44.5	25.8
Average size of farm, acres, 1929.	191.6	190.5
Crop land, acres.	119.8	140.9
Pasture, acres.	43.8	28.4
Value of land and buildings per farm, 1930.	\$25 455	\$27 046
Value of land per acre.	102	116
Total value per farm of all products sold, traded, or used by operator's family, 1929.	\$ 4 386	\$ 3 112
Value of crops sold or traded.	491	1 898
Value of livestock sold or traded.	3 158	626
Value of livestock products sold or traded.	452	336
Value of forest products sold or traded.	9	3
Value of products used by operator's family.	276	249

¹Additional data for this area are shown in Appendix Table 10.

of land was \$19,551 per farm and buildings were valued at \$5,904. The average income on these farms was \$4,386, of which 72 percent was from the sale of livestock.

Steer feeding and hog production are relatively more important on the livestock farms in this area than in Area 2, mainly because of the greater production of feed grains in relation to hay and pasture. An average of 13.8 brood sows was reported per farm on 90.6 percent of the farms in 1930, compared with 11.3 sows on about the same proportion of farms in Area 2. More farms, 23.2 percent com-

pared with 18.5 percent in Area 2, reported beef cows, but the average number of cows per farm (9.7) was lower than in Area 2. Milk cows were found on most farms but the income from dairy sales was low.

The average gross income on livestock farms is higher than on any other type in the area, but many items of expense are also high. No data are available on the value of livestock purchased, but on farms where cattle are bought and fed this is an important item of expense. Tho the production of feed grains is relatively high in this area, an average of \$601 having been spent for feed on 75 percent of the farms in 1929, the greater amount of livestock requires more labor thruout the year than most other types of farms, an average of \$447 having been paid for hired labor on 71 percent of the farms.

Cash Grain Farms.—The cash grain farms of Area 3 are about the same average size, 190.5 acres, as the livestock farms, but they have a much larger proportion of land in harvested crops—nearly 75 percent compared with 62.5 percent on the livestock farms in 1929, and the proportion of tillable pasture was only half as great on the cash grain farms. The better type of soil on the cash grain farms is indicated by the fact that the value put on the land in 1929, \$116 an acre, was nearly 14 percent higher than the value put on the livestock farms.

Sixty-one percent of the average total income of \$3,112 per farm in 1929 came from the sale of crops, 20.1 percent from livestock sales, and 10.8 percent from livestock products. Hogs contributed a large share of the income from livestock.

An average of only \$129 was reported as spent for feed on 52 percent of these cash grain farms, but on more than two-thirds of them an average of \$392 worth of labor was hired. The relative number of tenant-operated farms is high, constituting more than two-thirds the total number.

General Farms.—General farms in Area 3 averaged 133 acres in 1929 and a gross income of \$1,942. Thirty-one percent of the income came from the sale of livestock, 26 percent from the sale of livestock products, and 27 percent from crop sales. The average income of the general farms in Area 3 was lower than for either the livestock or the cash grain farms, and consequently a greater part of the farm produce was used by the operator's family, 15 percent being consumed in this way.

Area 4, East-Central, Cash Grain Area

Types of Farms.—The type of farming in Area 4 is best described as cash grain. Corn is the principal crop grown, altho oats or wheat,

or both, are important grain crops in the rotation. Sixty to 70 percent of the corn and 50 to 70 percent of the oats are shipped out of the county where grown.

Fifty-seven percent of the gross farm income of the area was from the sale of crops in 1929. Sixty-seven percent of the farms were grain farms on which 40 percent or more of the gross income was from the

FIG. 36.—ALL-TILLABLE, FERTILE LAND WELL-ADAPTED TO GRAIN FARMING

Level, all-tillable land, such as predominates in Area 4, and extends to many other parts of the state, is utilized largely for grain farming.

sale of crops. Thirteen percent of the farms were general farms on which both crop and livestock sales were important sources of income. Only 7 percent received most of their income from livestock sales.

Before the development of transportation facilities for marketing grain crops, livestock farming was important in Area 4, but at present production of cattle and sheep is not common except where there is untillable land that can be used only for pasture or on dairy farms near cities. Beef cattle and hogs are fed to consume roughage and feed grains and to maintain soil fertility. Hogs are the most important kind of livestock, so far as contribution to the farm income is concerned. Brood sows were reported on about 60 percent of the farms in 1930, the average number being about five per farm. Beef cattle were reported on less than 10 percent of the farms.

With the growth that has occurred in the population of this area the amount of dairying has increased, but even with this increase the sale of livestock products was the major source of income on only 3 percent of all farms in 1929. Dairy cows are the most common class of livestock, but only a few are kept per farm and only small quantities of dairy products are sold from most farms.

Crops Grown.—Cropping systems in this area are planned to contain a maximum of high-value crops while providing for the efficient use of available labor, power, and equipment. In the area as a whole relatively little attention has been given to the maintenance of the soil. On the basis of crops grown, the area may be divided into two parts. Corn is grown on a major part of the crop land over the entire area (Fig. 31, page 160), with oats the principal small grain crop in the eastern and northern part (Area 4a) and wheat the most important in the southwestern part (4b).

Differences in the crops grown in Areas 4a and 4b are due largely to soil and climatic conditions, altho the length of time during which the areas have been cultivated is also a factor. Reduction of available plant food in the soil is becoming especially apparent in Area 4b, with the result that a rotation in which winter wheat and legume crops are important has become more common in this area than in Area 4a. The danger of winterkilling is a serious hazard in the northern part of Area 4a, but on well-drained land this is no more a factor in the southern part of Area 4a than in Area 4b. Winter wheat usually gives a larger income per acre than oats but does not fit well into a rotation in which corn occupies a large proportion of the land. Under the cropping systems followed during the five years 1926-1930, the yields of corn, oats, and wheat were slightly higher in Area 4b than in Area 4a.

Forty-five percent of the tillable land in Area 4a was in corn in 1929, 30 percent in spring grains, and 16 percent in hay or pasture. In Area 4b, 38 percent of the tillable area was in corn, 16 percent in spring grains, 20 percent in fall grains, and 17 percent in hay and pasture. Some barley, spring wheat, and rye are grown in the area but oats made up 94 percent of the acreage of spring-sown small grains and winter wheat 97 percent of the fall-sown grains in 1929. While corn and oats were grown on practically all farms in Areas 4a and 4b, a smaller acreage of each was grown in Area 4b than in 4a. It is significant that in Area 4a an average of 30.3 acres of winter wheat was grown on only 21.4 percent of the farms in 1929, while 43.5 acres were grown on 70 percent of the farms in Area 4b.

In Area 4a there has been little change in the acreages of corn and oats during the past thirty years, but there has been a distinct change in the cropping system in Area 4b. The acreage of corn grown in 1929 was equal to only 70 percent of the acreage grown in 1899; the acreage of oats was reduced to 73 percent of the 1899 acreage; and the acreage of wheat was increased to four and one-half times the acreage in 1899.

Soybeans have become an important crop in the southern parts of both Areas 4a and 4b, but the acreage of beans grown alone, while large upon many farms in the heaviest producing section of the area, amounts to only a small part of the tillable land area. Cowpeas are grown on many farms near the Illinois river on sandy soil.

Factors Influencing Type of Development.—Area 4, tho embracing the most fertile part of the state, was the last part to be developed for agricultural purposes, as it was of little value until the railroads made possible a market for agricultural products. A large part of it could not then be successfully cropped until artificial drainage was provided; hence it was not until the latter part of the nineteenth century that the agricultural resources of this region were fully utilized.

The topography of most of this area is level to slightly rolling. The soils are nearly all dark and highly productive and have been used for agricultural production only a relatively short time. Prior to settlement large quantities of organic matter and nitrogen had been stored in the soils as a result of the heavy growths of grass which topography and moisture conditions made possible.

Ninety percent of the farm land in Area 4 was tillable in 1929, and over 80 percent was classed as crop land. Near the Illinois and Sangamon rivers and in parts of Vermilion county, where small bodies of unproductive timber soils are found, only 70 to 75 percent of the land was classed as tillable, but over 95 percent of the rest of the area can be cultivated.

Size and Number of Farms.—The amount of land in farms in this area has declined less than 4 percent in the last thirty years, while the number of farms has decreased about 17 percent. One-fourth of the farms in 1929 were less than 100 acres in size, 35 percent varied from 100 to 174 acres, 23 percent from 175 to 259 acres, and 17 percent consisted of 260 acres or more. Less than 1.5 percent of the farms, however, consisted of more than 500 acres. During the past thirty years the average size of farm has increased nearly 17 percent, largely by the combining of small farms. The number of farms consisting of 20 to 99 acres in 1929 was about half the number in 1900,

while the number consisting of 175 to 499 acres increased nearly 20 percent.

This increase in the average size of farms can be attributed in part at least to the introduction of tractors and other equipment making possible the handling of more land with the same amount of labor.

Farm Tenure.—Fifty-eight percent of all the farms in the area were operated by tenants in 1929; in Ford county the number reached 69.5 percent. The amount of tenancy increased rapidly from 1900 to 1920, but has changed little since 1920.

TABLE 4.—AREAS 4A AND 4B: FACTS REGARDING
PRINCIPAL TYPES OF FARMS¹

Item	Cash grain farms	
	Area 4a	Area 4b
Percentage indicated farms are of all farms in area.....	68.7	63.1
Average size of farms, acres, 1929	200.6	205.0
Crop land, acres.....	166.2	161.1
Pasture, acres.....	18.8	16.6
Value of land and buildings per farm, 1930	\$30 293	\$28 351
Value of land per acre.....	151	138
Total value per farm of all products sold, traded, or used by operator's family, 1929.....	\$ 3 663	\$ 3 432
Value of crops sold or traded.....	2 542	2 337
Value of livestock sold or traded.....	440	439
Value of livestock products sold or traded.....	399	357
Value of forest products sold or traded.....	4	4
Value of products used by operator's family.....	278	295

¹Additional data for this area are shown in Appendix Table 10.

The average tenant farm is larger than the owner-operated farm and the proportion of tillable land is greater, a total of 62 percent of the farm land in the area and 62 percent of the crop land being operated by tenants in 1929. The amount of cash tenancy is low, however, only 10 percent of the tenant farms being rented on a cash basis. The amount of this form of tenancy is less than one-fourth as great as it was thirty years ago.

Cash Grain Farms.—No other area of the state shows such a predominance of a particular type of farming as does Area 4. The large amount of tenancy in this area is a factor tending to maintain a cash grain type of farming in which the investment in buildings and fences

is kept at a minimum and as large a proportion of the land as possible is kept in crops that have a high acre-value and that are readily salable.

There is little difference in the organization of grain farms in Areas 4a and 4b other than the somewhat lower acreages of corn and oats and the larger acreage of winter wheat in Area 4b. Cash grain farms in Area 4a average smaller in size than those in Area 4b, but with land and buildings valued about 10 percent higher an acre in Area 4a the value per farm in 1929 was higher than in Area 4b.

The value of all products sold, traded, and used by the operator's family in 1929 was \$3,663 per farm in Area 4a and \$3,432 per farm in Area 4b (Table 4). In both sections, however, about 69 percent of the gross income was from crops, 12 percent from livestock, 11 percent from livestock products, and the remaining 8 percent was made up of farm products used by the operator's family.

Milk cows were reported on most of the cash grain farms, but there was an average of only 4 cows per farm. Sows and gilts kept to farrow in the spring of 1930 were reported on about two-thirds of the farms, but the average of only 4 per farm makes them relatively unimportant. Only a few farms reported beef cows.

Labor is the most important item of expense on these farms, on 74 percent of them an average of \$389 being spent for extra help in 1929. On 57 percent of the farms an average of \$98 was spent for feed. Fertilizer was purchased on only 12.5 percent, at an average cost of \$136 per farm.

Other Farms.—General farms constituted 12.7 percent of all farms in Area 4a and 15.9 percent of all farms in Area 4b. In 1929 these general farms averaged 122.5 acres and an income of \$2,158 per farm. Differences in soil and topographic conditions on these farms and the cash grain farms are shown by the lower acreage of crops on the general farms, only 67 percent of the total farm land being in crops in 1929. Thirty-four percent of the total income in 1929 was from sale of crops, 26 percent from livestock, 26 percent from livestock products, and 14 percent was made up of produce used by the operator's family.

Livestock farms constituted 7.2 percent of all farms in Area 4 in 1929. These farms averaged 199.2 acres and returned an average income of \$5,443 per farm, 69.2 percent of which came from sales of livestock. From 10 to 15 brood sows and gilts were reported per farm in the spring of 1930 on most farms, and beef cows were common. Steer feeding is very common and largely accounts for the high average income. Higher expenses incurred by the purchase of feeder cattle, feed, and labor must be considered in comparing the gross incomes from these farms with those from the cash grain farms.

Area 5, West-Central, General Farming

Types of Farms.—The types of farming found in this area resemble those in Area 3, the western livestock and grain area. Beef cattle and hogs are the most important sources of income, with grain sales second. In 1929, 49.6 percent of the gross farm income was from sales of livestock, 23.6 percent was from crop sales, 15.3 percent from livestock products, .5 percent was from sales of forest products, and the remaining 11 percent was made up of produce used by the operator's family. While the distribution of the gross income is quite similar in Areas 3 and 5, there are distinct differences in the organization of individual farms and in the conditions affecting types of farming.

Farms on which livestock sales and those on which crop sales make up 40 percent or more of the total income are quite common in Area 5, but they are less common than in Area 3, and the proportion of farms on which livestock, livestock products, and crops are each important sources of income is much larger in Area 5. Livestock farms constituted nearly 40 percent of all farms, grain farms 17 percent, and general farms 26 percent in 1929. The number of small self-sufficing farms—farms on which the produce used by the operator's family equaled 50 percent of the value of all produce—is greater in this area than in any thus far studied and constitutes 6 percent of all farms.

One-third of the commercial apple crop produced in Illinois is grown in Calhoun county (Appendix Table 11). Some livestock is kept, principally to supply meat and other livestock products for the farm home; and some grain and hay are produced, much of it by intercropping the apple orchards. Because of the highly specialized type of farming in Calhoun county, it is excluded from consideration in the following discussion except where specifically mentioned.

Hogs are the most common class of livestock in all parts of Area 5. Beef cow herds and sheep are common in the western part, where the acreage of pasture is greatest, while steer feeding is more important in the eastern part. In general the area produces about the amount of feed necessary for the livestock raised.

Crops Grown.—Corn, oats, wheat, and hay are the principal crops grown in Area 5, occupying 67.4 percent of the tillable land (Fig. 31, page 160). In 1929 corn was grown on 30.7 percent of the tillable land, spring grains on 9.5 percent, fall grains on 15.9 percent, hay on 11.3 percent, and pasture on 18.9 percent.

Larger proportions of the farm land are used for corn and wheat production in the eastern part of the area on the dark-colored soils,

while the acreages of oats, hay, and pasture are higher in the western part: Exceptions to this are the bottom lands along the Mississippi and Illinois rivers, where grain farming is common, with corn and wheat as the principal crops.

Factors Influencing Type of Development.—Less than three-fourths of the farm land in Area 5 is tillable. The proportion of untillable land is greatest in the western half of the area, where there are localities in which less than half the land is tillable.

FIG. 37.—ROLLING AND TIMBER LAND UTILIZED IN BEEF CATTLE PRODUCTION

Some limited areas of Illinois, especially in Area 5, have such a large proportion of untillable land that they are best suited for beef cattle herds.

Area 5 might be divided into several smaller areas based largely on soil and topographic conditions. Along the Mississippi and Illinois rivers are large acreages of dark-colored bottom-land soils that are very productive when drained. These areas are mostly used for grain farming. In Calhoun county and in sections of the adjoining counties the land is too rough for successful cultivation of annual crops, but both soil and climatic conditions are ideal for the production of fruit. Light-colored timber soils are more common and a much greater proportion of the farm land is untillable in the area west of the Illinois river than in the eastern part, where dark-colored soils similar to those in Area 4b are found.

Nearly two-thirds of the untillable pasture west of the Illinois river is classed as woodland, while less than half is classed as such in the eastern part. Over the entire area nearly all the farm land not in grain crops is used for pasture, except that needed for buildings, lots, and

roadways. In addition to this large area which is too rough for cultivation, the type or condition of the soils is such that hay and pasture crops must occupy an important place in the cropping system. These conditions have led to a type of farming in which livestock is grown in order to utilize the roughage and pasture and help to maintain soil fertility.

Size and Number of Farms.—The acreage in farms in Area 5 has declined only 4 percent in the last thirty years, while the number of

TABLE 5.—AREA 5: FACTS REGARDING PRINCIPAL TYPES OF FARMS¹

Item	Live-stock farms	General farms	Cash grain farms
Percentage indicated farms are of all farms in area	39.8	26.4	16.5
Average size of farm, acres, 1929.....	189.7	126.6	199.3
Crop land, acres.....	90.2	61.3	128.7
Pasture, acres.....	51.8	27.5	25.8
Value of land and buildings per farm, 1930.....	\$15 586	\$9 524	\$19 732
Value of land per acre.....	62	55	83
Total value per farm of all products sold, traded, or used by operator's family, 1929.....	\$ 3 482	\$1 470	\$ 2 538
Value of crops sold or traded.....	387	351	1 640
Value of livestock sold or traded.....	2 430	423	429
Value of livestock products sold or traded....	373	393	218
Value of forest products sold or traded.....	10	15	5
Value of products used by operator's family..	282	288	246

¹Additional data for this area are shown in Appendix Table 10.

farms has declined 20 percent. During the same period farms have increased 22 percent in average size. The number of farms occupying less than 100 acres has decreased 43 percent since 1900, while the number occupying 175 acres or more has increased 16 percent.

Farm Tenure.—Forty percent of the farms in Area 5 were operated by tenants in 1929, the ratio being slightly higher in the eastern part than in the western. Tenancy is most common on the grain farms, 62 percent of them being operated by tenants, compared with 40 percent of the general farms and 34 percent of the livestock farms. The amount of cash tenancy is low, only 13.4 percent of all tenant farms being rented on a cash basis.

Livestock Farms.—The livestock farms in Area 5 averaged 190 acres in size in 1929, with 90 acres in crops and 52 acres in pasture,

58.7 percent of the pasture being plowable. The average value of the land in these farms was nearly 40 percent less per acre than in the same type of farm in Area 3.

The value of all farm products sold, traded, or used by the operator's family was \$3,482 per farm, 70 percent of which was from sales of livestock. Crop sales accounted for 11 percent of the total; livestock products, 11 percent; and 8 percent was produce used by the operator's family.

An average of 8 brood sows was reported as kept to farrow in the spring of 1930 on 85.7 percent of the farms. This number of brood sows is more than 40 percent less than the number on the livestock farms in Area 3, but this fact does not represent accurately the relative numbers of pigs raised in Area 5 since the two-litter system is more common in this area than in Area 3.

An average of 10.5 beef cows was reported on about one-fourth of the farms in 1929, 11.6 "other cattle" on one-third, and 4.5 dairy cows on 86 percent. On many farms dairy cows are of the dual-purpose type, being of beef or mixed breeding, and the calves are fed for market.

The purchase of feed is an important item on many of these farms, an average of \$570 having been spent for feed on 76 percent of the farms in 1929. In proportion to total farming area the production of feed grains is much higher east of the Illinois river than west of it, but the number of steers fed is also higher, resulting in more feed being purchased in the eastern area than in the western.

Only small quantities of fertilizer were purchased in Area 5 in 1929, while an average of \$339 was paid for labor on about two-thirds of the farms.

General Farms.—The general farms in Area 5 derive their income about equally from the sale of crops, livestock, and livestock products, these sources contributing 24 percent, 29 percent, and 27 percent respectively to the gross income in 1929. These farms are small; in 1929 they averaged only 127 acres, with 61 acres in crops and 27 acres in pasture. The estimated value of land and buildings was \$9,524 per farm, and the gross income only \$1,470 per farm. Farm products valued at 20 percent of the total income were used by the operator's family.

On most of these farms sufficient livestock is produced to consume the feed raised. An average of 3.9 brood sows kept to farrow in the spring of 1930 was reported on 70 percent of the farms, and 4 milk cows were reported on 89 percent.

Cash Grain Farms.—The cash grain farms in Area 5 are found mostly on the bottom land along the Mississippi and Illinois rivers. More than 300,000 acres of this bottom land is in organized drainage districts, and grain farming is common on this land. The soil is dark and highly productive and much of it is rented for grain production by operators who live on the upland. Tho the danger of overflow on some of these bottom lands has made crop production on them hazardous, they frequently have afforded an opportunity, when operated with the less fertile higher land, for the production of cash or feed crops.

The farms averaged 199 acres in size, with 129 acres in harvested crops in 1929. The higher productivity of this soil is indicated by the \$83 an acre value placed upon it in 1929, a value more than a third higher than that of the livestock farms.

The average gross income on these farms was \$2,538 in 1929, 65 percent of which was from crop sales. Livestock and livestock products accounted for 25 percent of the income; 10 percent was made up of produce used by the operator's family.

Hogs are the only class of livestock that produced a large income on these farms. An average of 5.4 brood sows and gilts was reported on 61 percent of the farms in the spring of 1930. An average of 3 milk cows was reported on 79 percent of the farms.

Hired labor is the most important item of expense on these farms, an average of \$380 having been spent for it on more than two-thirds of the farms in 1929. On about half the farms an average of \$138 was spent for feed, while on only 6 percent was any fertilizer purchased.

Area 6, Southwestern, Wheat, Dairy, and Poultry

Types of Farms.—Nearly two-thirds of the income from farming in Area 6 is derived from sales of wheat, dairy products, and poultry. The most common type of farm is one on which crop sales, livestock products, and livestock are all important sources of income. Over 44 percent of the farms are classed as general farms, 22 percent as dairy farms, 9 percent as cash grain farms, and 7 percent as poultry farms.

Forty-one percent of the agricultural income in this area was from sales of livestock products in 1929, 24 percent from crops, 17 percent from livestock, and 18 percent consisted of produce used by the operator's family. Fruit and truck crops were the principal sources of income on only 3 percent of the farms, tho the combined sale of these products was nearly equal to that of wheat.

Dairying is common thruout Area 6 but is most intensive in the five counties nearest St. Louis. The average production of milk in

these counties in 1929 was 2,762 gallons per farm, 82 percent of which was sold as whole milk. In the more distant parts of the area the average production of milk per farm was only about 1,975 gallons, and only 56 percent was sold as whole milk. Cream production has for years been important in Effingham county, but during the past ten years the amount of milk produced in this county and Fayette county

FIG. 38.—POULTRY FARM IN SOUTHERN ILLINOIS

On some farms, especially in Areas 6 and 7, the sales of poultry and eggs make up the largest source of farm income. In Area 9 poultry production is frequently combined with orcharding.

has increased 55 percent and the proportion sold as whole milk has increased from 46 percent to 58 percent. Sales of dairy products made up about 59 percent of the sales of all livestock products and 26 percent of the total farm income in 1929.

Poultry production is important in Area 6, the sales of poultry and eggs making up 40 percent of all livestock product sales. The proportion of farms on which poultry is the most important source of income is greatest in Effingham and Fayette counties, but the flocks are largest and the income from poultry per farm is greatest in Clinton county.

Hogs are the most important class of meat animal, tho an average of only 2 brood sows was reported on less than two-fifths of the farms in 1930. An average of 27 head of sheep and lambs was reported on 10 percent of the farms.

Crops Grown.—Wheat is the most profitable grain crop grown in Area 6 and in 1929 was harvested on 21 percent of the tillable land. The corn acreage was slightly higher than that of wheat; oats were grown on 9 percent of the tillable land; and hay on 14 percent (Fig. 31,

page 160). Yields of feed grain crops in this area are low compared with yields in the northern two-thirds of the state, and more complete use is made of low-grade roughages as feed for dairy cattle. A large part of the corn is harvested for silage or fodder, and straw is often used for feed. Neither soil nor climate is favorable for oat production, tho oats are grown on many farms in order to provide feed.

Truck crops are most important in Madison and St. Clair counties, particularly on the well-drained bottom or deep loessial upland soils. About 5 percent of the farms in these counties received most of their income from truck crops in 1929 (Appendix Table 11).

Factors Influencing Type of Development.—Soil and climatic conditions, available markets, and transportation facilities are the primary factors which have influenced the types of farming that have developed in this area. Variations in these factors within the area have also resulted in great differences in the relative importance of the different products.

Many of the soils will produce fair crops if drainage facilities are provided and limestone is applied, but they do not compare favorably with soils in the areas which have thus far been described. The proportion of land in Area 6 that cannot be cultivated is high, and much of the tillable land is of such poor quality that only 54 percent of it was in harvested crops in 1929.

The population of St. Louis and East St. Louis, almost one million, provides a market for large quantities of dairy and poultry products and for fresh vegetables. Most of the fresh vegetables are produced in Missouri, while 80 percent of the whole milk consumed is produced in Illinois.

The kind of soil found over a large part of Area 6 necessitates a type of farming that makes productive use of a great deal of labor. The low productivity of the soil, which prevents the intensive type of dairying found in the Chicago area (Area 1), and the absence of any other equally profitable enterprise, has led to the extension of the dairy area a long distance from the consuming center. Production of feed per farm is much lower in this area than in the Chicago area, and the dairy enterprise is so small on most farms that only the concentrates necessary to balance the ration are purchased. The tank car and the truck have reduced the cost of transporting milk, and with increased demand for milk the limits of the St. Louis milk area have been extended.

On bottom-land soils along the Mississippi river and smaller inland rivers, grain farming is the most important type, high yields of corn

and wheat being obtained. The poor drainage on many of the bottom-land farms is unfavorable to livestock production, as it frequently leads to insanitary conditions around barns and hog houses.

On the upland over most of the western two-thirds of Area 6 are found dark soils with impervious noncalcareous subsoils and yellow-gray soils with noncalcareous subsoils. Drainage is an important problem on these soils, and rather large quantities of limestone are necessary before alfalfa or sweet clover can be grown. Experience has shown that the expense of growing these legumes is fully justified by the increased yields of the grain crops that follow. The acreage of wheat in this part of Area 6 exceeds the acreage of corn.

In the eastern part of Area 6 gray soils with impervious noncalcareous subsoils are most common. On these soils drainage is limited to surface run-off, and productivity is low. Corn is the principal grain crop, but yields are low and crop failures common. Small grain crops are sensitive to weather conditions because of the shallow rooting system caused by the closeness of the tight subsoil to the surface.

Size and Number of Farms.—The farms in Area 6 are small, averaging only 127 acres in 1929, with 86 acres in crops. In the past thirty years the average size of farms in this area has increased more than 15 percent. The acreage of farm land has decreased 8 percent and the number of farms nearly 20 percent. Little change has taken place in the number of farms of less than 20 acres or in those of 260 acres or more. The number having 20 to 99 acres, however, declined 23 percent, those having 100 to 174 acres increased 10 percent, and those having 175 to 259 acres increased 27 percent in the past thirty years.

Farm Tenure.—The lower production per farm is largely responsible for the higher proportion of owner-operated farms. Thirty-seven percent of all farms were operated by tenants in 1929 and only 15 percent of these were rented for cash.

General Farms.—General farms are typical of Area 6. The proportion varied from 31.9 percent in Madison county, where truck and dairy farms are more common, to 54.3 percent in Washington county, in 1929. On these farms the average income in 1929 was \$1,540 per farm, 39 percent of which was from sales of livestock products, 25 percent from crop sales, and 16 percent from sales of livestock. Farm produce used by the operator's family made up the remaining 20 percent (Table 6).

The average size of farm in 1929 was 139 acres, with 79 acres in crops and 22 acres in pasture. The value of land was estimated at

\$35 an acre, or \$4,922 per farm, while the buildings were valued at \$2,189 per farm.

Dairy cattle are the most important class of livestock on the general farms, an average of 5 milk cows being reported on 93 percent of them in 1929. Whole milk is sold on some farms, but cream sales make up a greater part of the income from dairy products. An average of less than 2 brood sows was reported on 43 percent of the farms, and beef cows were found on only 3 percent.

TABLE 6.—AREA 6: FACTS REGARDING PRINCIPAL TYPES OF FARMS¹

Item	General farms	Dairy farms	Cash grain farms	Poultry farms
Percentage indicated farms are of all farms in area.....	44.2	21.9	9.1	7.5
Average size of farm, acres, 1929.....	138.9	140.4	163.9	85.4
Crop land, acres.....	79.0	79.6	99.0	41.4
Pasture, acres.....	22.4	27.4	17.8	15.8
Value of land and buildings per farm, 1930..	\$7 111	\$8 052	\$11 030	\$4 203
Value of land per acre.....	35	39	52	30
Total value per farm of all products sold, traded, or used by operator's family, 1929.....	\$1 540	\$1 942	\$ 1 612	\$1 100
Value of crops sold or traded.....	377	254	822	95
Value of livestock sold or traded.....	246	272	148	101
Value of livestock products sold or traded..	597	1 140	366	695
Value of forest products sold or traded.....	14	8	5	3
Value of products used by operator's family	306	268	271	206

¹Additional data for this area are shown in Appendix Table 10.

An average of \$143 was spent for feed on 81 percent of the farms in 1929, and \$129 was paid for hired labor on 53 percent.

Dairy Farms.—The dairy farms in this area differ in many respects from the dairy farms in Area 1, the Chicago area. The average size of farms is practically the same in both areas, but the greater proportion of untillable land in Area 6 and the much lower productivity of the soil reduce the amount of feed which can be produced. The dairy farms in this area are a more self-sustaining type, less concentrated feed being purchased, relatively more calves being raised for herd replacements, and the work being done by family labor to a greater extent. Except for more dairying, many of these farms are only slightly different in their productive organization from the general farms in the area. The scarcity of alternative enterprises and the proximity of the area to the St. Louis milk market has resulted in the development

of dairy farms over a large part of the area and keen competition between farms for the sale of their dairy products. The keenness of the competition accounts for the comparatively few farms on which intensive dairying is practiced.

Dairy farms in Area 6 in 1929 averaged 140 acres in size. The land was valued at \$39 an acre, or \$5,445 per farm, and the buildings were valued at \$2,607. The average gross income in 1929 was \$1,942 per farm, nearly 60 percent of which was from sales of livestock products. Whole-milk sales made up about 84 percent of the total sales of livestock products.

An average of 8 milk cows was reported per farm in 1930, which was less than half the number kept on dairy farms in Area 1, and the amount of milk sold per farm was less than 40 percent as large. In the western half of Area 6 most of the dairy sales are from whole milk, while in the more distant parts cream sales represent a greater proportion of the total. Brood sows were reported on only 38 percent of these farms, and only 2 brood sows were kept on most of them. Poultry and poultry products are important.

Poultry Farms.—While 7 percent of the farms in this area are classed as poultry farms, some of them, where the flocks are small, might more accurately be classed as self-sufficing. Flocks of more than 400 hens were reported on 405 farms in 1929, but many of these farms were general or dairy farms.

The average income on the poultry farms in 1929 was \$1,100. On 58 percent of the farms it was less than \$1,000, and on only 20 percent was it greater than \$1,500. Sixty-three percent of the total income was from sales of livestock products, and nearly 60 percent of the income from this source was from egg sales.

The farms averaged 85 acres in size, with 41 acres in crops. Some wheat and on many farms fruit or vegetables are raised and sold, but crop sales made up only 9 percent of the gross income in 1929.

An average of \$210 was spent for feed on 86 percent of these farms in 1929; fertilizer was purchased on only a few; and \$75 to \$100 was paid for labor on about one-third of them.

Other Farms.—The cash grain farms in Area 6 are common on the bottom land along the Mississippi river. These farms usually are larger than the farms of other types, averaging 164 acres in 1929. Their average gross income was \$1,612.

Most of the truck farms are in St. Clair and Madison counties, where more than 2,600 acres of white potatoes and over 6,000 acres of other vegetables were grown for sale in 1929. Truck farms in these

counties averaged 52 acres in 1929, and had an average income of \$1,870 per farm, over 80 percent of which was from sales of crops. The land was valued at \$150 an acre, much higher than other land in this area but much lower than truck farming land in Area 1, the Chicago area.

Area 7, South-Central, Mixed Farming

Types of Farms.—Agriculture in Area 7 is characterized by small farms with low capital investment and small income. The value of the products used by the operator's family is relatively of much greater importance than in the northern three-fourths of the state. Three divisions of the area need to be made in order to describe its agriculture.

General farming, quite similar to that in Area 5 but on a smaller scale, is typical of Area 7a. Corn, oats, wheat, and hay are the principal crops grown, while pasture occupies nearly 35 percent of the farm land. Beef cattle, dairy cattle, and hogs all are important, but on only a few farms are either meat animals or dairy cattle sufficiently important to characterize the farms as of either type. Altho the number of chickens per farm is not large, the relative numbers are much greater than in the northern two-thirds of the state and the income from poultry is of greater relative importance.

Forty-one percent of all farms in Area 7a in 1929 were general farms, sales of livestock, livestock products, and crops being of about equal importance; 15 percent were livestock farms; 12 percent poultry farms; and 5 percent dairy farms. Thirty-five percent of the total farm income was from livestock sales in 1929, 31 percent from livestock products, 13 percent from crop sales, 1 percent from forest products, and 20 percent was made up of produce used by the operator's family.

General farming is the most common type found in Area 7b, but the much greater importance of poultry, fruit, and redtop seed makes this area stand out as distinctly different from the areas surrounding it. Forty-two percent of the farms in Area 7b are general farms, 22 percent poultry farms, and 3 percent fruit farms. Twenty-six percent of the income from agriculture in this area was from sales of crops in 1929, 20 percent from sales of livestock, 34 percent from livestock products, and 1 percent from forest products. Farm produce used by the operator's family made up 19 percent of the total income. This is one of the important centers of commercial fruit production in the state. During the four years 1924-1927 an average of over 600 carloads of apples, nearly 500 carloads of peaches, and 400 carloads of pears were shipped out of this area annually.

Area 7b is the most important center of redtop seed production in the United States. Redtop seed was harvested on two-fifths of the farms in 1929, an average of 40 acres per farm being harvested. The total acreage made up 17.6 percent of the tillable land. Redtop is both a cash crop and a feed crop, the threshed straw being used for feed.

Twice as many chickens are kept on the same amount of land in Area 7b as in the northern part of the state, and the income from poultry is of even greater relative importance because of the lower gross farm incomes. A large proportion of the commercial poultry flocks of the state are in this small area.

The farms in Area 7c are smaller than in either Area 7a or 7b, and the investment in land and buildings and the average income are lower. These farms are distinguished from those of other areas by the large proportion of their total income that consists of farm produce used directly by the operator's family. This is the most important coal mining section of the state, and farms that are operated by miners and their families principally as a source of food and shelter are important. Forty percent of the farms are general farms, tho on 26 percent of them more than half the total income consisted of products used by the operator and his family. Eleven percent were classed as part-time farms on which the operator was engaged in another occupation and the value of all products was less than \$750 per farm. Poultry farms made up 8 percent of all farms, and dairy farms 6 percent. Thirty-four percent of the income in this area was from sales of livestock products, farm produce used by the operator and his family made up 30 percent of the farm income, 23 percent was from livestock, 12 percent from crop sales, and 1 percent from sales of forest products.

The amount of livestock in all parts of Area 7 is low owing to the small amount of feed produced per acre. Dairy cattle are the most common class of livestock. The number per farm, however, is only 3 or 4 cows, and they are kept largely to supply the family with dairy products. No large market for whole milk exists, but cream stations are numerous and the sale of surplus cream is an important part of the cash income. Beef cows were reported on less than 10 percent of the farms in 1930, and on many farms were used primarily for milking. On about one-third of the farms less than 3 brood sows were reported kept to farrow in the spring of 1930.

Crops Grown.—From 80 to 85 percent of the farm land in Area 7 is tillable; but less than half of it is used in growing grain and hay crops (Fig. 31, page 160). Twenty-five to 30 percent is in pasture, and

15 to 20 percent frequently lies idle. Corn was grown on about 20 percent of the tillable area in 1929, spring grains on 4 to 5 percent, and fall grains on 2 to 5 percent. The acreage of hay varied from 15.6 percent of the tillable land in Area 7a to 25.8 percent in Area 7b. The acreage in corn and small grains is proportionately higher and the acreage of hay proportionately lower in Area 7a than in 7b or 7c, while the smallest acreage of grain and the most hay is found in Area 7b. The relatively large acreage of hay in Area 7b is accounted for by the fact that the hay grown in Area 7b includes redtop, from which the seed is first threshed.

Redtop has been an important money crop for many years, owing to its resistance to drouth, its adaptation to poor soil, and its low cost per acre. Before the World War a large part of the redtop seed crop was exported for use in making dyes, at prices that were profitable. The crop is now used largely for pasture mixtures and lawns, and prices are much lower. The almost total lack of any crop to take its place, however, has enabled redtop to maintain an important place in the cropping system of this area.

The central part of Area 7 has been an important commercial fruit area since 1880. In 1900 no other area in the state equaled it in number of apple trees. During the last thirty years, however, a great change has taken place in the fruit production areas in Illinois. The number of apple trees in Area 7b has declined steadily since 1900, until there were only 15.4 percent as many trees in 1929 as in 1900. The number of peach trees was 55 percent greater in 1929 than in 1900. Competition with other areas more favorably situated has been the principal reason for the decline in apple production.

Most of the increase in number of peach trees took place between 1919 and 1924, when the number was nearly tripled. Area 7 is so situated that peaches can be marketed during a short period following the bulk of the marketings from the extreme southern part of Illinois and preceding the marketings from Michigan. The relatively high prices paid for peaches during this period have made them profitable when a crop was obtained. Increased production, however, has reduced the price advantage. With lessened price advantage and the further fact that a good crop is obtained less frequently than farther south in the state, production is tending to decline. The number of trees in 1929 was nearly 8 percent less than in 1924.

Factors Influencing Type of Development.—Area 7 is quite uniform in availability of markets and transportation facilities. Differences exist in the characteristics of the soil, but the productivity of all

soils is relatively low. On the more level areas drainage is a big problem, as the subsoil is too tight to permit underdrainage. On the rolling land, particularly near the streams, erosion is difficult to control. Under both conditions the soils are light-colored, have noncalcareous subsoils, and are strongly acid. With the addition of sufficient limestone, however, they will grow sweet clover and following this treatment will grow relatively good crops of grain.

FIG. 39.—SWEET CLOVER IS AN IMPORTANT PASTURE CROP IN DAIRY REGIONS

Sweet clover as a soil-building and pasture crop has gained a place in the cropping systems on many Illinois farms. Its use as a pasture crop is particularly important where there is little tillable land.

The low yields of grain crops on untreated land in Area 7 and the cost of liming has led to the replacement of grain crops with redtop, which can be grown at little cost, and with special crops such as fruit. More reliance is also placed on poultry, which requires little grain but provides productive work. Wheat was at one time an important crop thru the northern part of this area, but soil depletion forced its abandonment to a large extent after 1880.

Size and Number of Farms.—The total area of land in farms in Area 7 has decreased about one-eighth during the past thirty years, while the number of farms has decreased about 25 percent.

Land Tenure.—Tenancy has not been important in the agriculture of this area. More than three-fourths of the farms have been owner-operated during the past thirty years, and less than one-fifth of the tenant farms are rented on a cash basis. Small farms and relatively low-priced land are conducive to the owner operation.

General Farms.—General farms comprized about 40 percent of all farms in Area 7 in 1929 (Table 7). They averaged 120 acres in size,

with land and buildings valued at \$4,285 per farm. The average gross income per farm was \$1,049, 35 percent of which was derived from sales of livestock products, 23 percent from livestock sales, 16 percent from crop sales, 1 percent from forest products, and 25 percent of which was in the form of produce used by the operator.

TABLE 7.—AREAS 7A, 7B, and 7C: FACTS REGARDING
PRINCIPAL TYPES OF FARMS¹

Item	Area 7a		Area 7b		Area 7c	
	General farms	Animal specialty farms	General farms	Poultry farms	General farms	Self-sufficient farms
Percentage indicated farms are of all farms in area.....	40.8	14.9	42.3	22.2	40.1	25.6
Average size of farm, acres, 1929	116.9	173.7	132.2	91.6	102.3	66.7
Crop land, acres.....	49.5	72.5	66.1	41.4	45.3	23.9
Pasture, acres.....	29.9	53.6	28.8	22.3	25.1	16.5
Value of land and buildings per farm, 1930.....	\$5 188	\$9 212	\$4 214	\$3 295	\$3 576	\$2 441
Value of land per acre.....	30	37	21	22	23	23
Total value per farm of all products sold, traded, or used by operator's family, 1929....	\$1 087	\$2 570	\$1 116	\$1 001	\$ 911	\$ 467
Value of crops sold or traded..	142	203	218	89	115	20
Value of livestock sold or traded	283	1 681	238	116	198	42
Value of livestock products sold or traded.....	383	411	393	595	317	111
Value of forest products sold or traded.....	13	13	12	3	13	3
Value of products used by operator's family.....	263	262	255	198	268	291

¹Additional data for this area are shown in Appendix Table 10.

There is considerable variation in the organization of the general farms in the different parts of Area 7, as shown in Table 7. Farms were largest in the central part, where they averaged 132 acres, but the value of land and buildings per farm was highest in the northern part, where the farms averaged 116 acres in size and were valued at \$5,188. Incomes per farm were highest in the central part, where they averaged \$1,116, and lowest in the southern part, where they averaged \$911.

Crop sales are most important in the central part, where redtop seed and some fruit are sold. Twenty percent of the income in the central part in 1929 was from crop sales, compared with 13 percent in

both the northern and southern parts. Livestock sales made up 26 percent of the gross income in the northern part, compared with 21 percent in the remainder of Area 7. For the entire area sales of livestock products made up 35 percent of the total income per farm in 1929, eggs being relatively more important in the central part and cream sales in the northern and southern parts.

Self-Sufficing Farms.—This group of farms, on which more than half the products grown are used by the operator's family, made up 14.3 percent of all farms in Area 7 in 1929. A quite similar group of part-time farms, on which the operator worked less than half the year, constituted 8.9 percent of all farms. These types of farms are most common in the southern part of Area 7. In Franklin and Williamson counties 40 percent of all farms were classed as self-sufficing or as part-time farms in 1929. Most of these farms are small, averaging about 65 acres in size, and are operated by men employed primarily in other gainful occupations. They are usually on the poorer soils, the land being valued at about \$1,500 per farm in 1929.

The gross value of all products sold, traded, or used by the operator's family on the self-sufficing farms was about \$380 per farm in Areas 7a and 7b and \$467 in Area 7c in 1929. Nearly two-thirds of the total was used by the operator and his family. Sales of livestock products made up nearly 25 percent of the gross income, but the total amount sold per farm was only about \$100. Cream, poultry, and eggs are the important products sold.

Poultry Farms.—Twelve percent of the farms in Area 7a, 22 percent in Area 7b, and 9 percent in Area 7c are classed as poultry farms. Many are commercial poultry farms, while others are typical small farms on which the income is low and most of it comes from the poultry enterprise. The average gross income on all poultry farms in 1929 was \$986. On one-third of the farms the income was between \$600 and \$1,000, on 28 percent it was less than \$600, on 22.6 percent it ranged from \$1,500 to \$2,500, and on 3.2 percent it was more than \$2,500.

The poultry farms in Area 7 in 1929 averaged 88 acres in size, with 38 acres in crops. Land and buildings were valued at \$4,023 per farm in the northern part of the area and \$2,866 in the southern part, where farms were slightly smaller and land was valued at less per acre.

Fifty-nine percent of the gross income of these poultry farms in 1929 was from sales of livestock products, 13 percent from sales of livestock, 7 percent from crop sales, and 21 percent of the total produce was used by the operator's family.

An average of 187 hens was reported per farm in April, 1930. The average production of eggs per farm in 1929 was 1,573 dozen. Including the value of the eggs used in the household and for hatching, eggs alone made up more than 60 percent of the value of livestock products and about half the value of all products sold from the farms in 1929.

Feed is an important item of expense on these farms, \$255 having been spent per farm for feed in the northern part in 1929 on 85 percent of the farms and \$215 in the central and southern parts on 90 percent of the farms.

Fruit Farms.—Fruit production is an important farm enterprise on farms in most parts of Area 7, tho only 3 percent of the farms in Area 7b were classed as fruit farms in 1929, and a smaller number in the remainder of Area 7 were so classed. The income on these fruit farms, however, made up 12.2 percent of the gross agricultural income of the area, and the crop sales on this small group of farms made up 40 percent of all crop sales in the area.

These farms averaged 121 acres in size in 1929, with 68 acres in crops. Land and buildings were valued at \$8,457 per farm in 1929; land, including the orchards, being valued at \$50 an acre. The average income per fruit farm was \$4,803, 84 percent of which was from sales of crops.

Relatively large quantities of feed, labor, and fertilizer are purchased on these farms. Feed valued at \$205 per farm was purchased on 73 percent of the farms in 1929; on 46 percent fertilizer valued at \$305 per farm was bought; and an average of \$1,246 was spent for labor on 75.6 percent of the farms.

Area 8, Southeastern, Grain and Livestock

Types of Farms.—A combination of cash grain and livestock is the type of farming most common in Area 8. Thirty-six percent of the gross income from agriculture in 1929 was from crop sales, 23 percent was from livestock sales, livestock products made up 21 percent, and 20 percent consisted of products raised and used by the operator's family.

Specialized grain and livestock farms are common, but the more typical farm is one on which sales of grain, livestock, and livestock products are about equally important. Grain farms constituted 24 percent of the farms in 1929, 14 percent of all farms were self-sufficing, 9 percent were livestock farms, and 40 percent were general farms.

Hogs are the most important class of livestock in the area, tho there are some beef cow herds, particularly in Edwards county, and some steer feeding. The number of farms on which beef cattle are important, however, is small and, when compared with livestock farms in the northern part of the state, the number of cows or brood sows per farm is small.

Crops Grown.—Eighty-six percent of the farm land in Area 8 is tillable. Corn was grown on 30 percent of the tillable area in 1929, wheat on 13 percent, hay on 10 percent, oats on 5 percent, and 20 percent was in pasture (Fig. 31, page 160). Land which was not used in 1929 or which was left fallow constituted 13 percent of the total tillable area, and land on which there was a crop failure made up 5 percent. Little change has taken place in the cropping system during the past thirty years. With an increase in hay and pasture acreages some decrease has occurred in the proportion of land in wheat.

Watermelons and cantaloupes have become important crops on the sandy loam soils, 30 percent of the carlot shipments of watermelons and cantaloupes in the state having come from this area during the four years 1924-1927.

Factors Influencing Type of Development.—Area 8 lies along the Ohio and Wabash rivers in southeastern Illinois. It is made up of the bottom lands and the adjoining uplands along these rivers and along the lower ends of the Saline, Skillet Fork, Little Wabash, and Embarrass rivers.

Three types of soil are found in this area: (1) bottom-land soils, (2) second-bottom sandy loam and sands, and (3) yellowish gray upland soils. The bottom-land soils are found along the rivers and are subject to overflow where adequate drainage facilities have not been provided. They are relatively rich soils and when protected from overflow produce good crops of grain. Approximately 25 percent of the farm land in Lawrence, Wabash, Edwards, White, Gallatin, and Saline counties is included in organized drainage districts, and an additional 15 percent should be drained to protect it from overflow.

Sandy loams and sands are found next to the bottom lands along the rivers. These soils vary greatly in productivity, but they are not generally so good as the bottom land and a greater share of them must be kept in hay and pasture if fertility is to be maintained.

The topography of the yellowish gray upland soils varies from level to rolling, and erosion is a serious problem. These soils are not naturally so highly productive as the bottom lands but they are potentially good soils if properly handled.

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Practically all the grain farms in this area are in the bottom lands, and on most farms on the bottom lands grain crops occupy a large proportion of the crop land. A great many of the general farms and of the livestock farms, however, include some bottom land and some upland soil. Hay and pasture must occupy an important place in the rotation on the light-colored soils, but sufficient grain can be produced on the bottom land to feed considerable livestock. About a third of the corn produced in the southern part of Area 8 is shipped out of the county where grown and about a fourth of that in the northern part is shipped out.

Size and Number of Farms.—The farms in this area averaged 132 acres in 1929, with 91 acres in crop land. The total acreage of farm land has declined less than 7 percent since 1900, but the number of farms has been reduced nearly 30 percent. The proportion of farms of less than 100 acres has declined 25 percent, the proportion of farms of 100 to 174 acres has increased 15 percent, and the proportion having more than 175 acres has nearly doubled.

Farm Tenure.—More tenancy exists in this area than in any other part of southern Illinois, but the amount here is not great compared with many parts of northern Illinois. Thirty-seven percent of the farms were operated by tenants in 1929, but less than 5 percent of the tenant-operated farms were leased on a cash basis. Tenancy is most common on the cash grain farms, 58 percent being operated by tenants in 1929.

General Farms.—The general farms in Area 8 averaged 125 acres in 1929, with 65 acres in crops and 27 acres in pasture. The average valuation placed on land was \$4,799 per farm, or \$38 an acre, and buildings were valued at \$1,904 per farm. The gross income per farm was \$1,405; crop sales, sales of livestock, livestock products, and products consumed by the family making up about equal proportions of it.

Nearly 90 percent of the farms reported dairy cows in 1930, and 61 percent reported brood sows kept to farrow in the spring of 1930. An average of only 3 cows was reported on these farms, however, and only 2 or 3 brood sows. No data are available showing the number of chickens, but sales of poultry and poultry products are as important as sales of dairy products. Sales of hogs are an important source of income on many farms.

In general these farms are operated by family labor, and enough livestock is kept to consume the feed produced on the farm. Some feed, mostly protein supplements, is purchased. In 1929 an average of

\$126 was spent for feed on 72 percent of the farms, and \$129 was spent for hired labor on 45 percent.

Cash Grain Farms.—The cash grain farms in Area 8 averaged 187 acres in 1929, with 124 acres in crops. They are located mostly along the rivers. Seventy-five percent of the farm land was classed as harvested crop land or as plowable pasture in 1929. The land was valued at \$10,219 per farm, or \$55 an acre, a valuation 40 percent higher than the valuation placed on the general or livestock farms.

TABLE 8.—AREA 8: FACTS REGARDING PRINCIPAL TYPES OF FARMS¹

Item	General farms	Cash grain farms	Self-sufficing farms
Percentage indicated farms are of all farms in area	39.8	23.8	14.3
Average size of farm, acres, 1929	125.1	187.2	74.1
Crop land, acres.....	64.8	123.9	24.7
Pasture, acres.....	26.6	20.9	20.2
Value of land and buildings per farm, 1930.....	\$6 703	\$12 349	\$2 704
Value of land per acre.....	38	55	24
Total value per farm of all products sold, traded, or used by operator's family, 1929	\$1 405	\$ 2 283	\$ 553
Value of crops sold or traded.....	340	1 450	33
Value of livestock sold or traded.....	376	296	52
Value of livestock products sold or traded....	323	251	126
Value of forest products sold or traded.....	8	2	3
Value of products used by operator's family..	358	284	339

¹Additional data for this area are shown in Appendix Table 10.

The gross income on the cash grain farms averaged \$2,283 in 1929, and 64 percent of it was from the sale of crops. Sales of livestock accounted for 13 percent of the total, and sales of livestock products for 11 percent, while produce used by the operator's family made up 12 percent of the total income. Corn and wheat sales make up a large proportion of the crop sales on these farms. Altho sales of livestock and livestock products are relatively of less importance than on the general farms, owing to the larger size of the cash grain farms, the actual value of the sales of livestock and livestock products per farm in 1929 was about three-fourths as great.

Less feed is purchased on these farms than on the general farms but a greater amount of extra labor is hired. An average of \$263 was paid for labor on 61 percent of these farms in 1929. Fertilizer is an important item of expense on a smaller number of farms.

Nearly 60 percent of these grain farms are operated by tenants, but almost all are rented on a crop-share basis.

Other Farms.—Farms on which sales of livestock are the important source of income made up only a small group in 1929 (8.4 percent of all farms), but they are important since they provide a market for a considerable proportion of the grain produced on the cash grain farms. They averaged 209 acres, with 99 acres in crops and 53 acres in pasture.

The land in this group of farms was valued at \$8,398 per farm in 1929, or \$40 an acre, while the value of buildings was placed at \$2,823 per farm. The gross income in 1929 averaged \$2,924 per farm, which was nearly 30 percent higher than that on the grain farms. Receipts from sales of livestock made up 59 percent of the total income, or \$1,725 per farm. Crop sales, of which wheat is most important, made up 17 percent of the income; sales of livestock products, 13 percent; and farm products used by the operator's family, 11 percent.

A larger group of farms, but one of little importance from the standpoint either of income or total amount of land used, is the group of self-sufficing farms, which made up 14.3 percent of all farms in 1929. These farms are usually on the poorer soil and the income is low, averaging in 1929 \$553 per farm. The value of products consumed made up nearly two-thirds of the gross income from these farms in 1929. Many farmers, however, added to their income by labor done away from the farm.

Area 9, Southern, Fruit and Vegetables

Types of Farms.—General farms are the most common type found in Area 9 and include 39 percent of all farms in the area. Twenty percent are self-sufficing or part-time farms. The fruit and vegetable farms, which typify the area, include only 10 percent of all farms. This small group of farms, however, in 1929 was responsible for 25 percent of the total agricultural income in the area. In addition, many other farms received part of their income from these sources.

Thirty-seven percent of the gross farm income in Area 9 was from sales of crops in 1929, 22 percent from livestock sales, 19 percent from sales of livestock products, and 2 percent from sales of forest products. Farm products used by the operator's family made up the remaining 20 percent.

Dairy cattle are the most important class of livestock in the area, an average of 3 cows per farm being reported in 1930 on 77 percent of all farms. Poultry is kept on nearly 90 percent of the farms, but

except on the few commercial poultry farms the number of hens averaged less than 60 per farm in 1929.

The general farms are scattered over the entire area, in most cases on the poorer soil, where a large part of the land is untillable and not suited to the growing of fruit or vegetables. Most of the cash grain farms are in Alexander, Union, and Jackson counties on the bottom-land soil, where corn and wheat are the important crops (Appendix Table 11). Over 90 percent of the specialized fruit and vegetable

TABLE 9.—AREA 9: FACTS REGARDING PRINCIPAL TYPES OF FARMS¹

Item	General farms	Self-sufficing farms	Fruit farms	Truck farms
Percentage indicated farms are of all farms in area.....	39.1	19.6	6.4	3.8
Average size of farm, acres, 1929	120.3	83.1	125.8	71.6
Crop land, acres.....	36.6	20.9	59.0	26.1
Pasture, acres.....	27.4	20.0	16.2	8.9
Value of land and buildings per farm, 1930 ..	\$3 640	\$1 967	\$8 780	\$3 575
Value of land per acre.....	19	15	49	31
Total value per farm of all products sold, traded, or used by operator's family, 1929	\$ 955	\$ 383	\$3 694	\$1 366
Value of crops sold or traded.....	215	29	3 203	993
Value of livestock sold or traded.....	208	36	111	82
Value of livestock products sold or traded..	247	69	151	100
Value of forest products sold or traded....	24	10	7	9
Value of products used by operator's family	261	239	222	182

¹Additional data for this area are shown in Appendix Table 10.

farms are in Union, Pulaski, Johnson, and Jackson counties. Live-stock farms are common in the Cache river territory in Johnson, Pope, and Massac counties, where feed grains can be grown on the bottom land and the untillable upland used for pasture. Self-sufficing and part-time farms are found over the entire area but are most common in Hardin and Pope counties, where only 26 percent of the farm land was in harvested crops in 1929.

Crops Grown.—Corn, hay, and pasture are the principal crops grown in Area 9 from the standpoint of acreage. Corn was grown on 21.7 percent of the tillable land, hay on 14.4 percent, and 28 percent was in pasture in 1929 (Fig. 31, page 160). Thirty-one percent of the tillable land in Alexander county was in corn, and 26 percent of that in Pulaski county, while in the remainder of the area 20 percent or

less was in corn. Less than 10 percent of the tillable land in Alexander county was in hay, while 15 to 20 percent of most other parts of Area 9 was in hay. About 15 percent of the tillable land in the western part of the area and 30 to 50 percent of that in the eastern part was in pasture.

Wheat is no longer an important crop in this area, occupying only 1.6 percent of the tillable land in 1929. In 1919 wheat was grown on 9 percent of the farm land and corn on 16.6 percent. The decline in wheat production since 1900 has been due mainly to competition with other areas and the reduced productivity of the land. Corn acreage, however, has increased with the reclamation of bottom lands, particularly in Union, Jackson, Alexander, and Pulaski counties. The acreage in hay during the last thirty years has nearly doubled. In the past crop failure has been common, particularly in the river bottoms, but the development of levees and drainage projects has lessened the risk in the bottom lands.

Commercial fruit and vegetable production have been important industries in Area 9 for many years. During the past thirty years production has shifted until it is concentrated in those localities where soil conditions, transportation facilities, and other factors are most favorable. From 1899 to 1919 the number of bearing apple trees decreased nearly 50 percent and bearing peach trees decreased 13 percent. Many new apple orchards, however, were set out after 1915, and in 1919 nearly 60 percent of the apple trees were classed as non-bearing. This increase in apple trees took place largely in the best apple-producing localities. After 1919 the planting of new trees rapidly declined, and by 1929 the percentage of nonbearing trees had declined to 32 percent. It has been estimated that 69 percent of the apple trees in this area on January 1, 1928, were planted during the period from 1915 to 1924.

Heavy plantings of peach trees were made following 1922. A survey made in the fall of 1925 showed that 40 percent of the peach trees in commercial orchards were two and three years old and only 15 percent were eight years old or older. The number of bearing peach trees in 1929 was three and one-half times as great as in 1919. The number increased greatly in the principal peach areas, but the greatest percentage increases, and perhaps overexpansion, took place in Pulaski and Massac counties, where peaches had not previously been important.

The value of fruit alone made up 42 percent of the value of all crops in Union and Jackson counties in 1929, and fruit was grown

on 11 percent of the total crop land. During the four years 1924-1927 the average annual shipments of apples, peaches, and pears totaled

FIG. 40.—TYPICAL SCENE IN UNION COUNTY, SOUTHERN ILLINOIS

Altho confined to a small portion of the land area, fruit and vegetable production are the chief sources of income on the rolling land of Area 9.

1,378 carloads from these counties. During this same period an average of 940 carloads of vegetables, melons, and strawberries was shipped out of these two counties each year. Vegetables are almost equally as important in some parts of Alexander county.

Factors Influencing Type of Development.—Area 9 includes the unglaciated section of southern Illinois. With the exception of small areas of bottom land along the Mississippi and Ohio rivers and a narrow strip of lowland extending across the northern parts of Pulaski and Massac counties, the topography is quite rolling and in many parts too rough for agricultural purposes.

The character of the soil and topography of Area 9 prohibit an extensive type of farming in which grains and livestock are important, and the lack of large local population centers makes intensive production of highly perishable products such as milk impossible. Fruit and vegetable crops, however, are favored by soil and climatic conditions, and adequate transportation facilities have made it economically possible to grow these products in most parts of the area. The vegetable industry was originally developed along the Illinois Central lines, which gave quick transportation to large cities to the north. Six important railroad systems now have lines going thru the area.

Intensive farming is further favored by the abundance of available labor. Forty-three percent of the total population lives on farms, and 47 percent of the male population gainfully employed in 1929 was employed in agriculture.

Local variations in soil and topography have resulted in the formation of small localities within which a type of farming quite different from that in the area as a whole is common.

Size and Number of Farms.—Agriculture is the only important industry in Area 9, but only about three-fourths of the total land area is in farms and less than one-third of the farm land is normally in harvested crops. The number of farms in this area declined 22 percent between 1900 and 1930, while the land in farms declined only 6 percent. Twenty-six percent of the farms in 1929 were less than 50 acres in size, 29 percent consisted of 50 to 99 acres, 28 percent of 100 to 175 acres, and only 17 percent were larger than 175 acres. The average size has increased more than 20 percent in the last thirty years, largely thru a reduction in the number of 20-to-49-acre farms and an increase in the number of farms of 100 to 174 acres.

Farm Tenure.—The only sections of the area where tenancy is important are on the bottom lands where grain farming predominates.

General Farms.—The average size of the general farms in Area 9 was 120 acres in 1929. Gross incomes averaged \$955 per farm. The organization is quite similar to that of the same type of farm in Areas 7 and 8. Twenty-two percent of the gross income in 1929 was from crop sales, 22 percent from sales of livestock, and 26 percent from

sales of livestock products. The value of the products used by the operator's family totaled 27 percent of the gross income. Small orchards and truck gardens are common on these farms and often contribute most of the value of the crop sales.

Self-Sufficing Farms.—The self-sufficing farms, or those on which half or more of the products raised are consumed in the home, are second in importance in Area 9 when number of farms is considered. Averaging 83 acres in size, their gross income was only \$383 per farm in 1929 and 62 percent of the total consisted of products used in the home. These farms are most common in the eastern part of the Area 9 in what is probably the poorest section of the state so far as agriculture is concerned.

Fruit Farms.—The gross income from fruit farms in Area 9 in 1929 constituted 20.5 percent of the total agricultural income from the entire area, altho only 6 percent of all farms in the area were included in this group and their total acreage was only 6.5 percent of the farm land in this area.

Fruit farms in Area 9 averaged 126 acres in 1929, with 59 acres in crop land. Land was valued per farm at \$6,171. The average gross income in 1929 was \$3,694 per farm, 87 percent of which was from crop sales. Eighteen percent of the farms were less than 50 acres in size, and 8.5 percent were 260 acres or larger. The gross income was less than \$600 on 15 percent of the farms and more than \$6,000 per farm on 14 percent. Thirty-four percent, however, were from 50 to 99 acres in size, and 27 percent were from 100 to 174 acres.

Livestock is unimportant on the fruit farms in Area 9, in so far as sales are concerned, tho on most farms dairy cows, hogs, and poultry are raised in order to provide food for the operator and his family.

More labor is hired on these farms, and more fertilizer is purchased, than on any other group of farms in the state. An average of \$228 was spent for fertilizer in 1929 on 53 percent of the farms, and an average of \$1,142 was spent for labor on 72 percent. The cost of purchased feed is important, an average of \$189 having been spent on two-thirds of the farms in 1929.

Truck Farms.—Truck farms in 1929 constituted 3.8 percent of all farms in Area 9, 2.2 percent of the farm land, and accounted for 4.4 percent of the total agricultural income of the area. They averaged 72 acres in size, with 26 acres in crops, and the land was valued at \$2,237 per farm.

The average income in 1929 was \$1,366 per farm, 73 percent of which was from crop sales. The acreage of crop land per farm is

slightly higher than in the truck farms in Area 1, the Chicago area, but the income per farm is less than half as great. In the Chicago district the value of land is much higher and larger amounts of fertilizer and labor are used. It is difficult to compare the two groups of truck farms because of their different soil conditions and transportation facilities.

Some livestock is kept on these truck farms, as on the fruit farms, in order to provide livestock products for the household. Less money is spent for feed, fertilizer, and labor on the truck farms than on the fruit farms, but on both they are important items of cost.

SUMMARY

Illinois lies almost entirely in the region known as the "corn belt." Corn, oats, wheat, and hay or pasture are the main crops, being grown on 86 percent of the tillable farm land in 1929. With the exception of wheat, these crops are used mainly in the production of meat animals and animal products.

In comparison with the variety of types and kinds of farming in the United States as a whole, Illinois agriculture is relatively uniform. Viewed from a local standpoint, however, distinct differences are to be noted in different parts of the state in kinds and acreages of crops grown and kinds and numbers of livestock kept. These differences, in their larger aspects, are not due to personal preferences, but to the efforts of farmers to develop those combinations of crop and livestock enterprises that are best suited to the natural resources of the area and its economic and biological conditions.

Characteristics of State as a Whole.—Few agricultural areas of the country have close at hand such extensive markets for agricultural products. The density of population and the high proportion of the population living in cities and small towns, in addition to affording markets for farm products, results in adequate supplies of farm labor except in periods of marked industrial activity. Large industrial centers are ready sources of capital for farming purposes in practically all parts of the state.

Tariff policies have, to some extent, influenced the development of certain types of farming in Illinois. The tariff on wool has been an important factor in encouraging the raising of sheep. On the other hand the high tariffs on wheat adopted by some foreign countries have led to a reduction of the acreage of that crop on many Illinois farms.

Since 1920, when land values reached their peak, little change has occurred in the amount of tenancy in Illinois. In 1930, 40 percent of

the farms in the state were owner-operated; 43 percent consisted entirely of rented land; 16 percent were rented in part and owned in part by the operator; and 1 percent were operated by hired managers.

The land surface of Illinois varies from level prairie to rough, hilly areas not suited to cultivation. Sixteen different major groups of soils, varying widely in productivity, are recognized by students of soil conditions. In the northern two-thirds of the state most of the soils are dark colored, younger, and more productive than those in the southern part of the state. The great length of the state from north to south—385 miles—creates a difference of four and one-half weeks in average length of growing season between one end of the state and the other and wide differences in the mean and extremes of temperature.

Nine Farming-Type Areas.—Nine major areas may be outlined in Illinois within each of which one or more dominant types of farming are easily recognizable. Many types of farms are found, however, in each area, for soil and other conditions may on individual farms vary greatly from those that are typical of the area as a whole. At the margins of the different areas, also, conditions are more varied than in the main body of the area, and in those sections operators have a greater choice in the type of farming they will adopt than operators have in the area as a whole.

Area 1, Northeastern Dairy and Truck.—Two types of farms, dairy and truck, predominate in Area 1, 53 percent of all farms being classed as dairy and 12 percent as truck farms in this area in 1929.

Approximately half the gross income from agriculture in Area 1 in 1929 was from sales of livestock products, principally whole milk, and 18 percent was from sales of crops, nearly two-thirds of which was from vegetable crops. An urban population of more than 4 million people is the important reason for the development of dairy and truck farms in this area. Soil and climatic conditions, however, are also favorable for these types of farming.

Corn, oats, barley, and hay or pasture occupied 89 percent of the crop and pasture land in 1929. Truck farms occupy only a small part of the total farm area and are found near the cities, while dairy farms are found thruout the area.

Area 2, Northwestern, Mixed Livestock.—Mixed livestock farming best describes the agriculture in Area 2. More than three-fourths of the gross income in 1929 was from sales of livestock or livestock products.

Dairy farms, found over the entire area, are most common in the northern part, where condenseries, cheese factories, and creameries

provide a market for their product. These farms constituted 22 percent of all farms in the area in 1929, while livestock farms, which are the most numerous kind, constituted 38 percent. Beef cow herds, cattle feeding, hogs, and sheep are common livestock enterprises.

Some cash grain farming is found on the bottom lands along the Rock and Green rivers.

A relatively high proportion of untillable land and soil conditions that make it necessary to include a large proportion of hay and pasture crops in the rotation systems are the important natural factors influencing the type of farming that has been developed in this area. The crops grown and the near-by markets for cream and whole milk encourage dairying, tho prices for dairy products are lower than in Area 1. The lower net prices for dairy products and favorable conditions for the production of meat animals leaves the choice of livestock enterprises to the operator to a greater extent than in Area 1. Hogs are important on both dairy and livestock farms.

Area 3, Western Livestock and Grain.—Hogs and beef cattle are the most important sources of farm income in Area 3, with sales of grain of secondary importance. Approximately half the gross income from agriculture in 1929 was from livestock sales and approximately one-fourth from crop sales. Forty-four percent of the farms were classed as livestock and 25.6 percent as cash grain farms.

Soil and topography are the factors primarily responsible for the types of farming that have been developed in this area. Dark-colored soils predominate, but less productive light-colored soils are found along the many small rivers and streams that flow thru the area. Untillable pasture land is common on the light-colored soils, and hay and pasture crops must occupy an important place in the rotation in order to maintain crop yields on the tillable land. Thus cash grain farms, on which the dark soils predominate and where there is little untillable land, are frequently interspersed among the livestock farms.

Freight rates on livestock from this area are more favorable than from areas east of the Illinois river.

Area 4, East-Central, Cash Grain Area.—The rich soils and level topography of Area 4 are favorable to grain farming. Two-thirds of all farms in this area were classed as grain farms in 1929. Fifty-seven percent of the gross income from agriculture came from the sale of crops.

While corn is the important crop over the entire area, oats are the principal secondary crop in the eastern and northern parts and winter wheat is the important secondary crop in the southwestern part.

Some livestock, mainly hogs and beef cattle, are found thruout the area, principally near the rivers and streams, where the proportion of untillable land is higher than in other parts. Some dairy farms are found, mainly near cities of the area, but on the whole livestock are less important than in the areas already mentioned.

Area 5, West-Central, General Farming.—Beef cattle and hogs are the most important sources of income in Area 5, with grain second. Sales of livestock in 1929 made up almost half the total gross income from farming, and crop sales about one-fourth. Livestock farms and grain farms are both common, but the general farm, on which crops, livestock, and livestock products are about equally important from the standpoint of income, is the most typical.

Less than three-fourths of the farm land of the area is tillable, a fact that has been important in determining the place of livestock in the farming systems developed in the area. The soils are not so productive as in Area 3, and consequently a longer rotation, with less feed grain and more hay and pasture, is common. This explains why in this area farming is of a more general type than in Area 3.

Grain farming is common along the Mississippi and Illinois rivers. Fruit is the most important source of income in Calhoun county, which is the leading apple-producing county of the state.

Area 6, Southwestern, Wheat, Dairy, and Poultry.—Nearly two-thirds of the gross farm income in Area 6 in 1929 was from sales of wheat, dairy products, and poultry. The most common type of farm is the general farm, on which crop sales, livestock, and livestock products are all important. General farms in 1929 made up 44 percent of the total farms, dairy farms 22 percent, cash grain farms 9 percent, and poultry farms 7 percent.

The availability of markets and good transportation facilities have been important factors influencing the types of farming that have been developed in this area. With almost a million people in St. Louis and East St. Louis a good market is provided for fresh vegetables and dairy and poultry products. In addition to the above economic factors, soil conditions favor a type of farming in which labor is more important than in the areas with a larger proportion of tillable land and more productive soils.

Some cash grain farming is found along the Mississippi river and the smaller rivers within the state. Wheat is the most profitable grain crop and in some localities occupies a greater acreage than corn.

Area 7, South Central, Mixed Farming.—Small general farms, with low capital investment and small gross income, are characteristic

of Area 7, constituting more than 40 percent of the farms in 1929. In this area a much larger share of the income from farming consists of products used by the operator's family than in the northern two-thirds of the state.

Three sub-areas are recognized within Area 7. In the northern part general farming, similar to that in Area 5 but on a smaller scale, is common. In the central part fruit, redtop seed, dairy products, poultry, and eggs are the more important sources of income. Self-sufficing and part-time farming is common over the entire area but is especially important in the southern part, where coal mining is an important industry.

A large part—80 to 85 percent—of the farm land in Area 7 is tillable but because of its low productive level hay and pasture crops must be given important places in the cropping system and frequently large acreages are left idle.

Area 8, Southeastern, Grain and Livestock.—While grain farms and livestock farms are common in Area 8, general farms, on which sales of grain, livestock, and livestock products are of about equal importance, are the most common. Forty percent of the farms in 1929 were general farms, 24 percent grain farms, and 9 percent livestock farms. The gross farm income was 36 percent from crop sales, 22 percent from livestock sales, and 21 percent from sales of livestock products.

Farming in this area is largely confined to the more productive land found near the rivers. Cash grain farming is most common on the areas of bottom land along the Ohio and Wabash rivers and the smaller rivers emptying into them, while livestock is an important source of income on the adjacent upland.

Corn and wheat are the principal grain crops produced in the area. Some corn is shipped out of the area, tho most of it is fed on the farms where it is produced or on adjoining farms.

Area 9, Southern, Fruit and Vegetables.—Area 9 is the most important fruit and vegetable area in the state, altho only 10 percent of the farms were of this type in 1929. General farms from which much fruit and vegetables are sold were the most common, constituting 39 percent of all farms. Thirty-seven percent of the gross farm income of the area was from crop sales in 1929, 22 percent from livestock, and 19 percent from livestock products.

This area includes the unglaciated section of southern Illinois. The topography is rolling to rough, with much untillable land. The character of the soil and the rough topography prevent the development of

types of farming in which cash grain or livestock are important. Soils and climate are favorable to fruit and vegetable production, and adequate transportation facilities have added to this advantage.

Many local variations in natural and economic conditions cause local variations in types of farming. Fruit and vegetables are most important in Union, Pulaski, Johnson, and Jackson counties. Grain and livestock are more common along the rivers, where a greater supply of feed grains can be grown.

APPENDIX

TABLE 10.—ORGANIZATION OF SPECIFIED TYPES OF FARMS IN THE DIFFERENT TYPE-OF-FARMING AREAS OF ILLINOIS

Area.....	1		2		3		4a		4b		5		5	
Type of farm.....	Dairy	Truck	Animal specialty	Gen- eral	Dairy	Animal specialty	Cash grain	Cash grain	Cash grain	Animal specialty	Gen- eral	Cash grain	Animal specialty	Cash grain
Percent indicated farms are of all farms in area.....	53.3	12.3	38.4	21.9	21.7	44.5	25.8	68.7	63.1	39.8	26.4	16.5		
1929, 1930.....														
Average size of farm, acres, 1930.....	141.1	30.8	183.7	129.6	145.2	191.6	190.5	200.6	205.0	189.7	126.6	199.3		
Crop land per farm, acres, 1929.....	92.8	23.4	107.9	77.9	82.4	119.8	140.9	166.2	161.1	90.2	61.3	128.7		
Pasture per farm, acres, 1929.....	27.5	2.2	39.1	30.5	40.0	43.8	28.4	18.8	16.6	51.8	27.5	25.8		
Value of land per farm.....	\$17 402	\$23 404	\$12 987	\$9 430	\$10 390	\$19 551	\$22 081	\$25 421	\$23 880	\$11 750	\$8 975	\$16 481		
Value of buildings per farm.....	7 062	2 507	6 101	4 508	5 614	5 904	4 985	4 872	4 462	3 836	2 349	3 251		
Value of equipment per farm.....	1 277	925	1 186	737	1 407	1 199	1 133	1 304	1 266	788	432	578		
Value of land per acre.....	123	759	71	73	72	102	116	151	138	62	55	83		
1930.....														
Farms reporting horses and mules (excluding colts), percent.....	91.3	78.8	95.4	91.0	93.0	94.0	92.1	95.0	96.7	95.7	91.0	91.0		
Average number horses and mules per reporting farm.....	4.5	2.0	5.2	4.3	4.6	5.9	5.8	6.3	6.3	5.5	4.2	4.7		
Farms reporting milk cows, percent.....	98.5	39.5	87.4	92.3	98.6	90.4	88.3	92.4	92.5	85.7	89.1	79.0		
Average number of milk cows per reporting farm.....	17.2	1.6	8.3	7.5	12.3	5.3	4.5	4.3	3.8	4.5	4.2	3.1		
Farms reporting beef cows, percent.....	1.2	.4	18.5	5.2	2.0	23.2	11.8	7.2	6.4	22.9	7.7	8.5		
Average number of beef cows per reporting farm.....	8.1	4.0	11.9	5.8	7.6	9.7	6.0	5.4	5.1	10.5	5.9	6.1		
Farms reporting sows and gilts, percent.....	37.3	2.9	90.0	72.6	78.7	90.6	73.2	63.2	67.6	85.7	70.6	60.9		
Average number sows and gilts per reporting farm.....	4.5	2.8	11.3	6.6	7.7	13.8	8.2	3.7	4.1	8.0	3.9	5.4		
1929.....														
Cows milked per farm.....	17.6	(1)	(1)	(1)	12.9	(1)	(1)	(1)	(1)	(1)	(1)	(1)		
Milk produced per farm, gallons.....	13 249	(1)	(1)	(1)	8 780	(1)	(1)	(1)	(1)	(1)	(1)	(1)		
Whole milk sold per farm, gallons.....	12 754	(1)	(1)	(1)	7 015	(1)	(1)	(1)	(1)	(1)	(1)	(1)		
Cream sold per farm, pounds.....	20	(1)	(1)	(1)	404	(1)	(1)	(1)	(1)	(1)	(1)	(1)		
1929, 1930.....														
Number chickens over 3 months, per farm, 1930.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)		
Eggs produced per farm, dozen, 1929.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)		
Average value per farm of all products sold, traded, or used by the operator's family.....	\$3 939	\$2 862	\$3 769	\$2 063	\$2 899	\$4 386	\$3 112	\$3 663	\$3 432	\$3 482	\$1 470	\$2 538		
Percent of income from—Crops.....	4.6	90.9	6.8	18.6	6.1	11.2	61.0	69.4	68.1	11.1	23.9	64.6		
Livestock.....	15.4	.8	67.4	31.8	32.0	72.0	20.1	12.0	12.8	69.8	28.8	16.9		
Livestock products.....	72.6	2.8	17.7	34.6	52.5	10.3	10.8	10.9	10.4	10.7	26.7	8.6		
Forest products.....	1	.1	2	.4	.2	3	.1	1	.1	.3	1.0	.2		
Products used by operator.....	7.3	5.5	7.9	14.6	9.2	6.3	8.0	7.6	8.6	8.1	19.6	9.7		
1929.....														
Farms purchasing feed in 1929, percent.....	82.7	75.0	74.1	65.6	74.4	75.2	52.3	57.2	55.3	76.0	62.4	48.7		
Amount of feed purchased per reporting farm.....	\$ 423	\$ 189	\$ 412	\$ 167	\$ 235	\$ 601	\$ 129	\$ 96	\$ 107	\$ 570	\$ 154	\$ 138		
Farms on which fertilizer was purchased, percent.....	18.3	72.4	18.8	14.7	14.8	13.2	11.3	13.4	8.8	15.1	7.1	6.0		
Amount of fertilizer purchased per reporting farm.....	\$ 100	\$ 193	\$ 112	\$ 73	\$ 71	\$ 110	\$ 130	\$ 136	\$ 130	\$ 128	\$ 114	\$ 152		
1929.....														
Farms on which labor was hired in 1929, percent.....	67.8	76.3	65.3	48.3	55.1	71.4	68.2	73.6	76.2	66.6	44.3	64.1		
Amount of labor hired per reporting farm.....	\$ 547	\$ 748	\$ 366	\$ 217	\$ 307	\$ 447	\$ 392	\$ 391	\$ 381	\$ 339	\$ 166	\$ 380		
1930.....														
Farms operated by tenants, percent.....	50.2	41.1	43.4	42.1	47.3	45.1	68.0	68.3	70.1	34.4	40.2	62.2		
Tenant farms rented for cash, percent.....	67.8	97.3	41.2	51.7	45.3	30.5	16.1	4.6	7.6	12.9	13.4	3.8		

(Not reported.)

TABLE 10.—Continued

Area.....	7a	7a	7a	7a	7b	7b	7b	7c	7c	7c
Type of farm.....	General	Animal specialty	Poultry	Self-sufficing	General	Poultry	Self-sufficing	Fruit	General	Self-sufficing Poultry
Percent indicated farms are of all farms in area.....	40.8	14.9	12.0	10.3	42.3	22.2	9.0	3.0	40.1	25.6 8.3
1929, 1930										
Average size of farm, acres, 1930.....	116.9	173.7	83.7	64.9	132.2	91.6	64.8	121.0	102.3	66.7 81.1
Crop land per farm, acres, 1929.....	49.5	72.5	29.2	19.4	66.1	41.4	23.9	67.7	45.3	23.9 34.3
Pasture per farm, acres, 1929.....	29.9	53.6	19.6	19.6	28.8	22.3	13.6	19.9	25.1	16.5 21.4
1930										
Value of land per farm.....	\$3 477	\$6 499	\$2 409	\$1 626	\$2 841	\$2 017	\$1 317	\$6 055	\$2 357	\$1 540 \$1 695
Value of buildings per farm.....	1 711	2 713	1 614	1 080	1 373	1 278	885	2 402	1 219	901 1 171
Value of equipment per farm.....	278	526	197	106	258	183	87	787	213	113 161
Value of land per acre.....	30	37	29	25	21	22	20	50	23	23 21
1930										
Farms reporting horses and mules (excluding colts), percent.....	91.5	91.8	80.9	74.7	95.0	89.1	83.2	78.8	95.8	90.2 88.4
Average number horses and mules per reporting farm.....	3.6	4.4	3.0	2.8	3.5	2.8	2.6	3.3	3.2	2.5 2.9
Farms reporting milk cows, percent.....	93.1	85.5	87.2	76.6	90.5	85.8	77.1	70.0	92.9	84.0 83.1
Average number of milk cows per reporting farm.....	3.4	3.9	2.6	1.9	3.6	2.8	2.0	3.2	3.1	1.8 2.5
Farms reporting beef cows, percent.....	5.9	20.1	7.0	3.0	13.6	11.7	3.5	2.5	5.0	2.1 5.1
Average number of beef cows per reporting farm.....	4.2	6.5	3.8	3.0	4.9	4.3	3.1	7.0	4.2	3.0 5.1
Farms reporting sows and gilts, percent.....	49.4	67.9	30.3	23.4	39.5	24.8	17.6	15.2	34.6	14.4 20.3
Average number sows and gilts per reporting farm.....	2.2	4.9	1.9	1.4	1.4	1.3	1.2	1.7	1.9	2.0 1.9
1929										
Cows milked per farm.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Milk produced per farm, gallons.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Whole milk sold per farm, gallons.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Cream sold per farm, pounds.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1929, 1930										
Average number chickens over 3 months, per farm, 1930.....	(1)	(1)	178	(1)	(1)	193	(1)	(1)	(1)	177
Eggs produced per farm, dozen, 1929.....	(1)	(1)	1 430	(1)	(1)	1 674	(1)	(1)	(1)	1 357
1929										
Average value per farm of all products sold, traded, or used by the operator's family.....	\$1 087	\$2 570	\$966	\$385	\$1 116	\$1 001	\$380	\$4 803	\$911	\$497 \$952
Percent of income from.....	13.1	7.9	3.4	3.2	19.5	8.9	5.4	84.3	12.6	4.3 5.0
Crops.....	26.0	65.4	15.5	10.1	21.3	11.6	8.5	6.1	21.7	8.9 12.9
Livestock.....	35.2	16.0	58.9	24.3	35.2	59.4	24.7	5.7	34.8	23.7 58.9
Livestock products.....	1.5	5	6	9	1.1	3	4	1	1.4	7.7 3
Forest products.....	24.2	10.2	21.6	61.5	22.9	19.8	61.0	3.8	29.5	62.4 22.9
Products used by operator.....										
1929										
Farms purchasing feed in 1929, percent.....	82.9	85.1	85.3	72.2	84.7	89.2	70.6	73.5	79.5	68.4 88.0
Amount of feed purchased per reporting farm.....	\$179	\$550	\$255	\$94	\$150	\$215	\$82	\$205	\$122	\$91 \$213
Farms on which fertilizer was purchased, percent.....	8.8	17.1	5.4	1.2	13.0	10.8	2.2	45.9	8.8	2.0 11.7
Amount of fertilizer purchased per reporting farm.....	\$84	\$130	\$101	\$17	\$59	\$40	\$20	\$305	\$62	\$17 \$60
1929										
Farms on which labor was hired in 1929, percent.....	31.6	50.0	26.2	10.0	33.2	30.0	11.8	75.6	34.4	16.8 31.1
Amount of labor hired per reporting farm.....	\$101	\$246	\$67	\$44	\$69	\$54	\$50	\$1 246	\$78	\$46 \$58
1930										
Farms operated by tenants, percent.....	25.5	17.2	18.3	29.3	23.0	15.3	32.3	19.4	20.0	26.0 16.1
Tenant farms rented for cash, percent.....	9.4	9.0	16.0	16.2	7.2	12.4	13.1	10.9	7.8	14.8 8.4

*Not reported.

TABLE 10.—*Concluded*

Area.....	6			8			8			9			9			Animal specialty
	General	Dairy	Cash grain	Poultry	General	Cash grain	Self- sufficing	General	Self- sufficing	General	Self- sufficing	Fruit	Truck	9	9	
Percent indicated farms are of all farms in area.....																
1929, 1930.....	44.2	21.9	9.1	7.5	39.8	23.8	14.3	39.1	19.6	39.1	19.6	6.4	3.8	9	9	....
Average size of farm, acres, 1930.....	138.9	140.4	163.9	85.4	125.1	187.2	74.1	120.3	83.1	120.3	83.1	125.8	71.6	205.7	205.7	
Crop land per farm, acres, 1929.....	79.0	79.6	99.0	41.4	64.8	123.9	24.7	36.6	20.9	36.6	20.9	59.0	26.1	64.6	64.6	
Pasture per farm, acres, 1929.....	22.4	27.4	17.8	....	26.6	20.9	20.2	27.4	20.0	27.4	20.0	16.2	8.9	61.2	61.2	
1930.....																
Value of land per farm.....	\$4 922	\$5 445	\$8 531	\$2 553	\$4 799	\$10 219	\$1 778	\$2 304	\$1 274	\$2 304	\$1 274	\$6 171	\$2 237	\$4 443	\$4 443	
Value of buildings per farm.....	2 189	2 607	2 499	1 650	1 904	2 130	928	1 336	693	1 336	693	2 609	1 338	1 960	1 960	
Value of equipment per farm.....	475	609	621	243	382	648	148	207	81	207	81	810	240	399	399	
Value of land per acre.....	35	39	52	30	38	55	24	19	15	19	15	49	31	22	22	
1930.....																
Farms reporting horses and mules (excluding colts), percent.....	96.0	96.1	92.4	84.9	93.2	94.9	84.0	93.0	85.3	93.0	85.3	88.6	87.1	94.2	94.2	
Average number horses and mules per reporting farm.....	4.4	4.5	4.7	3.3	4.2	5.6	2.9	3.3	2.6	3.3	2.6	3.5	2.7	4.9	4.9	
Farms reporting milk cows, percent.....	93.4	99.1	80.8	81.3	88.9	79.6	75.8	89.4	73.2	89.4	73.2	77.4	64.1	83.4	83.4	
Average number of milk cows per reporting farm.....	4.9	7.9	4.1	3.3	3.1	2.4	1.7	3.2	1.9	3.2	1.9	2.3	2.5	4.0	4.0	
Farms reporting beef cows, percent.....	3.0	6.6	2.9	3.3	4.9	4.2	1.4	6.3	3.5	6.3	3.5	2.4	2.1	24.0	24.0	
Average number of beef cows per reporting farm.....	5.6	6.2	3.9	3.9	4.3	4.6	1.7	5.2	2.4	5.2	2.4	4.1	1.8	8.5	8.5	
Farms reporting sows and gilts, percent.....	43.5	38.0	39.1	23.1	61.2	57.2	34.5	44.1	25.7	44.1	25.7	21.0	14.3	61.1	61.1	
Average number sows and gilts per reporting farm.....	1.7	1.7	2.1	1.4	2.3	3.1	1.5	1.8	1.4	1.8	1.4	1.6	1.7	3.3	3.3	
1929.....																
Cows milked per farm.....	(1)	7.9	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
Milk produced per farm, gallons.....	(1)	5 299	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
Whole milk sold per farm, gallons.....	(1)	4 780	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
Cream sold per farm, pounds.....	(1)	40	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
1929, 1930.....																
Number chickens over 3 months, per farm, 1930.....	(1)	(1)	(1)	200	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
Eggs produced per farm, dozen, 1929.....	(1)	(1)	(1)	1 645	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
Average value per farm of all products sold, traded, or used by the operator's family.....	\$1 540	\$1 942	\$1 612	\$1 100	\$1 405	\$2 283	\$553	\$955	\$383	\$955	\$383	\$3 694	\$1 366	\$2 095	\$2 095	
Percent of income from—																
Livestock.....	24.5	13.1	51.0	8.6	24.2	63.5	5.9	22.5	7.7	22.5	7.7	86.7	72.7	7.4	7.4	
Livestock.....	16.0	14.0	9.2	9.2	26.7	12.9	9.5	21.8	9.5	21.8	9.5	3.0	6.0	67.5	67.5	
Forest products.....	38.7	58.7	22.7	63.2	23.0	11.0	22.7	25.9	18.0	25.9	18.0	4.1	7.3	12.5	12.5	
Products used by operator.....	9.9	4.4	3.3	3.3	6.6	12.5	61.4	27.3	2.6	27.3	2.6	6.0	13.3	11.4	11.4	
1929.....																
Farms purchasing feed in 1929, percent.....	81.4	87.2	68.6	85.6	72.0	55.9	65.1	64.7	51.0	64.7	51.0	66.0	65.0	67.6	67.6	
Amount of feed purchased per reporting farm.....	\$143	\$225	\$108	\$210	\$126	\$83	\$80	\$103	\$66	\$103	\$66	\$189	\$66	\$332	\$332	
Farms on which fertilizer was purchased, percent.....	33.4	36.2	28.8	34.8	22.1	12.9	2.7	33.6	1.8	33.6	1.8	53.4	49.1	13.2	13.2	
Amount of fertilizer purchased per reporting farm.....	\$ 90	\$ 91	\$107	\$107	\$ 69	\$126	\$ 18	\$198	\$ 14	\$198	\$ 14	\$228	\$ 62	\$100	\$100	
1929.....																
Farms on which labor was hired in 1929, percent.....	52.9	56.4	66.8	31.7	45.0	60.8	11.0	39.1	14.2	39.1	14.2	71.9	51.2	60.0	60.0	
Amount of labor hired per reporting farm.....	\$129	\$168	\$194	\$ 71	\$129	\$263	\$ 52	\$117	\$ 46	\$117	\$ 46	\$1 142	\$348	\$299	\$299	
1930.....																
Farms operated by tenants, percent.....	37.2	38.0	52.0	21.4	29.9	57.7	34.3	23.7	32.1	23.7	32.1	19.1	34.1	22.3	22.3	
Tenant farms rented for cash, percent.....	10.0	17.2	7.2	22.1	2.3	....	8.3	7.5	6.2	7.5	6.2	6.4	10.2	5.1	5.1	

1 Not reported.

TABLE 11.—PERCENTAGE OF FARMS OF SPECIFIED TYPES IN EACH COUNTY IN ILLINOIS, 1929

County	General	Cash grain	Crop specialty	Fruit	Truck	Dairy	Animal specialty	Poultry	Self-sufficing	Part-time	Others ¹
Adams.....	26.0	10.1	.7	1.0	1.3	6.1	44.6	2.3	4.2	3.2	.5
Alexander.....	26.5	23.8	11.3	1.7	3.9	3.9	5.5	1.0	16.6	4.6	1.2
Bond.....	39.4	2.6	.4	.3	.3	38.3	4.2	6.6	4.5	3.2	.2
Boone.....	9.8	3.8	.6	...	.2	70.9	10.2	2.4	1.0	1.1	...
Brown.....	26.6	5.8	.1	.5	.3	2.1	51.9	2.7	6.4	3.0	.6
Bureau.....	18.0	35.4	.2	.3	.4	34	36.9	1.5	1.6	2.0	.3
Calhoun.....	32.6	3.8	.1	34.4	...	.4	12.3	4.0	8.1	4.0	.3
Carroll.....	25.2	3.2	.3	.2	1.0	10.6	51.6	1.9	2.0	4.0	...
Cass.....	18.9	55.3	...	...	.9	2.9	16.2	.8	2.0	2.6	.4
Champaign.....	7.1	81.3	.2	.1	.5	2.3	4.7	.9	1.2	1.5	.2
Christian.....	33.4	32.8	4.3	.2	...	4.6	17.5	1.1	3.5	2.1	.5
Clark.....	41.8	2.6	1.2	.2	.6	5.7	13.1	14.2	8.4	12.0	.2
Clay.....	43.3	.8	6.1	1.5	.2	2.1	4.5	27.2	7.8	6.2	.3
Clinton.....	46.0	6.6	.6	1.3	.2	33.2	1.7	3.9	4.4	2.0	.1
Coles.....	20.7	24.1	6.7	...	.6	6.6	25.6	2.3	7.7	4.9	.8
Cook.....	10.0	4.7	1.7	.1	41.0	25.0	2.1	5.2	2.0	7.4	.8
Crawford.....	36.9	4.0	.5	.4	.1	4.0	20.4	8.8	14.7	9.9	.3
Cumberland.....	44.0	3.8	5.6	1.3	...	6.4	11.4	12.0	8.4	7.0	.1
DeKalb.....	14.6	19.8	...	.1	1.0	22.0	36.6	2.9	.7	2.0	.3
DeWitt.....	14.4	64.8	.3	...	...	2.8	11.2	.8	2.7	2.7	.3
Douglas.....	18.0	61.3	2.6	...	...	2.6	10.6	.9	2.3	1.6	.1
DuPage.....	8.8	4.2	1.4	...	4.9	55.1	6.5	6.1	4.4	7.0	1.6
Edgar.....	19.9	38.4	.6	.9	.2	4.4	21.1	3.4	4.1	6.8	.2
Edwards.....	49.6	3.0	...	.6	...	3.4	15.4	18.5	5.8	2.8	.9
Elfingham.....	43.4	.5	.7	.7	.1	19.9	3.7	17.0	7.8	5.6	.6
Fayette.....	44.2	2.3	1.5	.9	...	16.8	5.7	14.2	9.8	4.2	.4
Ford.....	6.5	85.2	.1	...	.5	1.4	3.7	1.2	.3	1.0	.1
Franklin.....	36.7	1.2	.7	1.5	.1	6.2	5.7	7.6	21.3	18.6	.4
Fulton.....	28.9	13.9	.4	.3	.1	2.1	43.5	1.8	4.3	4.6	.1
Gallatin.....	36.5	27.7	.1	.4	...	.6	11.0	6.6	14.9	2.0	.2
Greene.....	29.7	17.1	.4	.8	.1	6.9	34.0	2.7	4.9	2.9	.5
Grundy.....	8.9	78.1	.3	...	.4	1.9	4.8	3.1	.6	1.5	.4
Hamilton.....	47.2	1.9	.1	.2	...	2.3	5.4	15.5	22.7	4.4	.3
Hancock.....	30.2	15.1	1.2	2.7	...	6.0	34.4	2.9	3.1	3.9	.5
Hardin.....	39.4	4.5	.1	.1	.1	2.3	13.0	1.9	27.3	10.6	.7
Henderson.....	16.0	26.2	.3	.4	1.5	1.2	49.3	.8	2.9	1.3	.1
Henry.....	16.1	21.0	.1	.2	.2	3.9	52.4	1.7	1.8	2.4	.2
Iroquois.....	14.9	71.7	.1	.1	.2	1.5	4.6	2.3	2.1	2.3	.2
Jackson.....	47.5	9.4	.2	5.0	.8	8.7	4.4	2.0	16.0	5.7	.3
Jasper.....	49.9	1.0	2.7	1.3	...	2.4	9.5	20.1	9.2	3.6	.3
Jefferson.....	44.5	1.6	2.0	2.5	.5	8.2	3.1	11.3	13.4	12.7	.2
Jersey.....	30.7	10.8	.8	1.9	.2	8.5	29.6	4.6	10.5	1.9	.5
JoDaviess.....	21.0	1.0	.6	...	.1	29.3	43.4	1.5	1.4	1.5	.2
Johnson.....	36.6	2.4	1.3	8.2	...	6.9	9.3	3.3	21.2	10.3	.5
Kane.....	8.8	6.9	.4	...	2.0	54.4	17.2	4.3	1.4	3.5	1.0
Kankakee.....	14.0	60.4	.3	.2	4.4	11.0	5.1	1.8	1.1	1.5	.2
Kendall.....	13.9	51.4	...	.1	.3	9.5	19.2	3.5	.5	1.5	.1
Knox.....	19.5	25.6	...	.2	.4	5.5	41.9	1.7	1.7	3.0	.5
Lake.....	7.6	1.5	3.3	.3	2.4	57.9	3.9	7.9	2.4	10.0	2.8
LaSalle.....	11.0	70.0	.1	.2	1.2	3.2	7.7	2.3	1.1	2.9	.3
Lawrence.....	39.3	14.1	1.3	.5	.6	4.5	13.8	9.4	11.1	5.1	.3

Note.—Where no data are given, the percentage of farms totaled less than one-tenth of 1 percent.

¹Includes stock ranch, institutional or country estate, boarding and lodging, forest product, horse farm, feed lot, or livestock dealer.

(Concluded on page 214)

TABLE 11.—*Concluded*

County	General	Cash grain	Crop specialty	Fruit	Truck	Dairy	Animal specialty	Poultry	Self-sufficing	Part-time	Others ¹
Lee.....	16.1	45.3	.3	.2	1.3	12.3	20.3	2.0	.7	1.4	.1
Livingston.....	5.1	87.3	...	...	.1	1.1	3.1	1.2	.6	1.3	.2
Logan.....	11.2	78.7	...	.2	.2	1.7	5.1	...	1.2	1.4	.3
McDonough.....	21.7	25.2	.1	.3	.1	3.2	41.4	1.3	2.7	3.6	.4
McHenry.....	5.7	2.8	1.0	.2	.4	75.0	4.4	3.7	2.0	4.6	.2
McLean.....	11.3	68.6	.1	.1	.8	4.2	8.9	1.3	1.2	3.2	.3
Macon.....	15.4	54.2	1.1	.6	1.1	5.8	7.2	1.3	2.1	10.8	.4
Macoupin.....	38.5	4.4	.9	.4	...	13.3	27.6	4.5	5.1	4.7	.6
Madison.....	31.9	9.1	.4	.9	3.8	36.3	2.3	3.5	4.3	7.2	.3
Marion.....	38.3	.5	3.4	8.0	4	8.3	3.2	12.7	13.3	11.4	.5
Marshall.....	15.1	59.1	...	.3	.1	1.8	19.9	1.1	.8	1.3	.5
Mason.....	11.4	78.4	.6	.1	.6	.8	4.1	.9	1.3	1.4	.4
Massac.....	50.0	2.8	1.1	1.7	...	6.1	11.1	4.8	14.8	7.0	.6
Menard.....	20.9	43.0	...	.2	.1	1.4	26.3	1.4	2.9	3.4	.4
Mercer.....	16.5	12.6	...	.1	.5	3.5	62.1	1.3	1.5	1.3	.6
Monroe.....	58.1	22.4	...	...	.2	4.1	1.9	4.3	7.6	1.2	.2
Montgomery.....	44.0	5.4	1.2	.2	1	20.6	11.1	4.7	7.2	5.0	.5
Morgan.....	23.7	31.8	.6	.1	.6	4.4	30.3	1.7	3.6	2.7	.5
Moultrie.....	28.6	43.6	5.3	...	...	3.3	7.4	2.7	4.2	4.4	.5
Ogle.....	20.8	16.0	.1	...	.5	15.1	42.3	1.6	1.6	1.7	.3
Peoria.....	28.3	22.0	.3	.9	2.7	7.6	26.3	2.3	2.9	6.2	.5
Perry.....	60.6	2.4	.2	.5	.2	5.2	2.1	6.7	11.4	10.5	.2
Piatt.....	8.2	78.1	1.0	.2	.2	2.3	6.8	...	1.5	1.5	.2
Pike.....	23.6	14.0	.1	1.3	.1	2.0	43.8	1.9	9.4	3.2	.6
Pope.....	37.7	3.7	.2	.8	...	1.5	9.9	6.7	35.4	3.3	.8
Pulaski.....	36.9	4.4	4.6	13.3	7.6	2.6	6.8	1.1	14.2	8.2	.3
Putnam.....	17.1	52.8	...	.5	...	2.5	21.7	.2	2.5	2.1	.6
Randolph.....	47.3	18.8	.1	.6	...	13.1	3.8	5.5	6.3	4.1	.4
Richland.....	46.3	1.3	3.8	1.5	...	3.9	9.0	23.3	7.0	3.9	...
Rock Island.....	21.3	7.7	1.1	1.5	2.8	12.2	42.4	2.2	2.6	5.7	.5
St. Clair.....	50.2	17.1	.5	.5	6.8	8.5	2.3	4.3	4.7	4.9	.2
Saline.....	34.0	7.9	.7	1.8	...	4.3	5.7	3.9	22.9	18.2	.6
Sangamon.....	18.3	37.6	.4	.7	.9	5.5	20.9	1.7	5.4	8.0	.6
Schuyler.....	34.2	15.1	.1	.2	...	2.5	36.2	2.7	5.8	2.9	.3
Scott.....	22.9	27.8	...	.9	.8	1.0	31.6	1.3	12.0	1.3	.4
Shelby.....	40.4	14.7	2.4	.2	.2	7.4	17.2	6.9	6.3	4.1	.2
Stark.....	12.0	38.2	.1	...	...	2.0	45.1	...	.7	1.8	.1
Stephenson.....	21.7	1.8	.7	.1	.7	42.5	27.6	1.6	1.6	1.4	.3
Tazewell.....	21.4	58.1	.2	.8	1.3	5.2	8.7	1.0	.9	2.1	.3
Union.....	41.4	5.3	3.1	12.3	11.0	7.1	3.7	.7	11.5	34.4	.5
Vermilion.....	18.0	44.1	.1	.1	1.2	4.6	10.2	2.1	5.1	13.9	.6
Wabash.....	49.9	22.5	1.4	.4	.9	2.4	5.0	5.1	8.4	3.9	.1
Warren.....	13.3	30.4	.2	...	.2	3.5	47.6	.8	1.7	1.9	.4
Washington.....	54.3	13.3	...	3.1	...	14.9	.7	5.3	5.2	3.0	.2
Wayne.....	43.3	.9	9.9	.1	...	1.7	6.2	27.2	6.8	3.6	.3
White.....	36.7	22.3	.8	.9	.4	2.6	9.1	7.2	16.7	2.9	.4
Whiteside.....	22.3	23.4	1.0	.2	2.1	15.0	30.7	2.1	.9	2.1	.2
Will.....	14.4	42.7	.2	...	2.3	26.8	5.5	2.6	3.1	2.0	.4
Williamson.....	36.8	1.0	.7	2.5	.1	9.3	3.5	2.6	31.6	11.4	.5
Winnebago.....	15.1	3.9	.7	.2	2.9	32.1	33.2	3.7	.9	6.7	.6
Woodford.....	18.5	59.8	.1	.5	1.8	2.7	11.8	1.2	1.8	1.5	.3

Note.—Where no data are given, the percentage of farms totaled less than one-tenth of 1 percent.

¹Includes stock ranch, institutional or country estate, boarding and lodging, forest product, horse farm, feed lot, or livestock dealer.

TABLE 12.—AMOUNT AND DISTRIBUTION OF FARM INCOME¹ PER FARM IN THE DIFFERENT TYPE-OF-FARMING AREAS OF ILLINOIS, 1929

	Total income	Income from—				
		Crops	Livestock	Livestock products	Forest products	Products used by operator's family
<i>Area 1</i>						
Income per farm.....	\$3 186	\$567	\$750	\$1 629	\$2	\$238
Percent.....	100	17.8	23.5	51.1	.1	7.5
<i>Area 2</i>						
Income per farm.....	2 805	414	1 336	782	8	265
Percent.....	100	14.8	47.6	27.9	.3	9.4
<i>Area 3</i>						
Income per farm.....	3 189	805	1 675	449	7	253
Percent.....	100	25.2	52.5	14.1	.2	8.0
<i>Area 4a</i>						
Income per farm.....	3 321	1 935	663	449	5	269
Percent.....	100	58.3	20.0	13.5	.1	8.1
<i>Area 4b</i>						
Income per farm.....	3 140	1 702	714	436	7	281
Percent.....	100	54.2	22.8	13.9	.2	8.9
<i>Area 5</i>						
Income per farm.....	2 313	545	1 147	354	12	255
Percent.....	100	23.6	49.6	15.3	.5	11.0
<i>Area 6</i>						
Income per farm.....	1 516	362	262	616	10	266
Percent.....	100	23.8	17.3	40.7	.6	17.6
<i>Area 7a</i>						
Income per farm.....	1 181	155	413	367	11	235
Percent.....	100	13.1	35.0	31.1	.9	19.9
<i>Area 7b</i>						
Income per farm.....	1 133	295	231	385	9	213
Percent.....	100	26.0	20.4	33.9	.8	18.9
<i>Area 7c</i>						
Income per farm.....	842	98	199	285	10	250
Percent.....	100	11.6	23.6	33.9	1.2	29.7
<i>Area 8</i>						
Income per farm.....	1 569	560	369	324	7	309
Percent.....	100	35.7	23.5	20.7	.5	19.6
<i>Area 9</i>						
Income per farm.....	1 097	408	241	210	19	219
Percent.....	100	37.2	21.9	19.2	1.8	19.9

¹Value of farm products sold, traded, or used by operator's family.

TABLE 13.—PERCENTAGE OF FARM INCOME¹ DERIVED FROM SPECIFIED SOURCES IN EACH COUNTY OF ILLINOIS, 1929
(Total of all sources indicated = 100)

County	Crops	Livestock	Livestock products	Forest products	Products used by operator's family
Adams.....	20.5	48.3	19.1	.7	11.4
Alexander.....	43.7	17.5	19.4	1.9	17.5
Bond.....	13.6	22.9	46.0	.9	16.6
Boone.....	9.5	34.8	49.5	.1	6.1
Brown.....	12.8	57.3	17.3	.7	11.9
Bureau.....	30.8	47.2	14.1	.2	7.7
Calhoun.....	47.9	22.4	12.8	1.1	15.8
Carroll.....	7.9	59.2	22.7	.3	9.9
Cass.....	44.6	37.8	9.4	.4	7.8
Champaign.....	64.8	15.8	11.8	.1	7.5
Christian.....	42.9	32.6	14.8	.0	9.7
Clark.....	11.4	35.6	33.0	.6	19.4
Clay.....	29.4	17.4	34.3	1.1	17.8
Clinton.....	23.1	12.2	48.6	.4	15.7
Coles.....	35.7	38.2	15.1	.4	10.6
Cook.....	52.2	9.4	30.7	.0	7.7
Crawford.....	12.1	39.0	27.4	1.0	20.5
Cumberland.....	17.3	28.9	32.6	1.2	20.0
DeKalb.....	21.9	49.8	22.2	.2	5.9
DeWitt.....	53.8	25.6	11.7	.1	8.8
Douglas.....	58.6	23.2	11.2	.1	6.9
DuPage.....	11.8	19.5	58.4	.1	10.2
Edgar.....	40.3	38.4	12.5	.2	8.6
Edwards.....	12.5	34.4	32.4	1.1	19.6
Effingham.....	11.2	20.1	46.4	1.6	20.7
Fayette.....	12.8	27.7	39.1	.6	19.8
Ford.....	63.6	17.7	12.1	.0	6.6
Franklin.....	11.3	21.6	35.5	1.2	30.4
Fulton.....	30.9	50.9	14.5	.4	11.2
Gallatin.....	37.8	24.2	17.7	.4	19.9
Greene.....	19.4	56.4	15.3	.2	8.7
Grundy.....	59.8	18.3	14.9	.2	6.8
Hamilton.....	10.1	26.4	35.3	1.1	27.1
Hancock.....	23.1	48.0	18.8	.3	9.8
Hardin.....	11.5	33.7	21.8	2.5	30.5
Henderson.....	23.6	60.0	9.1	.2	7.1
Henry.....	20.8	56.3	14.6	.1	8.2
Iroquois.....	57.3	17.1	15.2	.1	10.3
Jackson.....	30.2	17.1	27.7	1.3	23.7
Jasper.....	14.1	31.9	33.5	.7	19.8
Jefferson.....	18.1	21.8	35.7	.6	23.8
Jersey.....	21.4	40.3	22.8	.9	14.6
JoDavies.....	3.8	49.4	34.4	.3	12.1
Johnson.....	32.3	25.0	21.1	1.0	20.6
Kane.....	10.4	37.5	45.8	.1	6.2
Kankakee.....	51.8	16.8	22.8	.1	8.5
Kendall.....	38.7	32.0	22.5	.1	6.7
Knox.....	27.1	48.3	15.4	.2	9.0
Lake.....	8.1	21.2	61.5	.1	9.1

¹Value of all products sold, traded, or used by the operator's family.

TABLE 13.—*Concluded*

County	Crops	Livestock	Livestock products	Forest products	Products used by operator's family
LaSalle.....	55.7	20.7	15.4	.1	8.1
Lawrence.....	27.9	27.9	25.6	.8	17.8
Lee.....	40.1	32.3	19.9	.2	7.5
Livingston.....	66.2	13.2	12.9	.1	7.6
Logan.....	60.2	18.9	12.2	.1	8.6
McDonough.....	27.9	50.2	13.3	.2	8.4
McHenry.....	4.7	20.2	67.9	.1	7.1
McLean.....	55.3	24.8	12.7	.1	7.1
Macon.....	54.4	21.1	16.0	.1	8.4
Macoupin.....	15.7	47.5	24.3	.4	12.1
Madison.....	25.4	15.5	42.8	.5	15.8
Marion.....	34.3	17.2	29.3	.9	18.3
Marshall.....	43.2	36.2	12.6	.2	7.8
Mason.....	64.2	14.9	10.6	.6	9.7
Massac.....	11.0	39.2	26.7	2.5	20.6
Menard.....	35.7	44.4	10.9	.3	8.7
Mercer.....	13.9	63.9	14.1	.3	7.8
Monroe.....	32.3	13.8	30.0	.8	23.1
Montgomery.....	18.6	33.3	32.6	.5	15.0
Morgan.....	35.7	42.2	13.1	.1	8.9
Moultrie.....	53.2	23.4	14.5	.3	8.6
Ogle.....	16.9	50.1	23.9	.3	8.9
Peoria.....	30.9	36.4	21.5	.4	10.6
Perry.....	17.3	18.8	37.6	1.3	25.0
Piatt.....	65.7	17.7	9.8	.1	6.7
Pike.....	18.5	54.9	13.2	.6	12.8
Pope.....	10.4	27.7	26.4	4.7	30.8
Pulaski.....	42.0	21.0	17.2	1.0	18.8
Putnam.....	37.5	43.3	12.5	.2	6.5
Randolph.....	24.0	18.3	36.0	1.3	20.4
Richland.....	19.8	24.2	37.7	.8	17.5
Rock Island.....	17.2	47.9	23.6	.5	10.8
St. Clair.....	36.7	13.8	31.7	.3	17.5
Saline.....	21.4	29.4	24.1	.6	24.5
Sangamon.....	35.7	46.0	10.8	.1	7.4
Schuyler.....	24.1	46.2	16.5	.8	12.4
Scott.....	35.0	40.1	11.0	.3	13.6
Shelby.....	27.4	33.2	24.9	.3	14.2
Stark.....	34.8	47.3	11.0	.2	6.7
Stephenson.....	8.2	43.4	38.8	.4	9.2
Tazewell.....	51.9	21.4	16.9	.3	9.5
Union.....	60.3	11.0	13.0	.9	14.8
Vermilion.....	49.4	27.4	13.1	.3	9.8
Wabash.....	37.5	20.8	21.8	.8	19.1
Warren.....	23.8	48.3	10.6	.2	6.0
Washington.....	32.3	11.3	40.7	.4	15.3
Wayne.....	19.4	23.3	36.1	.5	20.7
White.....	33.5	24.8	21.6	.3	19.8
Whiteside.....	28.0	41.1	23.3	.1	7.5
Will.....	38.5	19.6	31.6	.1	10.2
Williamson.....	13.1	23.1	31.3	1.1	31.4
Winnebago.....	10.8	46.9	34.1	.2	8.0
Woodford.....	51.7	24.3	14.8	.2	9.0

TABLE 14.—UTILIZATION OF FARM LAND IN ILLINOIS BY COUNTIES, 1929

	Percent of farm land used for crops	Percent of farm land used for pasture	Percentage of crop and pasture land in—							Idle, fallow, failure
			Corn	Fall grains	Spring grains	Hay	Other crops	Pasture		
Adams.....	56.6	36.1	19.6	9.3	10.4	10.3	2.4	39.0	9.0	
Alexander.....	57.6	21.2	27.0	2.7	.7	7.4	4.5	27.0	30.7	
Bond.....	61.2	32.0	20.7	8.6	6.2	14.4	2.7	34.3	13.1	
Boone.....	70.0	25.6	25.9	.4	27.0	14.3	3.8	26.7	1.1	
Brown.....	45.6	49.4	19.1	5.1	7.2	9.5	1.7	52.0	5.4	
Bureau.....	71.4	24.7	37.9	3.7	21.3	8.6	.7	25.7	2.1	
Calhoun.....	49.5	24.8	16.3	5.9	1.1	7.0	17.6	33.4	18.7	
Carroll.....	60.0	35.0	25.0	.7	19.0	14.6	1.5	36.9	3.3	
Cass.....	71.6	20.9	27.6	21.7	8.6	5.0	2.6	22.6	11.9	
Champaign.....	84.5	13.1	46.2	4.6	27.2	4.0	3.6	13.4	1.0	
Christian.....	78.3	18.8	35.2	12.8	10.3	7.9	8.7	19.4	5.7	
Clark.....	55.9	37.0	17.4	4.1	4.0	14.0	1.6	39.8	19.1	
Clay.....	65.8	24.7	17.7	1.1	4.1	25.6	6.6	27.3	17.6	
Clinton.....	72.9	18.6	19.5	21.8	12.8	10.6	5.2	20.3	9.8	
Coles.....	72.3	23.0	35.5	9.3	13.2	7.7	6.1	24.1	4.1	
Cook.....	76.6	15.5	20.6	.5	24.3	18.4	12.0	16.8	7.4	
Crawford.....	55.3	35.5	20.3	5.8	3.9	10.5	2.2	39.1	18.2	
Cumberland.....	62.1	40.4	19.8	2.5	5.7	17.6	6.1	32.9	15.4	
DeKalb.....	80.5	15.7	38.4	.8	29.7	10.7	3.2	16.3	1.9	
DeWitt.....	77.8	19.9	40.9	6.1	22.7	5.6	1.1	20.3	3.3	
Douglas.....	83.3	13.6	41.9	9.3	21.7	5.8	5.8	14.0	1.5	
DuPage.....	73.0	22.0	24.6	1.3	27.0	14.2	2.2	23.2	7.5	
Edgar.....	74.0	22.1	35.3	8.5	20.9	7.3	2.6	22.9	2.5	
Edwards.....	65.1	25.3	22.5	8.1	6.7	11.4	8.4	28.0	14.9	
Effingham.....	62.5	28.4	20.3	5.1	7.8	16.9	5.6	31.3	13.0	
Fayette.....	61.5	31.3	20.4	4.3	5.6	15.2	3.6	33.7	17.2	
Ford.....	84.1	12.8	44.3	.9	33.0	4.6	2.6	13.2	1.4	
Franklin.....	62.0	26.8	19.5	4.5	2.6	16.1	4.6	30.2	22.5	
Fulton.....	59.6	36.3	24.9	10.7	10.0	10.3	1.3	37.9	4.9	
Gallatin.....	65.4	24.7	32.1	10.5	4.5	7.1	1.4	27.4	17.0	
Greene.....	59.7	35.4	26.8	12.3	3.8	8.8	3.0	37.2	9.1	
Grundy.....	78.9	17.3	41.8	2.9	28.4	3.3	1.0	18.0	4.6	
Hamilton.....	60.9	29.8	19.2	4.4	2.9	17.9	2.0	32.8	20.8	
Hancock.....	61.7	34.5	25.7	6.1	14.2	11.0	2.9	35.9	4.2	
Hardin.....	32.6	48.1	18.1	.1	.2	11.4	.7	59.6	9.9	
Henderson.....	66.8	28.7	33.6	3.8	13.5	6.4	1.5	30.0	11.3	
Henry.....	70.9	24.6	37.4	2.8	20.3	10.7	.5	25.7	2.6	
Iroquois.....	82.1	15.0	40.4	1.6	32.5	4.3	2.9	15.4	2.9	
Jackson.....	57.5	25.0	16.6	8.7	4.0	9.6	4.8	30.4	25.9	
Jasper.....	66.2	25.8	19.5	1.8	4.3	19.2	6.7	28.1	20.4	
Jefferson.....	56.9	30.8	17.1	1.9	4.6	18.9	4.0	35.0	18.5	
Jersey.....	56.2	32.1	21.9	12.2	3.8	7.8	4.9	36.4	13.0	
JoDavies.....	45.0	48.1	16.1	.2	12.8	16.9	.3	51.7	2.0	
Johnson.....	42.9	35.9	16.6	.1	.5	15.1	6.5	45.6	15.6	
Kane.....	74.5	20.9	29.9	1.5	28.9	13.3	.8	21.9	3.7	
Kankakee.....	79.0	16.2	36.9	5.1	29.2	7.1	.3	17.0	4.4	
Kendall.....	79.2	16.1	39.3	2.5	32.0	8.1	...	16.8	1.3	
Knox.....	65.5	30.8	33.3	3.4	17.3	11.1	.9	32.0	2.0	
Lake.....	62.0	28.7	17.5	.7	21.4	19.2	2.0	31.6	7.6	
LaSalle.....	78.1	18.7	41.6	3.3	27.2	6.0	.6	19.3	2.0	
Lawrence.....	65.1	22.9	22.6	13.5	4.9	12.2	3.0	26.0	17.8	
Lee.....	74.5	21.2	35.7	2.7	25.3	8.6	1.9	22.1	3.7	

TABLE 14.—*Concluded*

	Percent of farm land used for crops	Percent of farm land used for pasture	Percentage of crop and pasture land in—					
			Corn	Fall grains	Spring grains	Hay	Other crops	Pasture
Livingston.....	84.8	12.3	45.2	.7	36.7	3.1	.7	12.7
Logan.....	82.4	14.8	35.6	18.3	16.7	6.1	1.6	15.2
McDonough.....	66.3	29.8	33.1	8.3	15.6	7.7	1.5	31.0
McHenry.....	64.7	30.4	23.8	.3	22.6	15.8	1.3	31.9
McLean.....	81.7	15.5	45.6	3.8	26.3	5.3	1.5	15.9
Macon.....	80.1	16.6	42.3	11.5	16.1	6.4	4.1	17.2
Macoupin.....	58.6	36.2	24.3	11.0	3.6	10.7	4.0	38.1
Madison.....	71.3	22.0	18.8	23.7	5.2	12.6	3.3	23.6
Marion.....	61.6	28.0	15.9	1.7	3.2	19.0	11.1	31.3
Marshall.....	72.3	23.9	37.4	3.5	25.8	6.9	.4	24.8
Mason.....	78.3	11.1	32.8	28.9	9.3	5.7	3.1	12.4
Massac.....	51.1	30.0	19.2	3.0	3.2	12.7	6.6	37.0
Menard.....	74.8	21.3	30.2	22.5	11.0	6.5	1.9	22.2
Mercoer.....	63.5	32.2	35.2	2.0	12.6	11.2	.8	33.7
Monroe.....	64.6	16.3	14.1	31.5	6.1	6.4	.4	20.1
Montgomery.....	65.5	29.9	24.1	9.9	5.7	12.1	3.7	31.4
Morgan.....	67.7	28.1	30.5	9.4	17.9	6.9	2.7	29.3
Moultrie.....	78.5	17.5	39.7	7.8	14.1	6.2	10.8	18.0
Ogle.....	69.7	26.1	29.8	.6	27.3	12.3	1.0	27.2
Peoria.....	65.0	30.1	29.8	5.9	16.2	10.8	2.5	31.6
Perry.....	64.5	22.4	16.3	11.1	8.1	11.9	3.9	25.8
Piatt.....	82.1	15.0	43.0	9.6	20.5	4.4	5.6	15.5
Pike.....	55.1	37.9	21.1	10.0	5.7	8.0	1.9	40.7
Pope.....	41.5	31.5	17.9	.5	2.3	13.7	2.5	43.2
Pulaski.....	63.7	20.6	24.2	3.5	3.0	10.3	8.0	24.5
Putnam.....	66.7	28.2	34.9	7.2	18.2	8.3	.2	29.7
Randolph.....	65.0	19.6	14.4	22.5	7.4	8.4	1.1	23.2
Richland.....	66.7	24.6	19.0	2.2	5.4	23.7	8.4	27.0
Rock Island.....	59.1	35.5	29.7	2.4	12.1	12.4	1.9	37.5
St. Clair.....	74.2	16.4	17.8	29.1	7.9	10.4	3.6	18.0
Saline.....	61.7	27.9	23.7	6.1	4.3	14.0	2.7	31.1
Sangamon.....	73.1	23.8	34.8	15.0	12.8	6.5	2.3	24.6
Schuyler.....	55.6	39.1	19.0	13.6	6.9	9.2	2.2	41.3
Scott.....	64.3	29.6	31.5	19.8	3.6	5.5	1.3	31.5
Shelby.....	67.2	27.6	29.2	3.5	10.6	14.1	4.2	29.1
Stark.....	73.1	24.2	39.8	1.0	22.4	7.6	1.0	24.8
Stephenson.....	64.6	31.4	23.5	.3	22.1	17.3	1.9	32.7
Tazewell.....	78.7	17.1	34.1	17.3	16.5	7.3	2.8	17.8
Union.....	52.5	22.1	14.2	4.8	1.9	12.3	13.0	29.6
Vermilion.....	77.9	18.8	37.6	6.1	24.9	5.8	3.8	19.5
Wabash.....	76.2	16.5	26.4	15.3	7.5	9.7	6.4	17.8
Warren.....	68.6	28.2	38.8	1.9	18.5	8.3	1.2	29.1
Washington.....	70.5	19.4	14.1	27.6	11.2	8.8	4.1	21.6
Wayne.....	61.6	29.3	16.3	.9	2.1	27.0	1.8	32.8
White.....	67.9	24.6	26.4	12.4	4.5	10.1	2.7	26.6
Whiteside.....	70.6	24.4	34.0	6.5	18.4	9.7	1.5	25.7
Will.....	76.5	19.3	33.2	2.4	32.2	9.1	.8	20.1
Williamson.....	54.4	30.2	18.8	1.4	1.7	17.0	5.4	35.8
Winnebago.....	68.5	26.8	25.6	1.8	24.4	15.4	1.1	28.1
Woodford.....	75.5	19.7	38.4	2.6	25.0	6.6	5.6	20.7

TABLE 15.—NUMBERS OF LIVESTOCK ON ILLINOIS FARMS APRIL 1, 1930, BY COUNTIES,
AND QUANTITIES OF SPECIFIED PRODUCTS SOLD IN 1929 PER
1,000 ACRES OF CROP AND PASTURE LAND

	Work animals	Milk cows 2 yrs. old and over	Whole milk sold	Cream sold as butter- fat	Beef cows 2 yrs. old and over	Steers 2 yrs. old and over	Steers and bulls born in 1929	Sows and gilts far- rowing Jan. 1- June 1, 1929	Ewes 1 yr. old and over	Chickens over 3 months
			<i>gals.</i>	<i>lbs.</i>						
Adams.....	32.0	34.6	2 409	2 223	12.6	2.7	7.0	30.5	23.6	682
Alexander.....	29.2	18.3	1 850	870	2.6	.8	2.5	13.0	4.1	456
Bond.....	32.7	50.5	22 003	55	2.9	.8	4.0	5.6	28.1	1 038
Boone.....	31.7	94.4	57 246	399	1.8	6.1	8.3	25.6	28.3	765
Brown.....	30.1	27.4	208	2 215	13.1	3.2	7.5	28.2	48.4	706
Bureau.....	31.8	35.1	492	2 369	10.9	6.2	11.8	46.6	20.6	671
Calhoun.....	33.9	20.5	238	835	5.3	2.2	4.5	15.2	17.5	1 075
Carroll.....	27.9	54.5	9 367	3 312	13.3	9.6	16.8	54.0	27.0	780
Cass.....	29.2	18.7	1 089	1 016	6.2	4.9	5.4	18.7	10.8	536
Champaign.....	33.7	28.1	2 995	1 822	2.5	2.7	6.7	12.2	14.4	547
Christian.....	35.0	28.1	2 043	2 158	3.6	3.1	6.7	20.6	18.2	624
Clark.....	29.3	34.0	3 940	1 643	3.9	1.9	5.1	11.2	27.5	1 138
Clay.....	26.5	26.5	925	1 570	10.6	1.3	3.8	4.2	21.1	1 346
Clinton.....	33.5	50.9	25 239	100	.7	.7	2.4	5.1	7.7	1 394
Coles.....	31.4	28.2	2 995	1 426	4.8	3.9	8.4	20.8	13.4	728
Cook.....	37.8	78.9	43 271	40	1.8	2.2	4.0	8.7	5.0	1 323
Crawford.....	27.8	29.6	1 278	2 148	5.1	2.5	5.1	14.8	42.3	879
Cumberland.....	32.6	34.6	3 963	1 552	5.8	1.7	5.9	7.4	14.4	1 183
DeKalb.....	34.2	45.5	19 275	910	6.7	13.2	10.2	43.6	35.3	786
DeWitt.....	33.8	28.4	1 199	2 454	5.6	2.3	6.9	18.8	28.3	526
Douglas.....	33.5	25.9	1 555	1 980	2.5	2.3	7.1	18.7	10.9	596
DuPage.....	31.0	93.7	59 084	27	.9	5.3	6.3	16.6	10.5	1 121
Edgar.....	28.1	25.3	2 738	1 525	4.0	6.6	9.5	23.0	18.0	605
Edwards.....	32.0	27.0	457	2 206	9.7	2.1	5.8	12.2	32.0	1 410
Effingham.....	32.3	44.6	10 380	1 306	4.7	.9	3.1	4.1	12.8	1 311
Fayette.....	33.4	39.9	8 293	1 334	4.3	2.6	3.9	5.2	22.3	1 133
Ford.....	32.9	25.3	942	1 860	4.1	2.1	5.6	13.2	11.8	614
Franklin.....	35.7	35.2	3 219	1 446	2.6	1.8	4.5	6.8	10.0	936
Fulton.....	29.7	32.7	1 143	2 245	9.1	5.4	12.9	40.2	21.1	596
Gallatin.....	35.5	16.0	220	783	3.0	2.0	2.5	13.4	10.2	913
Greene.....	32.7	28.3	6 397	950	9.4	10.5	7.4	26.9	23.3	675
Grundy.....	28.6	26.8	2 398	1 283	3.6	2.0	3.4	9.9	5.4	564
Hamilton.....	33.3	31.2	959	1 882	4.7	1.1	3.7	5.9	14.6	1 145
Hancock.....	33.1	37.0	1 592	3 128	10.4	4.9	9.0	31.1	25.2	731
Hardin.....	28.4	25.6	238	1 184	5.3	3.0	10.4	5.5	5.4	718
Henderson.....	28.0	24.4	288	1 904	9.7	8.3	11.5	44.6	17.3	511
Henry.....	35.0	39.9	1 843	2 969	11.6	10.3	16.5	65.2	19.7	691
Iroquois.....	32.3	29.8	2 013	2 194	2.9	1.4	5.1	11.6	9.6	612
Jackson.....	31.3	35.4	2 034	2 423	2.8	.8	5.9	7.0	8.6	649
Jasper.....	33.1	29.4	596	2 074	6.6	1.4	4.2	6.1	37.3	1 217
Jefferson.....	32.6	42.5	2 048	291	3.4	1.1	2.4	4.0	16.9	1 107
Jersey.....	31.0	31.7	5 970	1 661	5.3	2.4	3.3	22.8	11.5	693
JoDavies.....	25.7	74.5	14 899	5 185	12.5	9.5	13.8	39.0	34.6	725
Johnson.....	30.1	31.0	200	2 373	10.3	5.4	5.4	5.8	10.4	592
Kane.....	29.5	93.0	64 111	182	4.8	9.4	7.0	20.9	19.1	861
Kankakee.....	29.6	36.0	10 457	819	2.8	2.2	4.5	9.2	6.0	612
Kendall.....	29.9	35.1	11 243	179	3.4	5.9	6.1	26.2	20.0	751
Knox.....	31.3	37.9	2 691	2 749	10.3	7.0	12.3	45.7	20.2	578
Lake.....	32.3	108.5	63 018	297	2.7	3.8	6.3	7.5	14.6	1 155
LaSalle.....	32.2	35.2	4 027	1 743	6.1	2.6	6.4	16.6	19.3	660
Lawrence.....	28.9	24.0	1 269	1 623	4.9	1.8	4.9	8.5	22.4	840

TABLE 15.—*Concluded*

	Work animals	Milk cows 2 yrs. old and over	Whole milk sold	Cream sold as butter- fat	Beef cows 2 yrs. old and over	Steers 2 yrs. old and over	Steers and bulls born in 1929	Sows and gilts far- rowing Jan. 1- June 1, 1929	Ewes 1 yr. old and over	Chickens over 3 months
			<i>gals.</i>	<i>lbs.</i>						
Lee.....	30.8	39.5	10 426	1 416	8.8	5.7	9.2	25.0	20.7	659
Livingston.....	32.3	26.9	1 480	1 999	4.0	.9	4.2	11.8	8.7	638
Logan.....	33.8	24.8	1 172	2 107	4.2	2.1	5.4	18.2	14.1	617
McDonough.....	33.2	31.5	1 590	2 664	9.0	4.9	11.9	45.5	22.4	708
McHenry.....	28.8	130.1	84 897	272	1.7	1.6	4.3	10.9	11.1	898
McLean.....	32.5	29.7	3 894	1 905	4.7	3.7	6.2	21.2	15.0	558
Macon.....	34.0	32.1	5 497	1 989	3.5	4.2	8.9	14.4	13.3	580
Macopin.....	33.0	36.0	7 192	1 713	7.9	8.3	9.8	18.1	36.3	775
Madison.....	34.7	53.7	26 033	216	1.0	1.0	2.8	8.0	12.5	1 077
Marion.....	30.9	36.8	3 072	1 756	5.4	.9	3.7	3.1	29.5	1 041
Marshall.....	30.8	29.0	964	2 272	8.4	4.5	8.1	30.5	18.4	606
Mason.....	30.2	18.9	610	1 434	2.1	.5	3.1	11.6	4.3	460
Massac.....	33.4	36.3	1 911	2 466	5.7	4.1	8.8	9.5	6.5	758
Menard.....	32.4	24.6	1 076	2 016	5.6	6.1	8.7	31.0	12.1	589
Mercer.....	31.2	32.6	2 472	2 722	15.0	9.1	13.7	58.9	23.7	624
Monroe.....	33.3	29.7	6 558	701	2.0	.3	1.4	9.1	6.5	1 286
Montgomery.....	33.8	38.6	9 528	1 621	4.1	2.1	5.1	12.3	25.1	897
Morgan.....	33.7	27.2	2 469	1 872	9.3	3.2	9.4	30.6	24.4	719
Moultrie.....	35.4	28.8	1 960	2 275	3.4	1.4	5.6	12.8	14.5	676
Ogle.....	31.8	49.6	13 370	1 595	10.2	9.2	13.3	39.1	26.4	708
Peoria.....	31.9	38.5	7 328	1 709	7.9	2.0	5.7	36.5	16.3	683
Perry.....	32.1	39.4	2 944	2 582	5.9	.7	3.2	5.0	6.7	875
Piatt.....	34.1	26.4	2 037	1 923	4.1	3.0	6.8	18.8	13.1	457
Pike.....	29.1	24.0	358	1 836	10.5	6.2	12.1	27.0	26.8	607
Pope.....	29.7	25.8	102	1 433	4.4	2.1	5.8	5.7	8.8	700
Pulaski.....	40.7	30.4	3 084	1 195	4.1	4.9	4.2	9.3	3.0	599
Putnam.....	29.9	31.1	1 150	2 565	17.5	7.4	10.0	32.2	24.1	583
Randolph.....	32.6	41.6	9 856	1 311	2.2	2.0	3.5	7.9	8.6	956
Richland.....	28.4	35.4	1 226	2 398	7.2	1.9	4.8	6.1	23.2	1 221
Rock Island.....	32.1	50.5	9 929	1 976	12.6	5.1	9.9	48.2	13.4	880
St. Clair.....	38.0	39.9	10 946	321	2.2	.9	2.1	8.0	4.5	1 143
Saline.....	36.5	29.4	1 891	1 327	3.7	1.5	4.4	7.7	7.7	877
Sangamon.....	30.1	25.3	4 161	1 320	5.0	11.2	8.6	27.9	17.2	547
Schuyler.....	28.0	29.3	397	2 434	9.0	2.4	8.9	24.6	19.1	661
Scott.....	28.6	21.8	456	1 416	7.3	2.5	7.6	32.0	15.4	721
Shelby.....	33.7	35.9	2 628	2 452	6.4	2.9	6.8	12.5	30.3	905
Stark.....	33.9	28.0	580	287	10.0	3.5	9.4	49.7	25.2	542
Stephenson.....	33.7	90.1	39 159	1 964	6.7	6.0	10.9	53.7	37.7	1 076
Tagewell.....	33.3	32.2	6 403	1 721	4.5	1.8	4.9	18.6	13.0	616
Union.....	34.3	34.0	788	2 771	9.9	.8	4.3	8.1	7.4	546
Vermilion.....	28.4	26.6	2 650	1 620	3.0	3.1	7.2	15.2	15.5	542
Wabash.....	30.2	23.5	1 468	1 662	4.2	1.1	3.4	12.0	11.5	868
Warren.....	26.6	30.1	1 505	2 605	9.0	10.0	12.5	54.3	16.8	571
Washington.....	32.9	41.3	14 105	375	1.2	.7	2.3	3.7	4.7	1 015
Wayne.....	28.4	28.5	489	1 361	11.4	4.1	5.6	4.4	30.7	1 266
White.....	32.2	23.1	1 652	1 284	4.1	1.0	3.4	11.1	19.8	816
Whiteside.....	32.6	54.4	18 446	1 564	5.3	3.6	8.4	48.1	12.7	832
Will.....	29.2	48.5	19 101	454	1.9	2.4	5.1	8.2	7.0	754
Williamson.....	36.2	41.0	2 657	2 503	5.9	1.3	4.3	6.6	5.4	863
Winnebago.....	30.0	58.3	29 585	938	6.3	6.5	8.2	40.4	31.4	713
Woodford.....	32.4	34.1	3 751	2 346	6.9	2.7	6.7	23.6	12.1	728
State.....	31.8	37.8	8 289	1 761	6.1	4.0	7.2	22.0	18.3	768

TABLE 16.—UTILIZATION OF FARM LAND IN ILLINOIS BY TYPE-OF-FARMING AREAS, 1879 TO 1929

Crop	1879	1889	1899	1909	1919	1924	1929
<i>Area 1</i>							
Corn.....	13.8	14.8	21.1	21.3	25.6	23.5	22.8
Oats.....	10.7	14.6	16.9	14.5	13.0	15.8	13.9
Wheat.....	1.4	1.4	.4	.7	10.0	2.0	2.2
Barley.....	.1	.8	.2	1.3	3.9	5.2	7.8
Hay.....	19.1	21.6	18.3	18.2	15.0	17.6	14.8
<i>Area 2</i>							
Corn.....	26.9	24.0	27.9	25.4	25.9	26.3	25.4
Oats.....	9.9	14.0	18.8	15.7	14.4	16.5	14.8
Wheat.....	4.5	1.5	.4	.6	4.4	2.0	1.7
Barley.....	1.7	.8	.7	1.2	2.1	1.4	2.6
Hay.....	10.6	14.5	11.2	14.4	12.4	13.6	13.0
<i>Area 3</i>							
Corn.....	37.7	29.9	35.0	34.2	30.9	33.9	34.3
Oats.....	6.7	13.9	14.5	14.3	13.9	14.7	14.5
Wheat.....	3.6	1.6	.1	3.2	6.6	5.2	3.0
Barley.....	.1	.2	....	.2	.7	.9	2.0
Hay.....	7.9	12.7	9.6	10.1	9.4	8.6	9.2
<i>Area 4a</i>							
Corn.....	40.4	35.1	43.5	43.5	39.6	41.6	40.8
Oats.....	6.2	18.2	24.8	25.9	25.3	26.0	25.5
Wheat.....	2.6	1.5	.4	1.6	8.3	4.3	4.4
Barley.....	....	....	....	....	.1	.1	.7
Hay.....	8.9	11.2	6.7	6.1	5.1	5.9	4.8
<i>Area 4b</i>							
Corn.....	39.5	35.2	45.6	40.7	32.5	33.2	33.9
Oats.....	6.1	12.9	17.0	14.3	11.6	12.1	13.0
Wheat.....	5.8	12.2	3.1	12.3	19.8	17.5	15.0
Barley.....	....	....	....	....	....	.1	.6
Hay.....	4.7	6.9	5.5	6.1	5.8	7.1	6.1
<i>Area 5</i>							
Corn.....	22.5	21.3	27.3	25.9	25.9	25.4	21.9
Oats.....	2.8	5.1	4.1	4.1	6.0	6.6	6.4
Wheat.....	17.1	16.8	8.0	12.9	18.9	12.1	11.2
Barley.....	....	....	....	....	....	....	.1
Hay.....	4.5	8.5	8.6	8.5	6.5	9.2	8.0
<i>Area 6</i>							
Corn.....	17.9	18.7	20.5	20.4	16.8	15.4	16.6
Oats.....	5.0	12.9	8.3	6.5	9.3	9.3	7.1
Wheat.....	28.6	19.8	18.3	20.1	25.4	17.8	16.2
Barley.....	....	....	....	....	....	....	....
Hay.....	3.8	8.6	10.2	9.2	10.0	14.3	11.1
<i>Area 7a</i>							
Corn.....	16.0	20.4	24.1	23.5	23.0	20.9	17.5
Oats.....	3.5	9.7	7.3	5.5	8.5	4.3	3.3
Wheat.....	15.8	6.7	8.9	5.2	8.5	3.2	3.7
Barley.....	....	....	....	....	.1	....	.1
Hay.....	6.5	11.8	14.9	14.4	14.2	21.1	12.7
<i>Area 7b</i>							
Corn.....	16.9	18.9	21.7	23.9	16.3	16.7	15.3
Oats.....	4.0	13.7	4.6	3.3	8.3	4.8	3.1
Wheat.....	15.0	2.1	4.8	3.2	7.6	1.4	1.2
Barley.....	....	....	....	....	....	....	....
Hay.....	6.4	13.5	15.2	13.5	19.6	27.4	21.7
<i>Area 7c</i>							
Corn.....	18.8	22.5	23.3	26.1	16.4	15.7	16.9
Oats.....	3.0	10.1	2.2	1.7	4.9	2.2	3.1
Wheat.....	19.3	9.2	11.9	3.6	9.2	1.7	2.0
Barley.....	....	....	....	....	....	....	....
Hay.....	2.6	7.7	10.4	14.2	16.8	20.0	15.3
<i>Area 8</i>							
Corn.....	22.1	24.3	26.8	30.4	24.5	29.3	25.7
Oats.....	1.3	5.8	2.0	2.7	5.5	3.5	4.6
Wheat.....	23.1	16.4	25.7	16.8	20.4	13.5	11.5
Barley.....	....	....	....	....	....	....	....
Hay.....	3.3	7.6	6.8	7.5	8.8	11.0	8.5
<i>Area 9</i>							
Corn.....	17.4	15.3	16.5	19.0	16.6	14.3	14.5
Oats.....	2.1	4.7	1.8	.9	1.6	1.0	1.2
Wheat.....	14.4	12.3	15.0	6.7	9.0	2.4	1.6
Barley.....	....	....	....	....	....	....	....
Hay.....	2.1	6.1	5.9	8.0	11.6	13.1	9.6

TABLE 17.—DISTRIBUTION OF FARMS AND FARM LAND IN ILLINOIS COUNTIES BY TENURE, AND PROPORTION OF TENANTS RELATED TO LANDLORDS, 1930
(Figures indicate percentages)

County	Farms operated by—				Farm land operated by—			Tenant land rented for cash ¹	Tenant related to land-lord
	Full owner	Part owner	Man-ager	Tenant	Owner	Man-ager	Tenant		
Adams.....	45.7	17.2	.6	36.5	48.4	.7	50.9	13.9	36.2
Alexander.....	35.0	7.8	1.5	55.7	39.2	3.3	57.5	4.8	10.5
Bond.....	43.2	22.7	.5	33.6	53.2	1.4	45.4	14.2	29.8
Boone.....	42.1	9.8	.9	47.2	40.7	4.4	54.9	39.4	22.1
Brown.....	47.6	15.5	.8	36.1	50.7	1.1	48.2	6.7	32.5
Bureau.....	34.9	10.6	.6	53.9	35.3	.7	64.0	20.9	29.8
Calhoun.....	49.8	21.4	.9	27.9	62.0	1.0	37.0	6.9	52.4
Carroll.....	43.6	7.9	2.3	46.2	41.1	4.7	54.2	29.2	38.3
Cass.....	38.7	14.1	.7	46.5	42.4	1.6	56.0	4.1	29.3
Champaign.....	21.1	17.9	.9	60.1	23.9	1.1	75.0	2.5	32.0
Christian.....	27.6	17.6	.9	53.9	28.0	1.5	70.5	4.5	24.2
Clark.....	56.0	16.9	.3	26.8	59.4	.4	40.2	6.8	24.2
Clay.....	44.9	29.4	.7	25.0	55.4	1.2	43.4	4.4	27.8
Clinton.....	31.5	20.0	.2	48.3	40.9	.2	58.9	6.9	39.4
Coles.....	36.7	19.3	.8	43.2	36.0	.8	63.2	7.0	26.4
Cook.....	50.6	10.5	3.0	35.9	45.5	7.0	47.5	89.0	29.0
Crawford.....	51.8	24.1	.4	23.7	61.9	2.2	35.9	10.2	24.2
Cumberland.....	42.6	28.5	.5	28.4	54.8	.7	44.5	6.5	25.2
DeKalb.....	34.2	7.7	2.3	55.8	32.6	2.6	64.8	33.8	34.9
DeWitt.....	25.7	14.9	.6	58.8	24.2	.7	75.1	4.1	19.8
Douglas.....	26.0	17.8	.5	55.7	28.1	.6	71.3	1.7	25.9
DuPage.....	45.1	7.3	3.0	44.6	37.2	5.7	57.1	81.8	28.1
Edgar.....	36.6	16.3	1.7	45.4	31.9	2.6	65.5	2.7	21.4
Edwards.....	44.7	33.5	.1	21.7	61.0	.2	38.8	2.7	32.6
Effingham.....	43.8	29.3	.3	26.6	60.4	.2	39.4	12.7	38.1
Fayette.....	38.7	28.1	.6	32.6	49.6	1.3	49.1	6.7	25.8
Ford.....	17.5	11.2	1.8	69.5	18.5	1.8	79.7	1.9	28.2
Franklin.....	53.3	24.3	.5	21.9	64.9	.9	34.2	18.6	17.7
Fulton.....	41.5	12.2	.6	45.7	38.3	1.0	60.7	10.1	30.1
Gallatin.....	35.6	24.6	.3	39.5	46.1	.4	53.5	3.1	21.3
Greene.....	35.8	16.5	1.3	46.4	38.8	2.9	58.3	13.1	22.2
Grundy.....	23.3	10.5	.5	65.7	26.0	.5	73.5	5.4	23.0
Hamilton.....	50.4	23.5	.3	25.8	58.3	.6	41.1	4.0	18.0
Hancock.....	41.5	18.3	.5	39.7	43.9	.8	55.3	11.5	33.3
Hardin.....	66.3	13.5	.6	19.6	71.5	1.6	26.9	6.9	23.4
Henderson.....	34.9	13.4	2.0	49.7	35.1	3.6	61.3	19.3	29.3
Henry.....	34.8	10.4	.9	53.9	32.5	1.1	66.4	37.0	31.5
Iroquois.....	23.5	14.1	1.6	60.8	24.1	3.1	72.8	4.3	29.5
Jackson.....	49.9	16.2	.7	33.2	53.9	2.0	44.1	5.6	25.1
Jaeger.....	43.5	33.0	.3	23.2	58.0	.3	41.7	5.8	26.3
Jefferson.....	54.7	21.3	.2	23.8	64.2	.5	35.3	9.6	20.7
Jersey.....	45.1	15.9	2.1	36.9	46.1	2.9	51.0	8.4	27.2
JoDavies.....	58.0	9.4	.5	32.1	59.9	.5	39.6	52.0	45.2
Johnson.....	63.0	11.3	.6	25.1	66.5	3.4	30.1	3.9	22.5
Kane.....	43.8	6.1	3.4	46.7	37.7	6.6	55.7	48.1	27.6
Kankakee.....	32.1	15.0	1.1	51.8	33.7	2.6	63.7	18.7	33.5
Kendall.....	34.2	9.3	1.1	55.4	33.4	1.3	65.3	19.2	34.7
Knox.....	34.4	15.0	.5	50.1	35.4	.7	63.9	15.8	27.5
Lake.....	47.6	11.3	8.2	32.9	40.9	16.5	42.6	86.8	23.1
LaSalle.....	30.4	13.8	.6	55.2	31.4	.5	68.1	14.1	31.5

¹Does not include land in part-owned farms.

(Concluded on page 224)

TABLE 17.—*Concluded*

County	Farms operated by—				Farm land operated by—			Tenant land rented for cash ¹	Tenant related to land-lord
	Full owner	Part owner	Manager	Tenant	Owner	Manager	Tenant		
Lawrence.	44.7	24.4	.8	30.1	49.6	1.5	48.9	2.8	18.4
Lee.	31.5	10.6	.8	57.1	32.6	1.2	66.2	17.6	34.6
Livingston.	20.8	13.8	.7	64.7	22.6	1.0	76.4	2.3	33.2
Logan.	21.0	12.7	.3	66.0	20.4	.8	78.8	14.0	21.5
McDonough.	34.2	14.3	1.7	49.8	34.8	2.0	63.2	7.9	28.2
McHenry.	42.8	6.7	3.0	47.5	38.1	4.6	57.3	54.9	23.7
McLean.	23.7	13.4	1.4	61.5	22.4	2.3	75.3	6.5	27.0
Macon.	30.6	13.1	1.3	55.0	22.5	1.5	76.0	5.1	23.3
Macoupin.	39.8	15.2	1.1	43.9	41.8	1.3	56.9	11.8	22.1
Madison.	49.2	12.4	.6	37.8	47.9	1.9	50.2	20.8	36.1
Marion.	51.5	23.1	.9	24.5	59.8	1.1	39.1	8.3	19.0
Marshall.	24.3	15.7	.9	59.1	28.1	1.3	70.6	11.1	22.8
Mason.	23.8	16.1	1.4	58.7	28.2	1.5	70.3	1.6	32.2
Massac.	61.8	12.4	.7	25.1	68.8	2.1	29.1	9.3	31.1
Menard.	32.0	17.2	1.3	49.5	33.7	1.3	65.0	5.6	33.2
Mercer.	38.5	13.7	1.4	46.4	42.9	1.7	55.4	16.9	28.0
Monroe.	34.3	17.2	.3	48.2	41.7	.6	57.7	2.2	34.9
Montgomery.	40.6	16.5	.6	42.3	43.9	.8	55.3	8.1	27.5
Morgan.	39.9	16.2	.8	43.1	41.0	1.4	57.6	7.3	29.1
Moultrie.	31.0	18.6	.9	49.5	31.2	1.1	67.7	1.6	27.6
Ogle.	38.5	9.6	1.6	50.3	36.9	2.4	60.7	24.8	35.0
Peoria.	42.3	13.3	1.1	43.3	40.2	1.6	58.2	23.6	34.3
Perry.	50.7	22.0	.3	27.0	61.9	.6	37.5	7.4	22.4
Piatt.	20.8	15.0	.9	63.3	23.9	1.6	74.5	1.8	25.7
Pike.	42.9	16.6	1.0	39.5	44.4	1.7	53.9	3.3	23.9
Pope.	58.1	15.1	.6	26.2	62.1	1.5	36.4	3.9	17.4
Pulaski.	46.6	18.4	1.2	33.8	58.2	3.7	38.1	9.3	13.6
Putnam.	35.4	14.1	1.2	49.3	38.1	2.0	59.9	21.9	30.3
Randolph.	44.3	20.5	.5	34.7	52.9	1.2	45.9	3.1	32.9
Richland.	50.0	30.4	.2	19.4	60.5	.3	39.2	5.3	25.0
Rock Island.	48.8	11.6	.9	38.7	48.2	1.8	50.0	48.7	31.2
St. Clair.	42.0	15.2	.4	42.4	44.6	.5	54.9	10.5	36.4
Saline.	53.9	20.3	.2	25.6	58.1	.5	41.4	7.0	19.2
Sangamon.	36.7	15.2	.6	47.5	31.6	.6	67.8	9.1	19.3
Schuyler.	41.8	16.2	.2	41.8	41.3	1.3	57.4	5.0	29.7
Scott.	37.9	14.7	.2	47.2	40.0	.8	59.2	8.8	33.1
Shelby.	39.5	18.4	1.1	41.0	41.8	1.7	56.5	5.4	26.3
Stark.	31.5	16.3	1.0	51.2	35.5	1.2	63.3	7.6	32.0
Stephenson.	48.6	9.0	.5	41.9	47.5	1.0	51.5	46.8	43.9
Tazewell.	29.3	15.0	.4	55.3	32.0	.4	67.6	9.8	30.4
Union.	58.2	8.6	2.0	31.2	58.2	3.5	38.3	3.7	22.0
Vermilion.	36.1	17.5	1.3	45.1	28.4	3.9	67.7	4.8	19.8
Wabash.	37.3	27.1	.5	35.1	45.4	.6	54.0	1.2	25.4
Warren.	30.0	13.7	1.0	55.3	33.0	.9	66.1	17.0	24.6
Washington.	39.2	20.1	.4	40.3	48.4	.3	51.3	4.1	41.7
Wayne.	47.4	28.4	.5	23.7	57.3	1.7	41.0	4.1	24.4
White.	38.8	24.3	.2	36.7	44.7	.2	55.1	1.7	17.8
Whiteside.	33.3	7.9	1.1	57.7	29.4	1.7	68.9	38.0	30.8
Will.	37.8	13.3	1.4	47.5	39.6	2.3	58.1	56.7	33.9
Williamson.	62.8	15.6	.9	20.7	66.5	2.3	31.2	15.4	22.6
Winnebago.	45.7	9.4	1.2	43.7	40.9	1.7	57.4	25.4	30.3
Woodford.	27.8	17.1	1.3	53.8	32.0	1.4	66.6	15.6	45.4
State.	39.7	16.2	1.0	43.1	40.1	1.7	58.2	14.8	28.7

¹Does not include land in part-owned farms.

TABLE 18.—TRENDS IN FARM TENURE IN ILLINOIS BY TYPE-OF-FARMING AREAS, 1900 TO 1930

	1900	1910	1920	1925	1930
<i>Area 1</i>					
Percent of farms operated by tenants.....	50.5	43.3	42.7	39.9	41.9
Percent of tenant farms rented for cash.....	69.5	79.1	77.7	67.8	72.2
<i>Area 2</i>					
Percent of farms operated by tenants.....	35.7	39.4	43.0	43.3	45.4
Percent of tenant farms rented for cash.....	57.4	58.2	54.0	44.7	44.1
<i>Area 3</i>					
Percent of farms operated by tenants.....	41.6	45.7	48.8	48.7	50.8
Percent of tenant farms rented for cash.....	52.5	46.2	34.4	28.2	27.2
<i>Area 4a</i>					
Percent of farms operated by tenants.....	50.0	54.8	59.0	59.0	58.3
Percent of tenant farms rented for cash.....	43.1	31.1	15.3	7.8	9.4
<i>Area 4b</i>					
Percent of farms operated by tenants.....	51.7	55.8	56.2	56.4	57.5
Percent of tenant farms rented for cash.....	36.1	27.5	17.1	12.8	13.5
<i>Area 5</i>					
Percent of farms operated by tenants.....	38.3	38.0	40.1	38.9	40.6
Percent of tenant farms rented for cash.....	24.2	23.5	17.5	13.1	13.4
<i>Area 6</i>					
Percent of farms operated by tenants.....	34.1	38.5	40.3	38.3	37.0
Percent of tenant farms rented for cash.....	18.4	17.8	19.2	14.3	15.2
<i>Area 7a</i>					
Percent of farms operated by tenants.....	29.7	30.4	29.3	25.4	26.3
Percent of tenant farms rented for cash.....	16.3	10.5	13.1	10.8	17.1
<i>Area 7b</i>					
Percent of farms operated by tenants.....	23.3	24.8	25.0	24.5	23.5
Percent of tenant farms rented for cash.....	10.0	10.6	16.3	11.4	12.5
<i>Area 7c</i>					
Percent of farms operated by tenants.....	27.0	29.0	22.4	21.3	22.7
Percent of tenant farms rented for cash.....	9.7	9.3	20.3	20.5	17.0
<i>Area 8</i>					
Percent of farms operated by tenants.....	37.9	40.0	37.5	36.3	37.1
Percent of tenant farms rented for cash.....	6.5	6.0	5.6	3.3	4.3
<i>Area 9</i>					
Percent of farms operated by tenants.....	29.8	29.4	26.5	29.9	30.0
Percent of tenant farms rented for cash.....	16.3	15.2	10.4	6.7	8.0

TABLE 19.—ANNUAL PRECIPITATION IN ILLINOIS, BY DIVISIONS

Year	Northern division	Central division	Southern division
1914.....	27.08	26.99	33.90
1915.....	35.42	43.13	48.61
1916.....	35.35	34.69	43.59
1917.....	27.23	33.40	37.04
1918.....	32.94	38.56	43.07
1919.....	34.86	35.26	44.80
1920.....	27.27	32.42	40.07
1921.....	39.10	40.20	43.66
1922.....	28.27	35.20	39.25
1923.....	30.43	37.56	47.71
1924.....	35.31	36.98	34.64
1925.....	29.63	32.34	37.10
1926.....	41.82	46.39	39.14
1927.....	41.00	51.07	57.33
1928.....	34.73	36.10	42.76
1929.....	35.54	43.28	47.89
1930.....	27.41	26.62	30.34
Average.....	33.17	37.07	41.82
Average deviation.....	4.06	4.79	5.65

TABLE 20.—SEASONAL RAINFALL IN ILLINOIS
(Sixty-year average, 1856-1915)

District	Winter		Spring		Summer		Autumn	
	inches	perct.	inches	perct.	inches	perct.	inches	perct.
Extreme northern.....	5.44	16.0	9.34	27.4	11.22	33.0	7.99	23.6
Central-northern.....	5.80	16.8	9.61	27.9	10.75	31.6	8.11	23.7
Central.....	6.82	18.0	10.43	27.9	11.04	30.7	8.60	23.4
Central-southern.....	8.80	21.2	11.75	28.3	11.75	28.3	9.18	22.2
Extreme southern.....	10.66	24.8	12.38	28.5	10.70	24.7	9.54	22.0

Sources of Data in Tables, Maps, and Graphs

Tables

Tables 1 to 18 are based on U. S. Census data. Tables 19 and 20 are compilations from U. S. Weather Bureau records.

In Tables 1 to 9, 10, 12, 16, and 18, giving analyses of certain Census data by areas, only the counties entirely in an area were used in calculating the data for the area, viz.:

- Area 1: Boone, Cook, DuPage, Kane, Lake, McHenry.
- Area 2: Carroll, JoDaviess, Ogle, Rock Island, Stephenson, Whiteside.
- Area 3: Bureau, Henderson, Henry, Knox, Mercer, Peoria, Stark, Warren.
- Area 4: Champaign, DeWitt, Douglas, Ford, Grundy, Iroquois, Kankakee, Livingston, McLean, Moultrie, Piatt, Vermilion, Woodford.
- Area 4b: Logan, Macon, Mason, Menard, Tazewell.
- Area 5: Adams, Brown, Greene, Morgan, Pike, Schuyler, Scott.
- Area 6: Bond, Clinton, Effingham, Fayette, Madison, Randolph, St. Clair, Washington.
- Area 7a: Clark, Crawford, Cumberland.
- Area 7b: Clay, Marion, Richland, Wayne.
- Area 7c: Franklin, Hamilton, Williamson.
- Area 8: Gallatin, Wabash, White.
- Area 9: Alexander, Hardin, Johnson, Massac, Pope, Pulaski, Union.

Maps and Graphs

Figs. 1, 3, and 4 were supplied by the Agronomy Department of this Station. Fig. 3 was prepared by R. S. Smith and E. A. Norton of that department and has appeared previously in several publications of this Station. Fig. 4 was prepared by R. S. Smith and E. A. Norton.

Fig. 2 is reproduced from the Fifteenth Census (1930), Drainage of Agricultural Lands, p. 103.

Figs. 5 and 6 are based on U. S. Weather Bureau records. Fig. 6 was furnished by the Agronomy Department.

Figs. 7 and 8 are from Bulletin 15 of the Illinois Geological Survey.

Fig. 9 is from Bulletin 399, this Station, by C. L. Stewart, and is based on U. S. Census data.

Figs. 10 to 15, Figs. 17 to 20, the lower left-hand map in Fig. 21, Fig. 22, Fig. 23 except the upper right-hand map, Figs. 24 to 28, Figs. 30 to 32, are based on U. S. Census data.

Fig. 16 is based on data from the Bureau of Agricultural Economics, U. S. Department of Agriculture.

Fig. 21, except lower left-hand map, and Fig. 23, upper right-hand map, are based on data from the Illinois Crop Reporting Service, a joint enterprise of the Illinois State Department of Agriculture and the U. S. Department of Agriculture.

Photographs

Figs. 29 and 39 were furnished by the Bureau of Agricultural Economics, U. S. Department of Agriculture. Fig. 34 was supplied by W. G. Kammlade, Fig. 35 by H. P. Rusk and R. R. Snapp, and Fig. 38 by H. H. Alp, of the Animal Husbandry Department; Fig. 40 by M. J. Dorsey of the Horticultural Department. Fig. 36 was obtained thru courtesy of the Bloomington *Pantagraph*. Figs. 33 and 37 were supplied by the authors.

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