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A GRAPHIC SUMMARY OF AMERICAN AGRICULTURE

BASED LARGELY ON THE CENSUS OF 1920

BY

O. E. BAKER, *Agricultural Economist*
Bureau of Agricultural Economics

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THIS publication is a revision and enlargement of "A Graphic Summary of American Agriculture" contained in the 1915 Yearbook of the Department of Agriculture, pages 329-403, and which was also issued as Yearbook Separate 681. That publication was based largely on the 1910 census of agriculture, while this revision portrays similarly the returns from the 1920 census.

A comparison of the maps in this revision with those contained in the previous edition will reveal several significant shifts in crop production, notably the partial replacement of corn by wheat in eastern Kansas and Oklahoma, and of cotton by velvet beans and other crops in southern Alabama and Georgia and in northern Florida. The increase of improved land in the Northern Great Plains Region and the nation-wide increase in the nominal value of land, especially marked in the Corn Belt, also deserve notice.

Several new items were included in the 1920 census, notably silage crops, corn cut for forage, annual legume hay, velvet beans, purebred live stock, and farm facilities. Maps visualizing these statistics appear in this revision, and several maps relating to the size, value, ownership, and tenancy of farms have been added.

This revision also includes a series of maps showing, in the most general way, the topography, rainfall, length of frost-free season, soils, and native vegetation. These physical factors exert a dominant influence in directing agricultural development, and explain in large measure the geographic distribution of the crops and live stock.

The author wishes to acknowledge the valued assistance and advice of R. G. Hainsworth and E. A. Dacey in drafting the maps and graphs.

A GRAPHIC SUMMARY OF AMERICAN AGRICULTURE

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By O. E. BAKER, *Agricultural Economist, Bureau of Agricultural Economics.*

Introduction.

FOUR COUNTRIES are preeminent in quantity of agricultural production—the United States, Russia, China, and India—and at present the production of the United States is considerably greater than that of any other nation. The aggregate value (United States value) of the agricultural products of the Russian Empire just prior to the war was only about two-thirds that of our Nation, while the production of foods and fibers in China, which can only be guessed at, is probably also about two-thirds and certainly not over three-fourths that of the United States. The agricultural production in India is less than half that of our Nation. Only the British commonwealth of nations as a whole—India, Australia, New Zealand, South Africa, Canada, and the British Isles—approaches the United States in quantity of agricultural production, with an aggregate about nine-tenths that of the United States.

The United States is not only the leading nation in agricultural production, but also it leads all nations in exports of agricultural products. The teeming populations of China and India require practically all the food produced and most of the fiber for home consumption, but in normal times Russia has ranked with the United States in value of agricultural exports. War, revolution, and crop failure, however, have transformed Russia into a nation unable to feed its own people. Since the war the value of agricultural exports from the United States has exceeded the aggregate value of those from all other nations in the world. Yet the agricultural exports of the United States at present are only one-eighth of its production.

This vast agricultural production of the United States requires the labor of about one-quarter of our gainfully employed population, whereas 85 per cent of the population of Russia is classed as agricultural, and probably three-fourths of the people of China and of India derive their support from agricultural pursuits. Six and a half million farmers in the United States, assisted by a somewhat

smaller number of farm laborers, probably less than 4 per cent of the farmers and farm laborers of the world, produce nearly 70 per cent of the world's corn, 60 per cent of the world's cotton, 50 per cent of the world's tobacco, about 25 per cent of the world's oats and hay, 20 per cent of the world's wheat and flaxseed, 13 per cent of the world's barley, 7 per cent of the world's potatoes, and 5 per cent of the world's sugar, but only about 2 per cent of the world's rye and rice. Totalling the cereals on the basis of tons, and estimating the production of China as somewhat larger than that of India, it appears that the United States produces about one-fourth of the world's cereal crops. The average production of cereals per person engaged in agriculture in the United States is 12 tons, while for the rest of the world it is only about 1.4 tons.

Nevertheless, the agricultural production of the United States is no longer keeping pace with our increasing population. The peak of production per capita of the total population was reached about 1906 or 1907, and although the decrease in per capita production since has been very slow and is yet very small, it is clearly apparent. This failure of agricultural production to increase as rapidly as population is not due primarily to the decrease in the proportion of our population engaged in agriculture from over 13 per cent in 1910 to about 10 per cent in 1920, according to the census returns¹, for the acreage of crops per person engaged in agriculture was, apparently, 25 per cent greater in 1920 than in 1910; but, instead, is owing mostly to a notable decrease in the rate of expansion of our arable area. Improved land increased only 5 per cent from 1910 to 1920, as compared with 15 to 50 per cent in previous decades, and this 5 per cent increase was practically confined to the precariously productive semi-arid lands of the Great Plains region. The land in the United States suitable for agricultural use without irrigation, drainage, or heavy fertilization is nearly all occupied. Consequently, one of the great questions before the American people is how to maintain the supply of foods and fibers for the increasing population at that high level to which we are accustomed.—should we cultivate the present area of arable land more intensively, or, like England, depend upon imports from foreign countries, or should the Nation embark upon extensive projects of reclamation?

The first part of this Graphic Summary of American Agriculture, therefore, is devoted to a series of maps visualizing in a very generalized way the agricultural regions of the United States, and the

¹ However, as the 1920 census was taken January 1 and the 1910 census was taken April 15, it appears likely that a large number of farm laborers were missed by the enumerators in 1920. Making allowance for this discrepancy, it seems probable that the acres of crops per person engaged in agriculture increased at least one-sixth between 1910 and 1920, and the production even more.

topographic, climatic, and soil conditions which determine these regions; also the location and extent of the land available for reclamation by irrigation, by drainage, and by clearing of forest growth. This first part is concluded by two graphs, one outlining the trend of land utilization in the past, and the other venturing to set limits to the expansion of our arable area in the future. (See Figs. 2 to 18.)

The second part of this study shows the geographic distribution of 50 crops in the United States, according to the census of 1920. For corn, wheat, and cotton both acreage and production are shown; but for other crops acreage only, since acreage affords a better comparison than production of the relative importance of the crops in a region. The total area in crops in 1919 was about 370 million acres, an increase of 50 million acres since 1909. This increase of 13 per cent in crop acreage, as compared with 5 per cent in improved land, indicates that patriotic motives, supported by the high prices paid for farm products during the war and for some time afterward, caused the plowing up and planting to crops of much improved pasture. The trend of land utilization in the United States is toward the more intensive use of the more fertile or favorably situated land—that is, its use for crops; and toward the less intensive utilization of the less fertile or less favorably situated land—that is, its use for pasture and forest. (See Figs. 19 to 71.)

The third part of this article consists of a series of 24 maps showing the geographic distribution of the several kinds of live stock, total and purebred only; also of the production of butter and cheese, wool and mohair. Fully three-fifths of the crop acreage in the United States is used to produce feed for farm animals, or about 225 million acres; and, in addition, our live stock consume the product of about 65 million acres of improved pasture, probably of 150 million acres of unimproved grassland pasture in farms, and 175 million acres of woodland pasture in farms and in our national forests, besides that of perhaps 500 million acres of arid or semi-arid open range land in the West. It seems safe to say that live stock consume two-thirds of the product of the improved land and practically all the product of the unimproved pasture, or fully 80 per cent of the total food and feed produced by tame and wild vegetation in the United States. (See Figs. 72 to 96.)

The last part of this study considers the farm as a whole—the variations in size and value in different portions of the United States; the expenditures for labor, feed, and fertilizer; ownership and tenancy; and, finally, the geographic distribution of country, village, and city populations. Four small maps also are provided, showing the number of farmers having automobiles, tractors, telephones, and running water in the house, as reported by the census

for January 1, 1920. American farms, in general, are different from those in other countries of the world, except Canada, Australia, and South Africa. English farms differ from American farms in that they are nearly all operated by tenants and employ more hand labor. The peasant farms of continental Europe utilize agricultural machinery still less and are much smaller in size than most American farms. The farms of India, China, and Japan are still smaller and are cultivated with only the crudest tools. There are 28 to 30 acres of crops per person employed in agriculture in the United States, as compared with 9 in Russia prior to the war, 7 in France and Germany, and $1\frac{1}{2}$ in Japan. (See Figs. 97 to 124.)

The American farm involves a large investment of capital. This investment is increasing and must increase if the American farmer is to improve his standard of living. The average value of farms in the United States was \$6,444 in 1910, and \$12,084 in 1920. In Iowa, the average value of the farms in 1920 was \$39,941. The area of the crops per farm in the United States increased from 50 acres in 1909 to 57 acres in 1919. Our farmers are driving larger teams, using more efficient machinery, producing more per acre and per person than ever before. Each American farmer and farm laborer, on the average, is feeding nine people other than himself in this country, and one more person living in foreign lands. It is in this increasing productivity of the American farm, amounting probably to 15 per cent in the last decade, that the expenditure for scientific research, for technical education, and for improved economic organization in agriculture finds its justification.

This semicapitalistic American farm, however, is not organized like a factory. The one farm laborer per farm, on the average, is often the farmer's son, or a neighbor's, who eats at the same table with the farmer and expects some time to have a farm of his own. Corporate or communal agriculture is, in general, a failure in the United States. The family farm is practically the universal type. To keep this American farm large enough to support a family according to the American standard of living and supplied with sufficient machinery and working capital for efficient operation is important not alone to our agricultural but also to our national welfare. The characteristic and precious feature of American agriculture is its large production per man, and during the past decade the increase in the productivity of our farms was greater than in any decade preceding. But as population increases and poorer and poorer land is brought into use for crops—that is, as labor becomes more abundant and land becomes scarcer—it appears probable that larger production per acre will become more profitable than greater production per man, and that our agriculture, as well as our standard of living, will more and more resemble that of Europe before the war.

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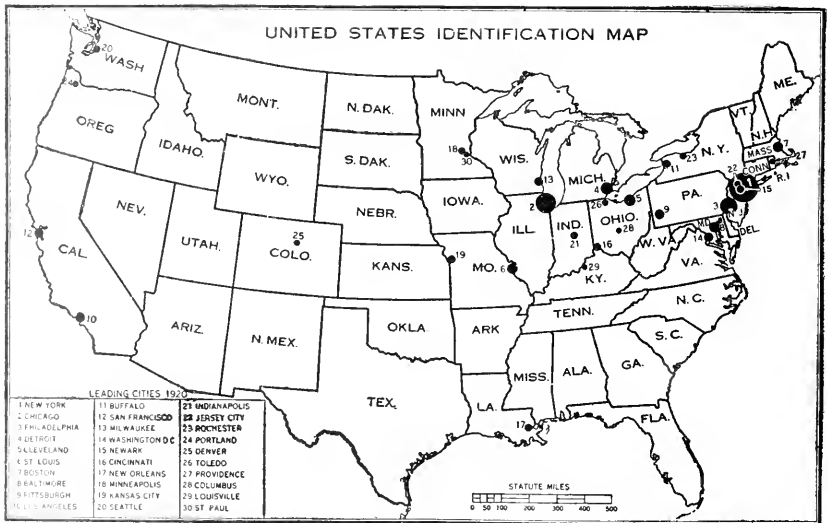


FIG. 1.—This map should be used in connection with all the maps that follow when it is desired to determine the name of a State. The succeeding maps do not show State names, because the letters would interfere with the dots or shading, but the State boundaries are shown and the shape of these boundaries, or location of the State on the map, should be compared with this map to identify the State. The map also shows the location of the 30 largest cities, the names corresponding to the numbers being given in the lower left-hand corner of the map.

The Agricultural Regions.

The United States may be divided into an eastern and a western half, characterized, broadly speaking, one by a sufficient and the other by an insufficient amount of rainfall for the successful production of crops by ordinary farming methods. The North Pacific coast and several districts in California and in the northern Rocky Mountain region constitute exceptions to this statement. The transition zone which separates the East from the West lies, in general, along the one hundredth meridian, the average annual precipitation increasing in this zone from about 15 inches at the Canadian boundary to 25 inches in southern Texas, where the evaporation is much greater and the rainfall more torrential. The East is a region of humid climate farming, based upon tilled crops, small grains, and tame hay and pasture; the West, of wild hay and grazing, dry farming, winter crops in certain localities, and irrigation farming, with only limited areas of ordinary farming under humid conditions such as characterize the East.

The East and West may each be divided into six agricultural regions. In the East, precipitation being usually sufficient, the classification is based largely on temperature and the crops grown, while in the West rainfall and topography are the important factors. In the East the agricultural regions extend for the most part east and west, following parallels of latitude; while in the West the regions are determined by the mountain ranges and extend north and south. Agriculture in the East varies primarily with latitude and soils, but in the West the principal factors are altitude and rainfall. The average elevation of the eastern half of the United States is less than 1,000 feet; that of the western half, over 4,000 feet. (Compare Fig. 2 with Figs. 3 to 16.)

In the East corn is the leading crop, constituting over one-quarter of the acreage and nearly 30 per cent of the value of all crops. It is grown in all the six eastern regions, but is dominant in the Corn Belt, and is very important in the Corn and Winter Wheat Region, and in the Cotton Belt. Along the Gulf of Mexico and the southern Atlantic coast the type of agriculture varies greatly from section to section—from rice farming to sugar cane growing and winter vegetable production, citrus fruit orcharding, and cattle ranching—so that the region is not named after any crop, but is called the "Sub-tropical Coast," because the warm water exerts a controlling influence upon climate and crops. In this eastern half of the United States there is scarcely any cotton grown outside the Cotton Belt, very little winter wheat outside the Corn and Winter Wheat Region and adjacent portions of the Corn Belt and Cotton Belt, and prac-

tically no spring wheat outside the Spring Wheat Region. Grass is of greatest importance in the Hay and Pasture Region, where in nearly every county hay and pasture occupy half or more of the improved land. (Compare Fig. 2 with Figs. 21 to 71.)

In the West hay is the leading crop, contributing nearly 37 per cent of the acreage and 26 per cent of the value of all crops in 1919, and the forage obtained by grazing is probably of almost equal value. Alfalfa is the leading hay crop in the Rocky Mountain and Arid Intermountain regions, wild grasses in the Great Plains Region, and grains cut green on the Pacific coast. Wheat contributed 21 per cent of the value of all crops, oats 3 per cent, barley 3 per cent, fruit and nuts 18 per cent, potatoes 4 per cent, and other vegetables 8 per cent in these six western regions. The value of all crops in the western regions, however, constituted in 1919 only 15 per cent of the total for the United States. (Compare Fig. 2 with Fig. 21.)

The contrast between the East and West is not as pronounced in live stock as in crops, except that swine are largely confined to the East, while sheep are much more important in the West. There is a marked distinction, however, in the manner of management, the live stock in the East being fed in the barnyards or fields with shelter at night, while in the West the stock is mostly grazed on the open range. In the East, the Hay and Pasture Region is primarily a dairy area; while the Corn Belt is the center of the beef-cattle and swine industry. In the West, the sheep are generally located in the more arid and the cattle in the less arid areas; while in the North Pacific Region, with its cool, moist climate, similar to that of the Hay and Pasture Region, dairying is again the dominant live-stock industry. (Compare Fig. 2 with Figs. 74 to 96.)

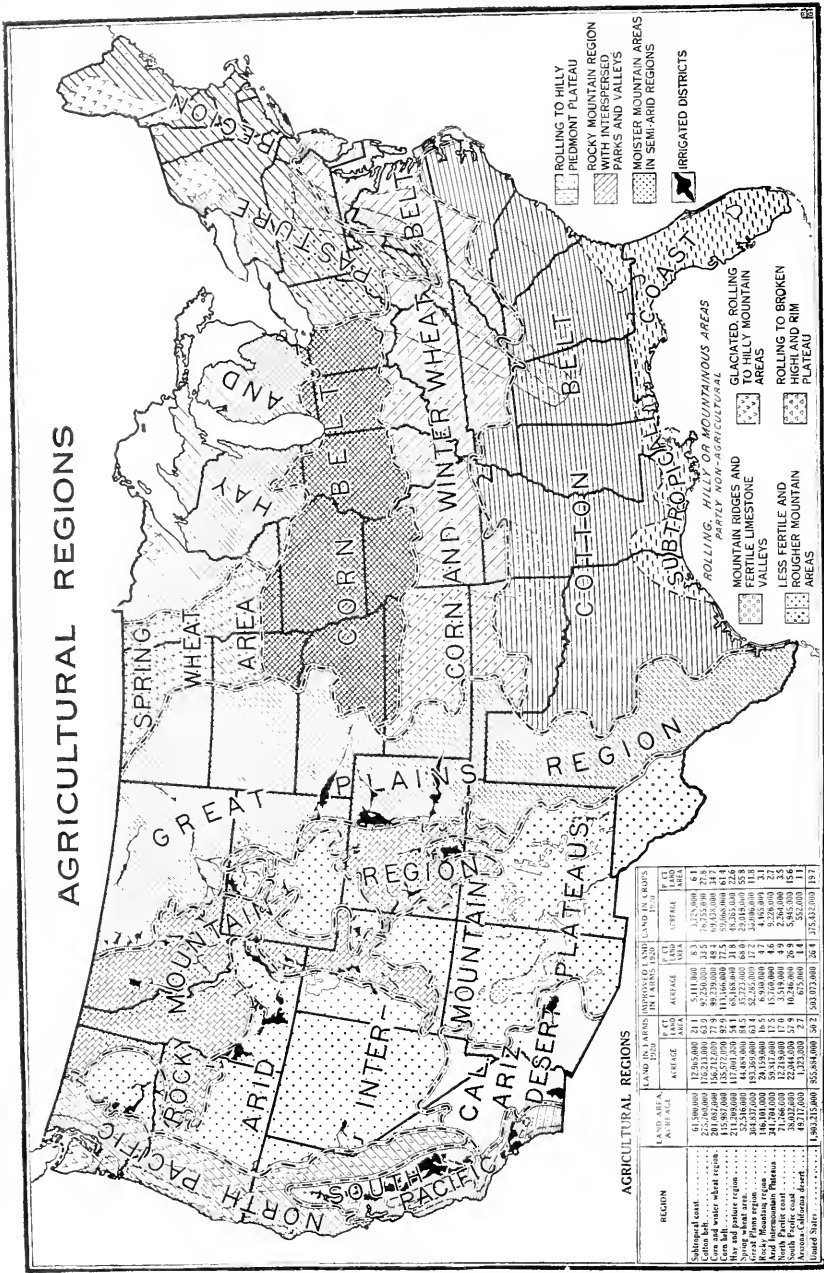
The farms, or "ranches," in the West are, in general, much larger in area than in the East. Owing to the low rainfall in the West, except in the North Pacific Region, the land outside the irrigated and dry-farming districts is used mostly for grazing, and instead of 80 or 160 acres being sufficient to support a family, as in the East, 2,000 to 4,000 acres, or more, are commonly required. In the dry-farming areas half sections of land (320 acres) and sections (640 acres) are normal size farms. In the irrigated districts the farms are no larger in area than in the East. The 80 or 120 acre irrigated farms, however, are often worth as much as the 640-acre dry farms or the 3,000-acre stock ranches. (Compare Fig. 2 with Figs. 97 to 111.)

A larger proportion of the farms in the West are operated by their owners than in the East, owing, doubtless, to the cattle ranching, the more recent homestead settlement, and the larger proportion of fruit farms. The proportion of farms operated by tenants in the western regions ranges from 13 to 23 per cent, except in the Cali-

fornia-Arizona Desert, where irrigated cotton farming increases the proportion to 33 per cent. In the East, on the other hand, over 30 per cent of the farms in the Corn and Winter Wheat Region are operated by tenants; in the Corn Belt over 40 per cent; and in the Cotton Belt over 60 per cent, owing in part to the plantation system and the large negro population. The Subtropical Coast and the Hay and Pasture regions, however, have only 27 per cent and 16 per cent, respectively, of the farms rented to tenants. (Compare Fig. 2 with Figs. 112 to 117.)

The geographic distribution of the rural and urban population is particularly interesting. The rural population is densest in the Cotton Belt, where cotton cultivation and picking require large amounts of hand labor and the acreage per laborer is small; also in the eastern portion of the Corn and Winter Wheat Region, where the rolling to hilly lands and lack of capital discourage extensive use of machinery. The rural population is much thinner in the Corn Belt and the Spring Wheat Region, and is thinnest in the West, except in the irrigated districts and the Pacific coast valleys. Urban population, on the other hand, is concentrated largely in the Hay and Pasture Region of the Northeastern and Lake States, where large manufacturing and commercial cities provide a vast market for the nation's agricultural products. (Compare Fig. 2 with Figs. 118 to 120.)

Information concerning "farm facilities," including tractors, automobiles, water piped into the house, and telephones, was collected by the census in 1920 for the first time. Tractors are found mostly in the Corn Belt, and the Spring Wheat, Great Plains, and South Pacific Regions. Over one-third of the automobiles are in the Corn Belt, where one-half to three-quarters of the farms have such vehicles. Water has been piped into the houses mostly in the Hay and Pasture Region, especially in New England, and in the South Pacific Region. Telephones are more widely distributed than any other of the farm facilities; nevertheless, the map shows a noteworthy concentration in the Corn Belt and the Hay and Pasture Regions. These "farm facilities" are criteria of rural progress and prosperity, and as such their geographic distribution is deserving of consideration. (Compare Fig. 2 with Figs. 121 to 124.)



| REGION | LAND AREA | | IRRIGATED WATER LAND IN FEET | | LAND IN FEET | | LAND IN ACRES | |
|----------------------------|---------------|---------------|------------------------------|------------|--------------|------------|---------------|------------|
| | SQ. MILES | SQ. MILES | PERCENT | PERCENT | SQ. MILES | PERCENT | SQ. MILES | PERCENT |
| Subtropical east | 61,500,000 | 12,265,000 | 21.1 | 5,114,000 | 13.1 | 3,725,000 | 7.4 | 1,862,500 |
| Rocky Mountain | 20,085,000 | 1,967,125,000 | 77.8 | 92,239,000 | 46.4 | 9,945,000 | 31.7 | 4,972,500 |
| Inter-Mountain | 115,865,000 | 1,555,250,000 | 84.1 | 10,168,000 | 11.8 | 8,336,000 | 26.6 | 4,168,000 |
| California Desert Plateaus | 52,516,000 | 14,484,000 | 27.5 | 3,722,000 | 4.9 | 2,301,000 | 5.8 | 1,150,500 |
| Great Plains | 184,101,000 | 24,155,000 | 13.1 | 6,826,000 | 17.7 | 4,485,000 | 13.1 | 2,242,500 |
| North Pacific | 241,200,000 | 39,817,000 | 16.5 | 1,516,000 | 4.6 | 2,226,000 | 2.2 | 1,113,000 |
| Rocky Mountain | 21,700,000 | 22,841,000 | 104.8 | 10,246,000 | 46.9 | 5,846,000 | 26.6 | 2,923,000 |
| Subtropical West | 36,032,000 | 1,393,000 | 3.9 | 65,000 | 1.4 | 352,000 | 1.1 | 176,000 |
| Arizona | 190,215,000 | 553,845,000 | 292.2 | 30,022,000 | 28.1 | 21,633,000 | 19.1 | 10,816,500 |
| United States | 3,616,810,000 | 1,318,000,000 | 36.4 | 30,022,000 | 2.2 | 21,633,000 | 1.6 | 10,816,500 |

FIG. 2.—The United States may be divided into two parts, equal in area, the East and the West. The East has a humid climate, the West mostly an arid or semiarid climate, except the North Pacific coast and the higher altitudes in the Sierra, Cascade, and Rocky Mountains. Each of these two parts has been subdivided into six agricultural regions, characterized by distinct combinations of crops or systems of farming, the result largely of the different climatic conditions. In the East these regions, with one exception, are named after the crops; but in the West, because of the dominating influence of topography and the Pacific Ocean upon the climate and the agriculture, topographic and geographic names are used. (See pp. 7 to 9.)

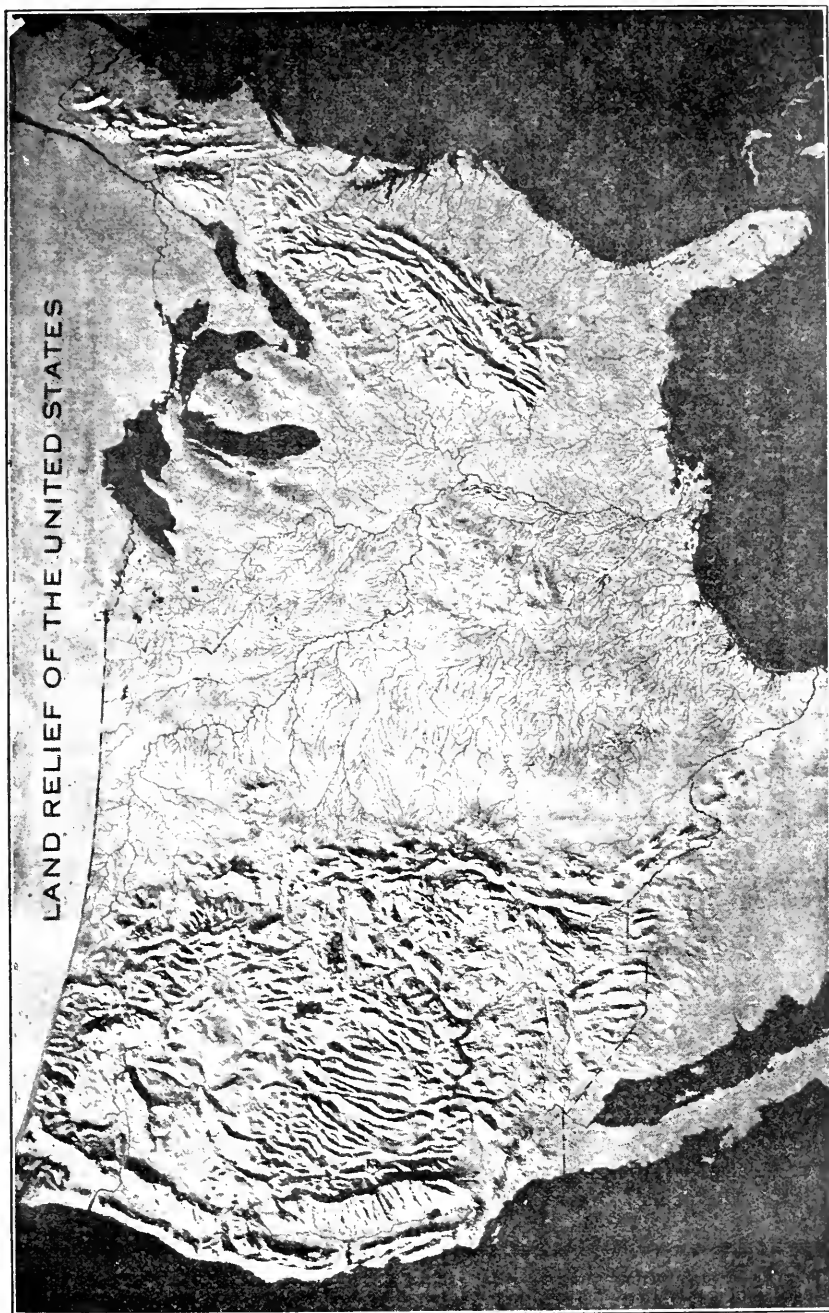


FIG. 3.—This map shows the topography of the United States in a generalized way. It is a photograph of a relief model of the United States supplied by the United States Geological Survey. The mountainous character of the West, except the Great Plains Region, is clearly shown; but the map fails to show the high altitude of much of the West, particularly of the Rocky Mountain and Arid Intermountain Plateau regions. Owing to the altitude, these regions have a much cooler climate than corresponding latitudes in the East. The vast expanse of the Mississippi Valley, with its level to rolling surface, except for the Ozark uplift in the lower central portion, should be especially noted.

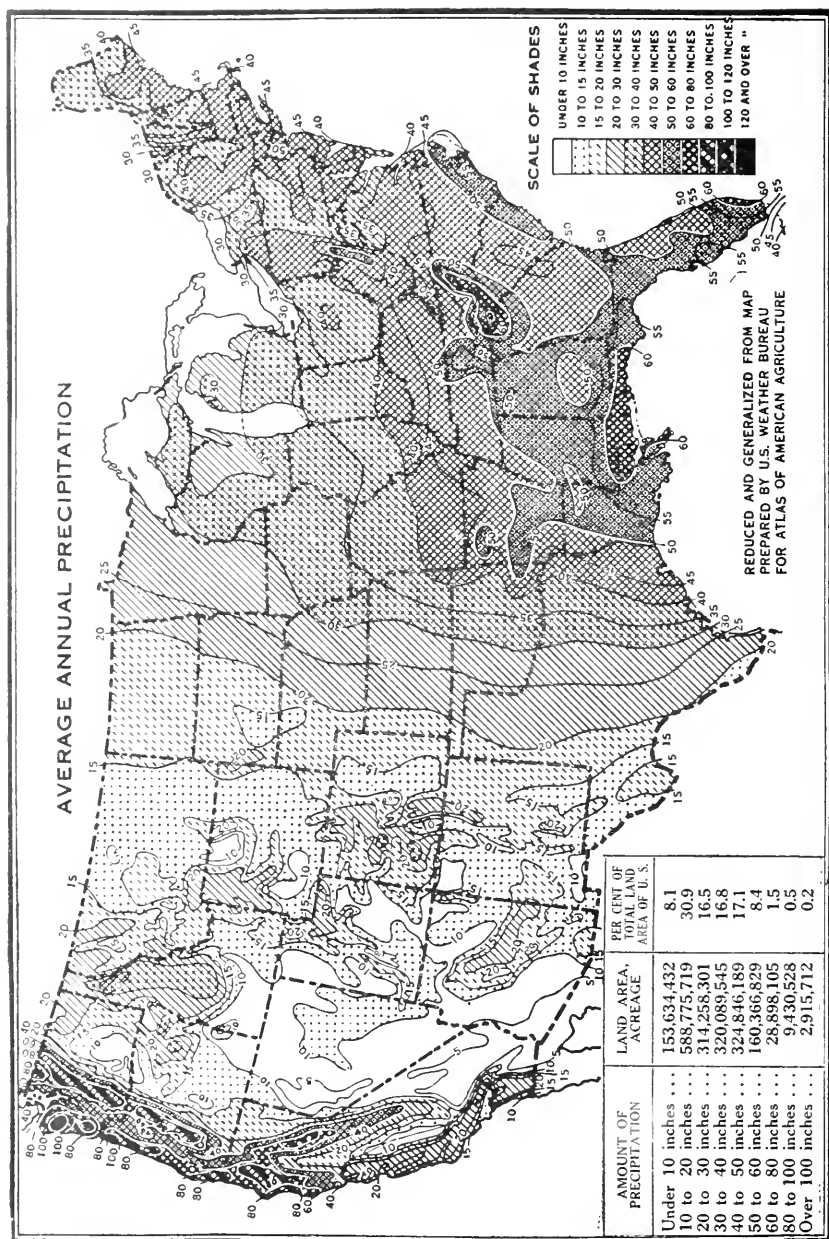


FIG. 4.—Precipitation includes rain, melted snow, sleet, and hail. The map is much reduced and generalized from a map prepared by the Weather Bureau and published in the Precipitation and Humidity section of the Atlas of American Agriculture. The map suggests why the United States should be divided agriculturally into an eastern and a western half. However, the division shown in Figure 2 does not follow a line of equal precipitation, but advances diagonally across two of the precipitation zones from 15 inches in the northwestern corner of North Dakota to 25 inches on the south Texas coast, where the evaporation is much greater and the rainfall more torrential and, consequently, more moisture is required for crop production.

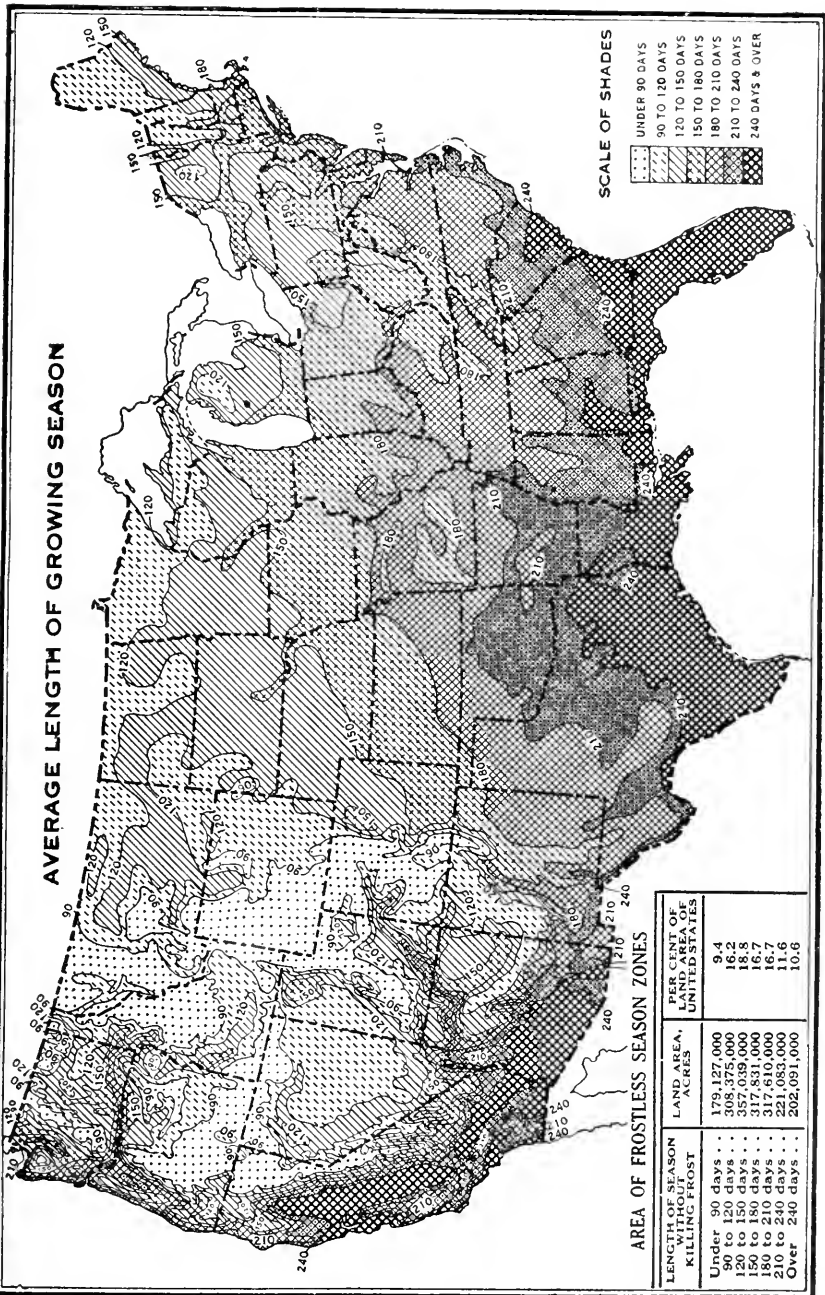


FIG. 5.—This map is much reduced and generalized from a map prepared by the United States Weather Bureau and published in the Frost and the Growing season section of the Atlas of American Agriculture. The higher altitude of the Rocky Mountain and Arid Intermountain Regions (see Fig. 3), and the drier air (see Fig. 4), which permits rapid loss of heat at night, are two important causes of the short frost-free season. Over much of these regions the frost-free season is shorter than in northern Maine or Minnesota. The powerful influence of the Pacific and the lesser influence of the Atlantic in lengthening the growing season along their shores should also be noted.

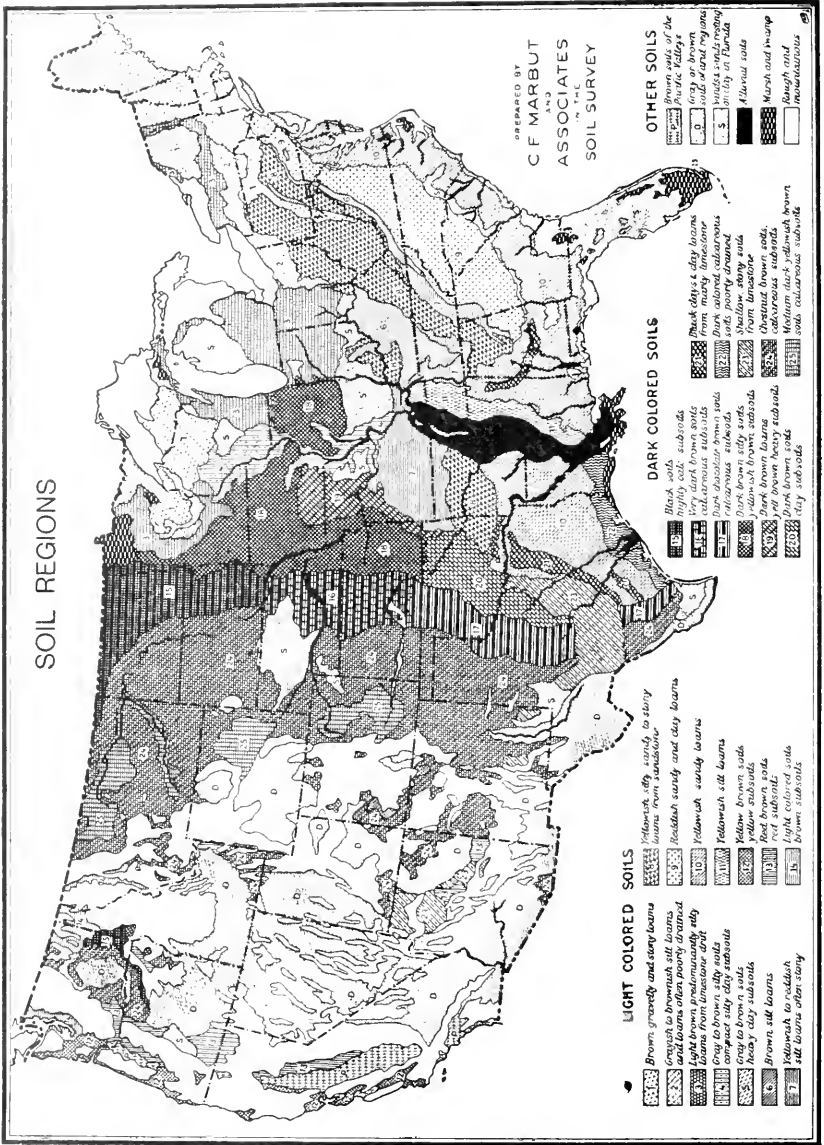


FIG. 6.—Soils originally or at present covered with forest are normally light colored, and are likely to be less fertile than soils in regions of lower rainfall. Grassland soils, in general, are dark colored, the humid prairie soils being commonly almost black and highly fertile—the subhumid prairie soils, blackest of all—while the semiarid short-grass plains soils are dark brown or chocolate colored, the color gradually fading to medium brown in regions of lesser rainfall, and to light brown or even ashy gray in desert areas. The light-colored forest soils in the United States total about 800 million acres, the dark-colored grassland soils about 600 million acres, and the light-colored arid soils about 500 million acres.

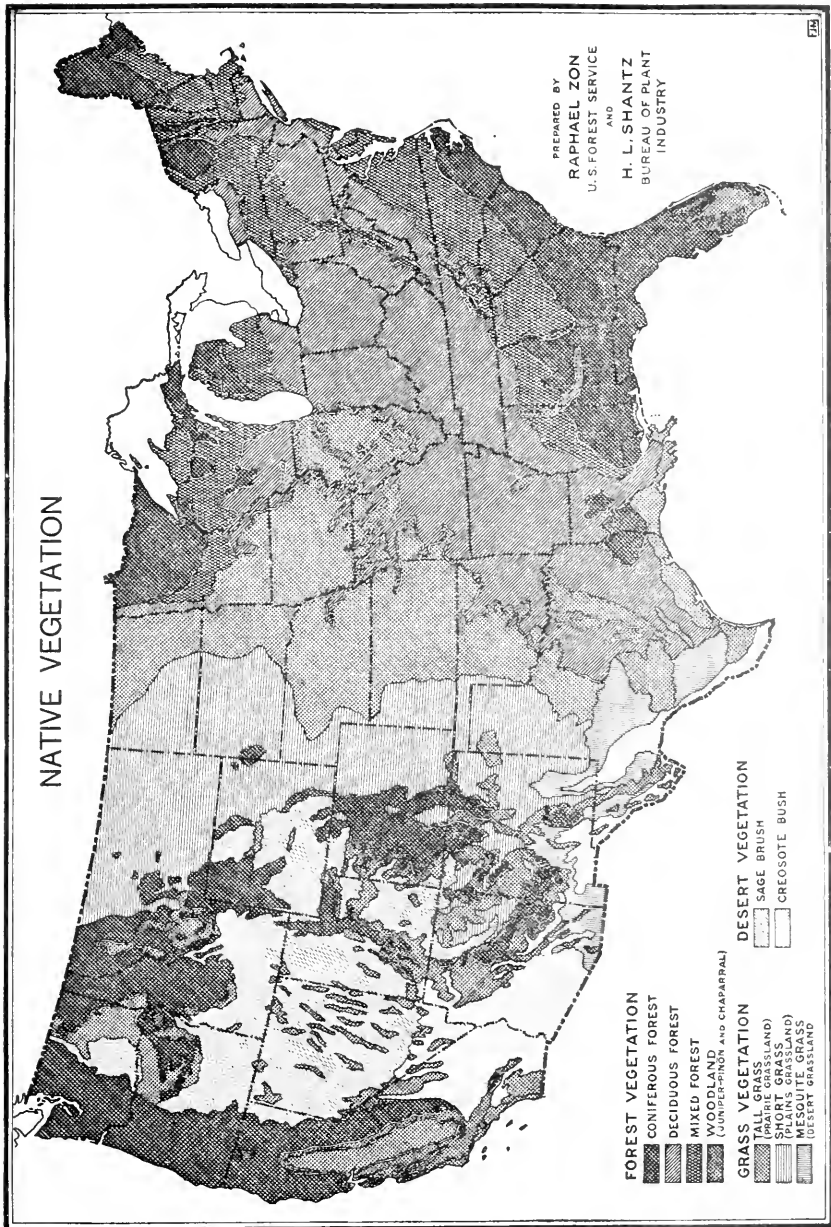


FIG. 7.—Forests, including semiarid woodland (pinon-juniper, chaparral, etc.), originally covered about 900 million acres in the United States. About 350 million acres have been cleared for agriculture, and as many more have been cut-over or devastated. (See Fig. 13.) About 600 million acres were clothed originally with grass, interspersed commonly with various herbaceous plants. Some 200 million acres of this grassland have been plowed up and used for crops, or for pasture in rotation with crops, including about 7 million acres irrigated. Desert vegetation characterized 400 million acres, of which about 12 million acres have been reclaimed by irrigation. Half of the remaining forest and woodland is pastured, practically all of the grassland, and nearly all of the desert. (See Fig. 12.)

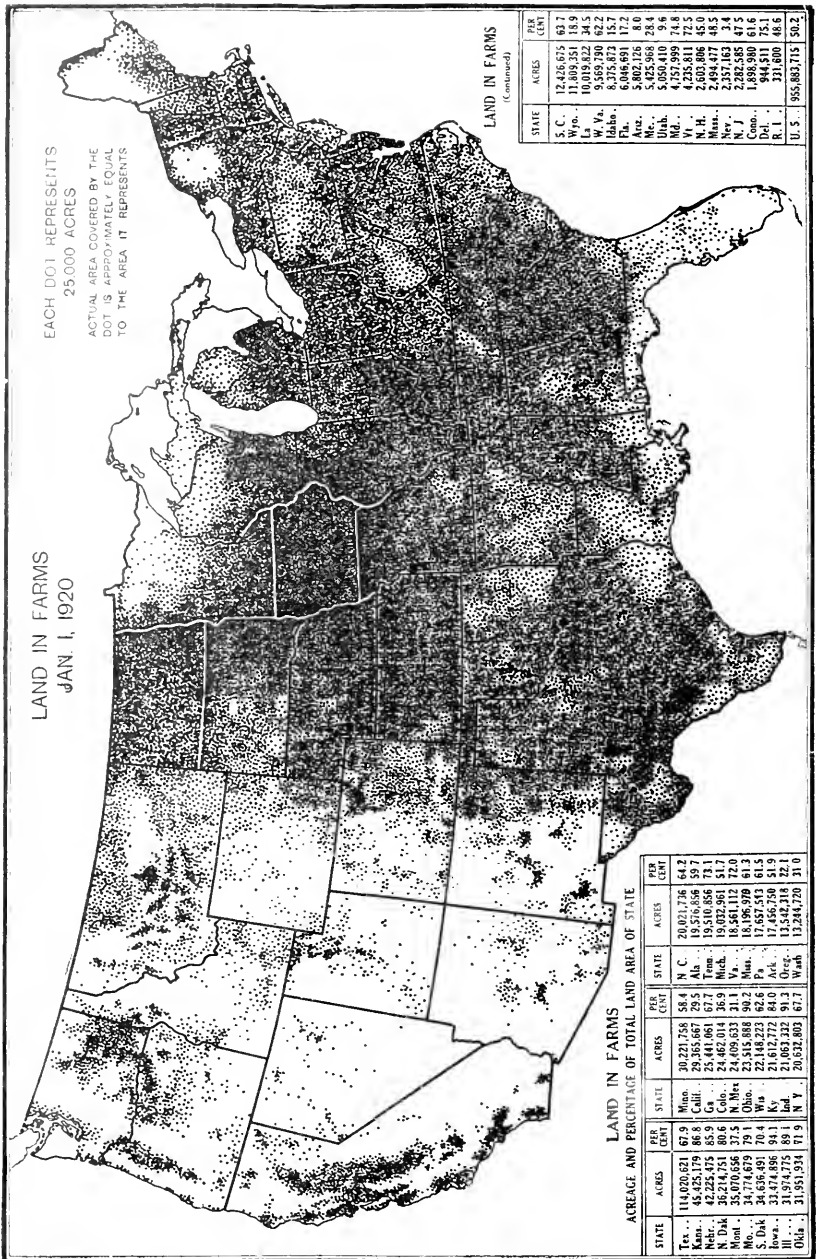


FIG. 8.—Three-quarters of the farm land is in the Mississippi Valley. Or considering the distribution with reference to rainfall, two-thirds is humid farm land in the East, and one-third is mostly arid, semiarid, or irrigated farm land in the West. In the East the land not in farms is hilly, stony, sandy, swampy, or infertile, and nearly all in forest or recently cut over. (See Fig. 13.) But in the West only one-sixth of the land not in farms is in forest, and one-ninth in woodland and chaparral, while one-sixteenth is absolute desert, the remaining two-thirds being open range, more or less covered with grasses and shrubby plants and used for grazing cattle or sheep. (See Figs. 81 and 92.)

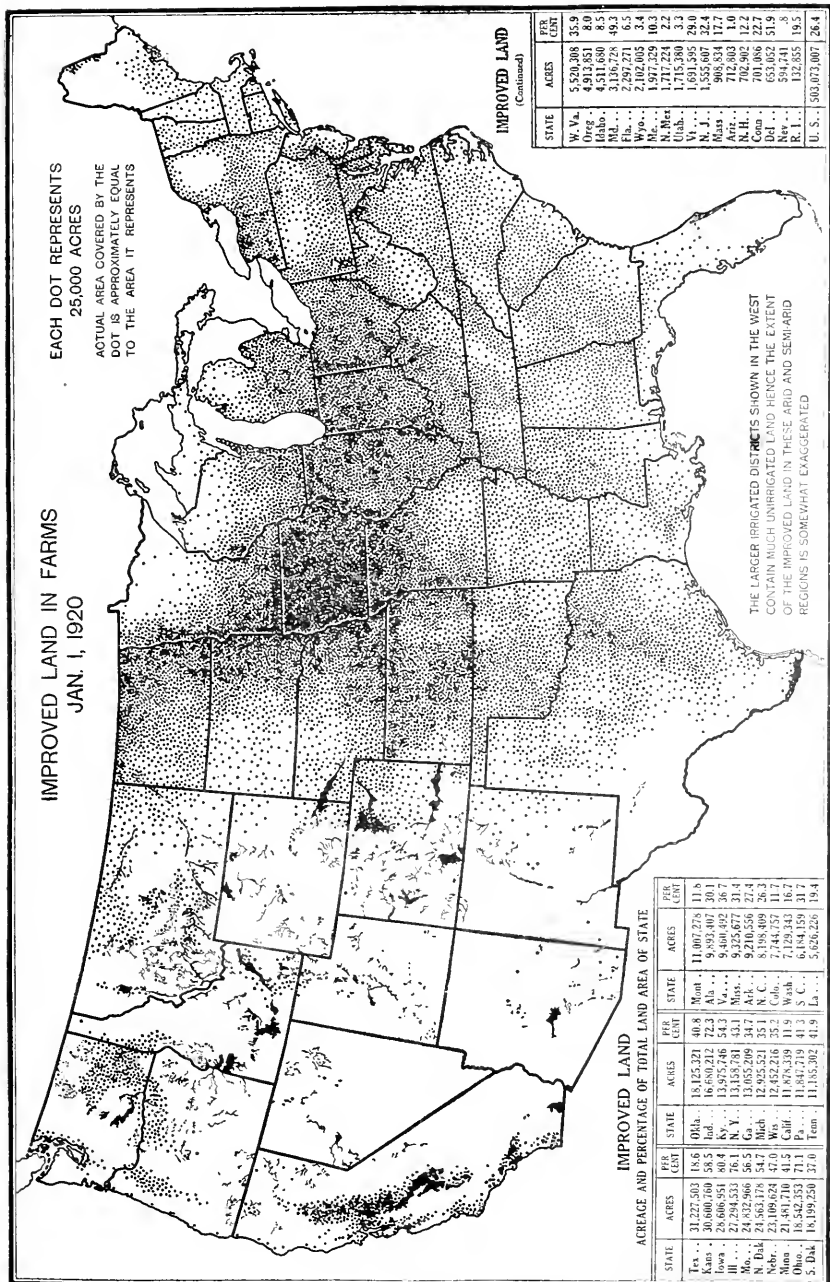


FIG. 9.—Improved land includes "all land regularly tilled or mowed; land in pasture that has been cleared or tilled; land lying fallow; land in gardens, orchards, vineyards, and nurseries; and land occupied by buildings, yards, and barnyards." Four-fifths of the improved land is in the humid eastern half of the United States; and three-fifths is concentrated in a triangular-shaped area, the points of which are located in western Pennsylvania, central Texas, and north-central North Dakota. In this area 60 per cent of the land area is improved farm land, whereas in the United States outside this area only 15 per cent is improved.

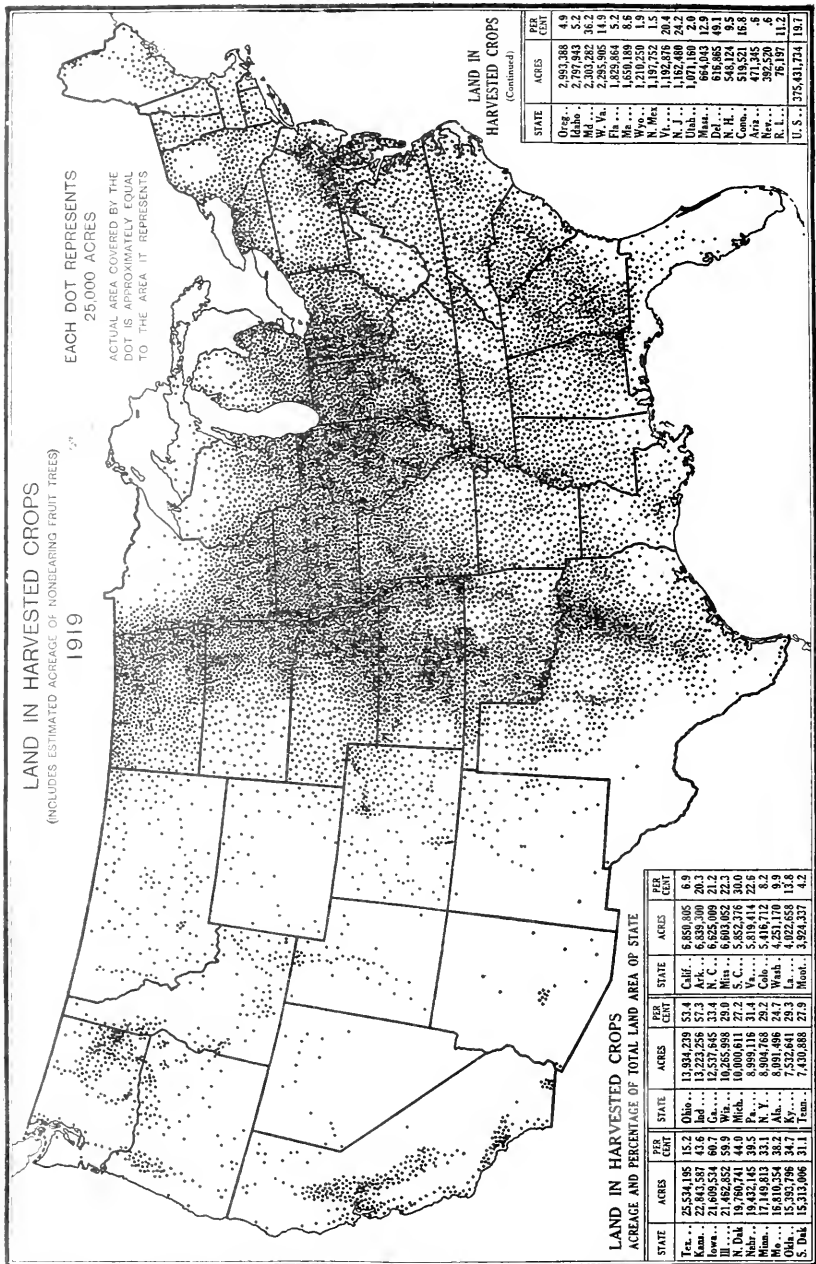


FIG. 10.—Over five-sixths of the crop land is in the humid eastern half of the United States, and nearly two-thirds is concentrated in the triangular shaped area described under Figure 9. In this area, which includes only about one-fourth of the land of the United States, are produced four-fifths of the corn, three-fourths of the wheat and oats, and three-fifths of the hay crop of the nation. No region in the world of equal size affords so favorable natural conditions for the growth of corn, and few regions possess so favorable conditions for the culture of the small grain and hay crops. (See Figs. 24, 29, 30, 32, 33, 34, and 38.)

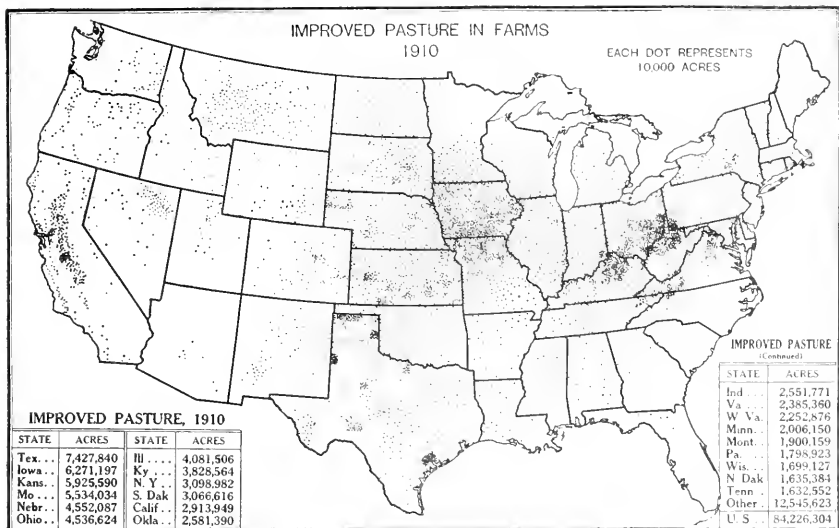


FIG. 11.—This map shows the location of the acreage of improved pasture, according to the returns of the 1910 census, which were tabulated in 1917 by the Department of Agriculture and published in Bulletin No. 626. The returns of the 1920 census have not yet been compiled. It appears probable that war-time prices encouraged the plowing and planting to crops of about 15 million acres of improved pasture between 1910 and 1920. The concentration of pasture acreage shown in certain Texas counties is owing largely to the census accrediting to the county in which the ranch headquarters is located the acreage that may extend into adjacent counties. The large acreage of improved pasture in the Ohio River valley and in the Corn Belt west of the Mississippi is noteworthy.

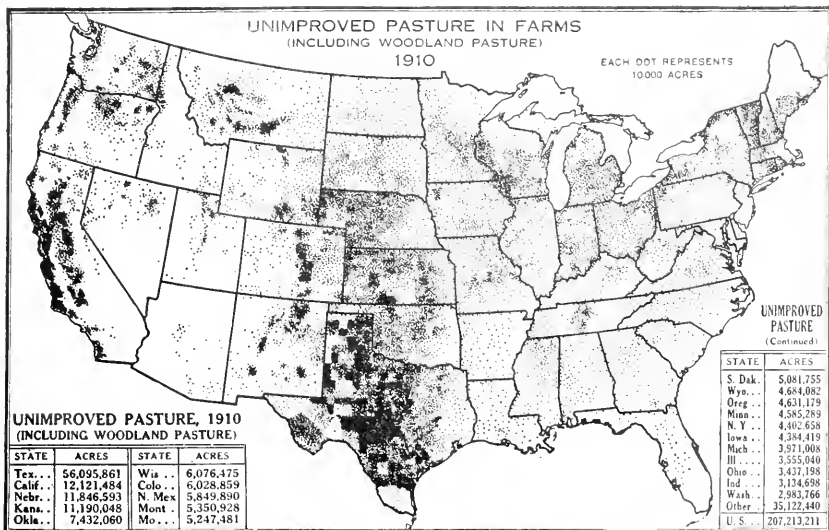


FIG. 12.—This map shows the location of forest and woodland in farms that was pastured in 1909, amounting to 98 million acres, and that of "other unimproved land" used for pasture, which amounted to about 109 million acres. In the States from Minnesota to Texas and eastward, especially in the South, forest and woodland pasture is much the larger item; but in the Great Plains Region and westward "other unimproved" pasture, which consists almost wholly of native grasses and herbs, is the more important. In addition to the unimproved pasture in farms in the West there is a vast acreage of similar land not in farms, the aggregate of unimproved pasture and range in the West being about 800 million acres.

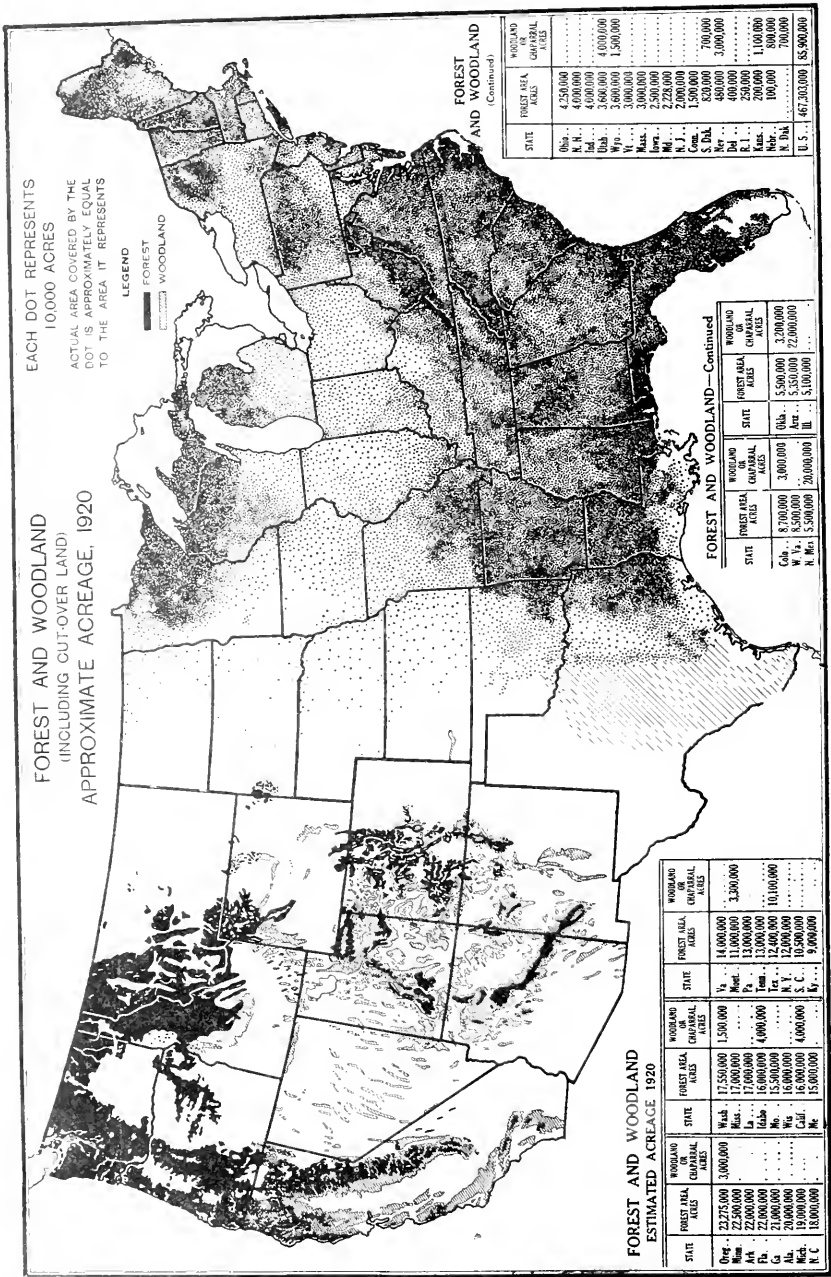


FIG. 13.—This generalized map of forest, cut-over land, and woodland was prepared in cooperation with the Forest Service. The figures given in the table are merely tentative. The estimates for the States in the originally forested eastern portion of the United States, except for several States in which forest surveys have been made, are based largely on deductions from the statistics of the 1920 census. Of the 467 million acres of forest and cut-over land in the United States about one-half is in the South, one-eighth in the Northeastern States, one-eighth in the Lake States, and nearly one-quarter in the West, mostly in the Rocky Mountain and North Pacific Regions. However, over half of the 137 million acres of virgin saw timber is in the West.

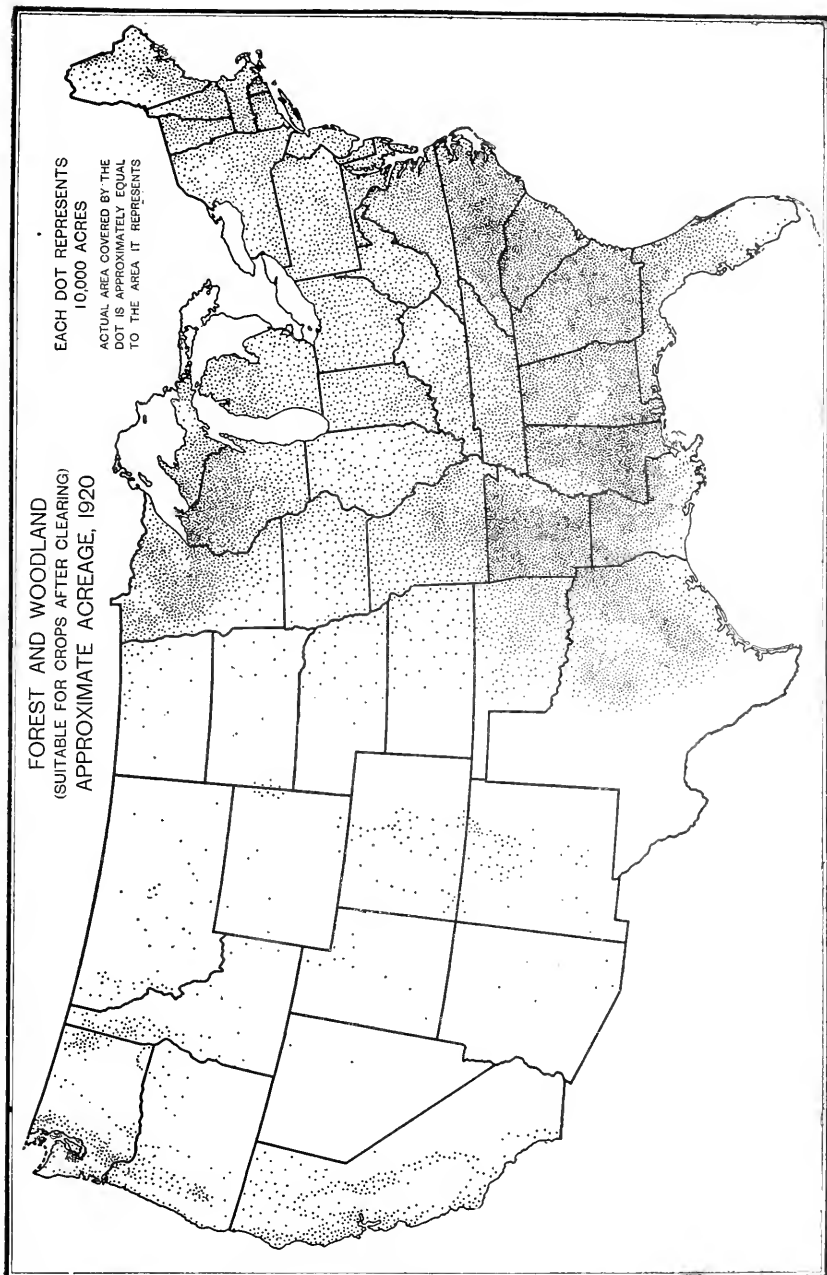


FIG. 14.—This map shows the approximate location and extent of forest, cut-over land, and woodland which could be used for the production of crops after clearing, and in many areas after drainage also. Only such part of this land should be cleared, however, as will pay adequate return on the cost of clearing. The estimates were compiled in 1918 from census data, Forest Service reports, and from correspondence with State and county officials and lumber companies, and not in 1920, as stated. Revised estimates are being compiled, based largely on 1920 census figures, soil survey reports, and forest surveys, hence no table is given in connection with the map.

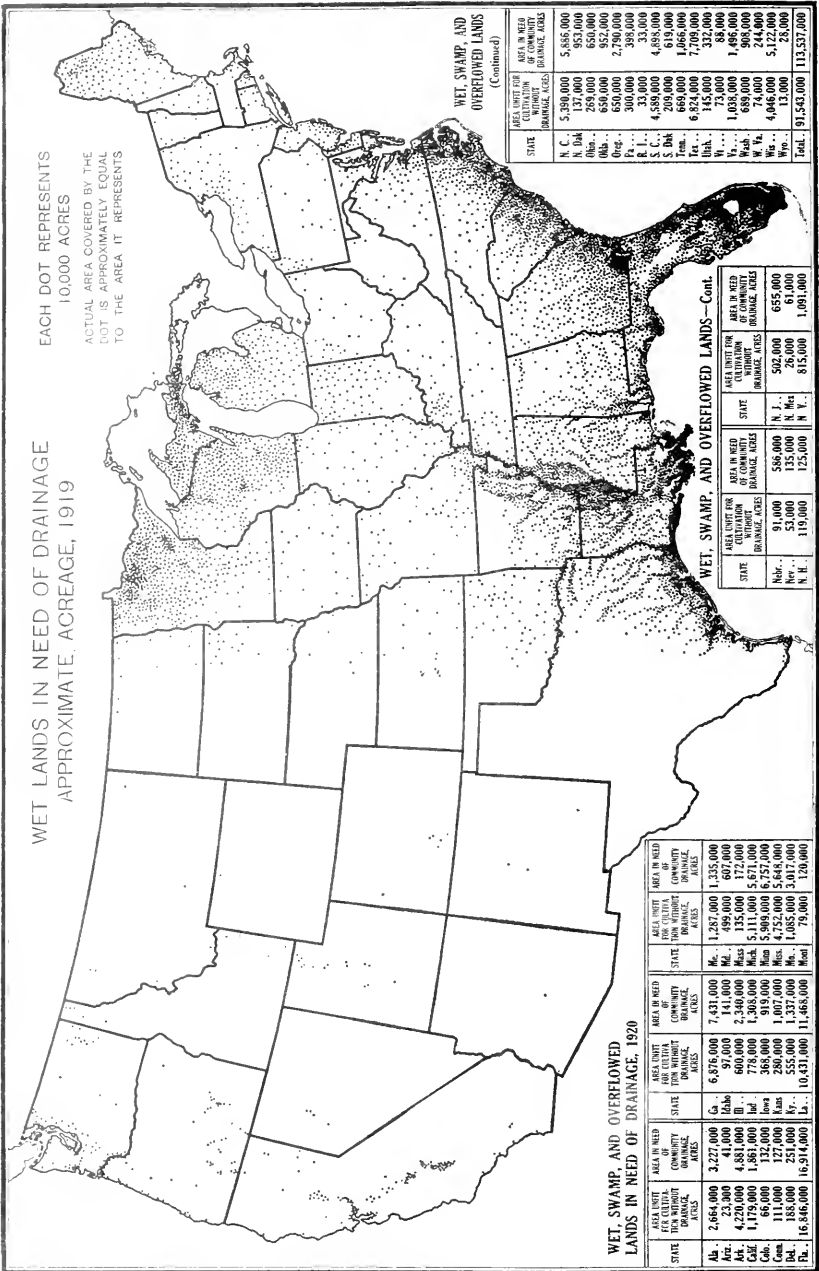


Fig. 15.—This map is based largely upon drainage reports available in the Office of Irrigation and Drainage Investigations, and upon soil survey, topographic, and Land Office maps. These reports and maps were compared with statistics of drainage enterprises and of land in farms needing drainage, available for the first time in the 1920 census, by L. A. Jones, of the Bureau of Public Roads, and F. J. Marschner, of the Office of Farm Management and Farm Economics, who drew the map. Two-thirds of the land unit for cultivation without drainage is in the Southern States, and one-half of the remainder is in the three Lake States. Nearly all of the wet land in the South, except the Florida Everglades and prairies, tidal marsh, and Gulf coastal prairies, is forested, and requires both drainage and clearing; but much of the wet land in the Lake States consists of unforested peat bogs.

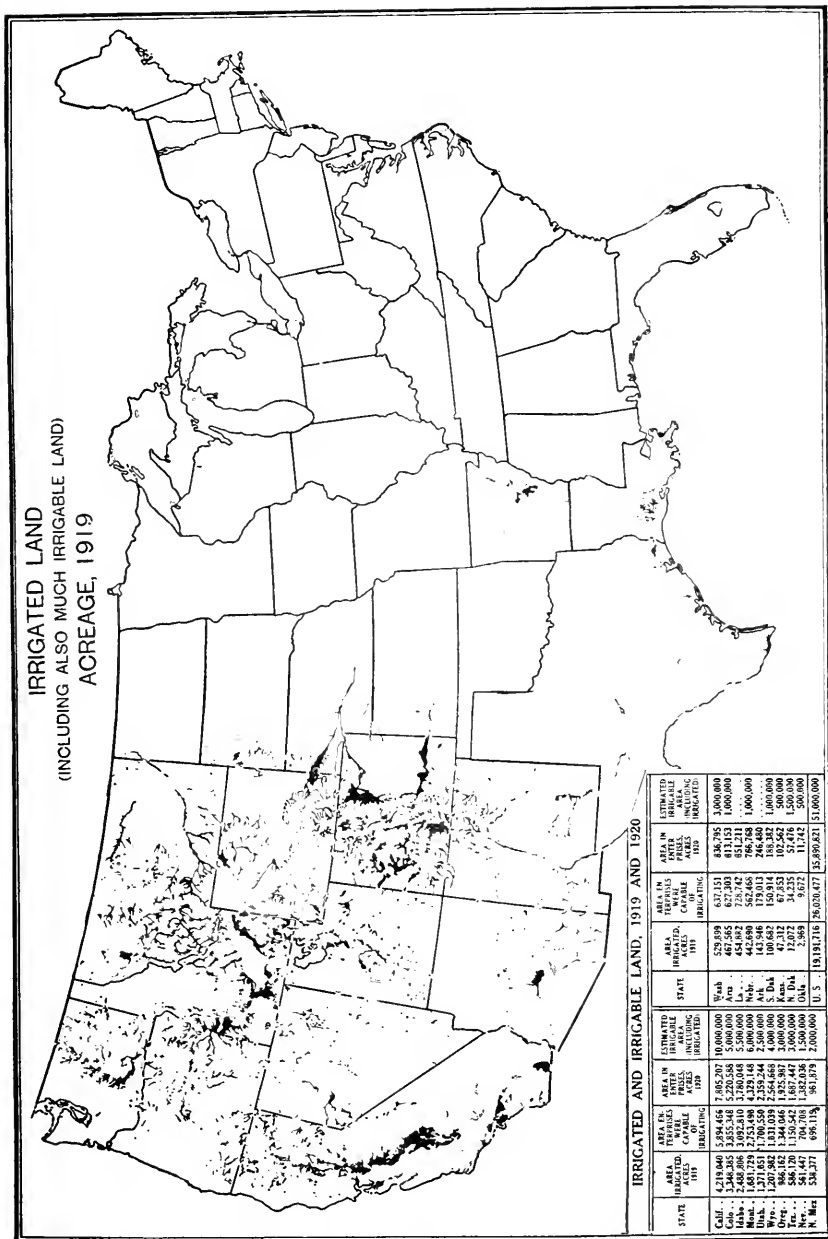


FIG. 16.—The area of irrigated land increased 5 million acres, or one-third, between 1909 and 1919; and the irrigation enterprises were capable of irrigating 7 million acres more than were actually irrigated in 1919. There is sufficient water in the West to irrigate double the area the enterprises were capable of irrigating in 1920, or about 50 million acres, when higher prices of farm products justify the constantly increasing cost per acre of construction of irrigation works. California, Colorado, and Idaho lead in irrigated acreage at present; but Montana rises into second place in the estimate of total irrigable area. Estimates of irrigable area were supplied by R. P. Teel.

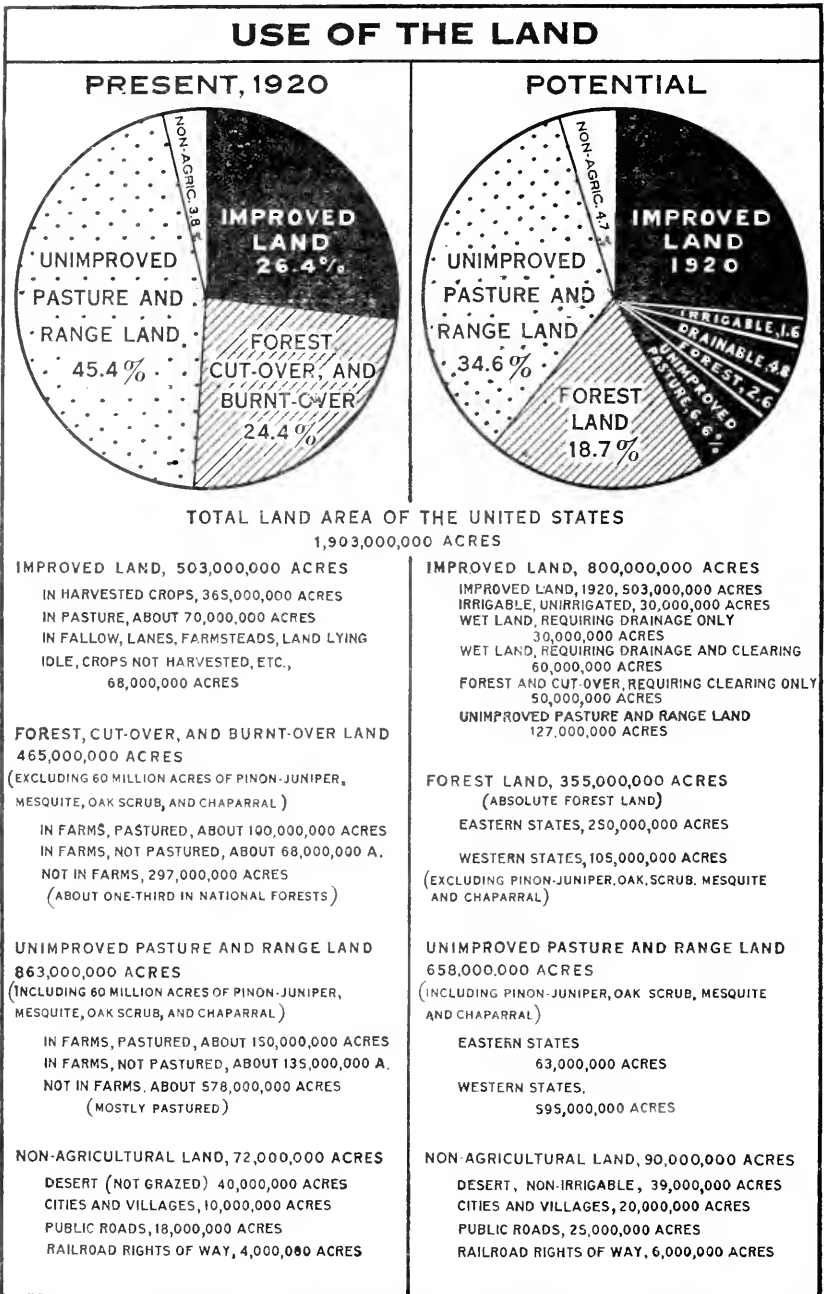


FIG. 17.—It is possible to increase the area of improved land about 300 million acres, or 60 per cent. by irrigation, drainage, clearing, and dry farming. But until farm products are higher in price most of this reclamation work would not prove profitable. On the other hand, although there are about 355 million acres of humid land so hilly or sterile as to be fit only for forests, the price of lumber will probably warrant the additional use permanently of 100 million acres of poor potentially arable land for forest instead of crops. In other words, the present forest and cut-over area is not likely to decrease greatly. The area in cities and villages is relatively insignificant and will remain so even with double or treble the present population.

RELATION OF IMPROVED LAND, LAND IN CROPS, & FOOD PRODUCTION TO POPULATION UNITED STATES: 1850 - 1920 (LAND IN CROPS; 1880-1920)

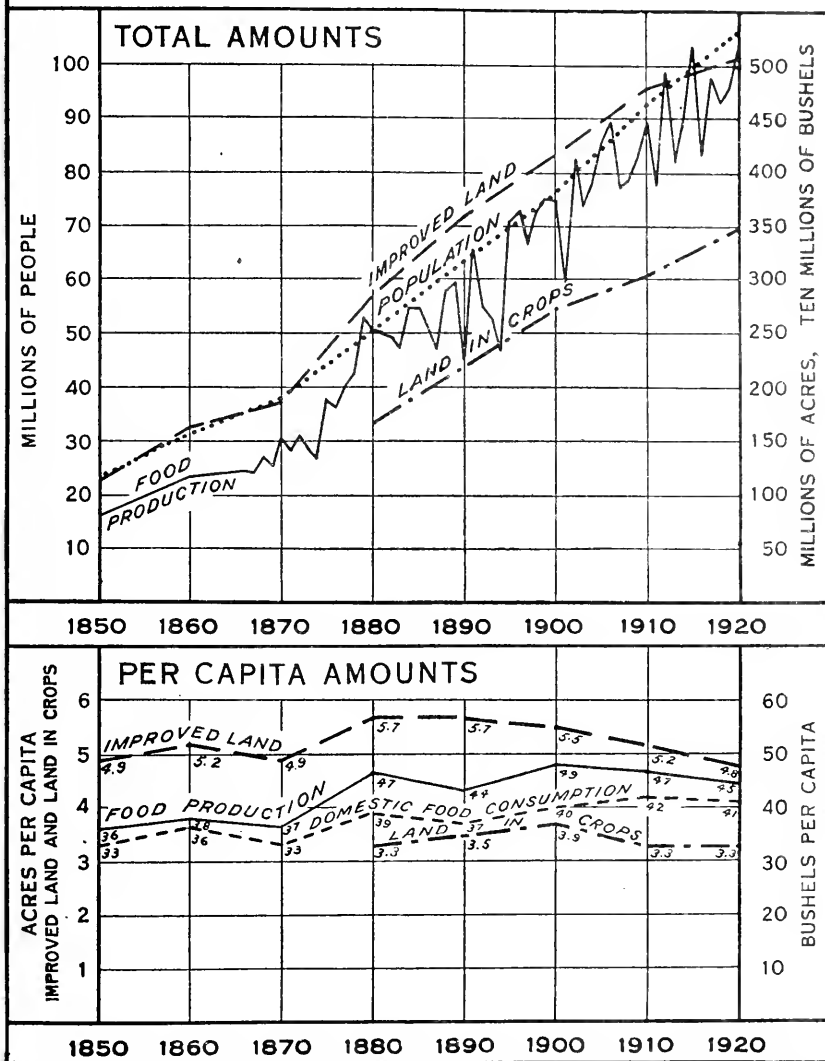


FIG. 18.—The amount of improved land kept pace with the increasing population from 1850 to 1870, increased more rapidly than population till about 1885, then more slowly till 1910, and during the decade 1910-1920 increased only 5 per cent, as compared with 15 per cent increase in population. Food production, however, increased more rapidly than population till about 1906, or for 20 years after the peak had been reached of acreage of improved land per capita, and has since increased more slowly than population. But consumption per capita has been maintained up to the present time by diminishing the exports. The per capita production and consumption figures are five-year averages centered on the census year.

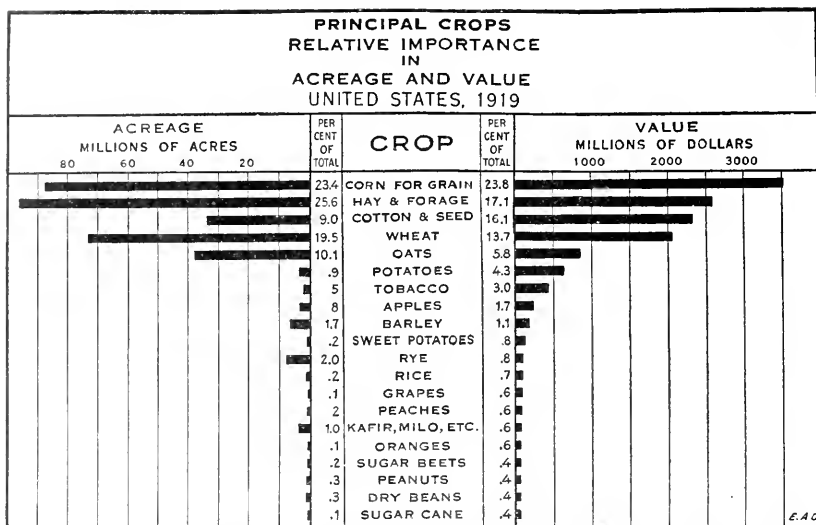


Fig. 19.—Five crops—corn, hay and forage, cotton, wheat, and oats—constitute nearly 90 per cent of the acreage and over 75 per cent of the value of all crops. Corn for grain is the leading crop on the basis of value, and if the acreage of corn cut for hay and forage be added to that of corn for grain, instead of being included with hay and forage, corn is the leading crop also in acreage. Cotton ranked third in value, but fifth in acreage in 1919, the value of the cotton crop per acre being about twice that of corn or wheat. Wheat stood fourth in value but third in acreage, while oats were fifth in value and fourth in acreage. Potatoes, then tobacco and apples ranked next to these five crops in value, but barley, rye, and the grain sorghums ranked next in acreage.

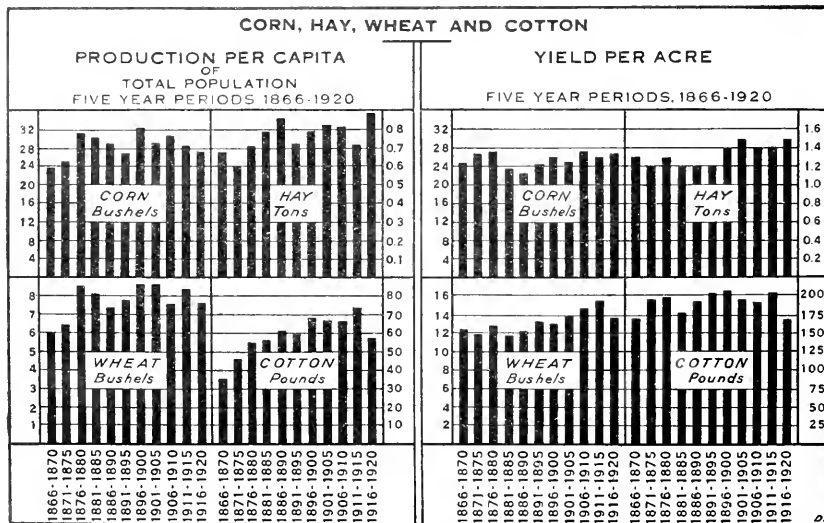
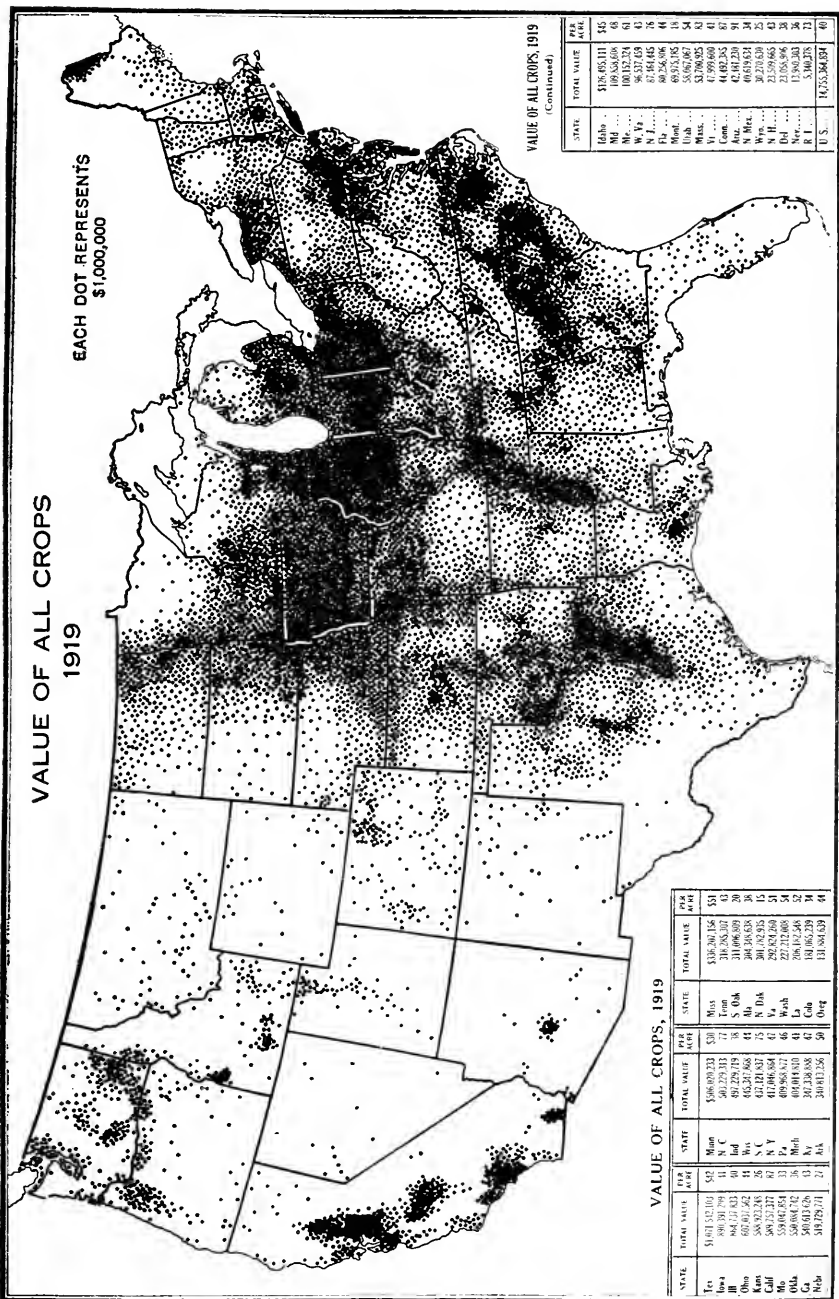


FIG. 20.—These four crops—corn, hay, wheat, and cotton—constitute three-fourths of the total crop acreage of the United States. Production per capita, it will be noted, rose for 15 to 20 years after the Civil War, then remained more or less steady for 25 to 30 years, and has recently declined, except in the case of hay. The yield per acre of corn has remained remarkably constant for 55 years, of hay and wheat has increased about one-sixth, but the yield per acre of cotton has declined notably since 1914. In general, production had kept pace with population until recently, not primarily because of increasing yields per acre, but mostly because of expanding crop acreage.



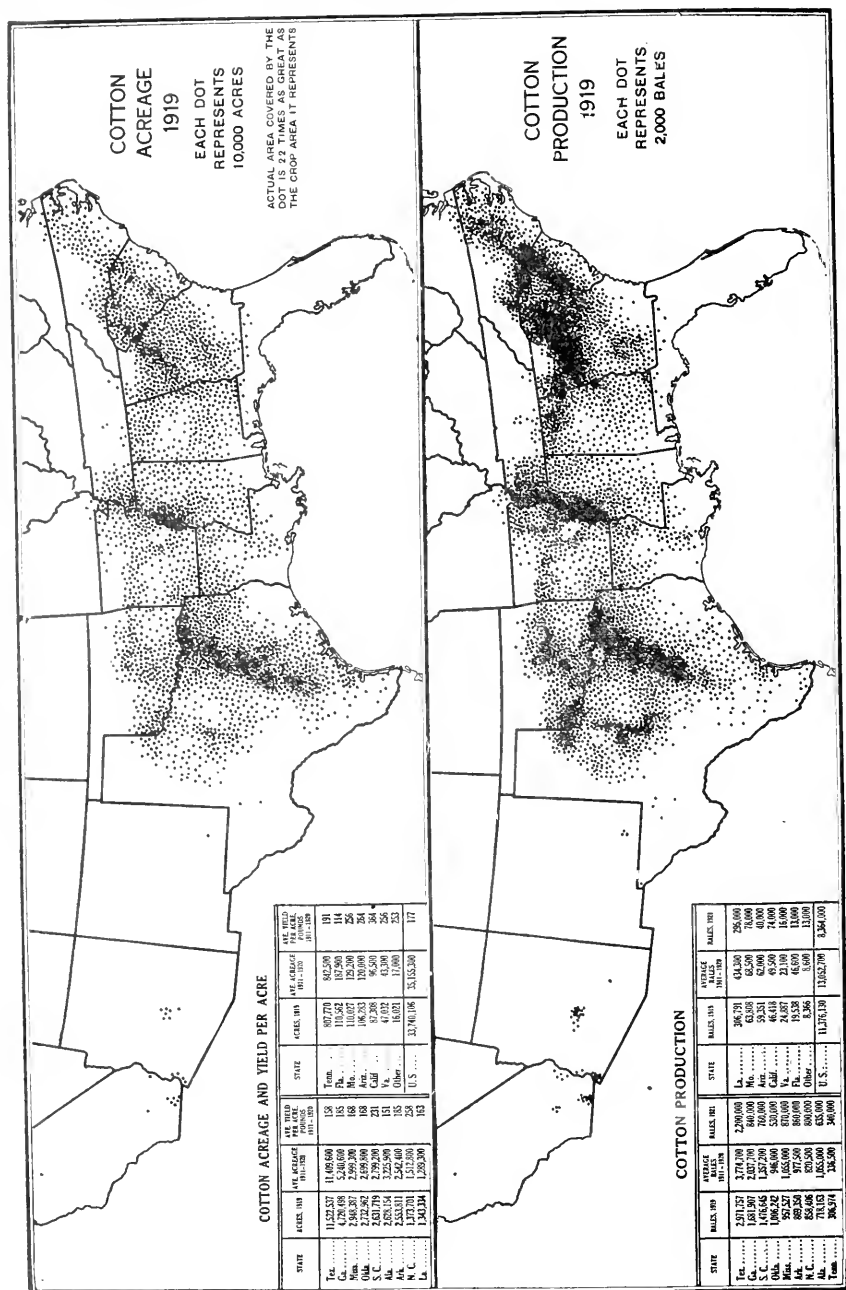
VALUE OF ALL CROPS, 1919
(Continued)

| STATE | TOTAL VALUE | PER ACRE |
|---------|----------------|----------|
| Utah | \$18,463,131 | 145 |
| N.J. | 109,523,659 | 68 |
| N. Y. | 8,371,958 | 43 |
| N. C. | 40,278,485 | 44 |
| Mont. | 69,573,985 | 18 |
| Utah | 58,681,667 | 54 |
| W. Va. | 5,706,025 | 31 |
| Pa. | 4,400,239 | 47 |
| Ill. | 4,401,239 | 91 |
| N. Mex. | 6,634,631 | 34 |
| W. Va. | 2,275,030 | 25 |
| Del. | 1,585,896 | 54 |
| N. Y. | 11,986,303 | 36 |
| R. I. | 3,160,278 | 72 |
| U. S. | 10,233,364,834 | 40 |

VALUE OF ALL CROPS, 1919

| STATE | TOTAL VALUE | PER ACRE | STATE | TOTAL VALUE | PER ACRE |
|--------|-------------|----------|--------|-------------|----------|
| Calif. | 668,689,333 | 531 | Miss. | 133,262,136 | 53 |
| Tex. | 540,278,794 | 38 | Ark. | 101,006,609 | 20 |
| Ill. | 465,217,868 | 44 | S. Oa. | 204,348,638 | 38 |
| Ohio | 412,201,037 | 75 | Ala. | 301,782,335 | 51 |
| Ind. | 409,983,827 | 46 | Mo. | 272,782,698 | 51 |
| Pa. | 409,003,010 | 41 | W. Va. | 206,412,546 | 52 |
| W. Va. | 340,138,088 | 47 | Colo. | 131,062,239 | 34 |
| N. Y. | 340,138,088 | 47 | Okla. | 131,062,239 | 34 |
| N. C. | 340,138,088 | 47 | Over | 131,062,239 | 34 |

FIG. 21.—The eastern half of the United States produced in 1919 about 86 per cent of the value of all crops of the Nation; the value of the crops produced in the Cotton Belt and the Corn Belt being nearly 50 per cent. The value of the crops per square mile of land area was about \$15,000 in the Corn Belt, and \$8,700 in the Cotton Belt, descending to only \$673 in the Arizona-California Desert Region; but the value per acre in crops was highest in the Arizona-California Desert Region (\$95), where all crops are irrigated, and lowest in the Great Plains Region (\$21), where most of the crops are grown under semiarid conditions.



FIGS. 22 AND 23.—The northern boundary of the Cotton Belt is approximately the line of 200 days average frost-free season (see Fig. 5) and 77° mean summer temperature, the southern boundary that of 11 inches autumn rainfall, because wet weather interferes with picking and damages the lint. This southern boundary is now moving northward, as the milder winter temperatures near the Gulf and longer season permit increased injury by the boll weevil. The western boundary of cotton production without irrigation is approximately the line of 23 inches average annual rainfall (see Fig. 4). The densest areas on the map are districts of richer soils, notably the Black Prairie of Texas and the Yazoo Delta (see Fig. 6), or heavily fertilized soils, especially those of the Piedmont and Upper Coastal Plain (see Fig. 109).

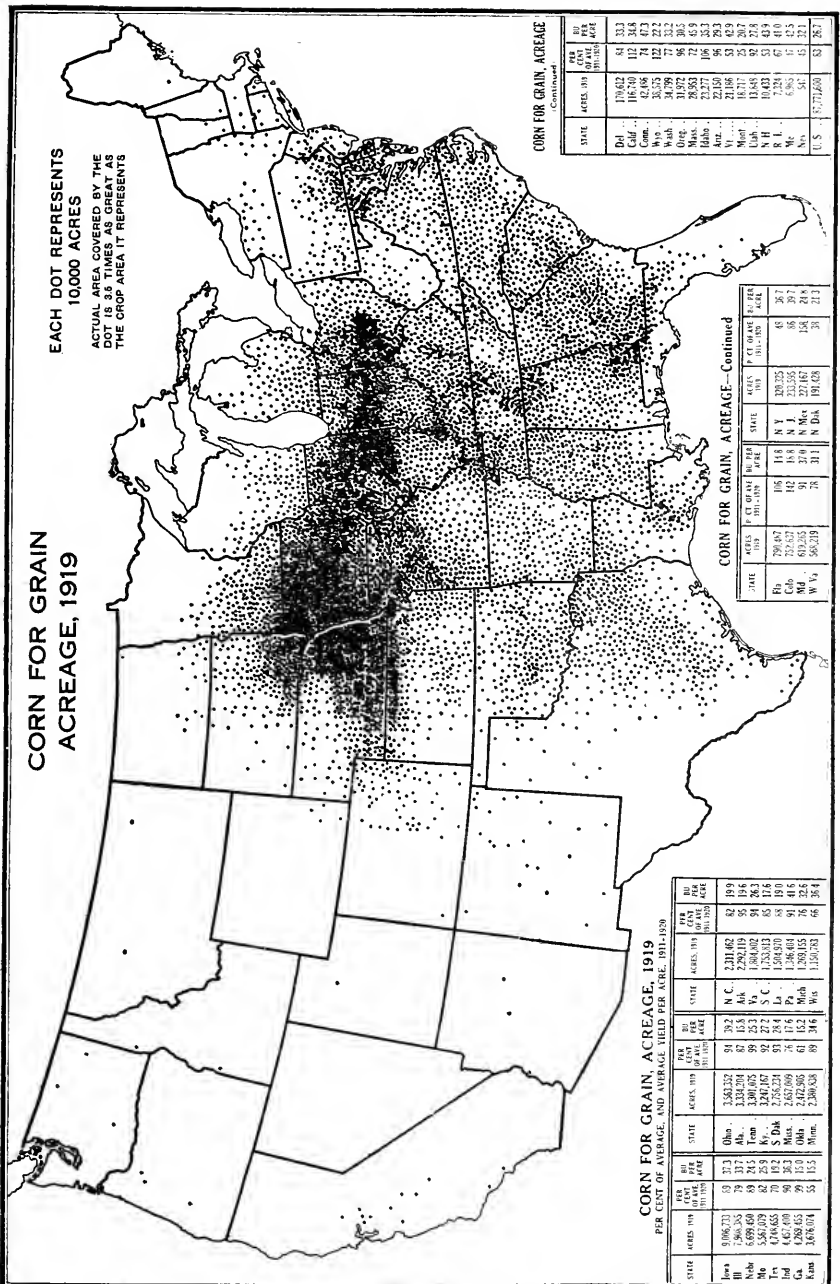


FIG. 24.—Over two-thirds of the corn acreage of the world is in the United States, nearly all east of the line of 8 inches mean summer rainfall and south of the line of 66° mean summer temperature. Nearly 90 per cent of the acreage of corn for grain in the United States is in the Corn Belt, the Corn and Winter Wheat Region, and the Cotton Belt. In these three regions corn constitutes about one-third of the acreage of all crops. In the Corn Belt it is dominant, contributing nearly two-fifths of the acreage and half of the value of all crops. Hay, associated with spring oats in the northern portion and with winter wheat in the southern portion, are the other important crops in the Corn Belt. (See Figs. 29, 32, and 38.)

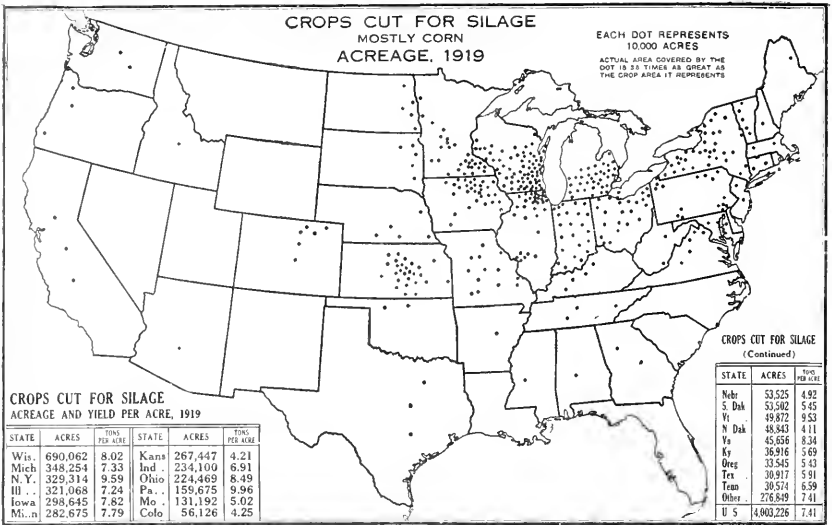


FIG. 25.—Corn constitutes probably 95 per cent or more of the acreage of crops cut for silage. In the Southwest relatively small amounts of kafir and milo are used for silage; and in the Northwest occasionally sunflowers are so used, likewise pea vines in Wisconsin; but the amounts, except of kafir and milo, are insignificant. Silage is fed principally to dairy cows in the winter, but its use for beef cattle is increasing rapidly, especially in the Corn Belt, and a small amount is fed to sheep. Consequently at present the area of silage crops corresponds in a general way with that of dairy cows, except in central Kansas, where silage is fed mostly to beef cattle. (See Figs. 81 and 82.)

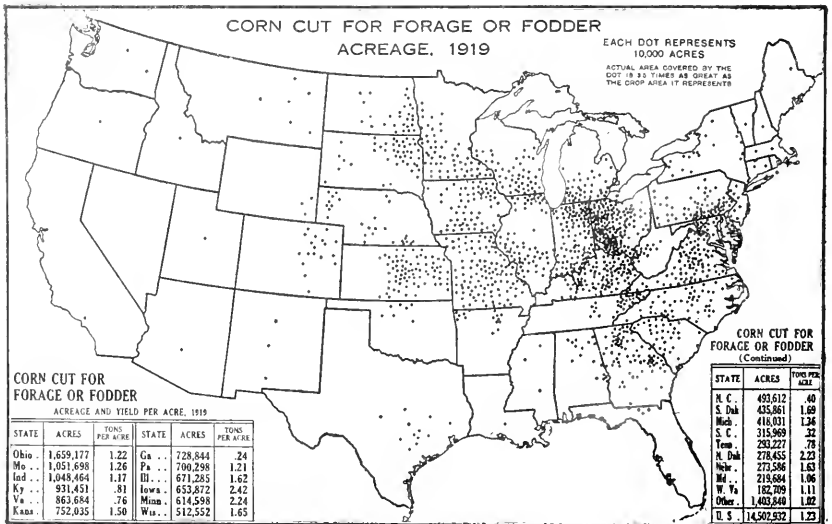


FIG. 26.—Corn is cut for forage mostly around the margin of the Corn Belt and in the Middle and South Atlantic States. This practice corresponds, in a general way, with the areas in which corn is cut and shocked. Doubtless much, perhaps most, of this corn reported to the census as cut for forage was also harvested for grain. Much of the acreage of corn shown on this map, therefore, is also shown on the map of corn for grain (Fig. 24). The Department of Agriculture estimates the area of corn cut for forage only in 1921 at 2,600,000 acres. Corn forage is fed almost wholly to cattle, though a little is used to feed sheep and horses.

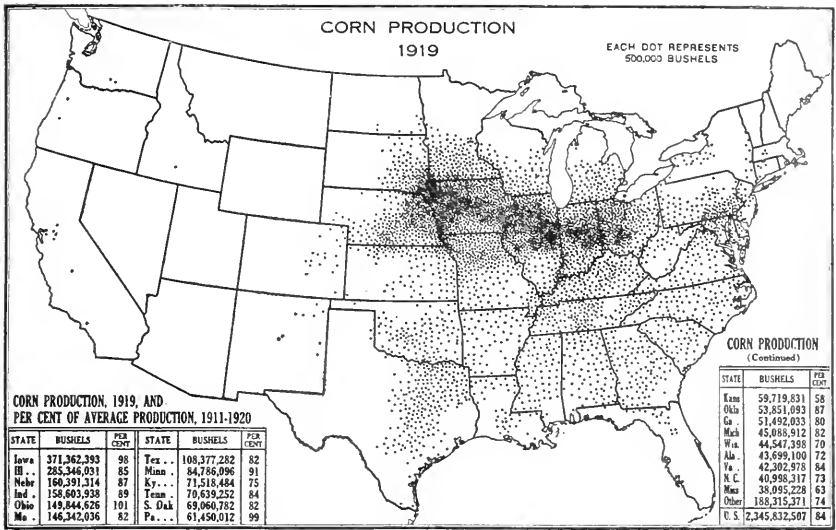


FIG. 27.—Corn is the great American cereal, constituting about 60 per cent of the tonnage of all cereals grown in the United States, and over 50 per cent of the value. More than half of this crop is produced in the Corn Belt; but corn is the leading crop in value also in the Corn and Winter Wheat Belt, and is the all-important cereal in the Cotton Belt. Corn is a very productive crop, yielding, in general, about twice as many pounds of grain per acre as wheat, oats, barley, or rye. The climate and soil of the Corn Belt are peculiarly suited to it. Probably no other area in the world of equal extent produces so much food per square mile as the Corn Belt. (See Figs. 21 and 104.)

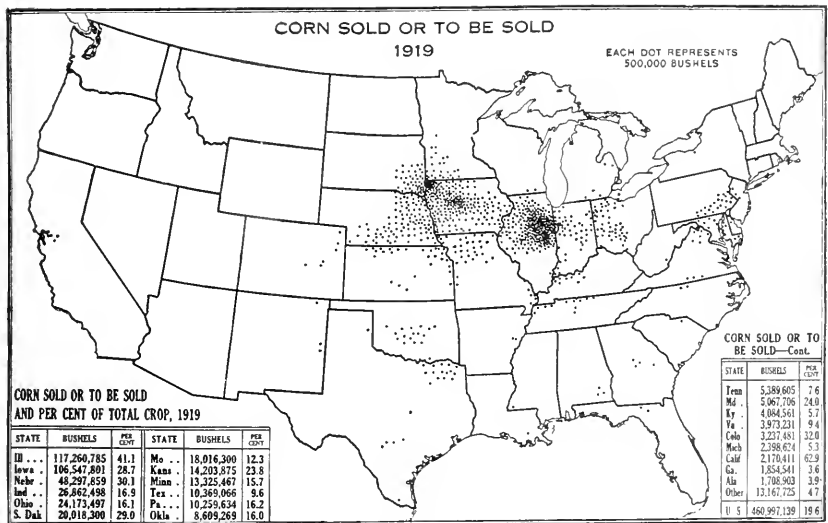


FIG. 28.—In the Corn Belt most of the corn is fed to hogs, cattle, and horses on the same farm that it is grown (see figs. 89, 81, and 76); but a considerable quantity, amounting to 41 per cent of the crop in Illinois in 1919, and about 30 per cent in Iowa, South Dakota, and Nebraska, is sold to nearby farmers, is shipped to consumers in the South and East, is exported largely through Chicago and the Atlantic ports, or is made into starch and glucose. The corn which the map indicates as sold from the farms in Pennsylvania, Maryland, and several Southern States, consists mostly of sales to neighboring farmers. Farms near the water front in Maryland and Virginia, however, ship corn by water to Baltimore, whence it is exported.

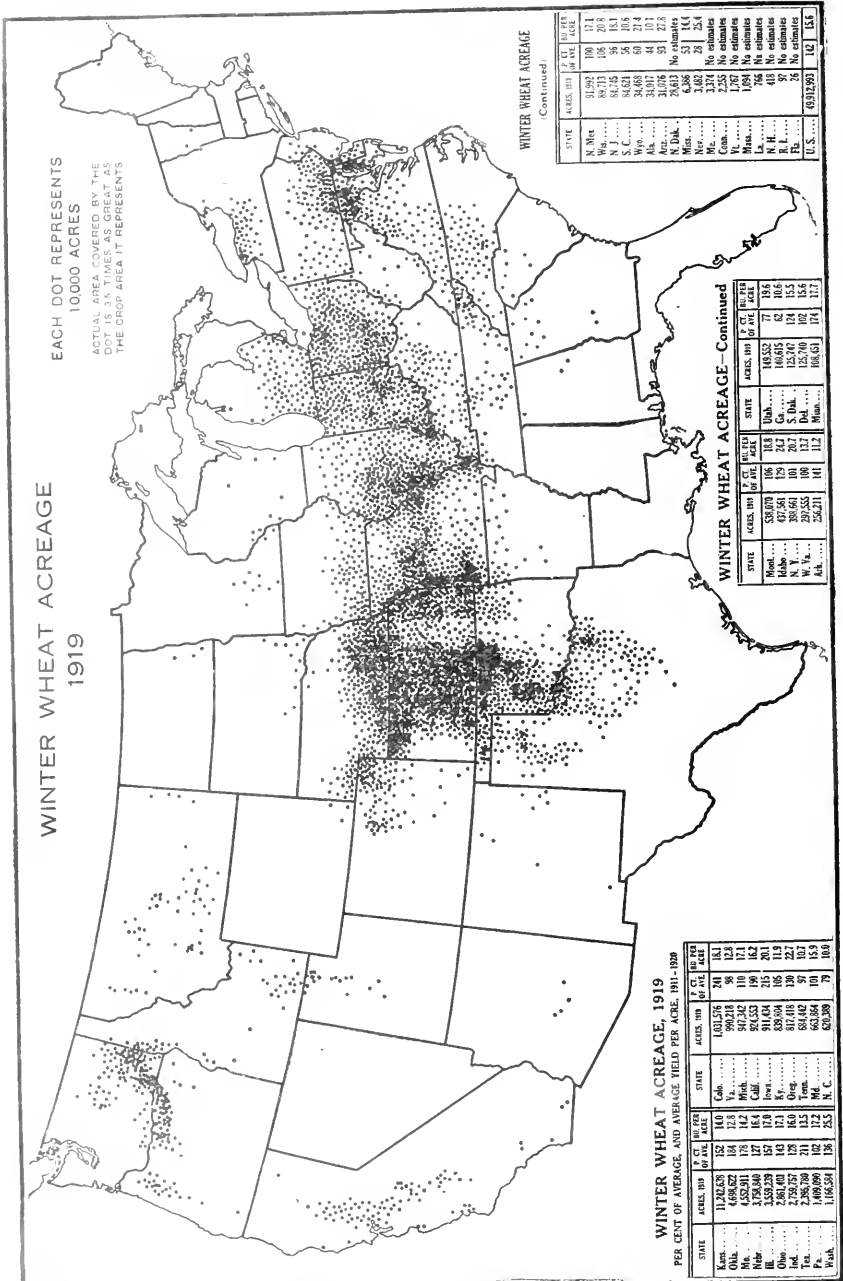


FIG. 29.—The Corn and Winter Wheat Belt included 42 per cent of the Nation's acreage of winter wheat in 1919, and 39 per cent more was located in the southern and eastern portion of the Corn Belt. The southern boundary of this winter wheat belt follows the isotherm of 72° during the month preceding harvest (June 15); and although some wheat is grown south of this line, it frequently suffers severe damage from rust. The northern frontier of winter wheat follows, in a general way, the mean winter temperature line of 20°, which extends in a northwesterly direction from northern Illinois and Iowa diagonally across South Dakota and Montana.

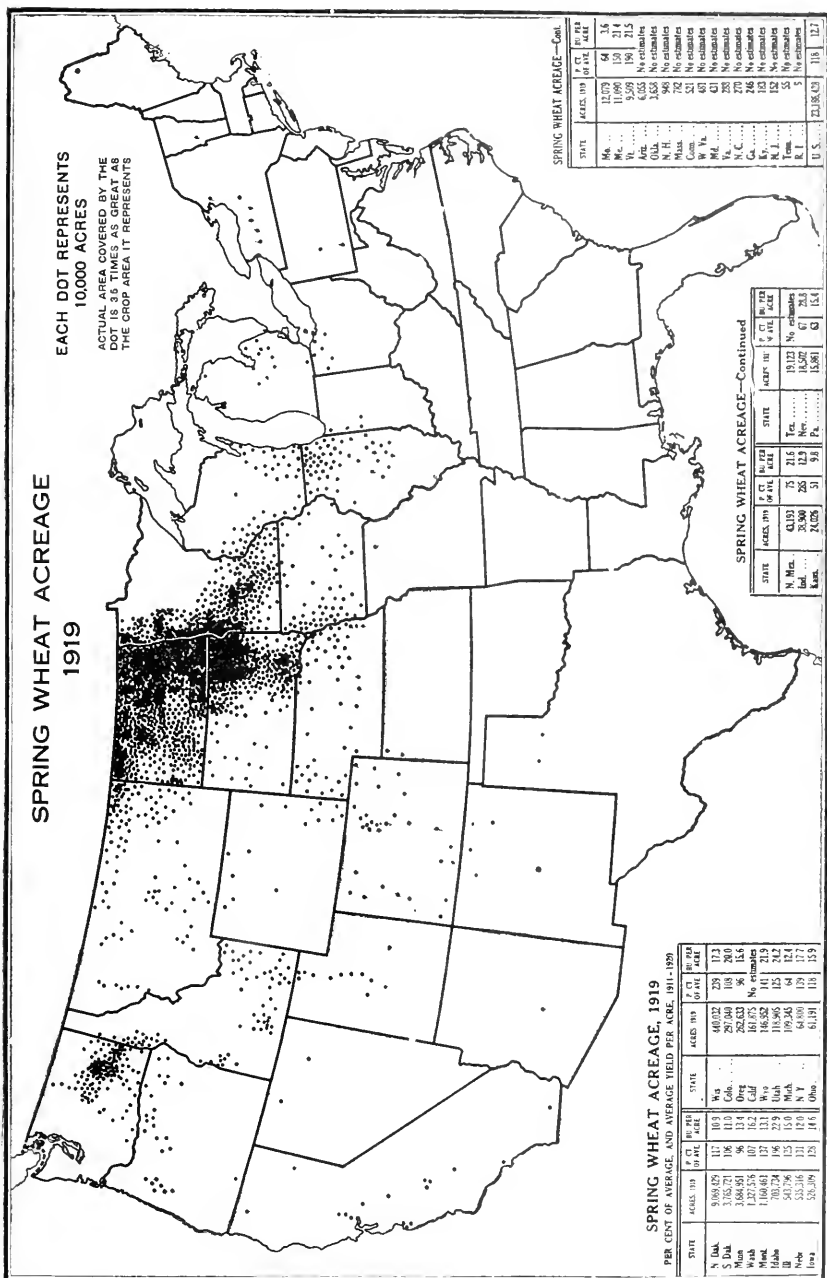


FIG. 30.—About half the acreage of spring wheat in 1919 was in the Spring Wheat Area, where it constituted 40 per cent of the acreage of all crops, and most of the other half was located in the adjoining portion of the Great Plains Region. A secondary but important center of production is located in the subhumid portions of Washington and Oregon. The southern boundary of the Spring Wheat Area is determined largely by the northern boundary of winter wheat, which is, in general, more productive and more profitable where it can be grown. The northern limit of spring wheat is approximately the mean summer temperature of 55°, which is found in the United States only in the western mountains.

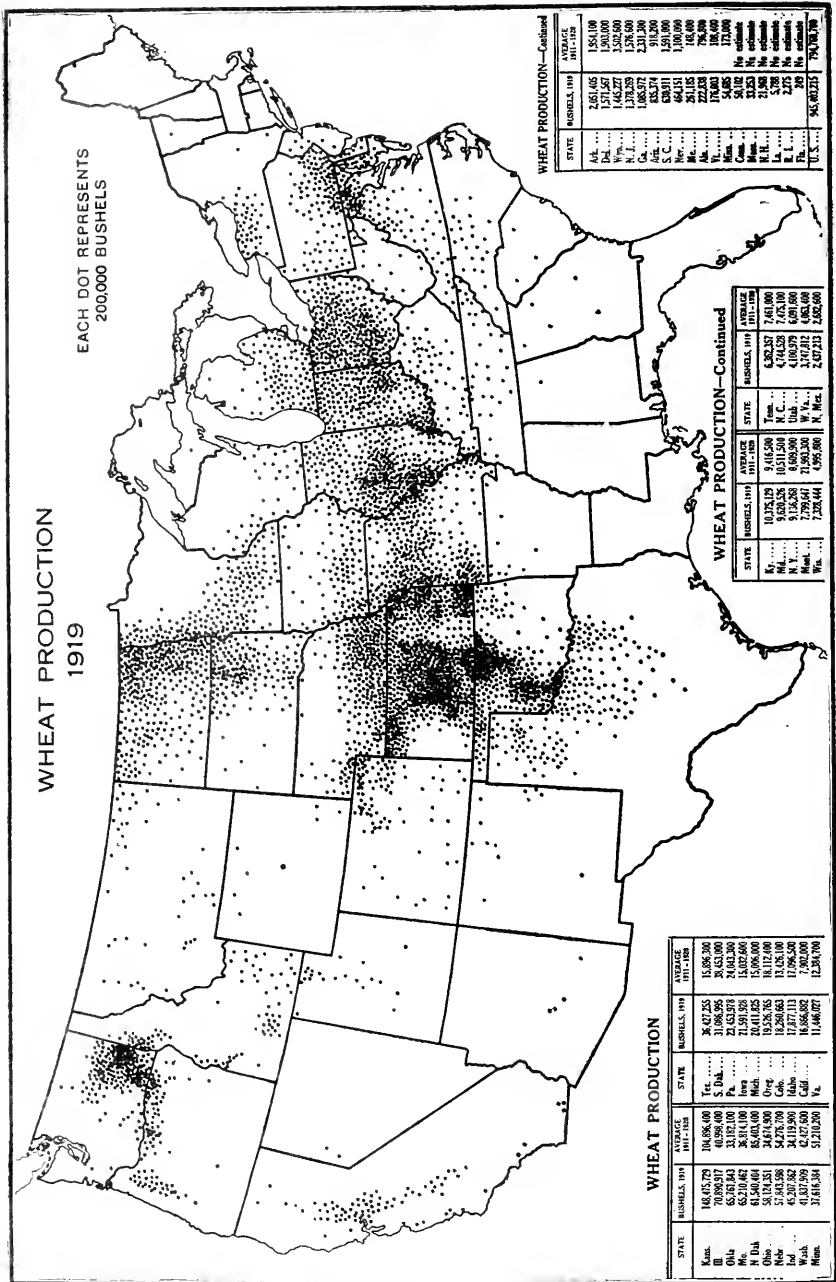


FIG. 31.—The United States produces about one-fifth of the world's wheat, as compared with three-fifths of the world's corn and cotton. The wheat crop of the United States, measured in bushels, is usually from one-fourth to one-third of the corn crop. Half of the wheat crop was grown in six States in 1919. Kansas was the leading State, as usual, but North Dakota, which has often ranked first and is usually second, had a very poor crop in 1919. On the other hand, both acreage and production were unusually large that year in the southern portion of the Corn Belt and northern portion of the Corn and Winter Wheat Region. (See Fig. 2.)

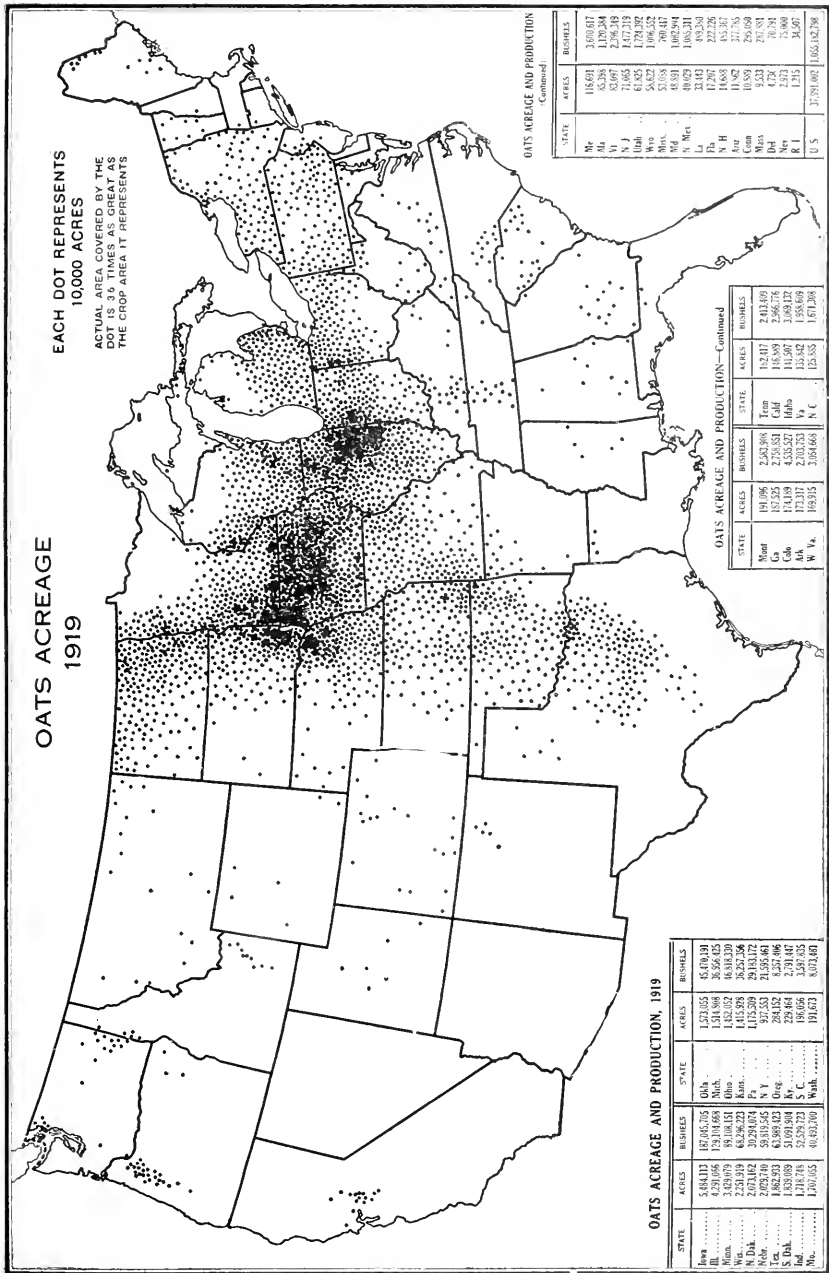


FIG. 32.—The Oat Belt of the United States consists of a crescent-shaped area extending from New England to North Dakota, bounded on the north by the Great Lakes and on the south by the Corn and Winter Wheat Region. An arm extends southwestwardly from this belt across eastern Kansas and Oklahoma to central Texas. Oats prefer a cool, moist climate, and this large acreage in the Corn Belt and southwestwardly is owing more to the need of feed for horses, and of a spring grain nurse crop for clover, than to particularly favorable climatic conditions. In the Southern States most of the oats are fall sown, but in the North the oats are sown in the spring.

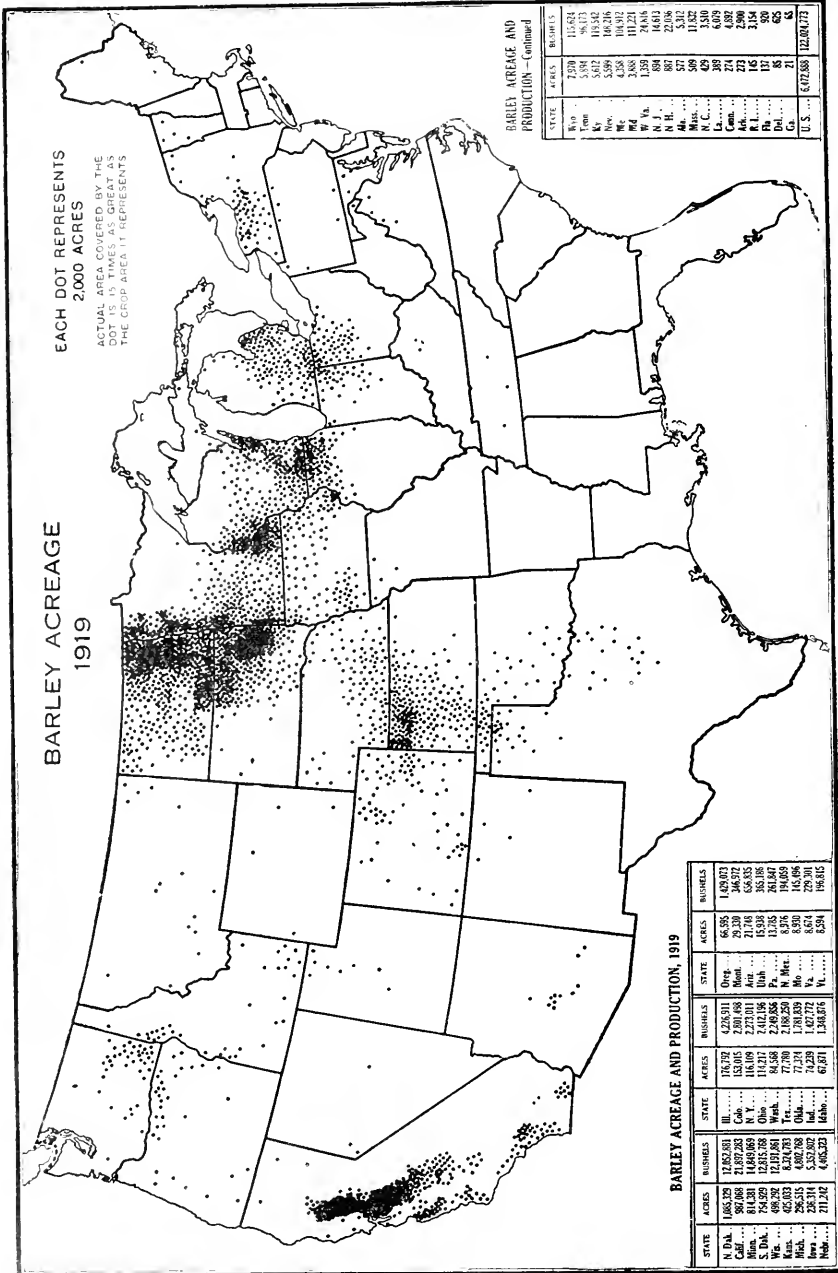
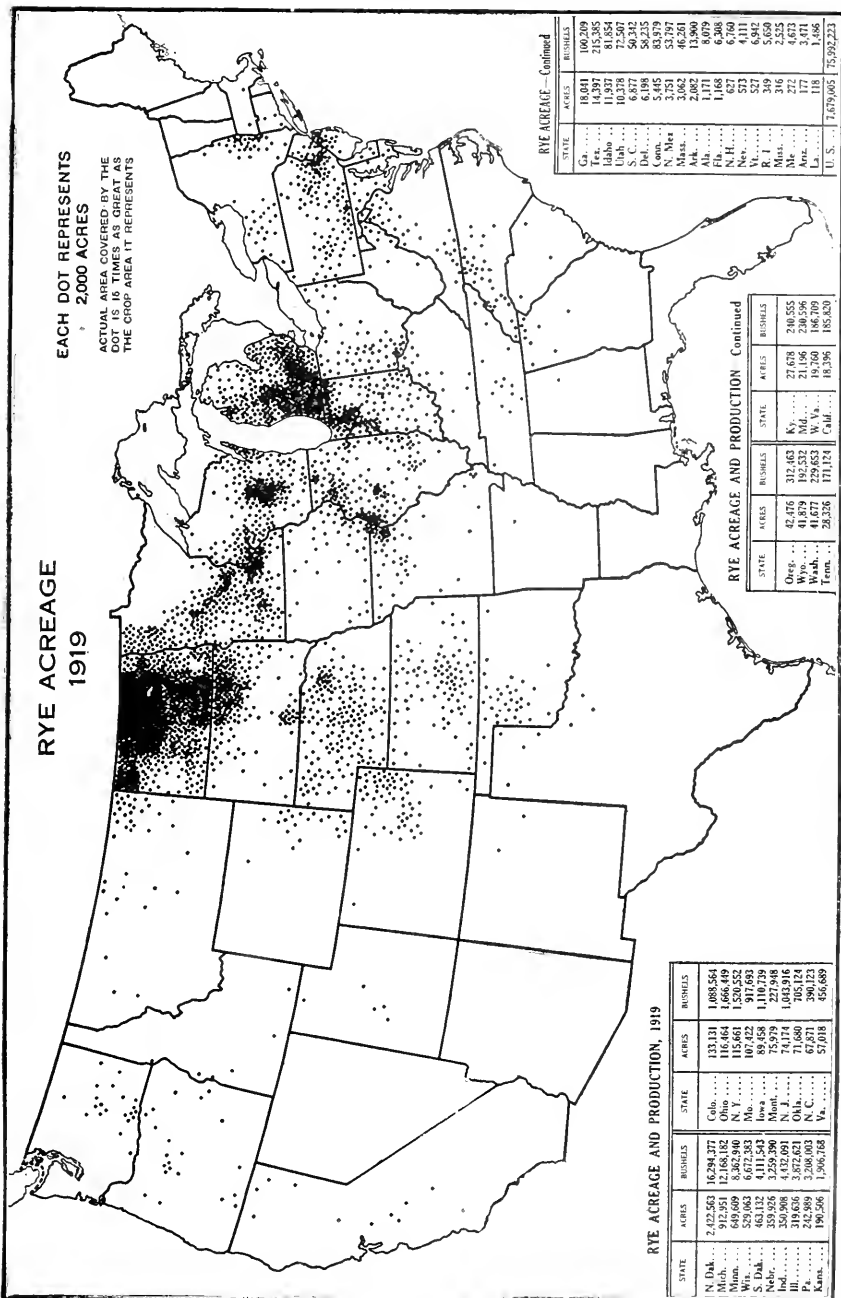


FIG. 33.—It should be noted that a dot on this map represents only one-fifth as much acreage as on the maps of corn, wheat, and oats. Barley is a minor crop in the United States compared with these crops, except in southeastern Wisconsin, southeastern and northwestern Minnesota, the eastern portions of the Dakotas, and the valleys of California. In these five States nearly two-thirds of the Nation's barley acreage is found. Minor centers may be noted on the map in northwestern Kansas, southeastern Michigan, and northwestern New York. These barley districts are characterized by a cool, sunny climate. The crop in California is grown during the winter. Much barley is also sown in California to be cut green for hay (see Fig. 45).



RYE ACREAGE
1919

EACH DOT REPRESENTS
2,000 ACRES

ACTUAL AREA COVERED BY THE
DOT IS 16 TIMES AS GREAT AS
THE CROP AREA IT REPRESENTS

RYE ACREAGE—Continued

| STATE | ACRES | BUSHELS |
|-------|-----------|------------|
| Ca. | 18,041 | 100,209 |
| Tex. | 14,397 | 215,355 |
| Ind. | 13,571 | 100,209 |
| Ill. | 10,328 | 71,507 |
| U.S. | 6,877 | 50,342 |
| Dak. | 6,198 | 58,235 |
| Conn. | 5,465 | 33,979 |
| Mich. | 3,062 | 46,251 |
| Mo. | 2,682 | 13,900 |
| Ark. | 1,171 | 8,079 |
| Ala. | 1,168 | 6,306 |
| N. Y. | 573 | 4,111 |
| Nev. | 527 | 6,942 |
| Vt. | 349 | 346 |
| R. I. | 316 | 5,650 |
| Minn. | 177 | 1,471 |
| Wis. | 177 | 3,471 |
| La. | 118 | 1,486 |
| U. S. | 7,679,005 | 75,922,221 |

RYE ACREAGE AND PRODUCTION Continued

| STATE | ACRES | BUSHELS | STATE | ACRES | BUSHELS |
|-------|--------|---------|--------|--------|---------|
| Ore. | 42,705 | 317,463 | Ky. | 27,629 | 240,555 |
| Wyo. | 41,679 | 182,532 | Md. | 21,196 | 240,596 |
| Wash. | 41,677 | 229,653 | W. Va. | 19,760 | 186,709 |
| Tenn. | 28,236 | 171,124 | Calif. | 18,396 | 185,820 |

RYE ACREAGE AND PRODUCTION, 1919

| STATE | ACRES | BUSHELS | STATE | ACRES | BUSHELS |
|---------|-----------|------------|-------|---------|-----------|
| N. Dak. | 2,422,562 | 16,284,277 | Colo. | 133,131 | 1,088,564 |
| Mich. | 912,951 | 12,168,182 | Ohio | 116,464 | 1,666,449 |
| Minn. | 649,609 | 8,462,940 | N. Y. | 115,661 | 1,520,552 |
| S. Dak. | 463,033 | 6,772,353 | Mo. | 107,422 | 917,693 |
| Nebr. | 359,925 | 3,259,206 | Mont. | 75,978 | 1,077,649 |
| Ind. | 350,908 | 4,432,621 | N. J. | 74,174 | 1,043,916 |
| Ill. | 316,636 | 3,672,621 | Okla. | 71,680 | 705,124 |
| Wis. | 198,599 | 3,208,003 | N. C. | 67,871 | 390,123 |
| Kans. | 186,596 | 1,966,748 | Va. | 57,018 | 556,689 |

FIG. 34.—Rye acreage in North Dakota increased from 48,000 in 1909 to 2,422,000 in 1919. This acreage in North Dakota in 1919 was almost one-third of the total in the United States, although, owing to an unfavorable season, the production was little greater than in Michigan. Rye heretofore has been grown mostly in the sandy sections of the Lake States, and this sudden extension of production onto the subhumid lands of the Spring Wheat and Great Plains regions is an interesting and probably significant development. The acreage of rye in the United States in 1919 was much greater than ever before, exceeding, even, the acreage of barley, but has declined nearly half during the past two years.

1919

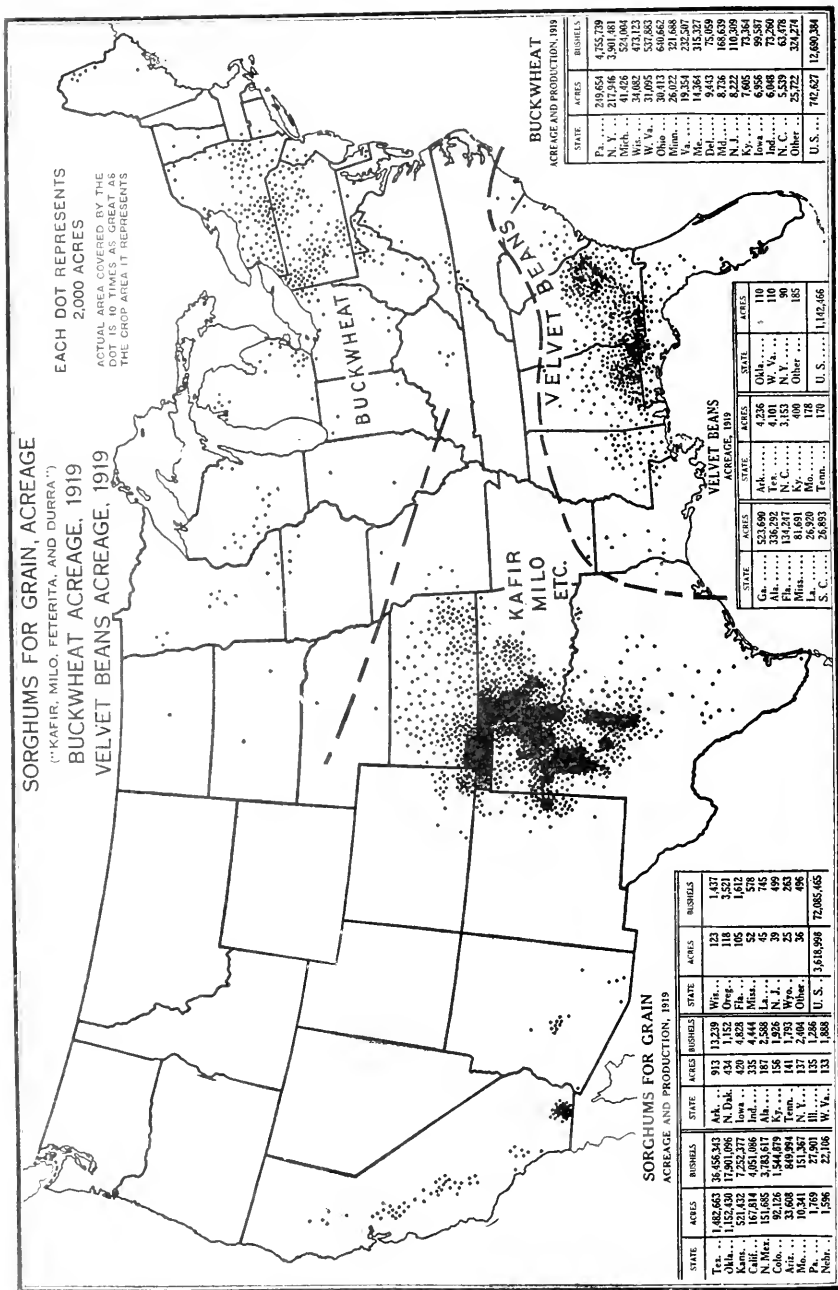


FIG. 35.—The grain sorghums are, perhaps, our most drought-resistant crops. The expansion of acreage during the past two decades in the southern Great Plains area has been extraordinary. From 1899 to 1909 the acreage in the United States increased from 266,000 to 1,635,000, or sixfold, and between 1909 and 1919 it more than doubled. Buckwheat, which is practically confined to the Appalachian area and the Lake States, has decreased slightly in acreage since 1909. It is peculiarly adapted to districts having cool, moist summers and sour soils. The velvet bean, grown as a forage crop, has increased greatly its acreage in the Southeastern States, where the boll weevil has discouraged cotton growers and awakened interest in live-stock production. (See Figs. 22 and 81.)

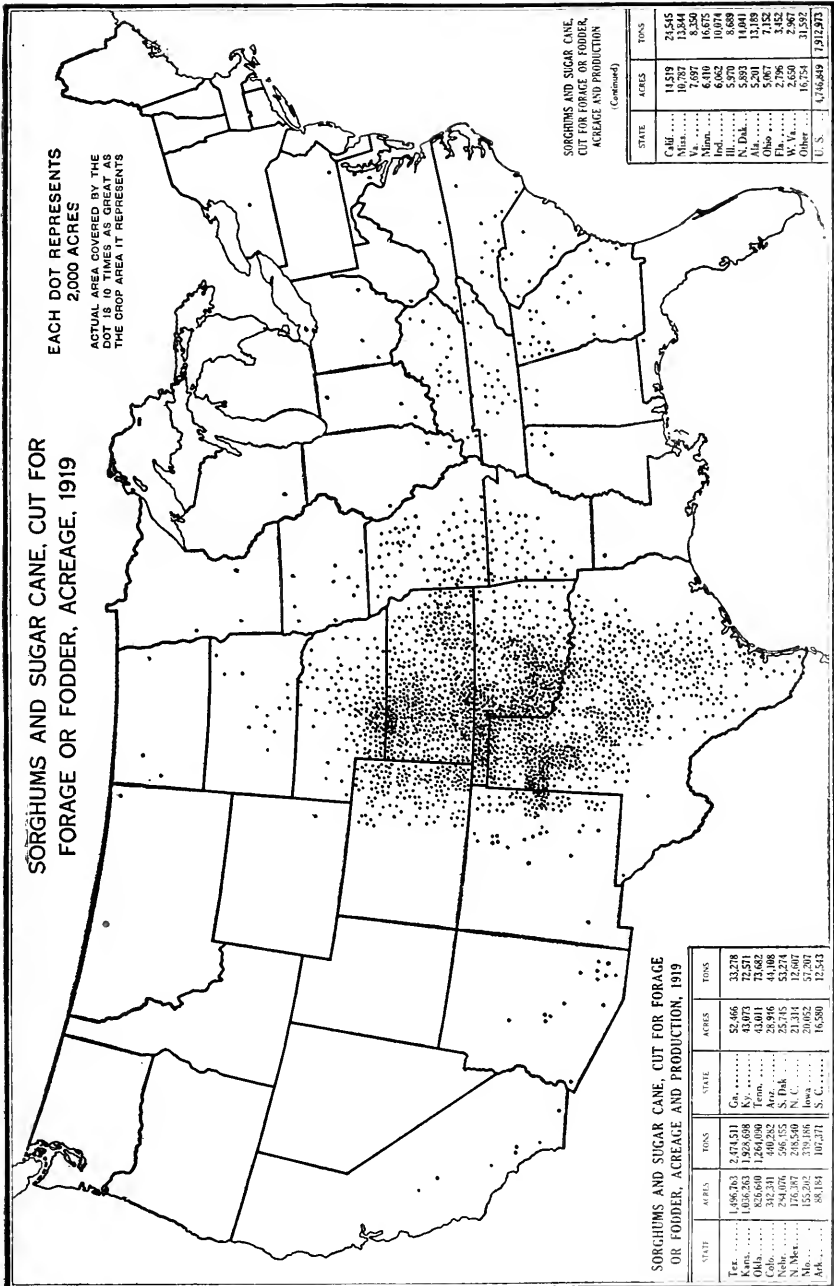


Fig. 36.—The sorghums are grown for forage much farther north than for grain; while the sweet sorghums, which are not commonly grown for grain, are frequently used for forage far to the east in the Cotton Belt and the Corn and Winter Wheat regions. The acreage of sorghums for forage is larger than the acreage for grain, especially in Kansas, where some sorghum is used for silage (see Fig. 25). It is interesting to note that the average yield per acre of sorghum forage was 1.7 tons in 1919, as compared with less than 1 ton per acre for corn in this area, and 1.2 tons for corn in the entire United States. The sorghums, apparently, yield more forage per acre in this semiarid area than corn in the humid regions.

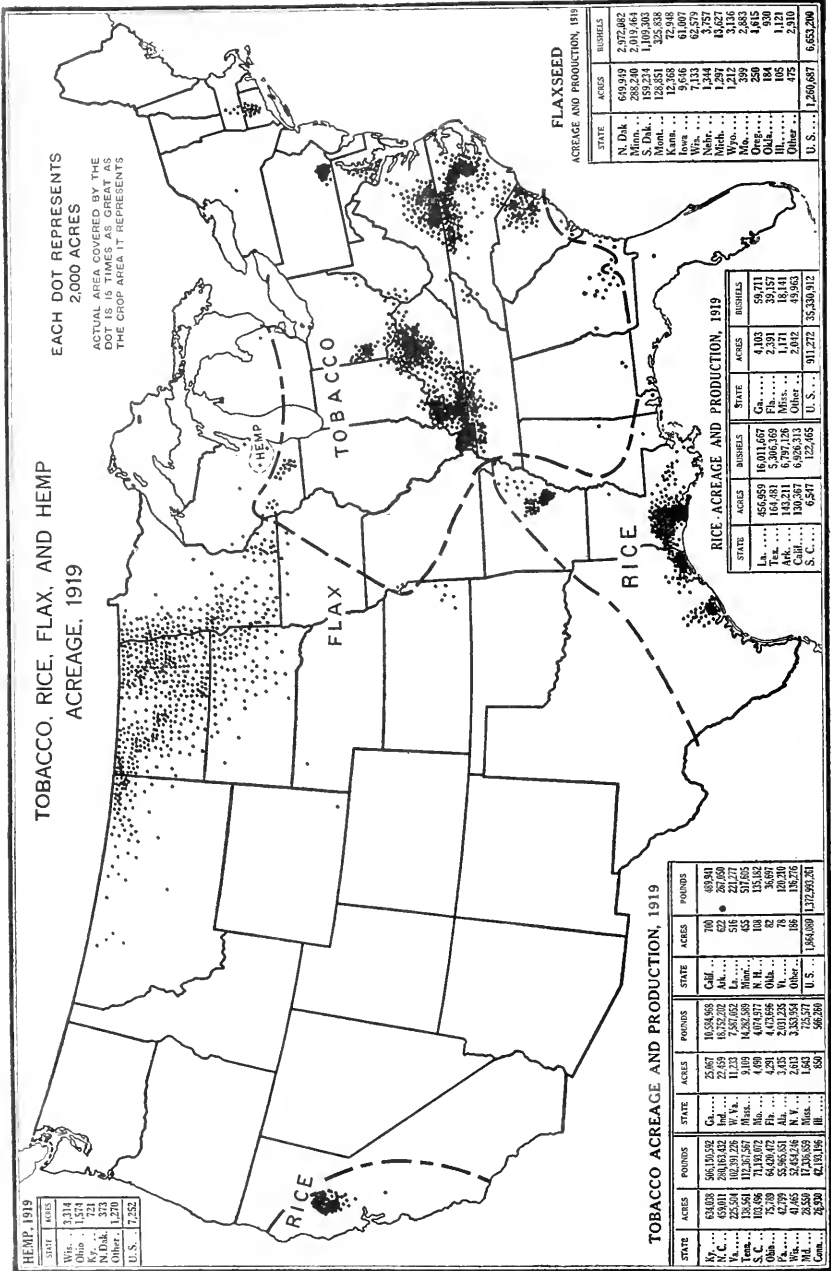


FIG. 37.—Nearly 90 per cent of the tobacco acreage is in six States—Kentucky, North Carolina, Virginia, Tennessee, South Carolina, and Ohio. But there are also important centers of production, especially of certain types, in southern Maryland, in Lancaster County, Pa., in the Connecticut Valley, and in southern Wisconsin. Tobacco is very sensitive to soil conditions, but these requirements vary with the different types.

Rice production is now largely confined to the coastal prairies of Louisiana and Texas, the prairie district of eastern Arkansas, and the flat valley of the Sacramento in California, all areas of heavy subsoils which hold the irrigation water.

Flax is grown in the Spring Wheat and Northern Great Plains Areas. Nearly half of the hemp is raised in Wisconsin.

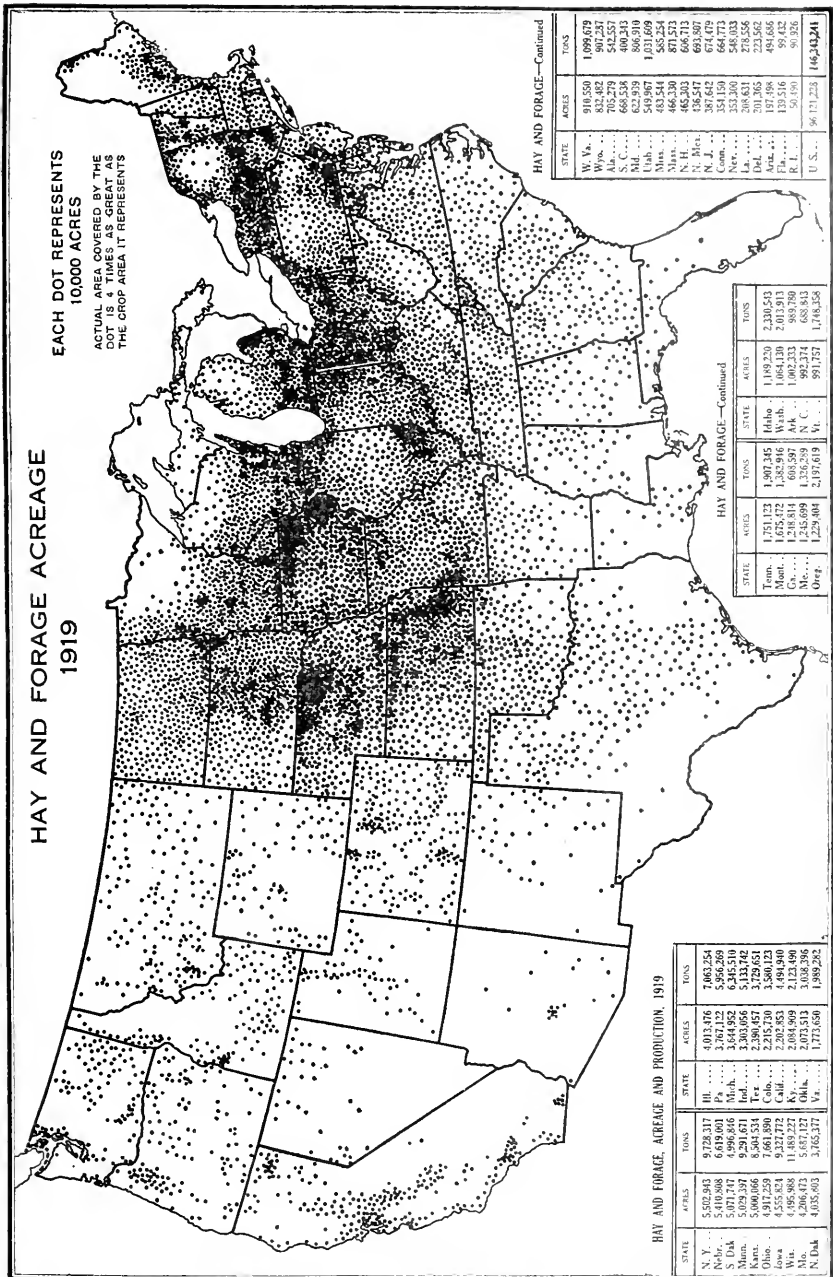


Fig. 38.—This map of hay and forage includes not only the hay crops but also corn and the sorghums cut for silage or fodder and root crops used for forage—13 items in all in the census schedule, of which 8 are shown in the following maps, and 3 have already been shown (figs. 25, 26, and 36). The hay and forage acreage, it will be noted, is largely concentrated in the Hay and Pasture Region and around the margin of the Corn Belt, the greatest State acreage being found in New York and the greatest tonnage production in Wisconsin. Relative to the acreage in crops, however, hay and forage is most important in the Rocky Mountain Region, where it occupies 55 per cent of the crop land.

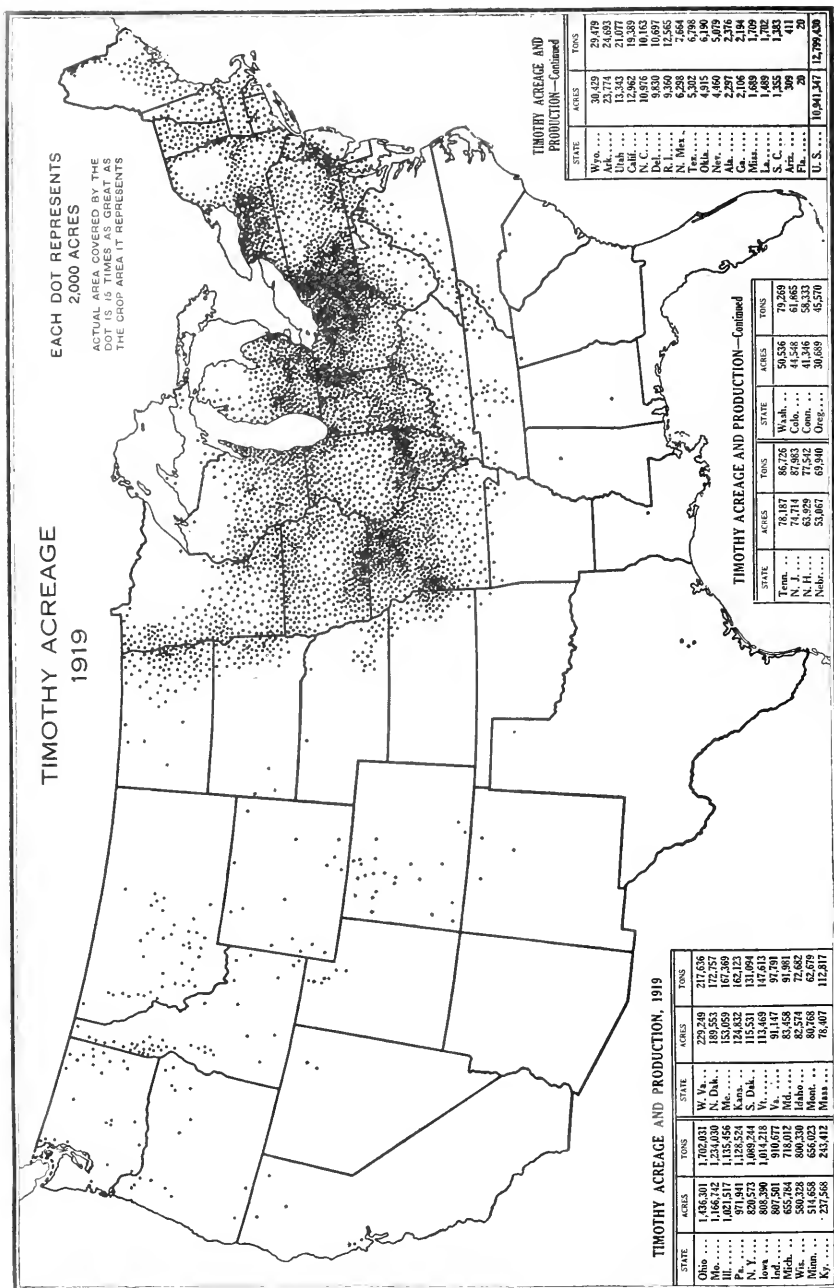


FIG. 39.—Timothy is practically confined to the northeastern quarter of the United States, except for a scattered acreage in the moister districts of the Rocky Mountain Region. The western margin of the timothy acreage in the Dakotas, Nebraska, and Kansas marks the beginning of the "Black-earth" belt, where lime has accumulated in the subsoil, of dense alfalfa acreage, and of dry-farming practices (see Figs. 6, 42, and 103). The southern boundary of timothy follows approximately the line of 200 days in the frost-free season, or 77° mean summer temperature. The districts of densest production in northern Missouri, southern Illinois, eastern Ohio, and western Pennsylvania have, in general, rather heavy and slightly sour soils.

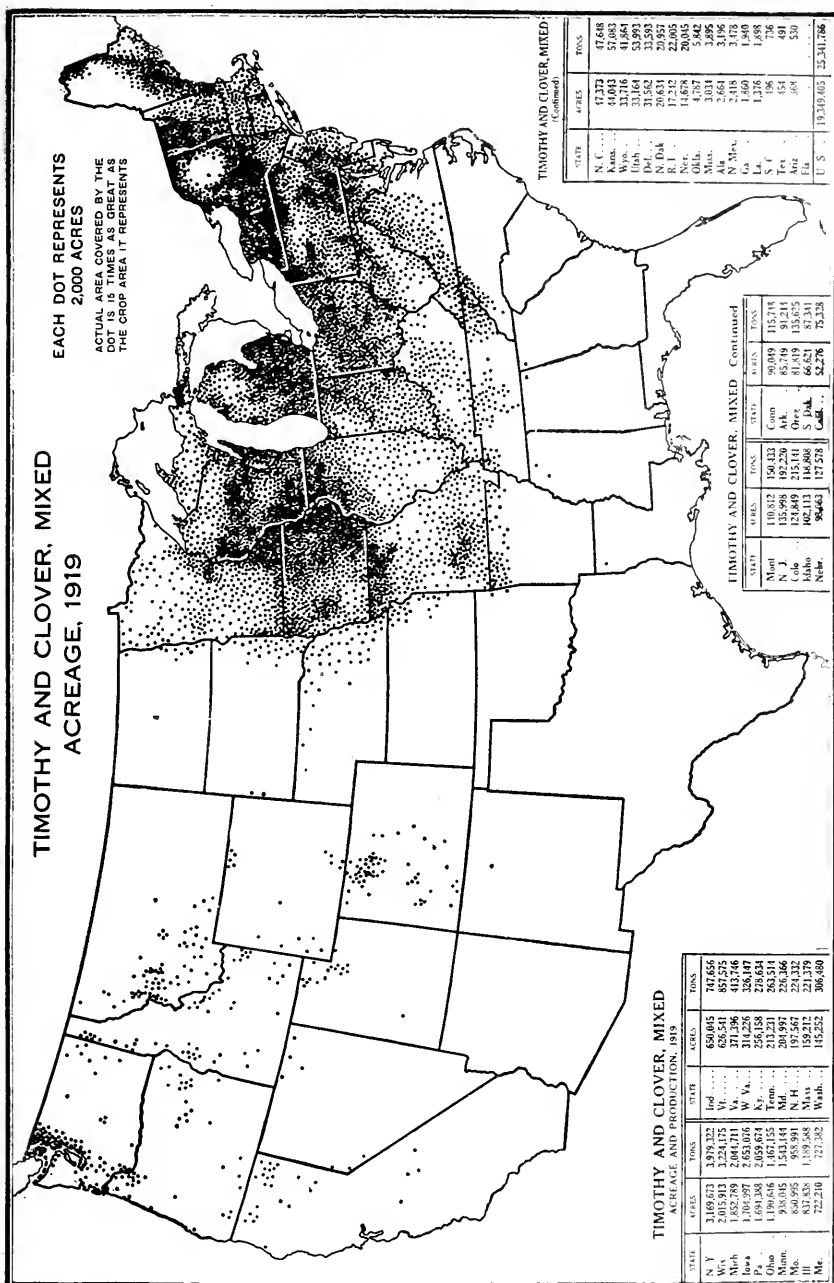


FIG. 40.—The acreage of timothy and clover mixed extends a little farther south and is somewhat more important in the West, especially in the North Pacific Region, than that of timothy alone. Clover is not as well adapted as timothy to heavy or sour soils, consequently, timothy and clover mixed is more important on the better soils—in southeastern Pennsylvania, western Ohio, southern Michigan, northwestern Illinois, and Iowa. In these sections timothy and clover commonly constitute the third year and sometimes the fourth year also, in a rotation, following corn and wheat or oats. About two-thirds of the acreage of timothy and clover mixed is in the Hay and Pasture Region. Compare with map of cotton acreage (Fig. 22) and of clover (Fig. 43).

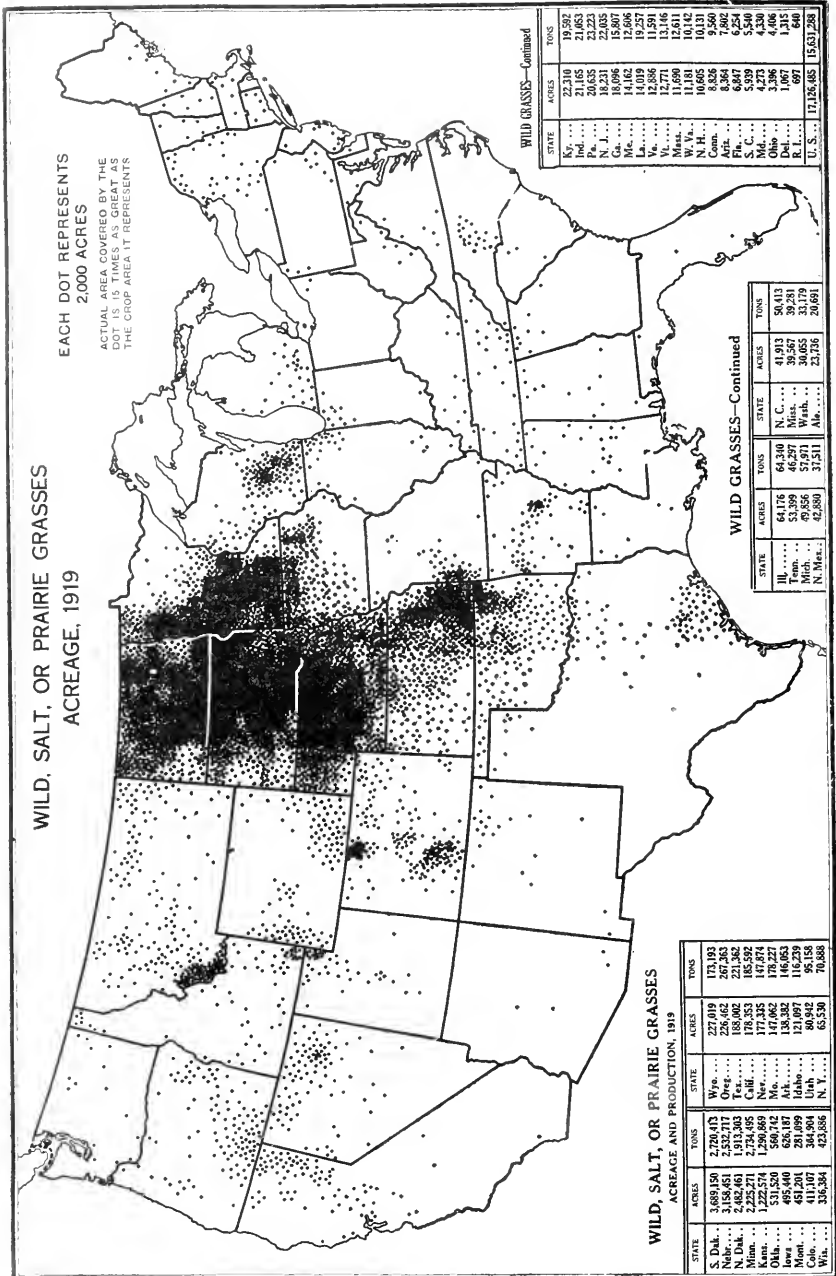


FIG. 41.—The acreage of wild or prairie hay is found mostly in the Spring Wheat Area, the western margin of the Corn Belt and Corn and Winter Wheat Region, and the eastern portion of the Great Plains; in brief, in the northern part of the subhumid belt. East of this belt the moister climate permits the cultivation of timothy and clover, which are more productive (see Figs. 39 and 40); and west of this belt the climate is so dry that the grass normally does not grow high enough to cut (see Figs. 4 and 7). The acreage shown in Wisconsin is mostly marsh hay and that in the Western States is located largely in moist mountain valleys or on high plateaus (see Fig. 3).

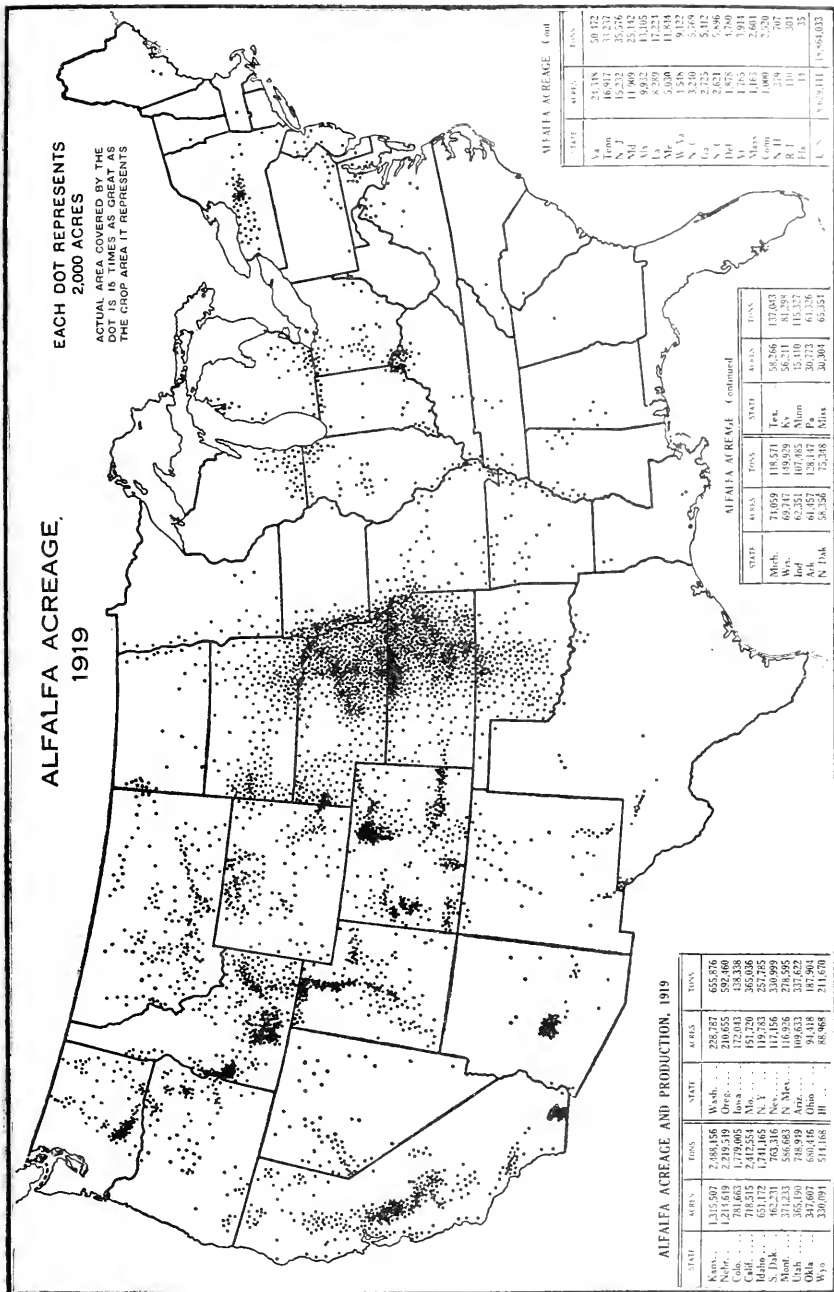


FIG. 42.—Alfalfa demands soils that are not acid, and it is most easily cured in a climate that is not rainy during the summer. Consequently, it thrives best in the Western States, where it is grown mostly under irrigation, and fairly well in the limestone sections of the East, where its culture is increasing rapidly. This increase has been notable in the slightly subhumid section of eastern Kansas and Nebraska, where the acreage has increased over sixfold in the past 20 years. Alfalfa replaces wild hay in this area as the major hay crop. Seven-eighths of the alfalfa acreage is west of the Missouri River (see Figs. 4, 6, and 16).

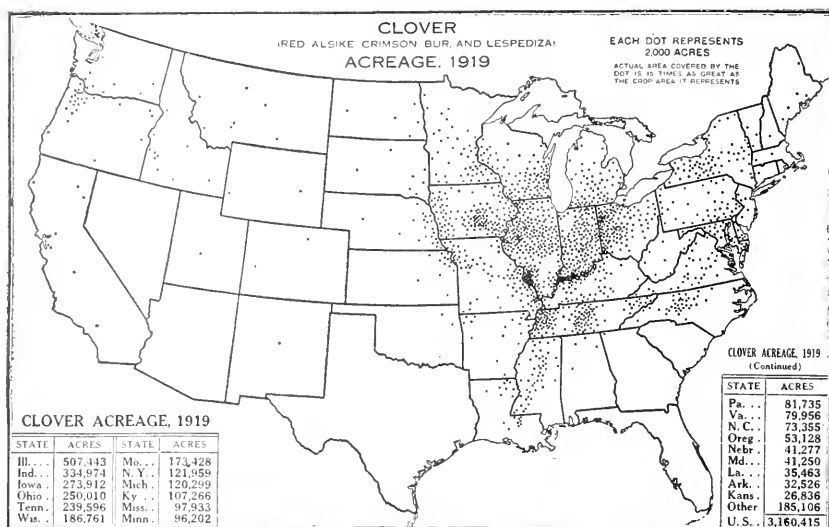


FIG. 43.—This map shows the acreage of clover grown alone (for timothy and clover mixed see Fig. 40). "Clover" may mean red, mammoth, or alsike clover in the Northern and Central States, crimson clover, a very different plant, in the coastal plain of Delaware, Maryland, and Virginia, bur clover in parts of the South, and was specifically stated in the census schedule to include lespedeza. Consequently, the map above, like that of wild hay, includes several different plants, all legumes, however. Most of the clover acreage, it will be noted, is located in the Corn Belt and the Corn and Winter Wheat Region, particularly along the lower Ohio River and up the Mississippi as far as St. Louis. Much of this clover is grown for seed as well as for hay.

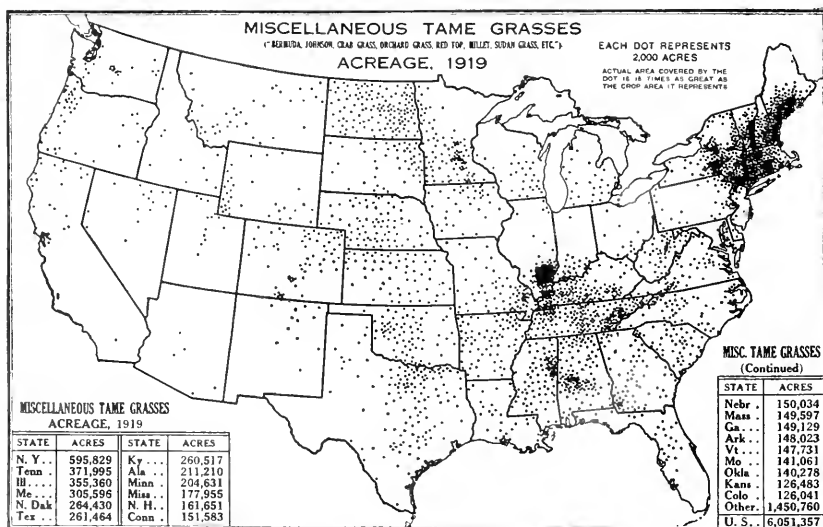


FIG. 44.—This map shows the geographic distribution of the census item entitled "Other tame or cultivated grasses cut for hay." In New England and New York it consists mostly of redbud, quack grass, orchard grass, and Canada blue grass; the dense center in southern Illinois is largely redbud; in the Black Prairie of Alabama and Mississippi, and in general throughout the South, the dots represent Bermuda and Johnson grass principally; while in eastern Tennessee orchard grass and tall rye grass probably constitute most of the acreage shown. The scattered acreage in the States from North Dakota to Texas is almost wholly millet, Sudan grass, or amber cane.

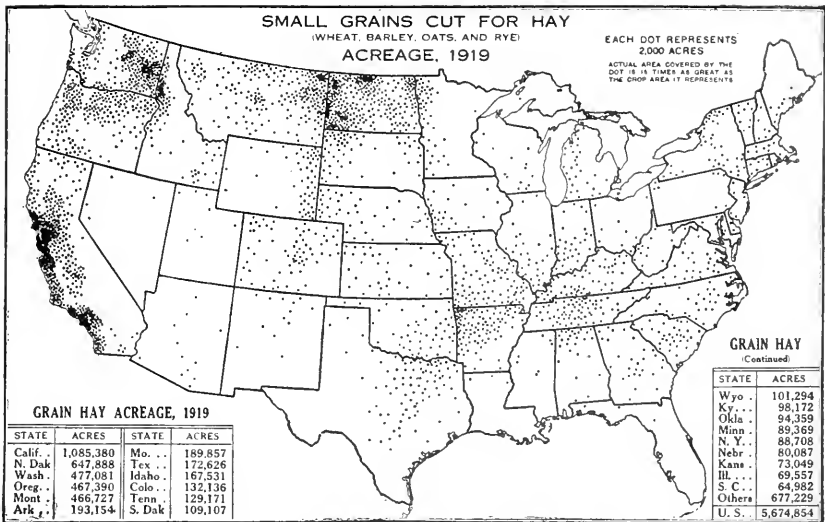


FIG. 45.—The small grains—barley, oats, wheat, and occasionally rye—are cut green for hay, mostly in the Pacific Coast States, where a hay crop is needed which will grow quickly during the cool, moist winters, and which need not survive the long summer drought. In California barley mostly is used, but in Washington and Oregon wheat and oats are more commonly cut for hay. The large acreage shown in North Dakota and eastern Montana is mostly wheat, and is doubtless larger than usual owing to the dry season which caused the crop in much of this area to be scarcely worth threshing.

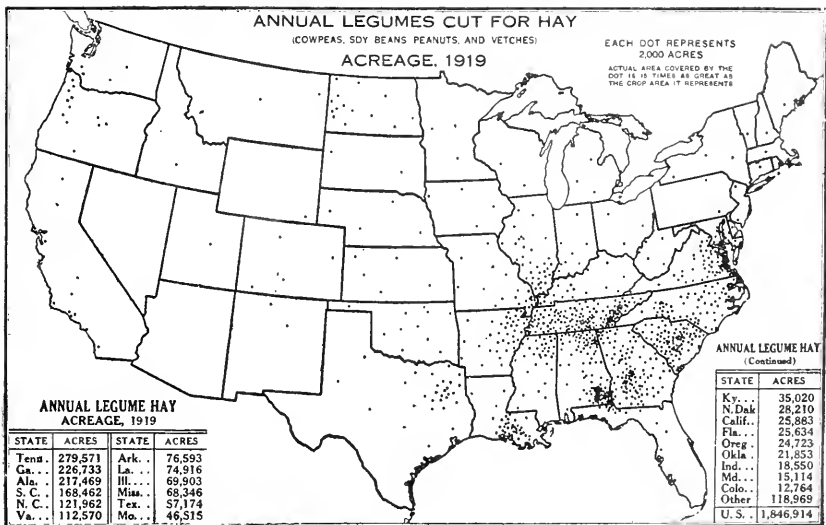


FIG. 46.—“Annual legumes cut for hay” was a new item in the 1920 census schedule, which revealed that nearly 2,000,000 acres of cowpeas, soy beans, and peanuts are cut for hay, mostly in the southeastern quarter of the United States. The dense center in southeastern Alabama and the more widely distributed acreage in Tennessee consist principally of cowpeas. The thinly scattered dots in the North and West are mostly soy beans, except in the North Pacific Region, where vetches are frequently grown for hay. Soy beans can be grown in a much cooler climate than cowpeas or peanuts, and are quite drought resistant.

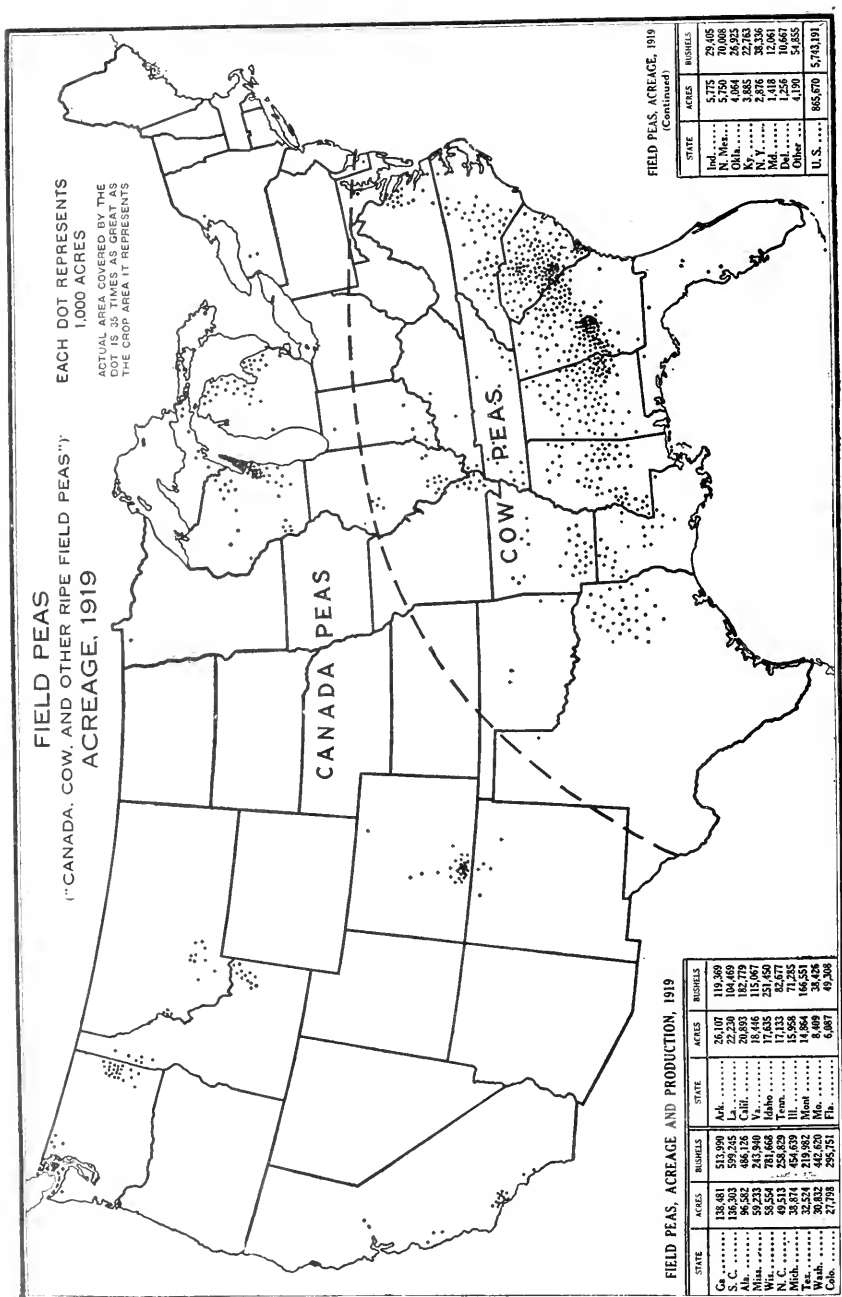


FIG. 47.—This map shows only the acreage of peas allowed to ripen for grain or seed. The acreage of green garden peas, even when grown in the field for canning, is shown in Figure 56. Peas cut for hay or forage are included in "Annual Legumes," Figure 46. Cowpeas, which are more like a bean than a pea, are of importance as a seed crop only on the Piedmont and Upper Coastal Plain of the South, extending as far north as Maryland and central Illinois. Canada peas, which thrive only in a cool climate, are grown mostly in Wisconsin, especially on the heavy soils of the Door Peninsula, in northeastern Michigan, and in the higher or cooler districts of the Rocky Mountain Region.

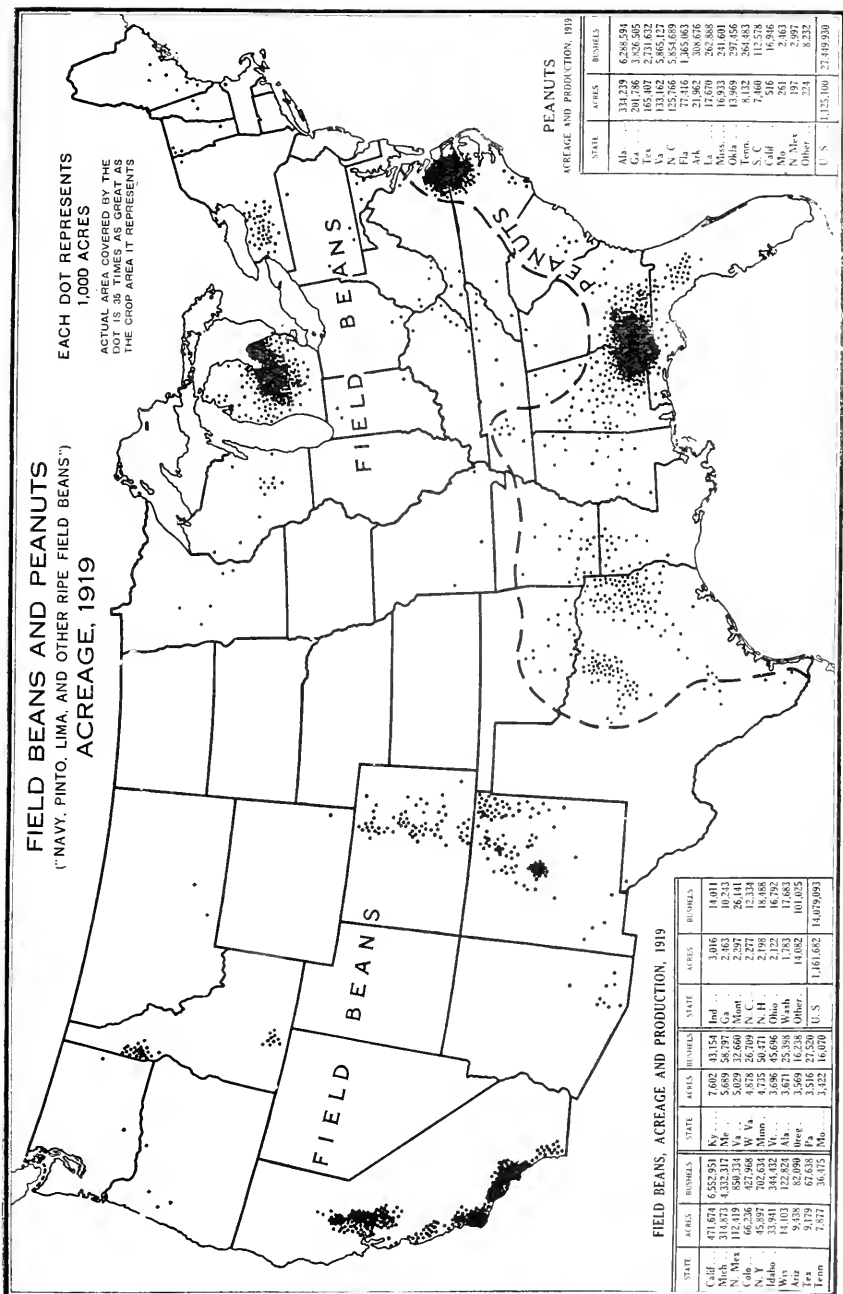


FIG. 48.—Field beans are produced principally in five areas—in western New York and central Michigan, where the leading varieties are white pea, white medium, and red kidney; on the high plains of New Mexico and eastern Colorado, where the native Mexican or pinto bean mostly is grown; in California, where practically the entire commercial crop of limas and nearly half of the crop of white beans is raised; and in Idaho, where both the white and Mexican, also various other varieties, are grown and shipped to all parts of the United States to use as seed.

The acreage of peanuts shown on the map does not include the crop "hogged off" by stock. The peanuts for human consumption are grown mostly in the North Carolina-Virginia district; those grown in Georgia and Alabama are largely fed to hogs or made into peanut butter.

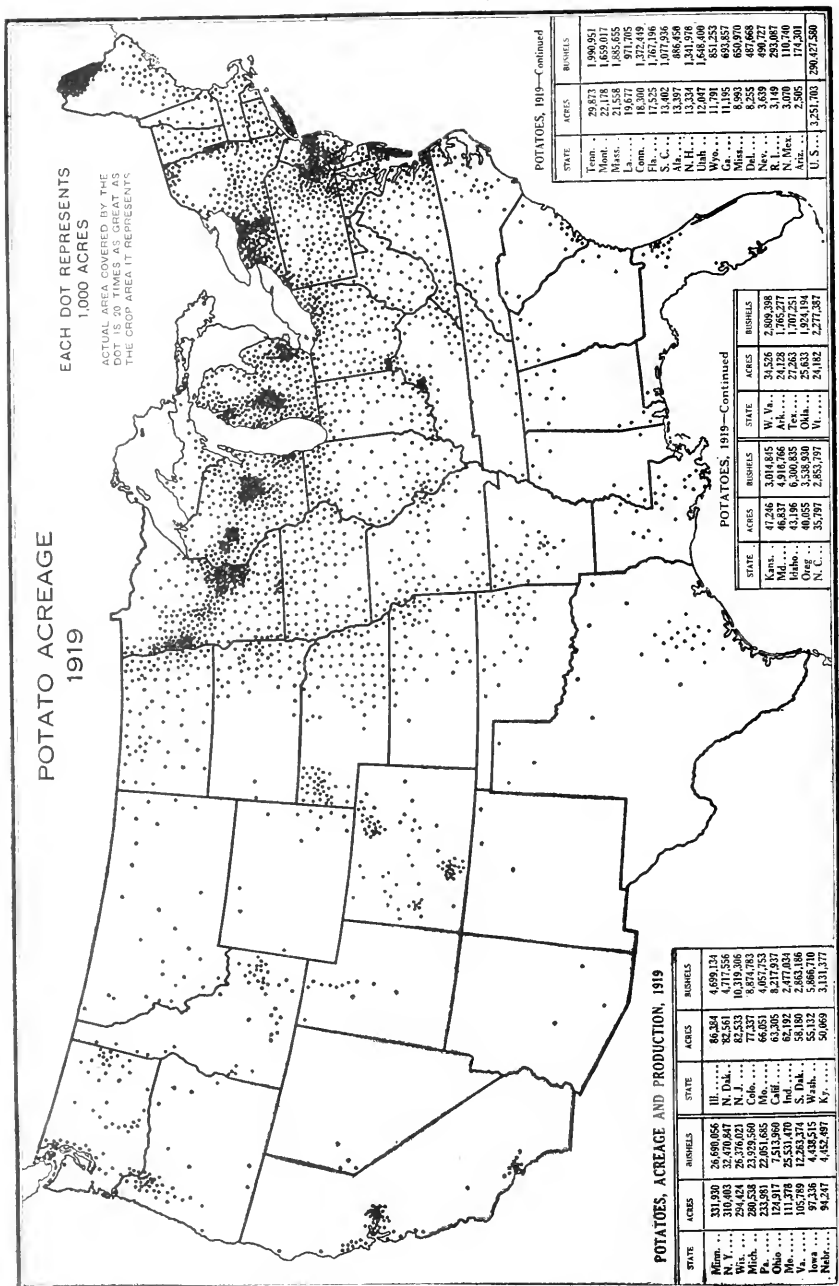


FIG. 49.—The regions of heaviest potato production lie to the north of the Corn Belt. This is due partly to the fact that the quality and yield of potatoes are better in regions of cool climate, and partly to the fact that corn, which requires labor at the same time, is very productive and gives a greater return. Many of the large centers of potato production are in regions of sandy or loamy soils—Aroostook County (Me.), Long Island, New Jersey, eastern Virginia, western Michigan, central Wisconsin, and Anoka County (Minn.). Many of the minor centers of production are located near large cities, since potatoes are a bulky crop, expensive to transport, and can be sold at a profit by local gardeners and farmers in competition with the crop from the large production centers.

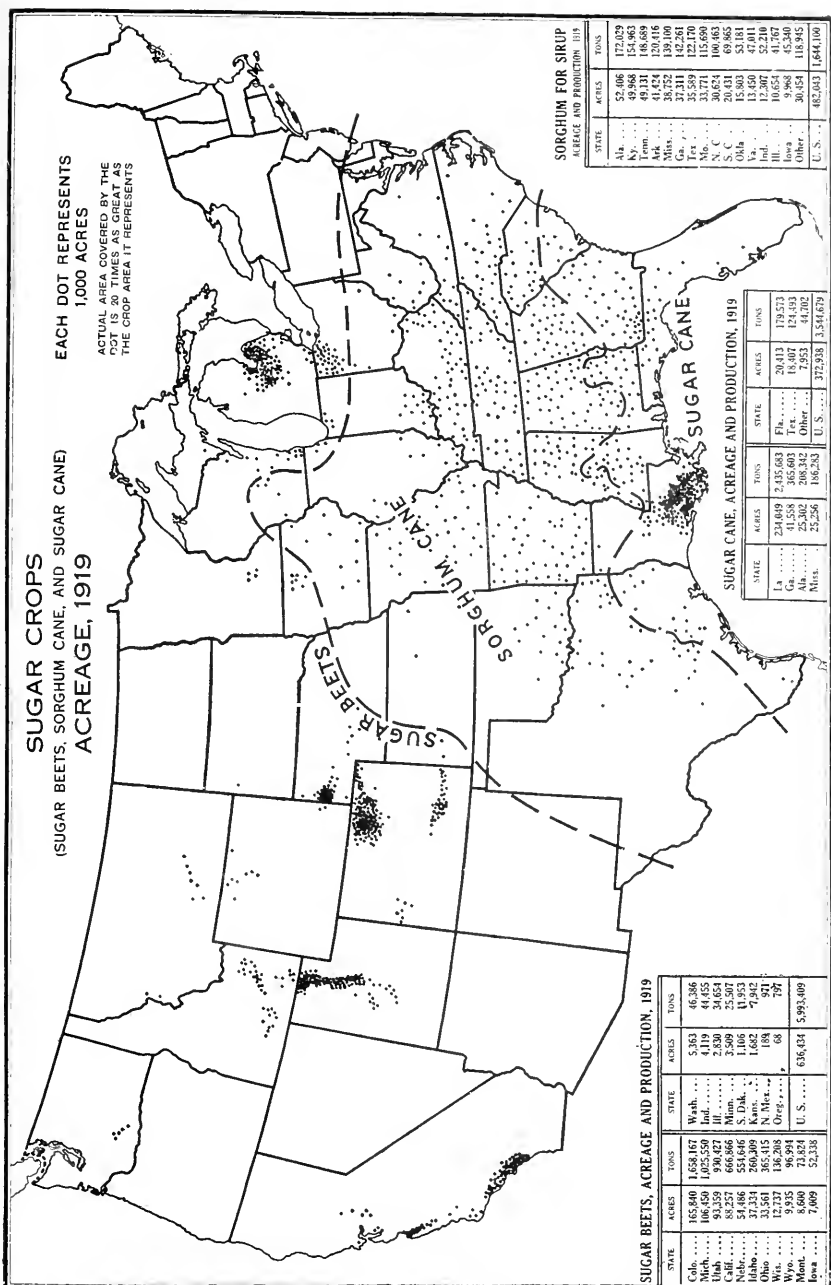


FIG. 50.—The two more important commercial sugar crops are cane and beet. The acreage of sorghum cane is greater than that of sugar cane, but the sirup is mostly made from the sorghum on the farm and does not enter into commerce. Sugar beets do not, in general, show a sufficiently high sugar content to be manufactured profitably where the summer temperature is over 72°, and the beets must also then compete with corn for the farmer's labor. Sugar cane is not grown commercially for sugar outside of the almost frost-free lower Mississippi Delta of Louisiana. The broad belt between the sugar-beet and sugar-cane areas is occupied by a thin and scattered acreage of sorghum cane.

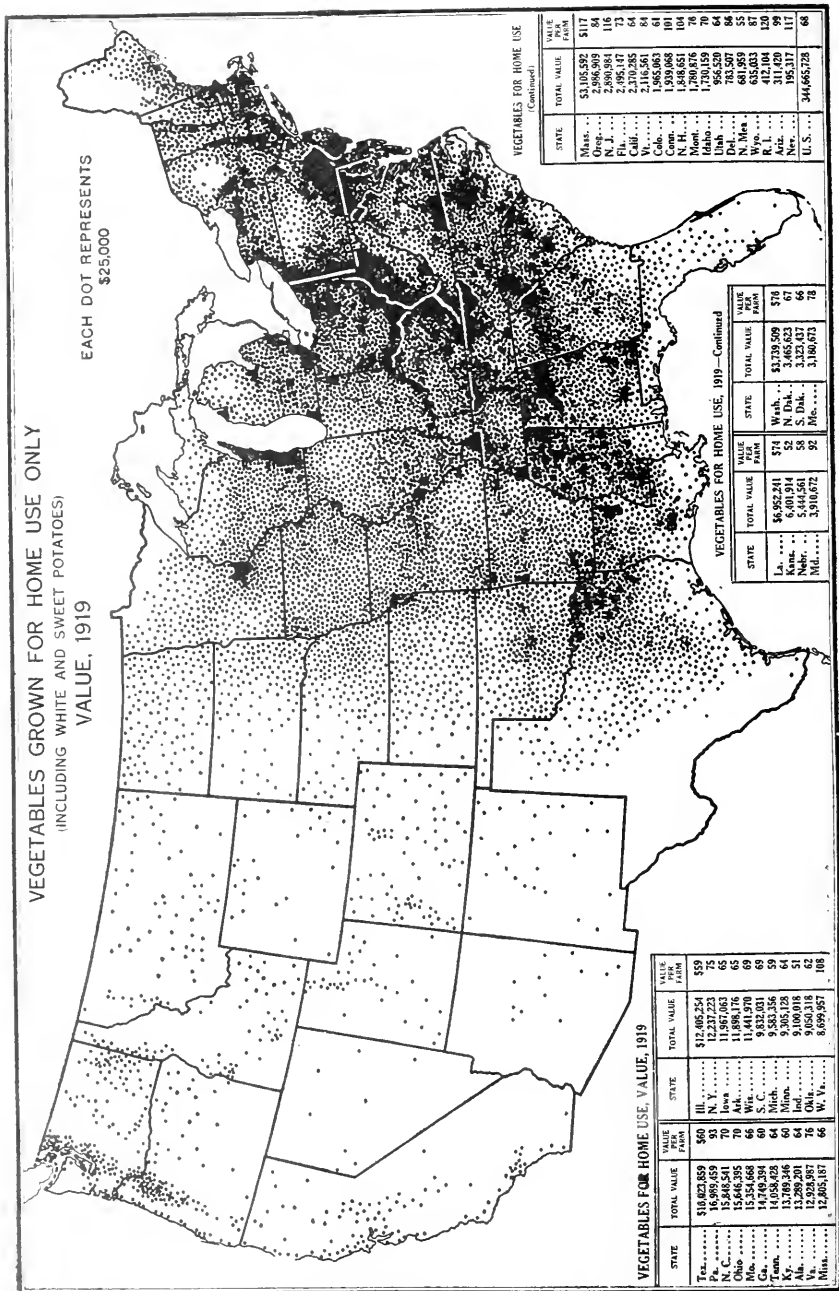


FIG. 51.—The census of 1920 was the first to separate vegetables grown for home use from those grown for sale. The areas of densest production of vegetables for home use are southeastern Pennsylvania, the upper Ohio Valley, the mountainous districts of eastern Kentucky and Tennessee and of northern Alabama, the upper Piedmont of the Carolinas and Georgia, and much of Mississippi, also the Lake Michigan shore counties of Wisconsin, southeastern Michigan, and central New York—areas of small farms owned by frugal people (see Figs. 98 and 99). The average size of the farm garden, however, is apparently, greatest in Virginia and Massachusetts, about one-half acre, and smallest in the prairie and plains States, about one-fifth acre.

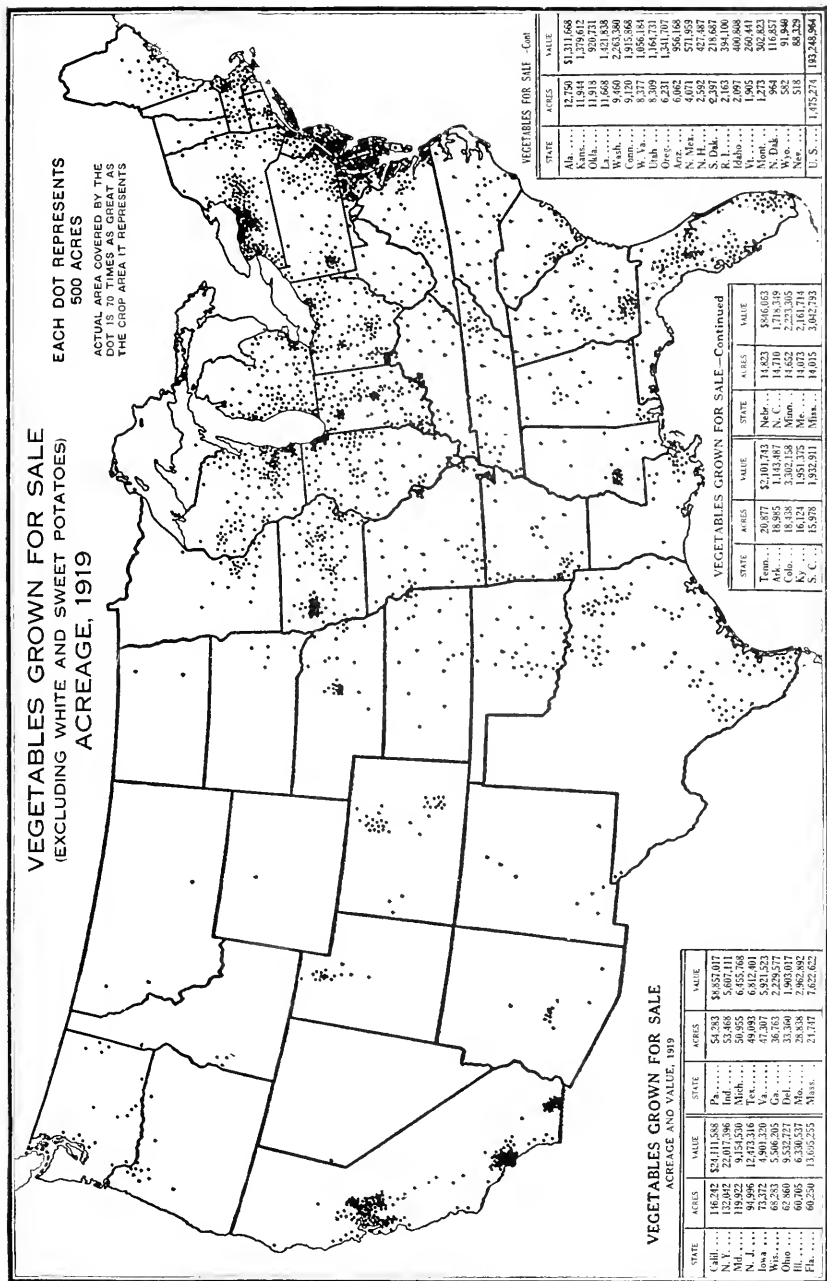


FIG. 52.—The most important area of vegetable production extends from New York City to Norfolk, Va. In this area about one-fifth of the Nation's commercial crop is produced. A second important area extends from Utica, N. Y., west to Buffalo and Erie. Another belt surrounds the southern half of Lake Michigan. Florida and southern Georgia, where perhaps one-third of the winter vegetables are grown, may be said to constitute a fourth area. California possesses three important areas—the Sacramento-Stockton district, the Los Angeles district, and the Imperial Valley. In California also the winter crop is important. Smaller centers of production adjoin most of the large cities. The centers shown in western Iowa and Nebraska represent pop corn.

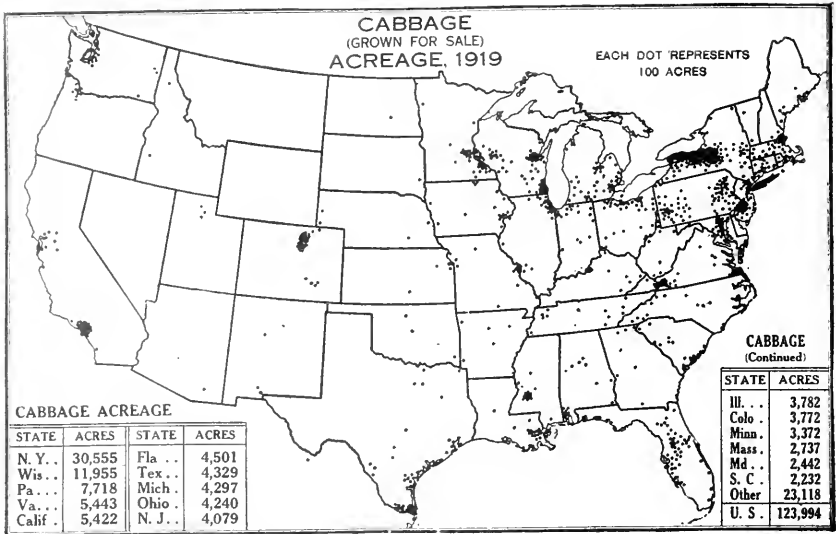


FIG. 53.—The principal cabbage-producing districts are in the North, the largest being the belt of counties in New York from Buffalo to Syracuse. In this district nearly one-quarter of the Nation's acreage is found, mostly on the muck lands and the Clyde series of soils. Other important districts are Long Island, N. Y.; Burlington and Gloucester Counties, N. J.; around Norfolk and in Wythe County, Va.; along Lake Michigan from Chicago to Milwaukee; in Green Bay County, Wis.; around Denver, Colo., and Los Angeles, Calif. Early cabbages are raised mostly in Florida, in the Young's Island (S. C.) district, in Copiah County, Miss., and in southern Texas.

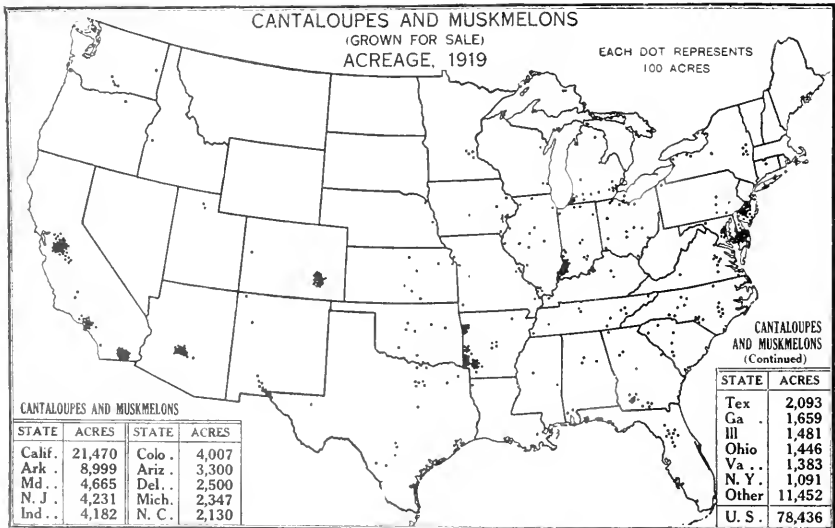


FIG. 54.—The principal cantaloupe-producing districts are now located in the West, California having over one-quarter of the Nation's acreage. The most important western districts are in Stanislaus (Turlock district), Los Angeles, and Imperial Counties, Calif.; in the Salt River Valley (Phoenix district) of Arizona; and the Arkansas Valley (Rocky Ford Ordway district) of Colorado. In these five districts nearly 40 per cent of the Nation's acreage was found in 1919. Arkansas ranked next to California in acreage, the principal districts being located in Hempstead and Sevier Counties. Other important districts are Gibson and Knox Counties in Indiana, Sussex in Delaware, Gloucester in New Jersey, and Mitchell County (Pelham district), Ga.

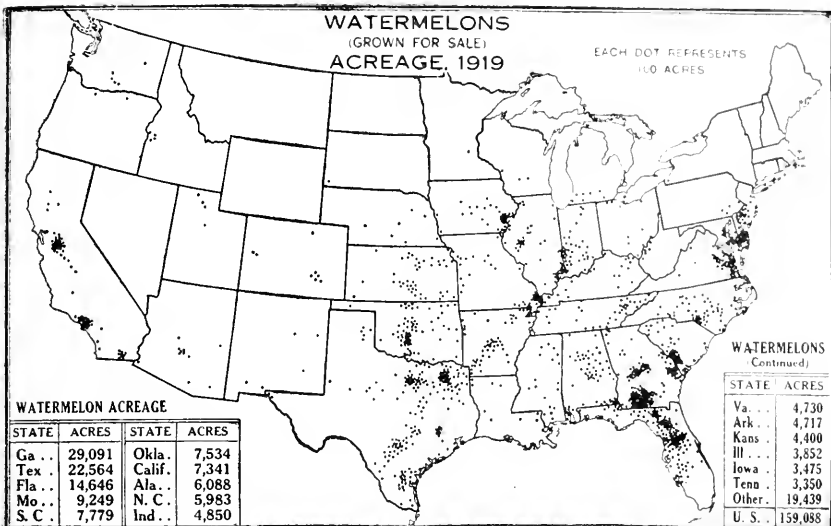


FIG. 55.—The principal watermelon-producing districts are in the South, Georgia and Texas having nearly one-third of the Nation's acreage. The most important districts in Georgia center around Valdosta and Thomasville, and in Texas around Sulphur Springs. Florida ranks next in importance, but the acreage is more scattered. There is an important center in Barnwell and Hampton Counties, S. C., in Scotland County, N. C., and a less dense acreage along both shores of Chesapeake Bay in Virginia and Maryland. Dunklin and Scott Counties in southeastern Missouri are other important districts, also Grady County, Okla., and Stanislaus and Los Angeles Counties, Calif.

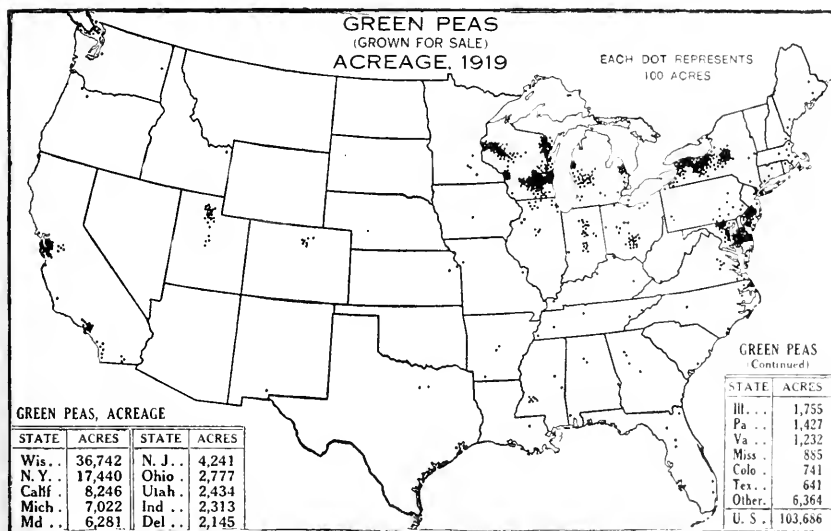


FIG. 56.—Green peas, like cabbages, are a cool-climate crop, but in pea production Wisconsin is more important than New York, having, indeed, one-third of the Nation's acreage. The Wisconsin districts include Columbia, Dodge, Green Lake, Sheboygan, and Washington Counties in the southeast, Barron and Chippewa Counties in the northwest, and Marinette and Oconto in the northeast. The New York district, which ranks next in importance, extends from Buffalo to Utica. Eastern Maryland and Delaware rank third in importance, followed by California (San Francisco Bay district) and Michigan. A small acreage is found in southern New Jersey, and in the Salt Lake district and Jordan Valley of Utah.

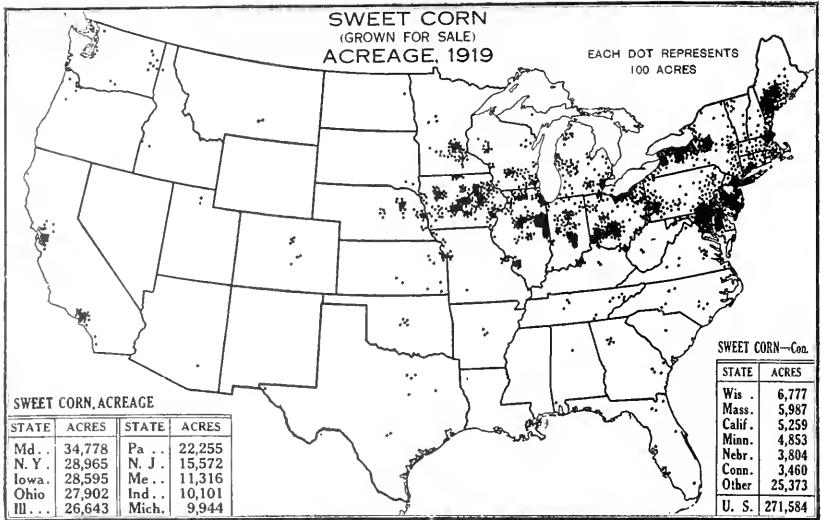


FIG. 57.—Sweet corn is primarily an eastern, middle-latitude crop, but it is extensively grown also in New York and New England, owing in large measure to the excellent quality produced, and the fact that it need not mature. Maryland ranks first in acreage, followed by New York, Iowa, Ohio, Illinois, and Pennsylvania in close succession. New Jersey, relative to its area, has a large acreage. The acreage in these States is concentrated in a few counties, as can be seen on the map. It is interesting to note that although there is almost no corn grown for grain in Maine or California (see Fig. 24), there is a considerable acreage of sweet corn in these States.

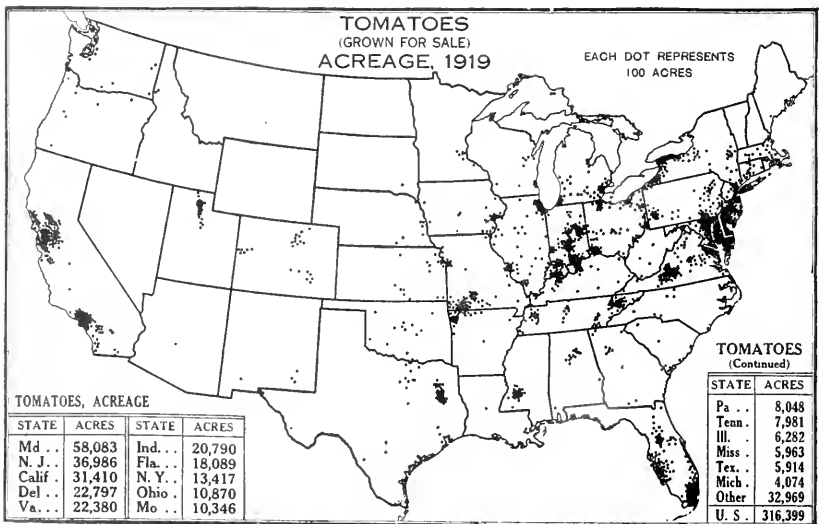
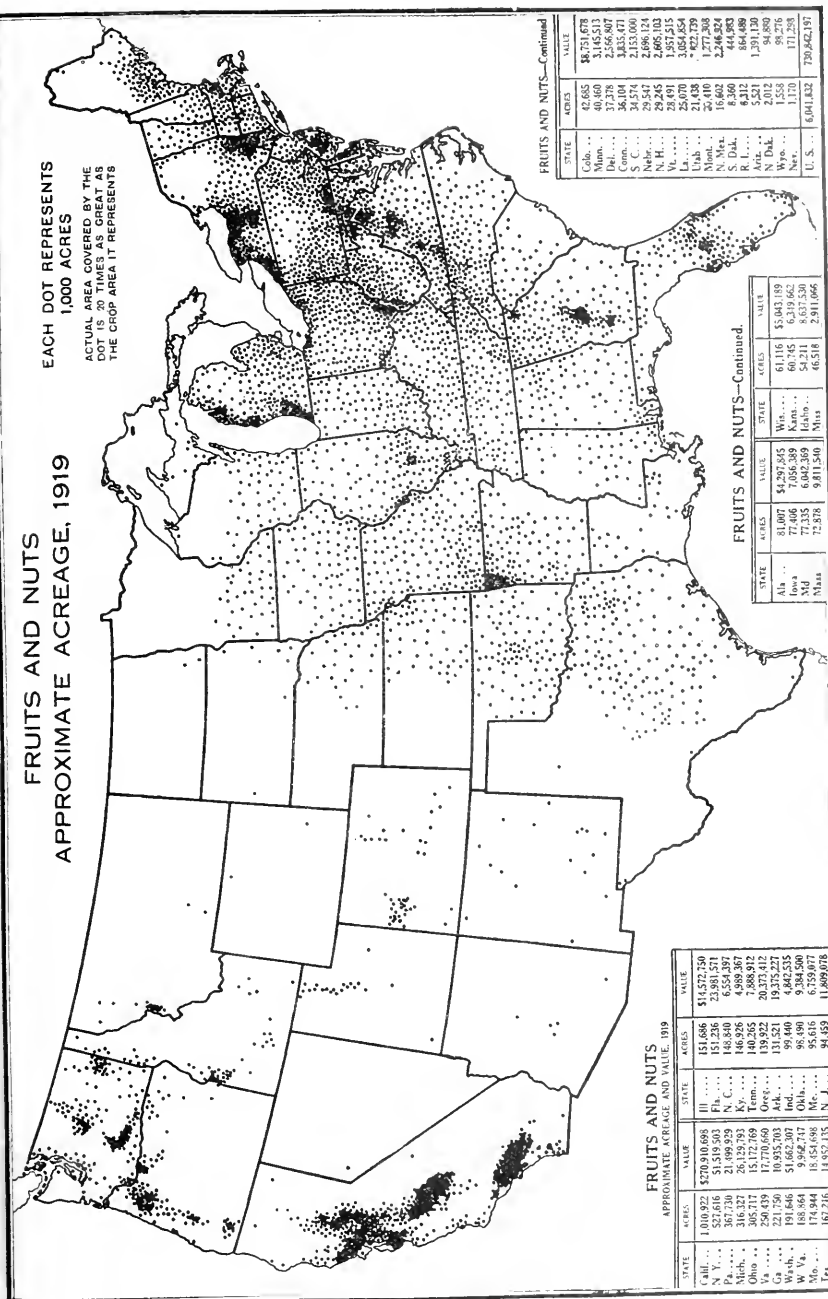


FIG. 58.—Tomatoes are grown for sale in almost all parts of the United States, except in the Spring Wheat, Northern Great Plains and Arid Intermountain Plateau regions. The eastern Maryland, Delaware, and southern New Jersey districts include over one-third of the Nation's acreage, and the Los Angeles and San Francisco Bay districts in California about one-tenth. Virginia and Indiana rank next in importance, followed by Florida, which produces most of the winter crop. Other important early-tomato districts are located in Covich County, Miss., and Cherokee County, Tex. Tomatoes lead all the vegetables grown for sale in the United States (other than potatoes and sweet potatoes), both in acreage and value.

FRUITS AND NUTS
APPROXIMATE ACREAGE, 1919

EACH DOT REPRESENTS
1,000 ACRES
ACTUAL AREA COVERED BY THE
DOT IS 20 TIMES AS GREAT AS
THE CROP AREA IT REPRESENTS



FRUITS AND NUTS
APPROXIMATE ACREAGE AND VALUE, 1919

| STATE | ACRES | VALUE | STATE | ACRES | VALUE |
|----------------|-----------|---------------|---------------|------------|--------------|
| Calif. | 1,010,922 | \$270,910,698 | Ill. | 151,686 | \$13,272,760 |
| Pa. | 357,276 | 31,398,929 | Pa. | 31,398,929 | 31,398,929 |
| Pa. | 357,276 | 31,398,929 | N. C. | 183,840 | 6,554,397 |
| Mich. | 316,327 | 26,129,793 | Ky. | 146,926 | 4,989,367 |
| Ohio | 308,717 | 15,172,769 | Tenn. | 140,265 | 7,888,672 |
| Va. | 250,439 | 17,770,660 | Oreg. | 139,922 | 20,372,237 |
| W. Va. | 191,644 | 51,662,307 | Ind. | 99,440 | 4,842,535 |
| W. Va. | 191,644 | 51,662,307 | Okla. | 98,490 | 9,384,500 |
| Mo. | 174,944 | 18,454,698 | Okla. | 98,490 | 9,384,500 |
| Mo. | 174,944 | 18,454,698 | N. J. | 94,659 | 11,899,078 |
| Tex. | 162,216 | 14,952,135 | N. J. | 94,659 | 11,899,078 |

FRUITS AND NUTS—Continued.

| STATE | ACRES | VALUE | STATE | ACRES | VALUE |
|---------------|--------|-------------|---------------|--------|-------------|
| Ala. | 81,007 | \$4,297,845 | Wis. | 61,116 | \$5,043,199 |
| Miss. | 77,356 | 6,092,369 | Ark. | 58,211 | 8,637,530 |
| Miss. | 77,356 | 6,092,369 | Ark. | 58,211 | 8,637,530 |
| Miss. | 77,356 | 6,092,369 | Miss. | 46,514 | 2,911,066 |
| Miss. | 77,356 | 6,092,369 | Miss. | 46,514 | 2,911,066 |

FRUITS AND NUTS—Continued

| STATE | ACRES | VALUE | STATE | ACRES | VALUE |
|-----------------|--------|-------------|-----------------|-----------|-------------|
| Calif. | 42,685 | \$4,751,678 | W. Va. | 25,079 | 1,051,654 |
| Mich. | 40,460 | 3,145,513 | W. Va. | 25,079 | 1,051,654 |
| Del. | 36,100 | 1,838,471 | Utah | 21,638 | 1,277,308 |
| S. C. | 34,574 | 2,153,060 | Utah | 21,638 | 1,277,308 |
| Ariz. | 29,547 | 2,696,124 | N. Mex. | 16,602 | 2,746,824 |
| N. H. | 29,265 | 2,695,102 | N. Mex. | 16,602 | 2,746,824 |
| Va. | 25,079 | 1,051,654 | R. Dak. | 6,211 | 1,391,120 |
| Utah | 21,638 | 1,277,308 | R. Dak. | 6,211 | 1,391,120 |
| N. Mex. | 16,602 | 2,746,824 | N. Dak. | 5,521 | 94,889 |
| N. Mex. | 16,602 | 2,746,824 | N. Dak. | 5,521 | 94,889 |
| R. Dak. | 6,211 | 1,391,120 | Wys. | 1,553 | 95,276 |
| R. Dak. | 6,211 | 1,391,120 | Wys. | 1,553 | 95,276 |
| N. Dak. | 5,521 | 94,889 | N. J. | 1,110 | 11,253 |
| N. Dak. | 5,521 | 94,889 | N. J. | 1,110 | 11,253 |
| Wys. | 1,553 | 95,276 | U. S. | 6,041,832 | 739,262,197 |
| Wys. | 1,553 | 95,276 | U. S. | 6,041,832 | 739,262,197 |

Fig. 59.—California contributed over one-sixth of the Nation's acreage of fruits and nuts in 1919 and over one-third of the value. The district in southern California consists mostly of citrus fruits, walnuts, and apricots (see figs. 68 and 69); the central (San Joaquin Valley) district, of raisin grapes, peaches, and apricots, with some citrus fruits in the eastern foothills (Figs. 64, 65, 67, and 68); and the northern districts of peaches and apricots, plums and prunes, grapes, walnuts, and almonds, with apples near the cool coast, and pears in the foothills. The dots in Florida represent mostly citrus fruits, those in the cotton belt, especially Georgia and Texas, peaches mostly and pecans; elsewhere in the United States, with few exceptions, the apple is the dominant fruit (Figs. 60, 61, 62, and 63).

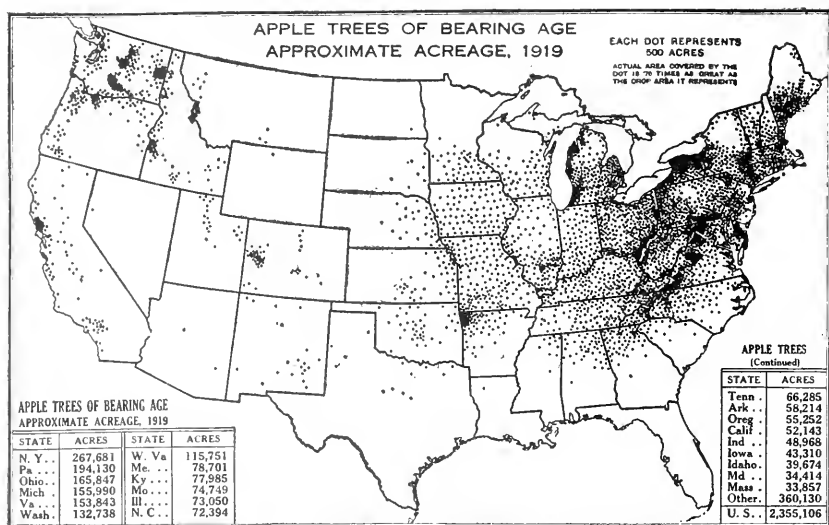


FIG. 60.—About 15 per cent of the acreage of apple trees of bearing age was in the West in 1920, and nearly half of this western acreage was in the State of Washington. New York, Pennsylvania, Ohio, Michigan, and Virginia, however, exceeded Washington in acreage. Most of the apple acreage of the Nation is found in the Hay and Pasture Region from Maine to West Virginia and Michigan, where the climate is cool, but owing either to lake or mountain protection, the winters are moister and less severe than in the interior of the continent. The southern limit of the apple area extends only a little beyond the northern limit of cotton, and the western, or moisture limit, is about that of timothy (see Figs. 22 and 39).

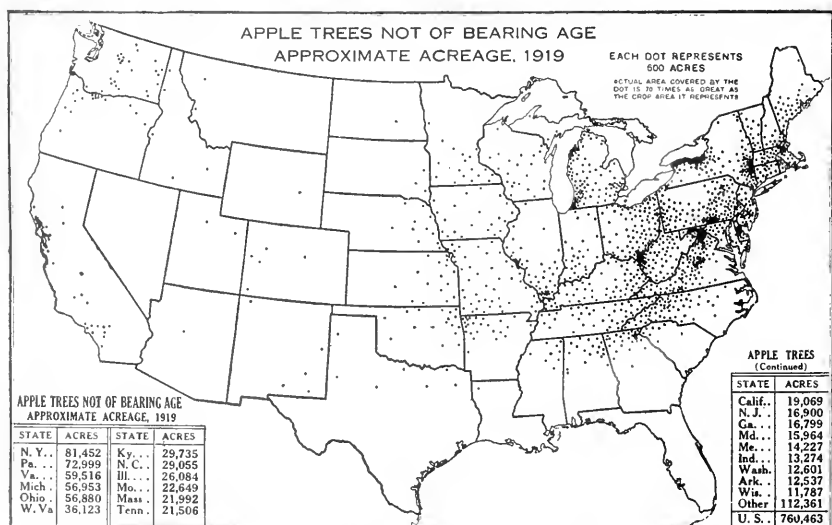


FIG. 61.—There has been very little planting of apple orchards in the West in recent years, the higher freight rates increasing the difficulties of competition with eastern-grown fruit. Less than 9 per cent of the apple trees not of bearing age were in the West in 1920. Most of the acreage of young trees, it will be noted on the map, is located along the shore of Lake Ontario in New York, in the lower Hudson Valley, in New England, along the Appalachians from Pennsylvania to Georgia, in the upper Ohio Valley, along the Lake Michigan shore of Michigan, and in the Sonoma Valley of California. Trees not of bearing age numbered 36 million in 1920 as compared with nearly 66 million in 1910.

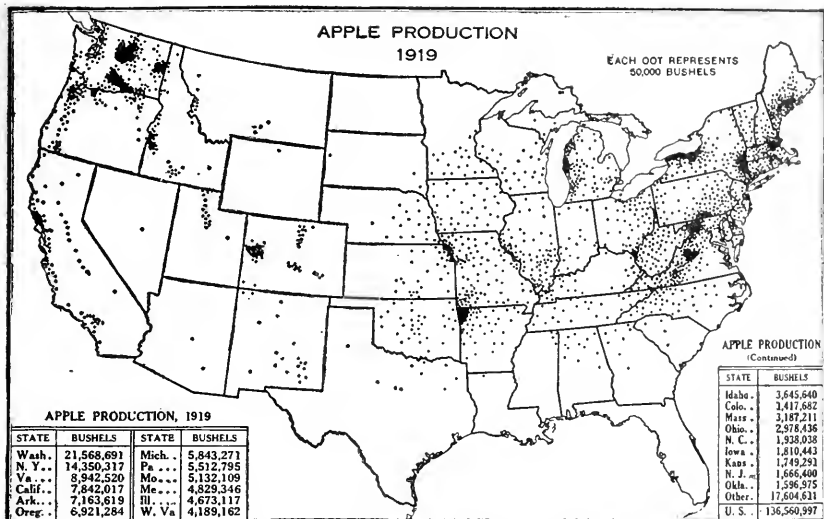


FIG. 62.—The West produced one-third of the apples grown in 1919 despite the fact that it possessed only one-seventh of the acreage of bearing trees. Washington led all States in production, with a total almost equal to that of New York and Virginia combined. The three famous apple districts of Washington—the Yakima Valley, the Wenatchee Valley, and Spokane County—stand out clearly on the map; also the Hood River and Willamette Valleys of Oregon, the Boise, Idaho, district, the Sonoma Valley in California, and the Grand Junction-Delta-Montrose district of Colorado. In the East, the New England area, the two noted New York districts, the Appalachian, the western Michigan, the Ozark, and the northwestern Missouri districts are the most important.

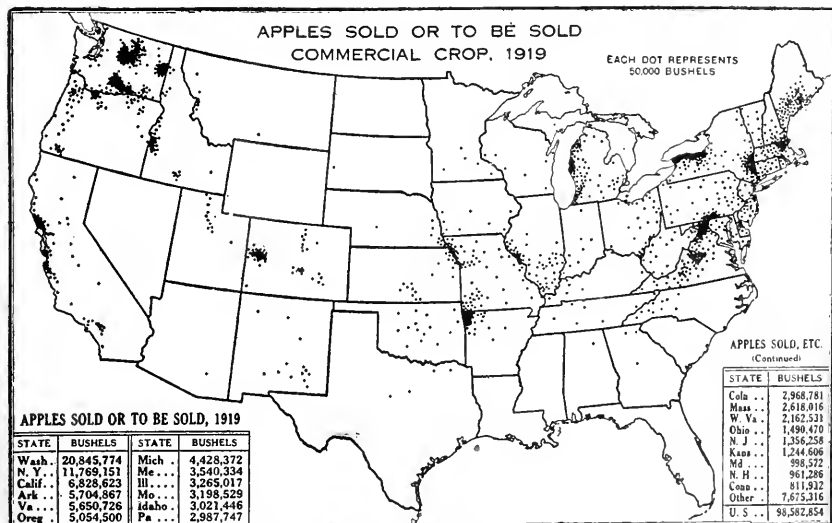


FIG. 63.—The commercial crop of apples in 1919—that is, the quantity "sold or to be sold"—was nearly 100 million bushels, according to the census, constituting three-fourths of the total crop. The West produced over two-fifths of this commercial crop, Washington alone reporting over one-fifth of the total quantity in the United States. Eighty per cent of the commercial crop was produced in the 15 apple districts already referred to. It will be noted that the production of the commercial crop of apples is more concentrated than the total production, and the total production in turn, more concentrated than the acreage. Diseases and pests diminish the production of the unsprayed home orchards several years before they kill the trees.

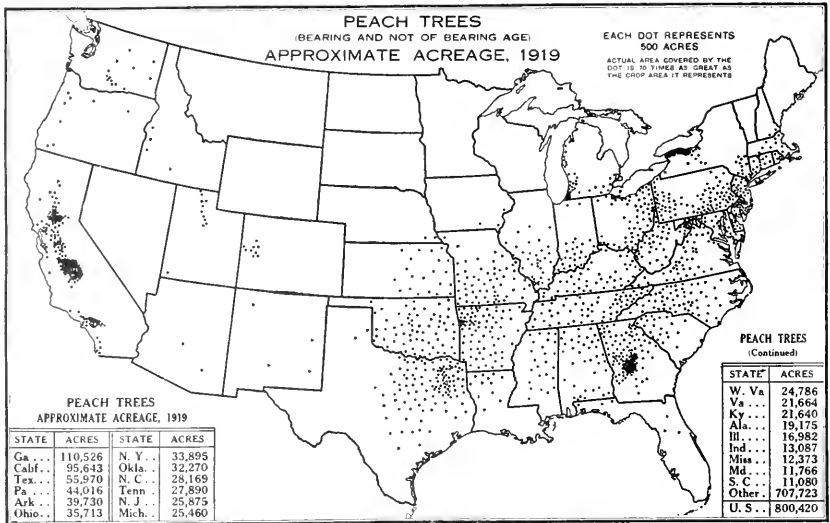


FIG. 64.—Three major centers of peach acreage are shown on the map—the early peach district in central Georgia, the late peach district along Lake Ontario in New York, and the canning and dried peach districts in California. An important peach district is rapidly developing in Moore County, N. C. Minor centers may be noted in southern New Jersey, in western Maryland and adjacent counties of West Virginia, along the Michigan shore of Lake Michigan, in western Arkansas, and in northeastern Texas. Cold, dry winters prevent peaches being grown to the northwest of a line drawn from Chicago to Omaha, thence to Amarillo, Tex. The influence of the Great Lakes in tempering winter temperatures on their leeward shores and retarding growth in spring till danger of frost is past is evident on the map.

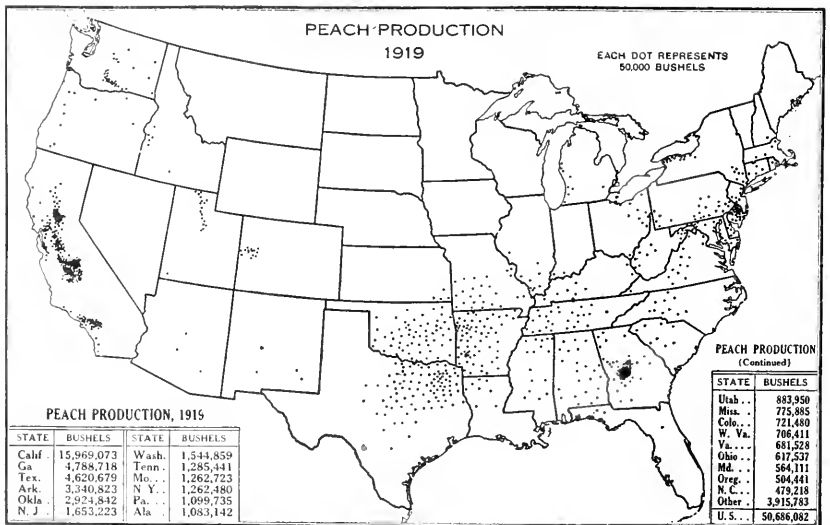


FIG. 65.—California produced nearly one-third of the Nation's crop of peaches in 1919, Fresno County alone producing one-tenth. Georgia ranked second, with Texas a close third. The New York crop was greatly reduced by a late freeze, but the New Jersey crop was large. It is worth noting that the production of peaches this year did not extend nearly as far to the north and west as the acreage. The Yakima Valley in Washington, the peach belt east of Great Salt Lake in Utah, and the Grand Junction-Delta district in Colorado show a production disproportionate to the acreage. The season of 1919 was generally favorable. Although the number of bearing peach trees in the United States dropped from 94 million in 1910 to 65 million in 1920, the production was 40 per cent greater in 1919 than in 1909.

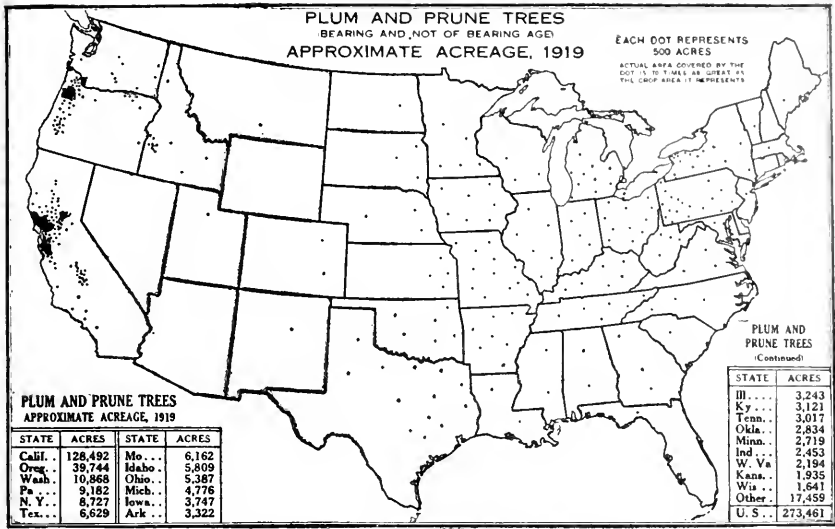


FIG. 66.—Nearly half of the Nation's acreage of plum and prune trees is in California, and nearly a third is in the five counties of Santa Clara, Sonoma, Placer, Napa, and Solano. One-twelfth more is in Marion, Polk, and Yamhill counties, Oreg. These eight counties produced 51 per cent of the total crop in 1919, and 57 per cent of the commercial crop. A smaller center may be noted in Clarke County, Wash., and a scattered acreage in the upper Willamette and Umpqua Valleys, Oreg., in the Sacramento Valley and in Fresno County, Calif. Prunes constitute nearly the entire production in these States. The scattered dots in the eastern half of the United States are practically all plums.

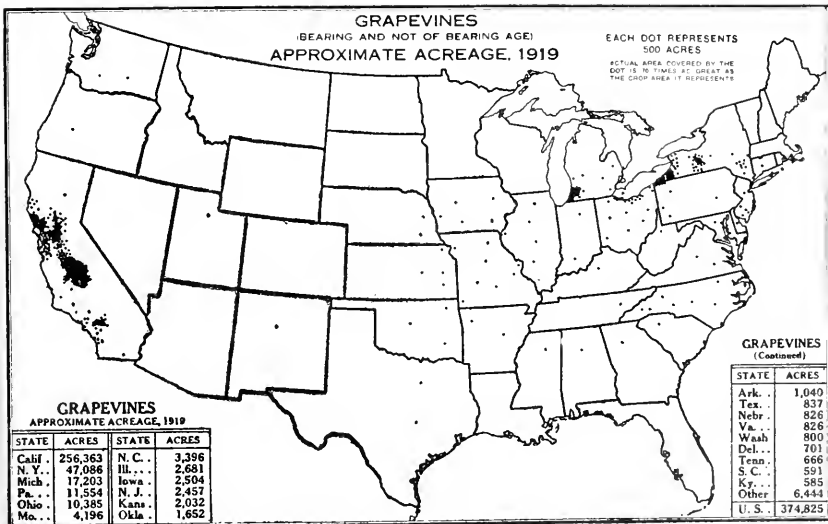


FIG. 67.—Two-thirds of the Nation's acreage of grapes is in California. The raisin district centers around Fresno, where the land is flat and the sunshine almost continuous, while the wine grapes are grown mostly on the slopes of the valleys that open into San Francisco Bay. These wine grapes are now used largely for raisins. A smaller center may be noted in southern California near San Bernardino. In the East the principal grape district extends along the southern shore of Lake Erie from Erie to Buffalo. Minor centers may be seen in the Finger Lakes district of New York, the south shore of Lake Erie in Ohio, and in the southwestern corner of Michigan. These eastern grapes are mostly consumed fresh or made into grape juice.

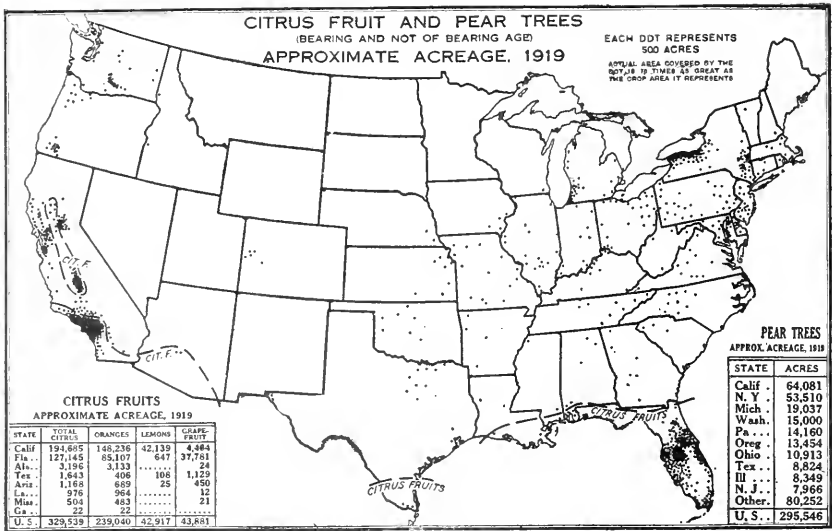


FIG. 68.—Citrus fruits can withstand only a few degrees of frost. About three-fifths of the acreage is in California and nearly two-fifths in Florida. There are a few orchards in the Mississippi Delta in Louisiana, in the Brownsville, Tex., district, and near Phoenix, Ariz., and recently hardy Satsuma orange trees have been planted along the Gulf coast in eastern Texas, southern Mississippi, and Alabama. Lemons are practically confined to California, grapefruit largely to Florida, while oranges are grown in both States.

The principal pear districts are the Ontario shore counties and the Hudson Valley of New York, southwestern Michigan along the lake, the foothills of central and southern California, western Oregon, and the Yakima Valley of Washington.

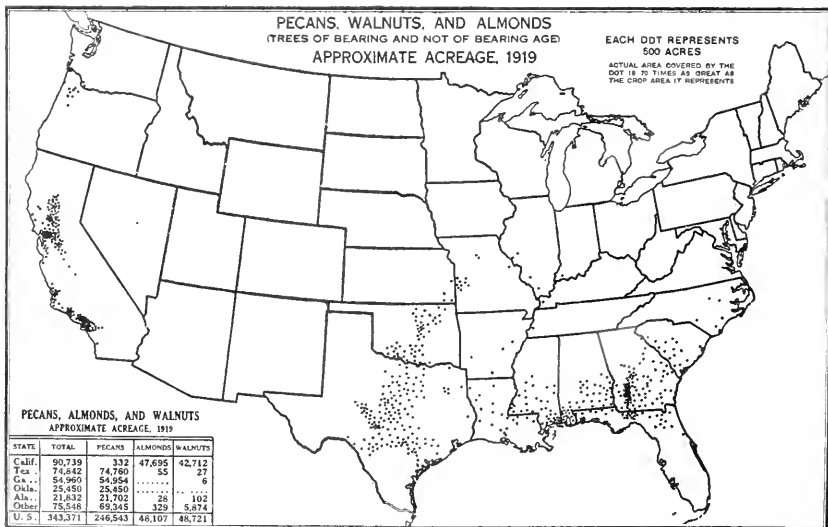


FIG. 69.—Only three kinds of nuts are produced on a commercial scale in the United States—pecans, walnuts, and almonds. The pecan is native to the lower Mississippi Valley, and the largest acreage is found in a belt which extends from central Missouri across Oklahoma to south-central Texas. Recently extensive planting of pecan trees has taken place on the coastal plain in Georgia, the Carolinas, Alabama, Mississippi, and northern Florida. Almonds and walnuts have been introduced from the Mediterranean region and their production is practically confined to California, except for a considerable acreage of walnuts in the Willamette Valley of Oregon and adjoining counties in Washington.

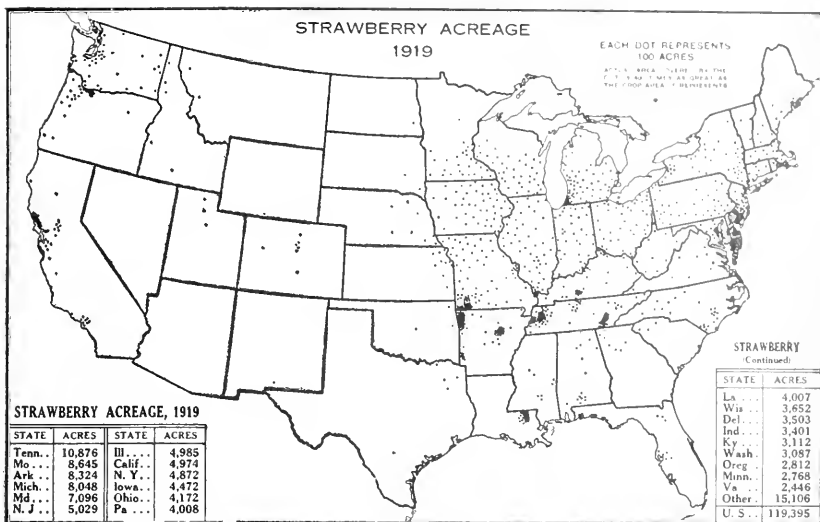


FIG. 70.—The commercial production of strawberries has become concentrated in unusual degree in a few centers, notably, in Cumberland, Camden, Burlington, and Atlantic Counties, N. J.; Sussex County, Del.; Wicomico, Worcester, Caroline, and Anne Arundel Counties, Md.; in Hamilton, Rhea, Crockett, Gibson, Lauderdale, and Madison Counties, Tenn.; in Warren County, Ky.; in Barry, Lawrence, McDonald, and Newton Counties, Mo., and adjacent counties of Washington and Benton in Arkansas; in White County, Ark.; in Tangipahoa Parish, La.; in Berrien County, Mich.; in Sonoma, Sacramento, and Los Angeles Counties, Calif.; and in Hood River County, Oreg. These 30 counties, out of the 3,000 in the United States, contained one-third of the Nation's acreage of strawberries in 1919.

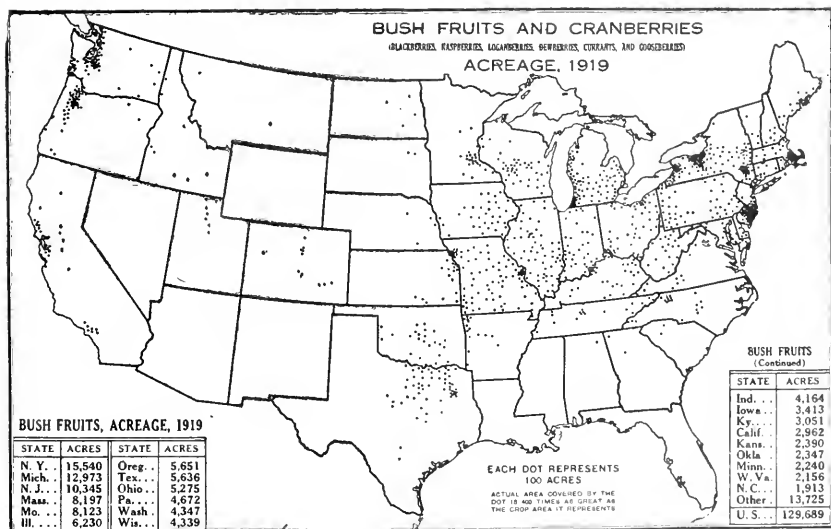


FIG. 71.—The centers of cranberry acreage are Cape Cod Mass., southern New Jersey, and central Wisconsin—all districts of sandy, marshy, acid soils. The centers of bush fruit acreage are southern New Jersey; the Marlboro district in the Hudson Valley of New York; the district east and southeast of Rochester; the belt along Lake Erie from Buffalo to Cleveland; the eastern shore of Lake Michigan, especially Berrien County; the eastern shore of Puget Sound, especially the Puyallup district; and the Willamette Valley in Oregon, especially the district around Salem. This latter district specializes in loganberries grown for canning and bottling. Minor centers may be noted near many of the large cities.

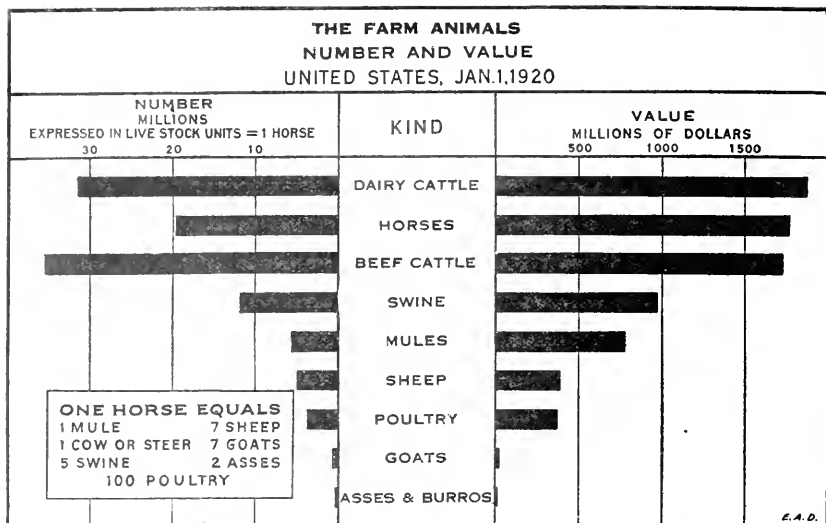


FIG. 72.—Cattle in 1920 constituted the leading class of live stock in the United States on the basis of value. This value was almost equally divided between the dairy and beef types. Between 1910 and 1920 the total value of cattle in the United States increased 143 per cent, due mostly to an increase in value per head of 125 per cent; whereas the value of all horses decreased 14 per cent, due to exactly the same decrease in value per head. Cattle constituted 46 per cent of the value of all farm animals, horses and mules 32 per cent, swine 12 per cent, sheep and goats 5 per cent, and poultry nearly 5 per cent. The swine, however, produce annually pork and lard having a value greater than that of the beef and veal from the cattle.

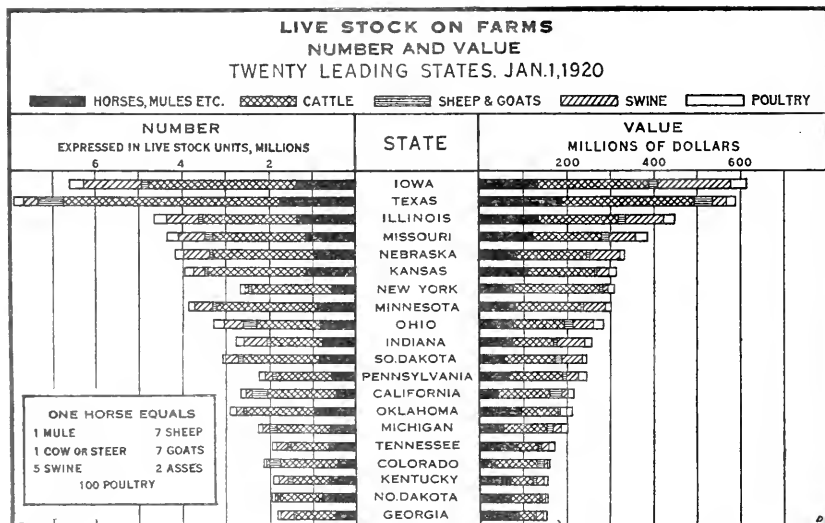


FIG. 73.—Iowa leads the States in value of live stock on farms, but is exceeded by Texas in number of animal units. It is noteworthy that 9 of the 11 leading States in value of live stock are located wholly or partly in the Corn Belt. On the other hand, Georgia is the only State lying almost wholly in the Cotton Belt that is included in this list of 20 leading live-stock States. The concentration of live stock in the Corn Belt, and in the dairying centers of the Hay and Pasture Region is shown in Figure 107. Cattle and horses and mules, it will be noted, constitute in the different States from six-tenths to nine-tenths of the value of all live stock.

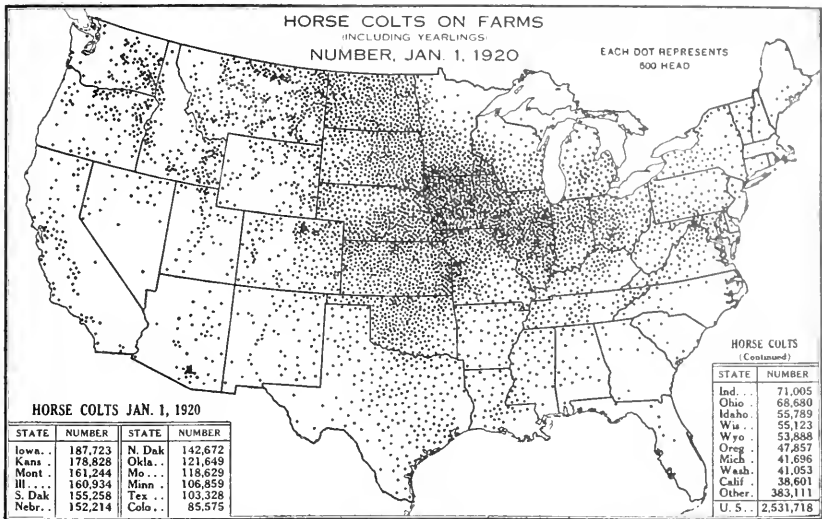


FIG. 74.—One-third of the horses in the United States are raised in the Corn Belt, one-sixth in the Great Plains Region, one-tenth in the Spring Wheat Area, and one-twelfth in the Kansas-Oklahoma section of the Corn and Winter Wheat Region. These are the regions of surplus grain and cheap forage. Comparatively few horses are raised in the Cotton Belt, or the Central and North Atlantic States, because these are regions of deficient grain production and feed must be shipped in at heavy expense. It is more economical to ship the mature horses into these deficiency regions than to ship the grain to grow them. (See Figs. 11, 12, 27, 32, 33, 36, and 41.)

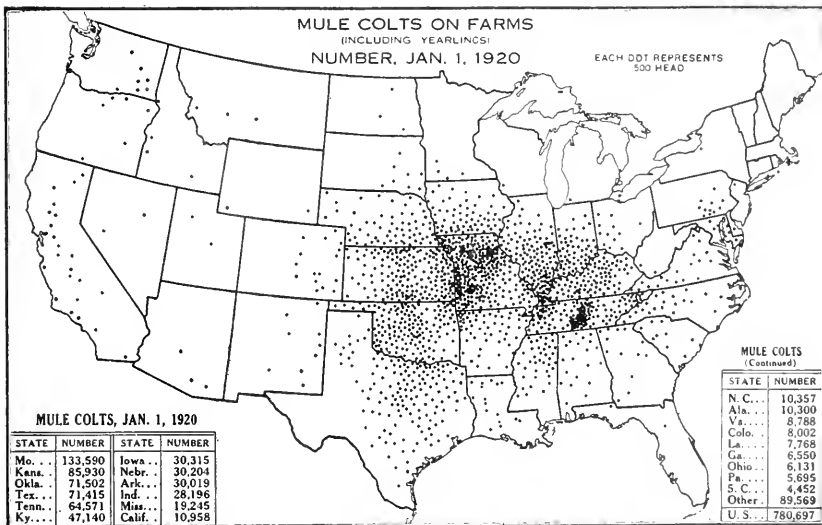


FIG. 75.—Two-thirds of the mules are raised in the western section of the Corn and Winter Wheat Region and the southern portion of the Corn Belt, the centers of production being about 300 miles south of the centers of horse production. This may be due in part to the adaptation of the mule to warmer temperature than the horse, but also in part to the shorter distance and smaller cost of transportation to the Cotton Belt, where most of the mules are sent (see Fig. 77). Formerly Kentucky and Tennessee were the leading States in mule production, but now a much greater number are raised in Missouri, Kansas, and Oklahoma, where feed is cheaper.

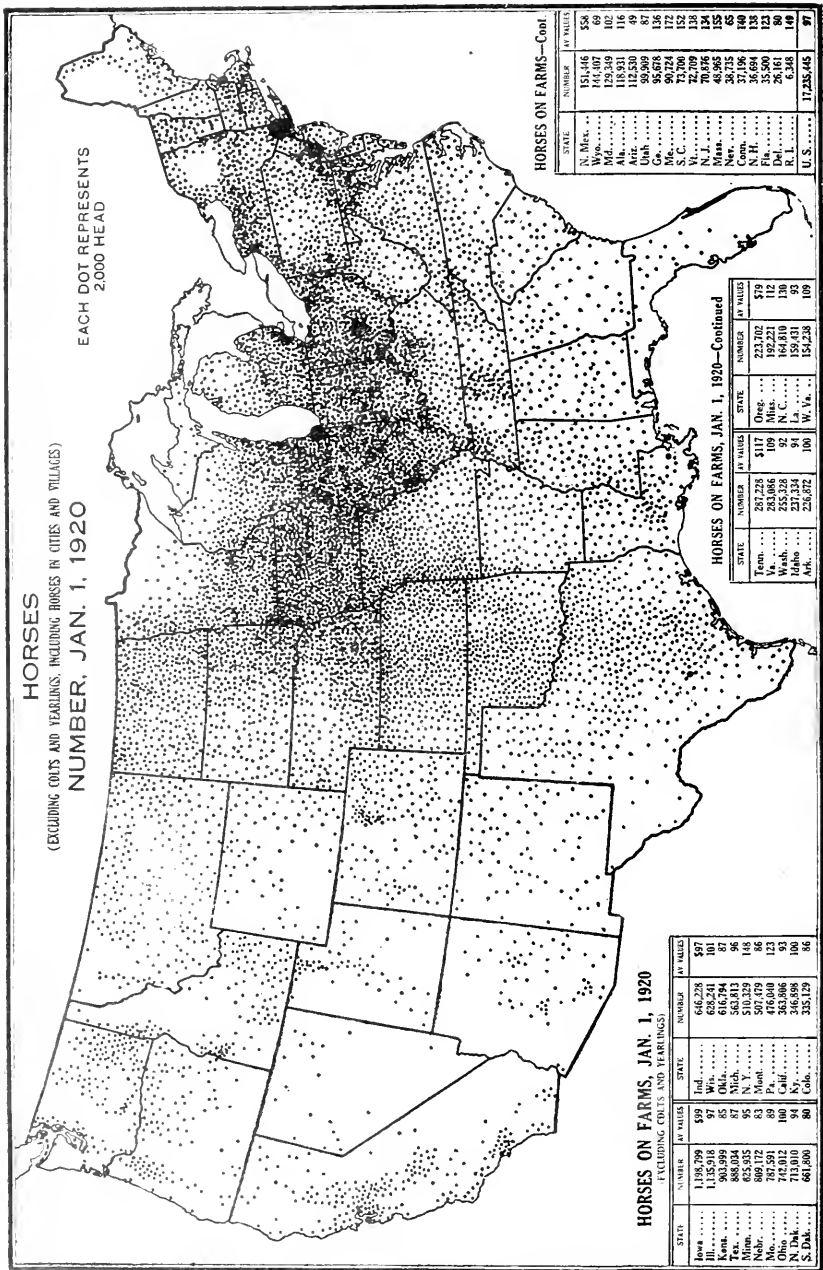


FIG. 76.—Over one-quarter of the mature horses (2 years old and over) in the United States are in the Corn Belt, and over three-quarters are in the humid eastern half of the country. The small number of horses in the Cotton Belt and the eastern sections of the Corn and Winter Wheat Region is owing in large measure to the preference for mules as work animals in these regions (see Fig. 77). The acres of crops per mature horse and mule in the Cotton Belt (17 acres) is practically the same as in the Corn Belt (18 acres), or in the Hay and Pasture Region (16 acres). The number of horses in cities and villages ("not on farms or ranges") was 1,705,611 on January 1, 1920, or about one-tenth the number of mature horses on farms.

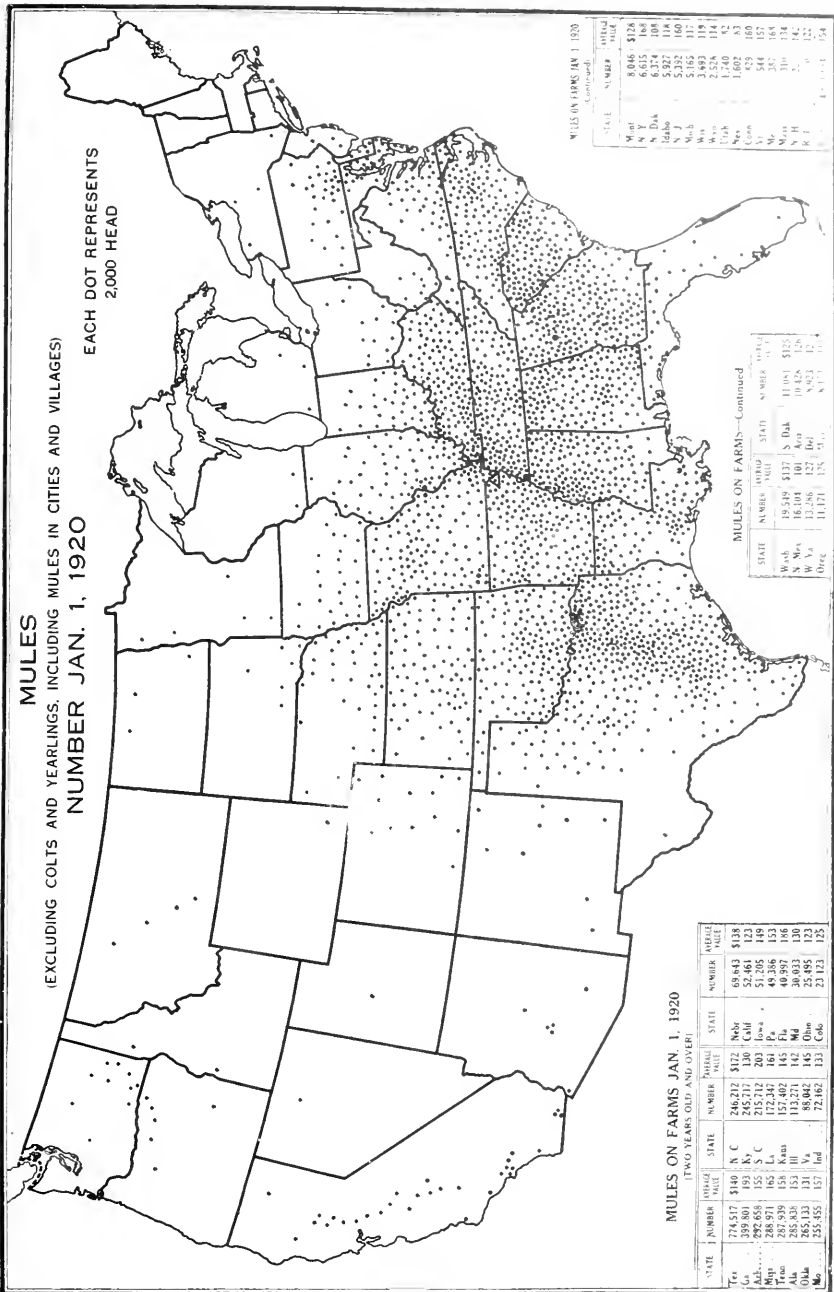


FIG. 77.—About five-sixths of the mature mules (2 years old and over) in the United States are in the Cotton Belt and the Corn and Winter Wheat Region. In the eastern Cotton Belt (east of Texas and Louisiana), where negro farmers are most numerous (see Figs. 116 and 117), there are twice as many mature mules as horses. The popularity of mules is also increasing in the North and West. Whereas the number of horses over 1 year of age on farms in the United States was only 6 per cent greater in 1920 than in 1910, the number of mules increased 33 per cent. This rate of increase was almost as great in the North as in the South. Mules, it will be noted, are used on farms in every State of the Union.

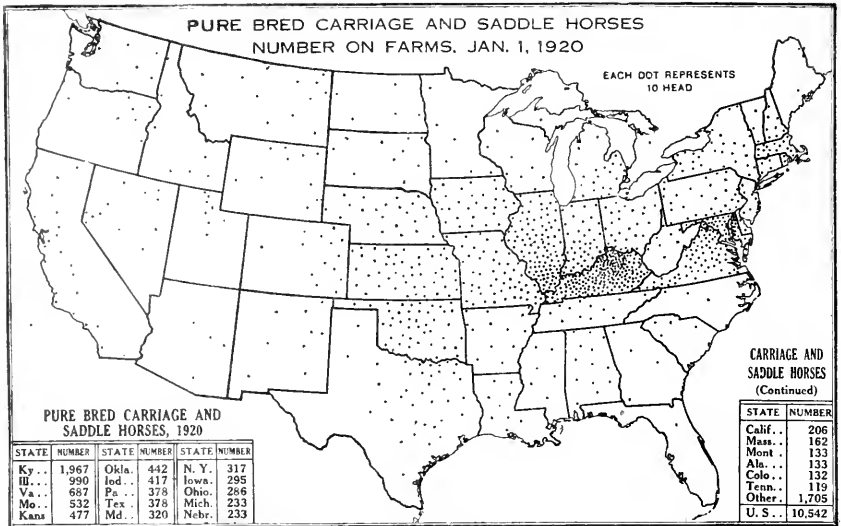


FIG. 78.—The number of pure-bred horses of saddle and carriage breeds in the United States was only about one-ninth the number of those of draft breeds in 1920. The relatively large number of these saddle and carriage horses in Kentucky and adjacent portions of Illinois and Indiana, also in Virginia and Maryland, is noteworthy. These are areas famous in song and story for their fine horses, and despite the decline of horse racing as a sport, and the decreased use of horses for riding and driving, breeders and horse fanciers in these States retain a large number of pure-bred saddle and carriage horses. Probably only a small number, however, are used for breeding.

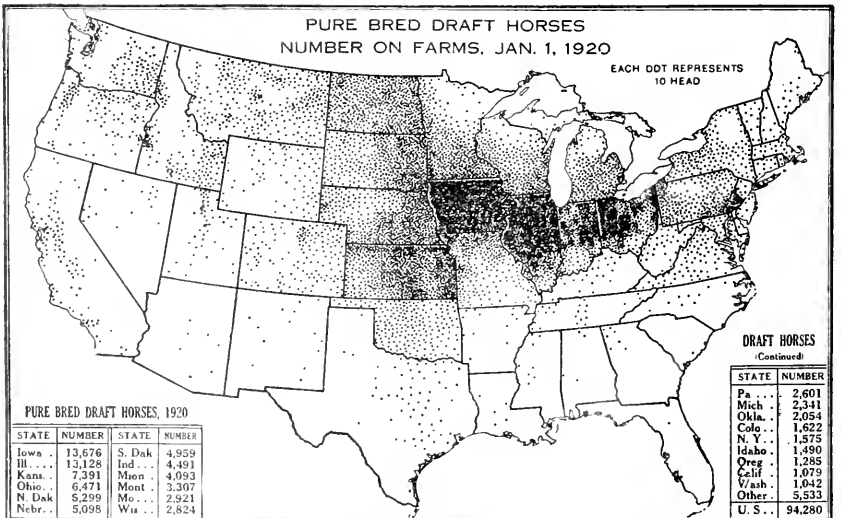
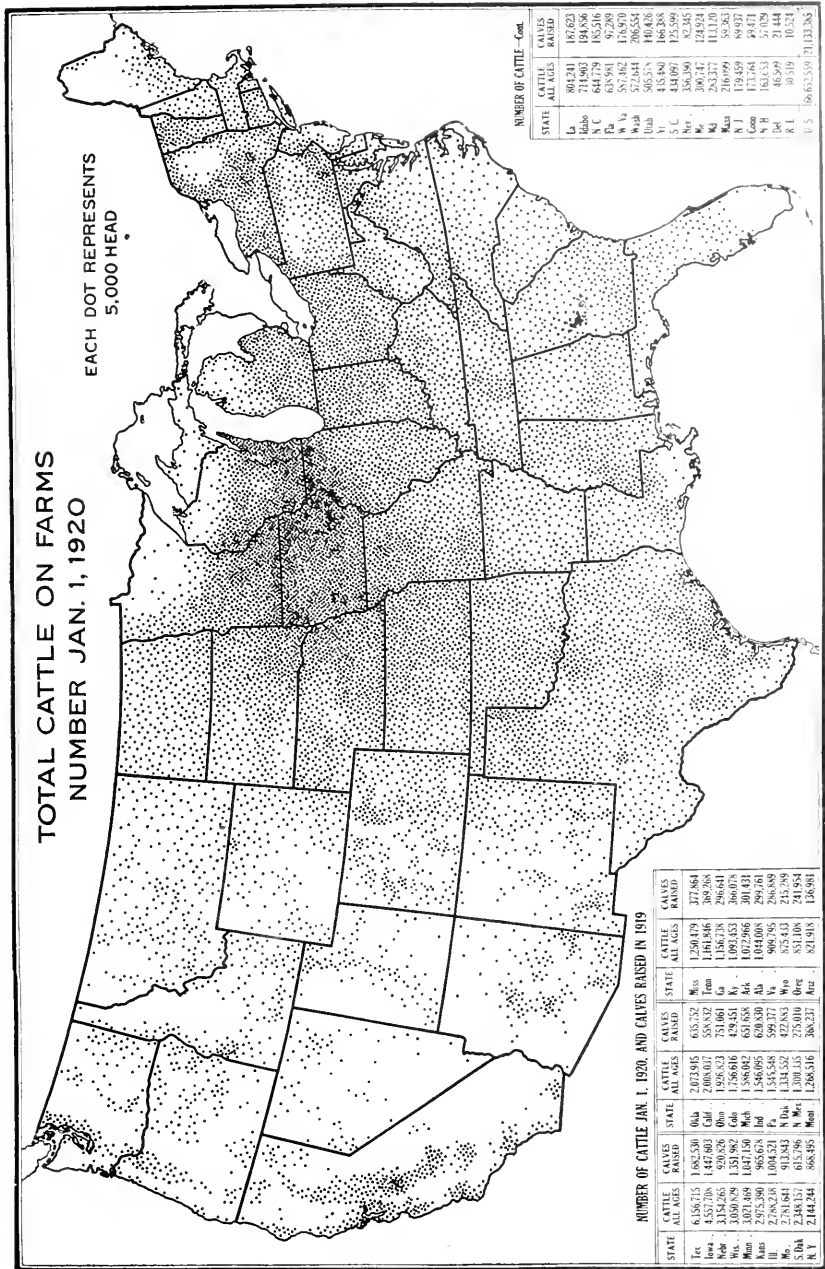


FIG. 79.—About half the pure-bred draft horses in the United States are in the Corn Belt, and most of the other half are in the Hay and Pasture, Spring Wheat, and Great Plains Regions. Very few are found in the South or Southwest. In California, Oregon, Washington, and Idaho, however, pure-bred draft horses relative to the total number of horses are almost as common as in the Corn Belt. Three-fourths of the pure-bred draft horses in the United States are Percherons, 10 per cent are Belgians, 5 per cent are Shires, and 4 per cent are Clydesdales, other breeds constituting the remainder.



TOTAL CATTLE ON FARMS
NUMBER JAN. 1, 1920

EACH DOT REPRESENTS
5,000 HEAD

NUMBER OF CATTLE - Cont.

| STATE | CATTLE ALL AGES | CAVES RAISED |
|-------|-----------------|--------------|
| La | 80,231 | 187,623 |
| N C | 711,903 | 194,886 |
| Pa | 644,778 | 185,516 |
| Tx | 65,871 | 175,470 |
| W Va | 17,421 | 17,421 |
| Wash | 57,644 | 206,554 |
| Utah | 565,574 | 100,436 |
| Vt | 43,848 | 166,268 |
| S C | 434,091 | 125,599 |
| Nev | 356,390 | 82,345 |
| N D | 1,011,111 | 1,011,111 |
| Ok | 282,277 | 111,111 |
| Mo | 2,169,099 | 59,361 |
| N J | 139,459 | 69,937 |
| Conn | 173,284 | 93,471 |
| N H | 163,333 | 57,029 |
| Del | 46,599 | 10,514 |
| R I | 30,919 | 10,521 |
| U S | 16,615,539 | 7,113,385 |

NUMBER OF CATTLE JAN. 1, 1920, AND CAVES RAISED IN 1919

| STATE | CATTLE ALL AGES | CATTLE RAISED | CAVES RAISED | CATTLE STATE ALL AGES | CATTLE RAISED | CAVES RAISED |
|-------|-----------------|---------------|--------------|-----------------------|---------------|--------------|
| Tex | 6,158,715 | 1,862,530 | 635,732 | Mo | 2,501,479 | 377,864 |
| Iowa | 4,557,708 | 1,447,603 | 558,832 | Ind | 1,181,846 | 290,268 |
| Nebr | 3,154,265 | 1,030,236 | 1,926,633 | Ga | 1,186,738 | 296,644 |
| Wis. | 3,059,879 | 1,351,982 | 428,451 | Ky | 1,093,453 | 366,078 |
| Mich | 3,071,498 | 1,447,150 | 1,176,616 | Pa | 1,016,866 | 301,421 |
| Ill | 2,788,238 | 1,004,321 | 1,546,695 | Ok | 1,014,400 | 266,589 |
| W Va | 2,781,641 | 913,843 | 598,377 | Va | 908,785 | 276,859 |
| S Dak | 2,484,131 | 615,786 | 422,883 | W Va | 875,433 | 215,299 |
| N Y | 2,144,241 | 668,485 | 1,309,155 | Or | 851,168 | 241,854 |
| | | | 386,237 | Ariz | 831,918 | 126,981 |
| | | | 1,298,516 | | | |

Fig. 80.—Cattle are more evenly distributed over the United States than any other kind of live stock. The densest area is in Iowa, northern Missouri, eastern Nebraska, southern Minnesota and Wisconsin, and northwestern Illinois. On January 1, 1920, there were about 14 million cattle in the Corn Belt, or 60 to the square mile; 12 million in the Hay and Pasture Region, which is 36 to the square mile; 10 million in the Corn and Winter Wheat Region, which is 32 to the square mile; 9 million in the Cotton Belt, or 21 to the square mile; and 9½ million in the Great Plains Region, or about 20 to the square mile. The seven other regions had about 14 million cattle, an average of 11 to the square mile. In Iowa there were 82 cattle to the square mile. (See Figs. 11, 27, and 38.)

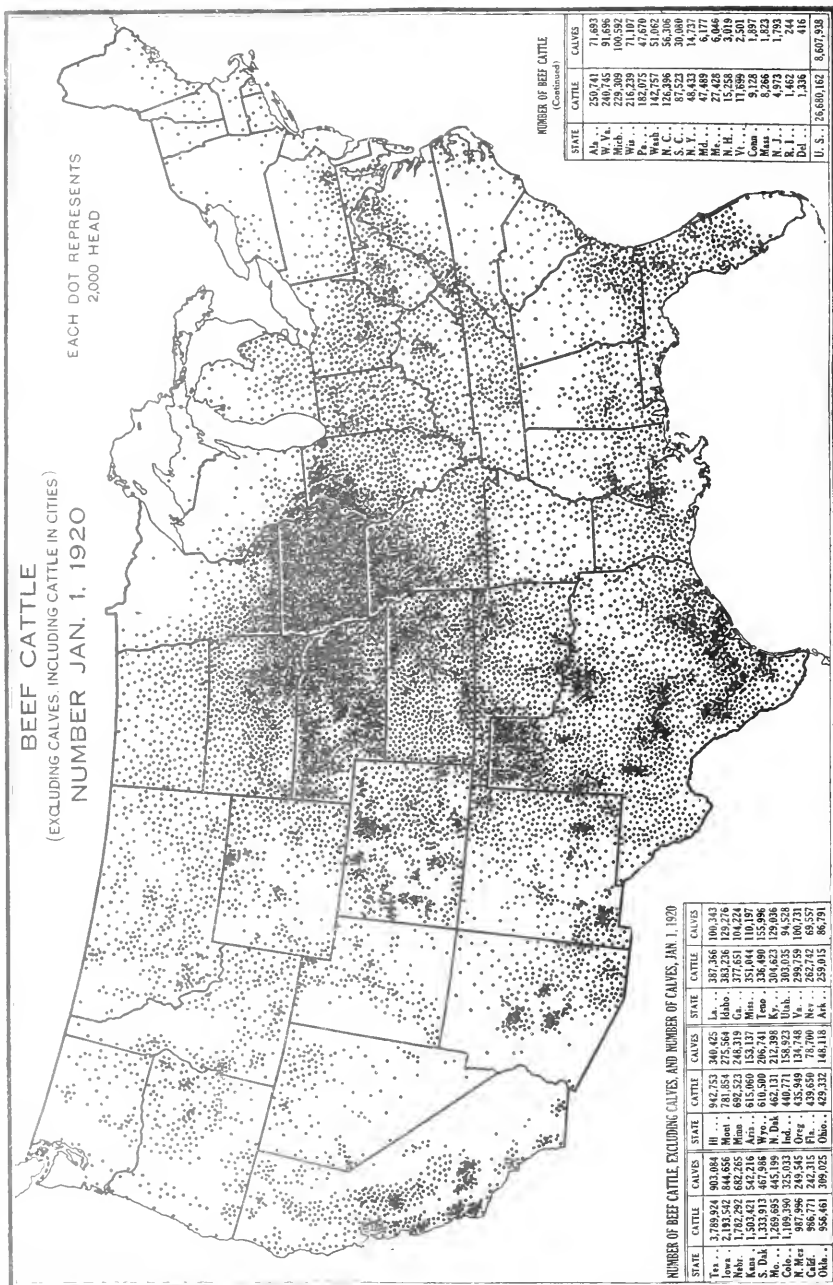


FIG. 81.—Beef cattle constitute slightly over half the total number of cattle in the United States, but slightly less than half the value. Over 8 million beef cattle (including calves) are in the Corn Belt, and as many more in the Great Plains Region, these two regions having nearly half the beef cattle in the country. A large number of beef cattle will also be noted in the Subtropical Coast and southern portion of the Cotton Belt, in the Appalachian valleys, in eastern Kansas, in the mountain parks and valleys of Colorado, Utah, and Idaho, on the plateaus of southwestern New Mexico and southeastern Arizona, and in California. Over 40 per cent of the beef cattle are in the western half of the United States. (See Figs. 12, 27, and 42.) The corner table gives figures of beef cattle and of calves on farms only; there were 890,963 in cities and villages.

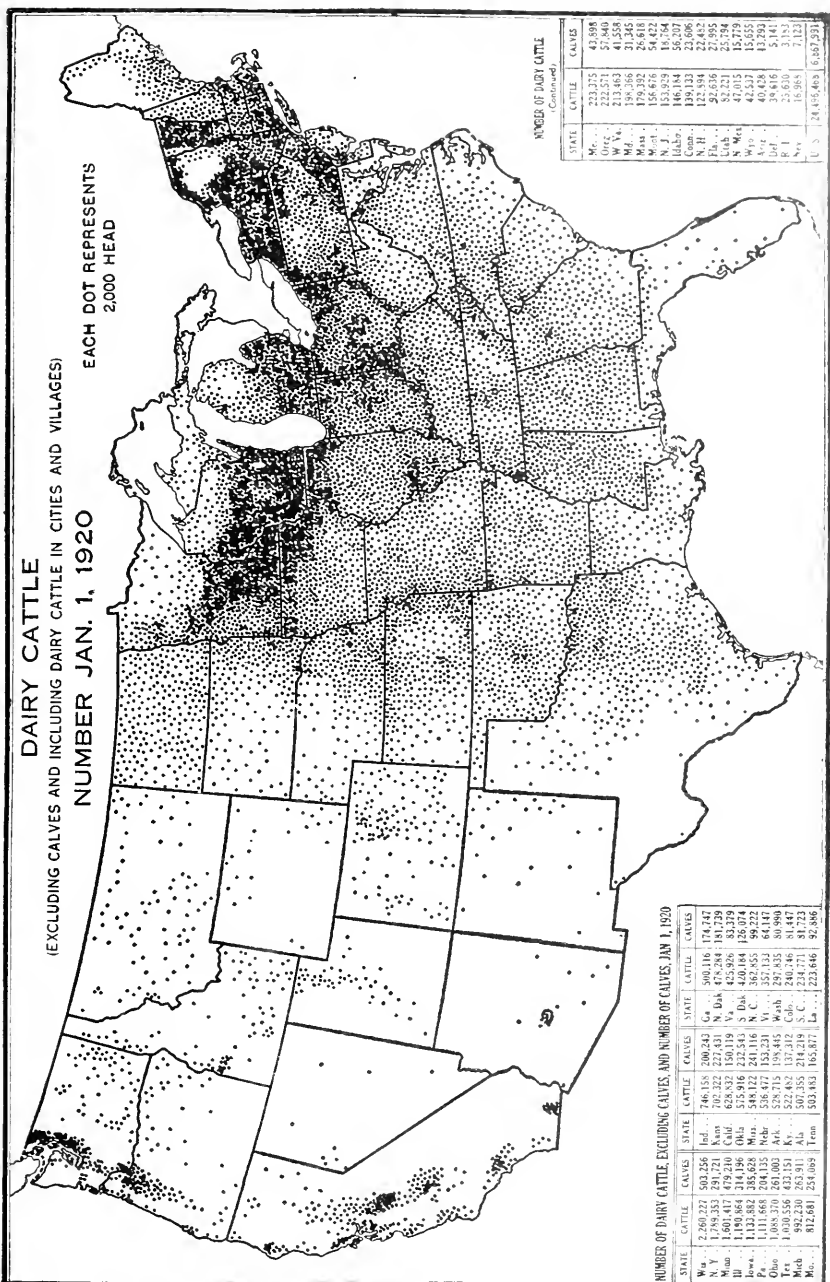


FIG. 82.—Nearly half the dairy cattle in the United States are in the Hay and Pasture Region and the adjacent northern and eastern margin of the Corn Belt. Other dense areas will be noted in southeastern Pennsylvania, which is really Corn Belt country, and in the valleys of the North and South Pacific regions. In the Cotton Belt, especially the northern portion, dairy cattle are more numerous than beef cattle, but in the Great Plains, Rocky Mountain, and Arid Intermountain Regions they are much less numerous. Nine-tenths of the dairy cattle are in the East. The dairy cattle in cities and villages ("not on farms and ranges") number 1,220,564, which is less than 4 per cent of all dairy cattle and calves in the United States. (See Figs. 25, 40, and 85.)

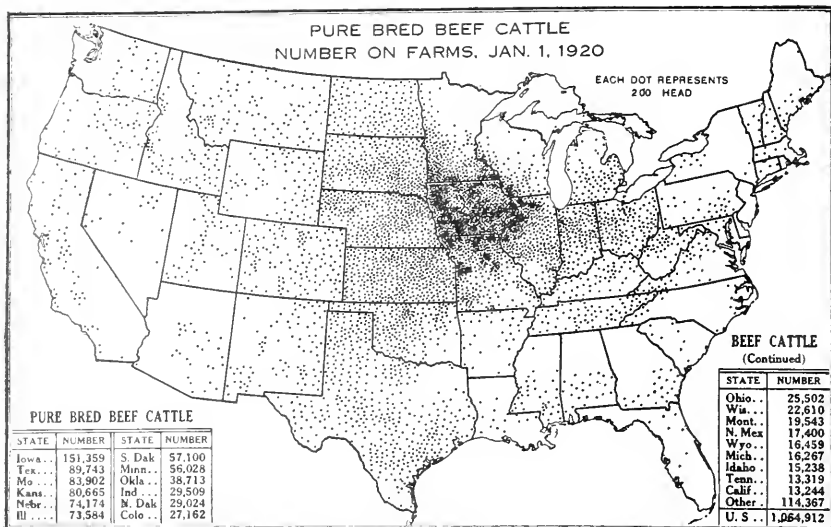


FIG. 83.—The number of registered pure-bred beef cattle is more concentrated geographically than that of all beef cattle. Iowa alone has one-seventh of the entire number in the United States. Five per cent of the beef cattle in Iowa are registered. The prairie and plains portion of the United States (see "tall grass" and "short grass" of Fig. 7) has nearly four-fifths of the pure-bred beef cattle in the country. About two-fifths of the registered beef cattle are Shorthorns—nearly one-half if Polled Durham be included—and nearly two-fifths more are Herefords. Aberdeen-Angus constitute about one-tenth of the total number. Iowa leads the States by a wide margin in number of Shorthorns and Aberdeen-Angus, while Texas leads in number of Herefords.

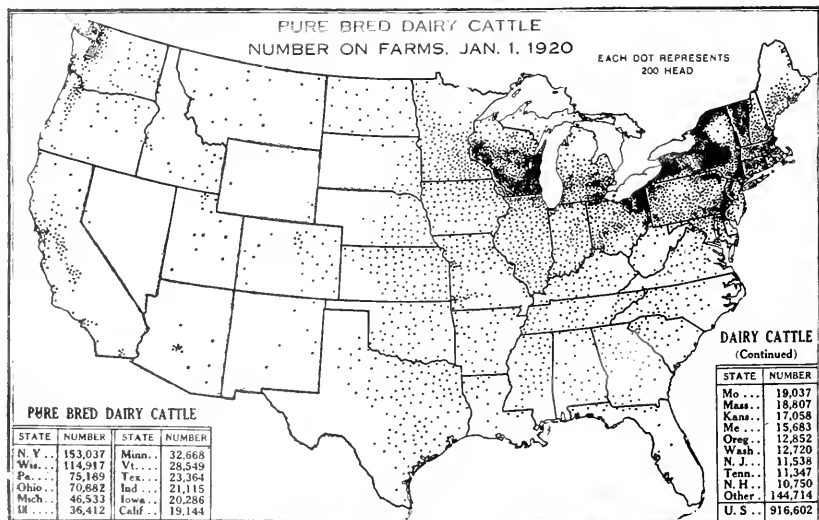


FIG. 84.—Sixty per cent of the registered pure-bred dairy cattle are concentrated in the Hay and Pasture Region. About 5 per cent of the dairy cattle in this region are registered. New York has one-sixth of the registered dairy cattle in the United States, and Wisconsin has one-eighth. Much smaller numbers may be noted in the valleys of California and of western Oregon and Washington. About 58 per cent of the registered dairy cattle in the United States are Holstein-Friesians, 25 per cent are Jerseys, 9 per cent are Guernseys, 3 per cent are Ayrshires, and 1 per cent Brown Swiss, the remainder being unspecified.

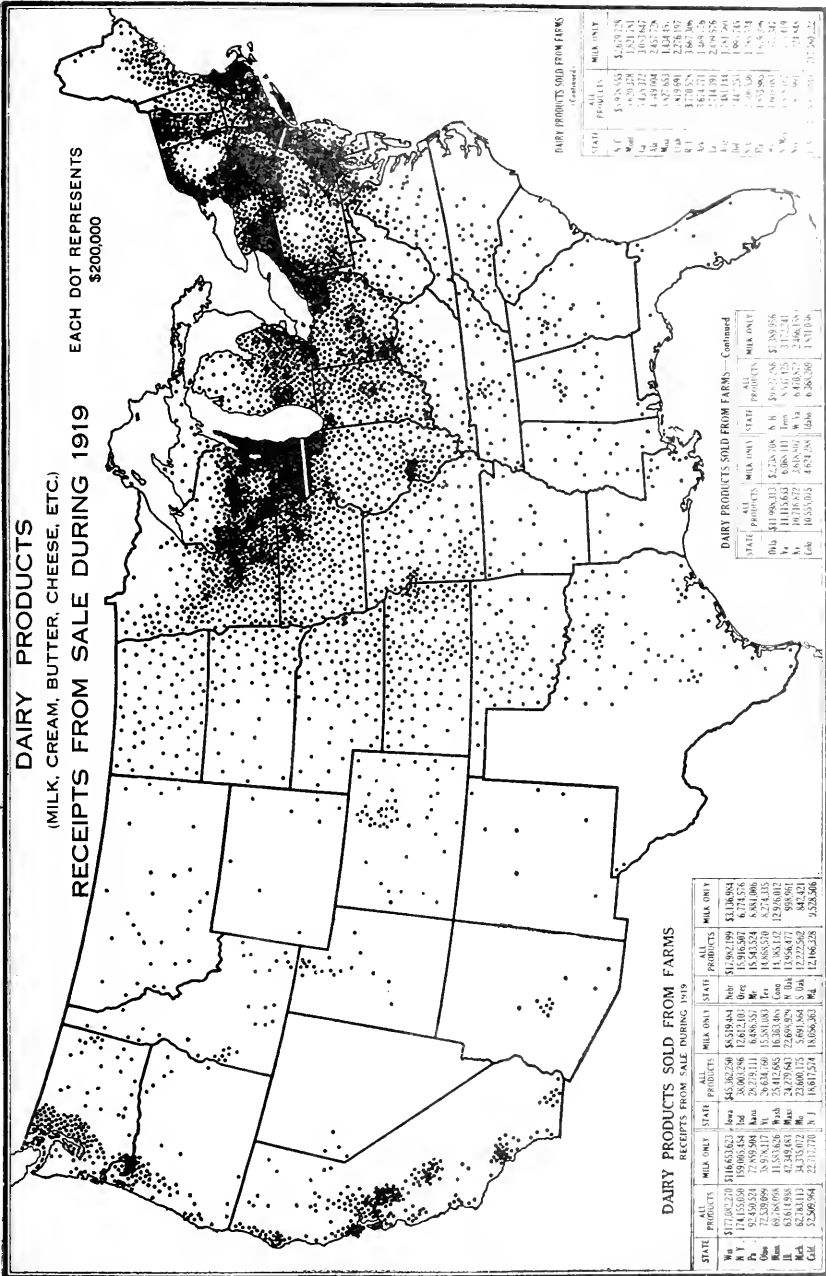


FIG. 85.—This map shows the commercial dairying districts. The concentration in the Hay and Pasture Region is much greater than that of dairy cattle (Fig. 82). Commercial dairy centers may also be noted near the large cities outside this region, notably Philadelphia, Baltimore, Washington, Cincinnati, Indianapolis, St. Louis, Kansas City, Los Angeles, and San Francisco. These, as also the centers adjoining New York City, Boston, Buffalo, Cleveland, and Detroit, represent market milk mostly; while the larger districts in central and northern New York, in Wisconsin, and in Minnesota represent milk and butter fat sold to creameries and cheese factories largely (see Figs. 86, 87, and 88). The value of dairy products consumed on the farm is estimated by the census at about \$240,000,000.

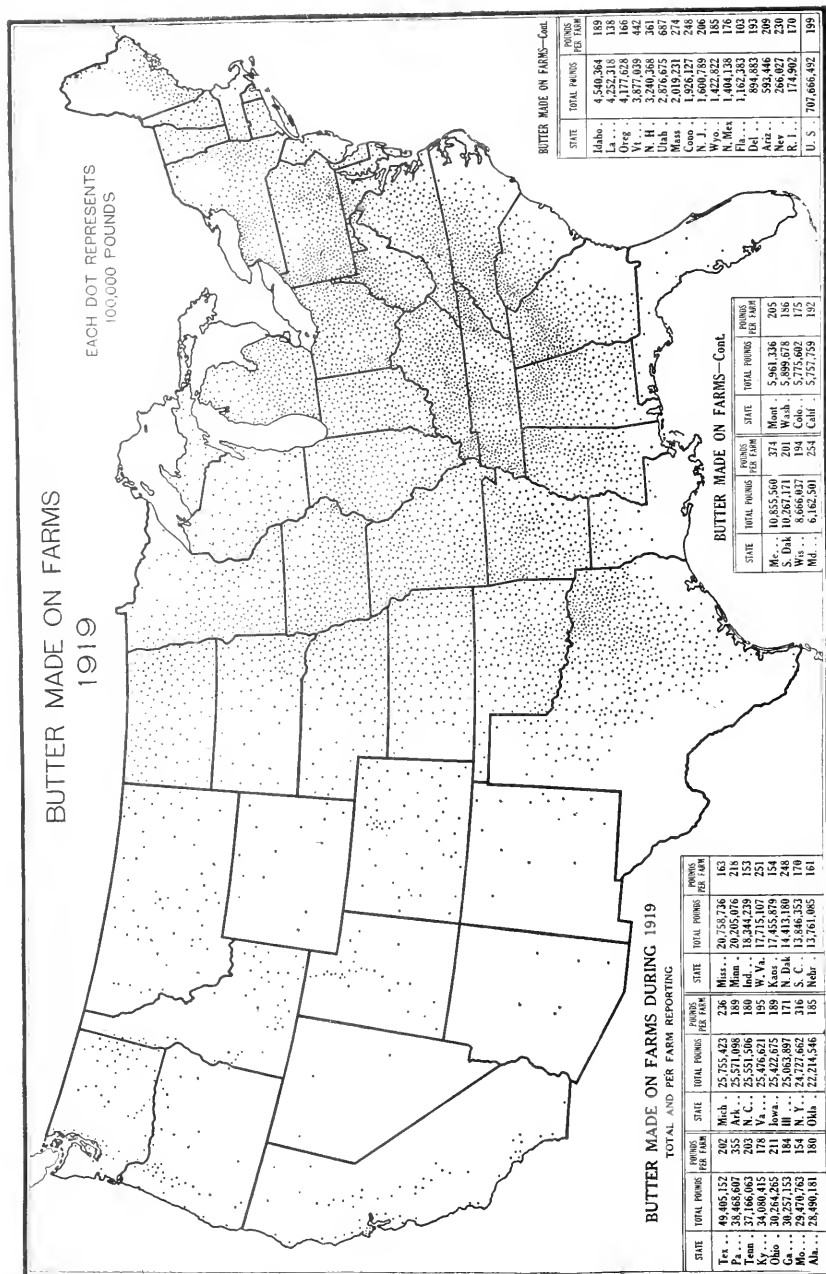


FIG. 86.—Butter made on farms in 1919 constituted 43 per cent of the total production of 1,646,171,874 pounds reported by the census. The areas of densest production of farm butter, it will be noted, are the Piedmont Plateau, extending from eastern Pennsylvania to Alabama; the Tennessee River Valley of northern Alabama and eastern Tennessee; the upper Ohio River basin; the western portion of Kentucky and Tennessee; and the northeastern portion of Texas. It is notable how little butter is made on farms in Wisconsin and Minnesota, where the factory system is well developed. Over half of the farms in the United States made butter in 1919, but less than one-third of the butter made was sold. Most of this farm butter sold was consumed in the locality where it was produced.

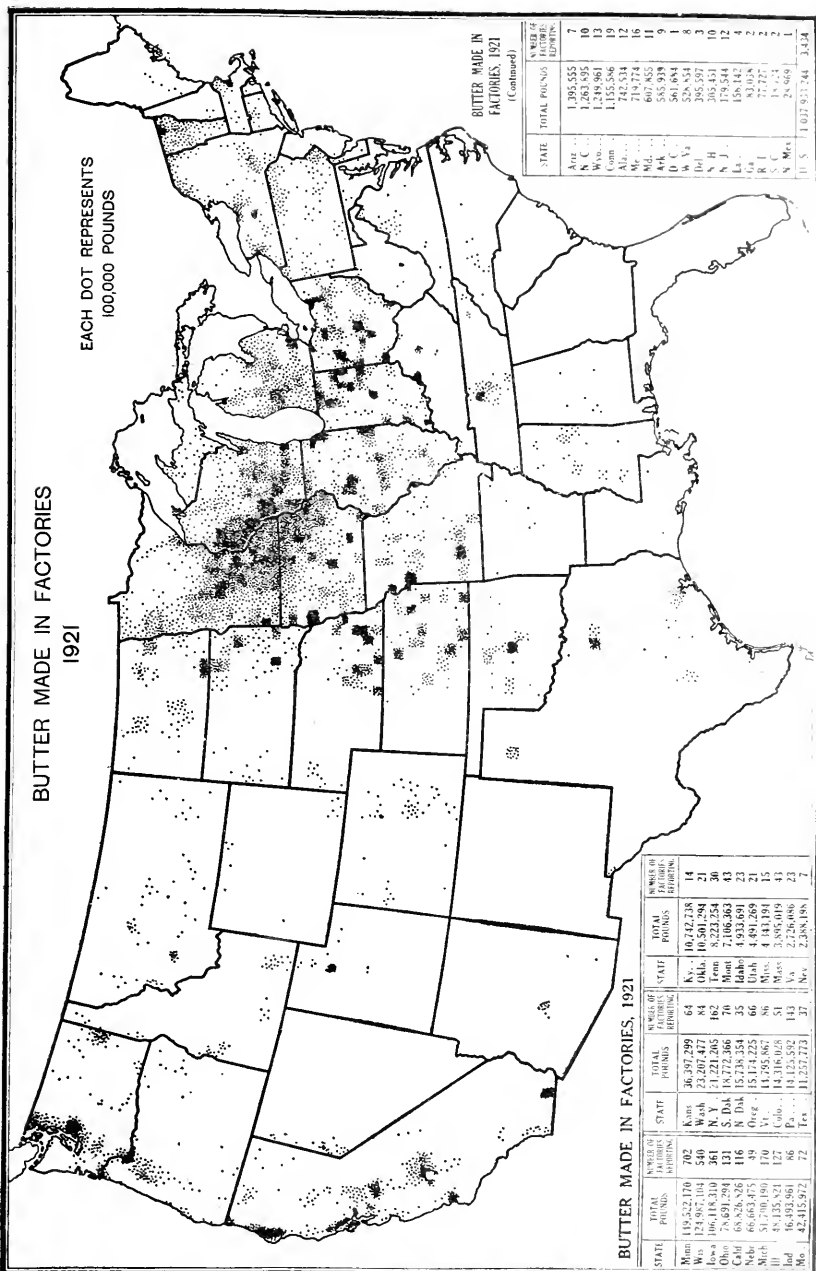


FIG. 87.—Most of the factory butter is made in the Hay and Pasture Region, especially the western portion, in the Corn Belt, and in the Pacific Coast Regions. The spotted character of the map, especially in the Corn Belt, indicates the concentration of butter making in a relatively few cities to which the cream or butter fat is shipped from the farms. Whereas only half as much butter was sold by the farmers of the United States in 1919 as in 1909, the amount of butter fat sold increased 74 per cent and of cream sold 50 per cent. The figures used in preparing this map were compiled from reports received by the Dairy and Poultry Division of the Bureau of Agricultural Economics. Returns received since the map was prepared increase the total for the United States to 1,055,000,000 pounds.

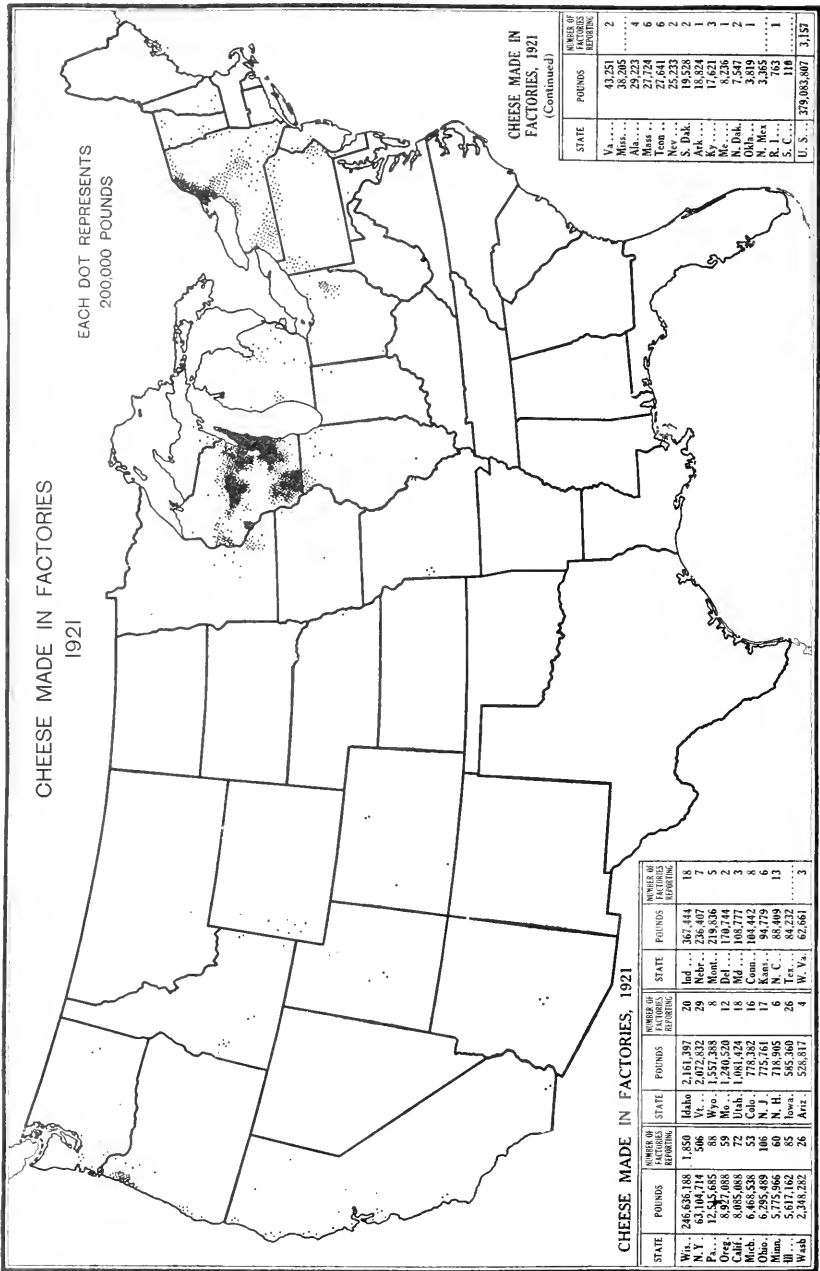


FIG. 88.—Practically all the cheese is now made in factories, only 6,000,000 pounds in 1919, or less than 2 per cent of the total production of the United States, being made on farms. About two-thirds of the cheese is made in Wisconsin and half of the remainder in New York. Cheese production has developed in those parts of Wisconsin and New York having less than 150 days in the growing season, except along the lake shores, and in the central, sandy portion of Wisconsin, which has poor pastures. The short, cool season favors summer pasture and cheese production, just as silage, winter dairying, butter making, skim milk, hogs, and corn complete the economic cycle in the warmer belt to the south. The figures were compiled from reports received by the Dairy and Poultry Division, Bureau of Agricultural Economics.

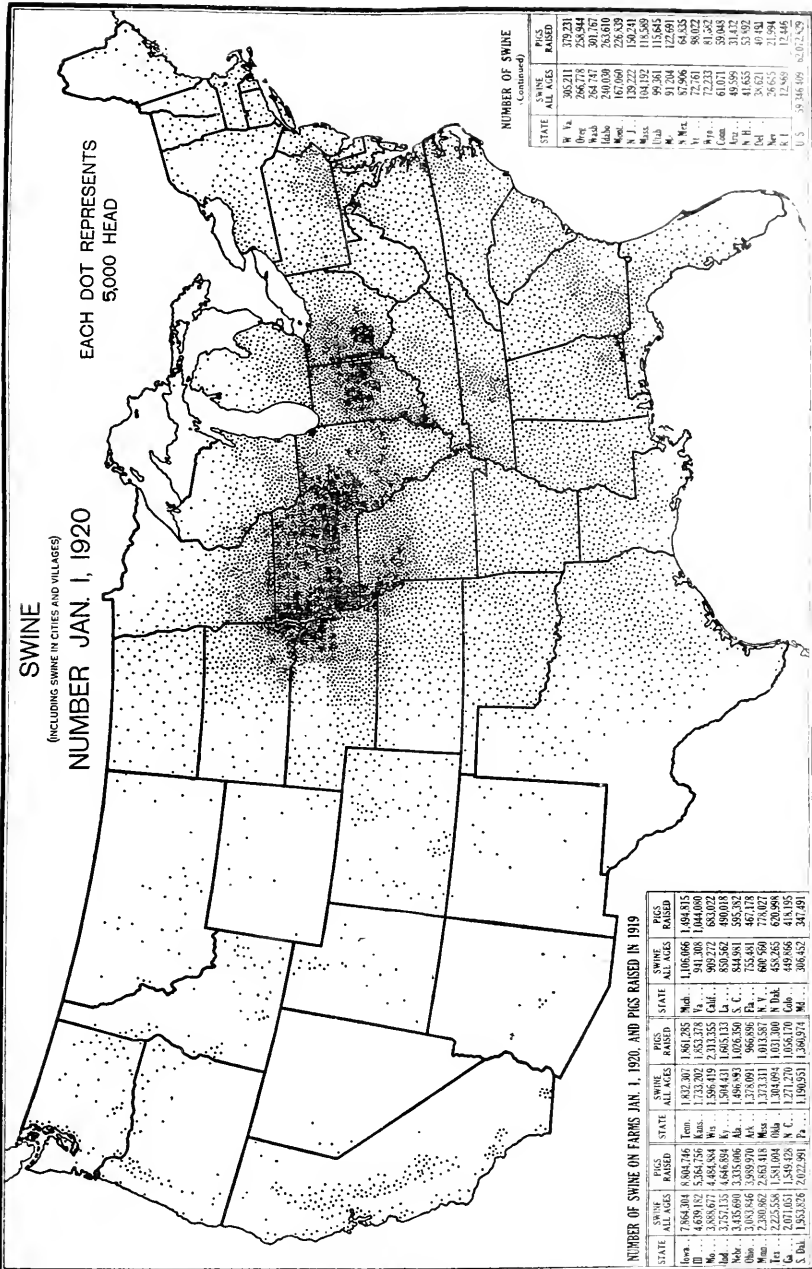


FIG. 89.—Over two-fifths of the hogs and pigs in the United States are in the Corn Belt, nearly one-fifth are in the Cotton Belt, and nearly another fifth in the Corn and Winter Wheat Region. In 1919 there were, on the average, 106 swine per square mile in the Corn Belt, 27 in the Cotton Belt, 32 in the Corn and Winter Wheat Region, 17 in the Hay and Pasture Region, and about 4 per square mile in the remainder of the United States. Just as the cool Hay and Pasture Region finds the best outlet for its crops in feeding dairy cows, so the warm, rich Corn Belt finds the growing of corn and feeding of beef cattle and hogs its most profitable system of farming (see Figs. 27 and 81). Swine in cities and villages numbered 2,638,389, which is about 4 per cent of the total number in the United States.

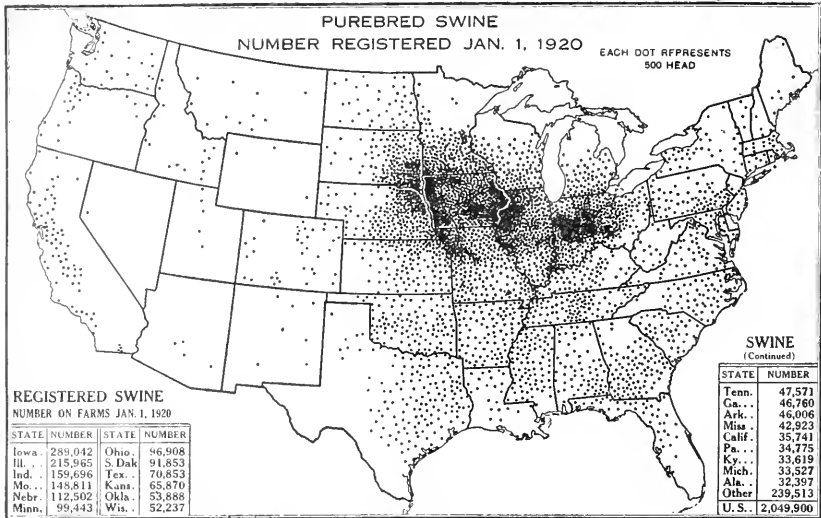


FIG. 90.—Nearly 60 per cent of the registered pure-bred hogs and pigs are in the Corn Belt. About one-seventh, as with pure-bred beef cattle, are in Iowa. Nearly 5 per cent of the swine in the Corn Belt are registered, and 3 per cent in the remainder of the United States. Duroc-Jersey hogs constitute 40 per cent of the registered swine in the United States, Poland-China 35 per cent, Chester-White 9 per cent, Hampshire 5 per cent, Berkshire 4 per cent, other breeds and unspecified 7 per cent. Iowa leads all States in number of pure-bred Duroc-Jersey, Poland-China, Chester-White, Hampshire and Tamworth; Indiana in number of spotted Poland-China; Pennsylvania in Berkshires; Kansas in Essex; and Minnesota in Yorkshires.

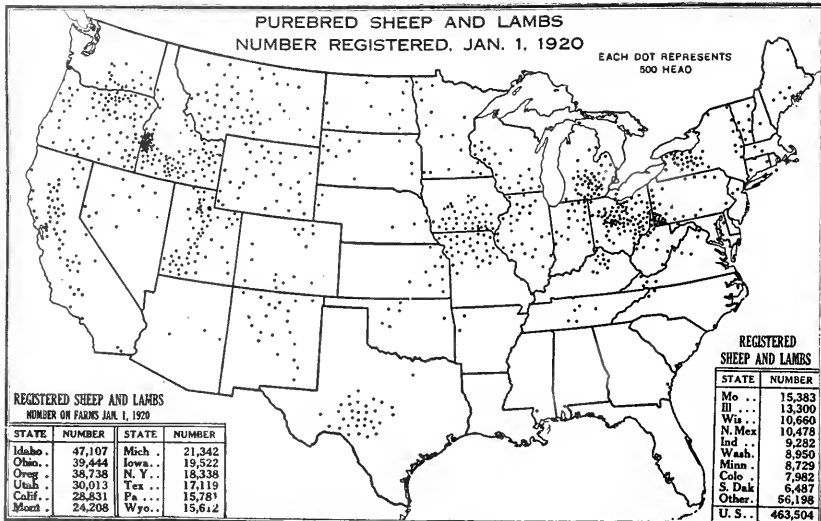


FIG. 91.—Registered pure-bred sheep and lambs are more evenly diffused geographically than pure-bred cattle or swine. A few breeders remain in the old centers of production in Vermont and New York; many more pure-bred sheep may be noted in the more recent production areas of Ohio, southwestern Pennsylvania and southern Michigan; but the greatest number is now found in the West, Idaho leading the States with nearly 50,000 registered animals. Shropshires constitute 27 per cent of all registered sheep in the United States, Rambouillet 23 per cent, Merino 14 per cent, Hampshire 11 per cent, other breeds and unspecified 25 per cent. The Cotton Belt is the only region in which there are practically no pure-bred sheep.

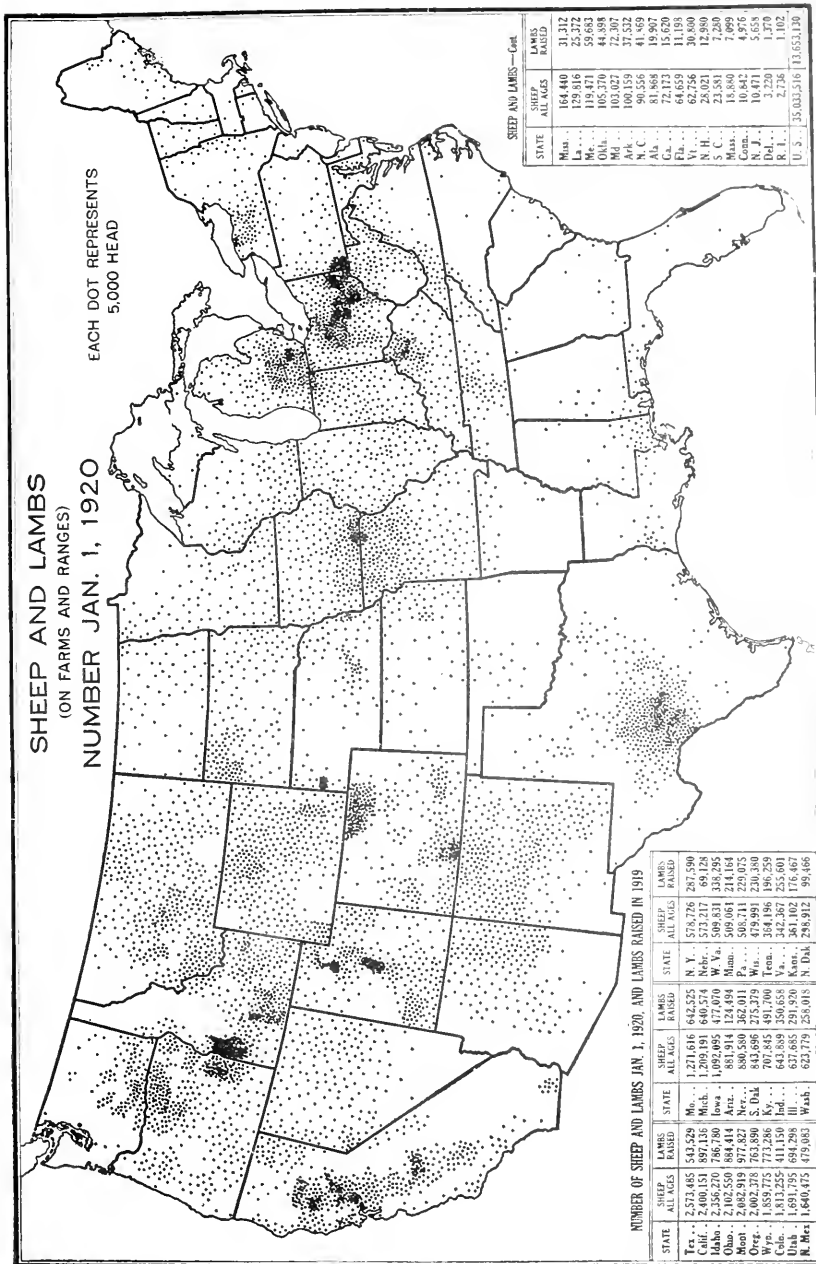


FIG. 92.—Over 60 per cent of the sheep and lambs are in the western half of the United States, largely because sheep can graze on more arid lands than any other kind of domesticated animal, and also are less subject to disease in arid than in humid climates. The dense spots shown in the West are owing in part to the date of enumeration, January 1, when many sheep are being fed in the irrigated districts, and in part of the enumeration of sheep in that county in which the owner resides, even though the bands of sheep be roaming over distant deserts. The following summer the same sheep may graze on the alpine meadows of the national forests an hundred miles or more away. The dense centers in the East, however, represent sheep on farms within the counties indicated.

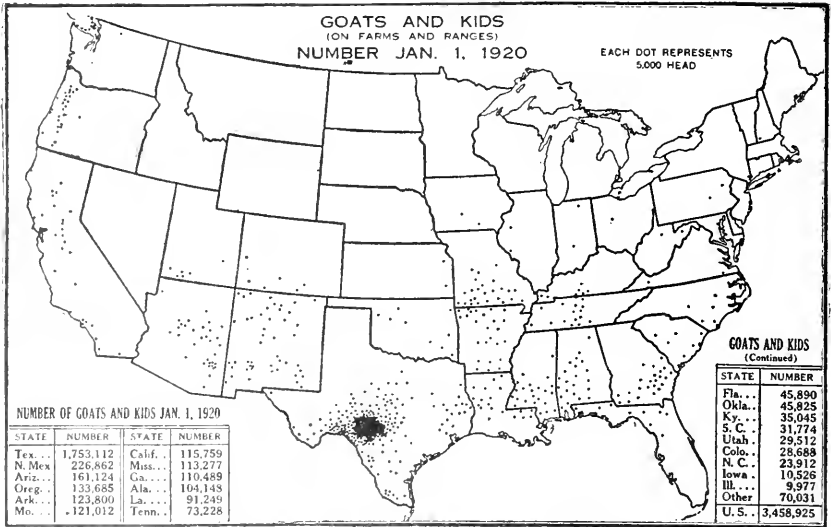


FIG. 93.—Over half of the goats in the United States are in Texas—nearly all on the Edwards Plateau. Cattle, sheep, and goats (see Figs. 81 and 92) are grazed on the same land in this district, the cattle pasturing on the grass, the goats browsing on the oak scrub and other brush, retarding its advance upon the grass land, while the sheep eat the weeds as well as the grass and brush. In the South and in western Oregon the goats are used in large numbers in clearing up cut-over land. In Texas and Oregon the goats are mostly Angoras, in Arizona and New Mexico Angoras predominate, but other breeds are common, while in the South practically none of the goats are raised for their fleece.

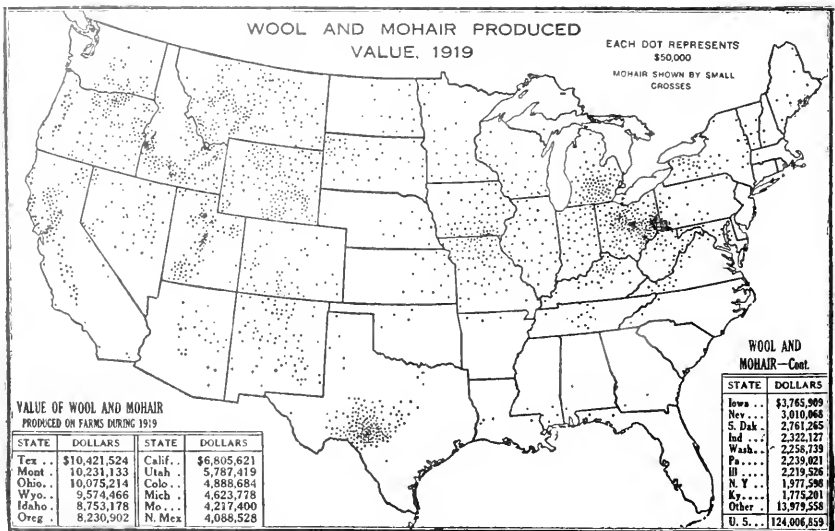


FIG. 94.—The farm value of the wool produced in the United States in 1919 was about 120 million dollars, and of the mohair about three and a half million. Texas led the States in value of wool and mohair produced, but as the value of the mohair amounted to \$2,673,275, the value of the wool produced in Texas was less than in Montana, Ohio, Wyoming, Idaho, or Oregon. The average value of the wool produced in 1919 per mature sheep January 1, 1920, was \$6.43 in Ohio, \$6.50 in Montana, \$5.53 in Oregon, and about \$4 in Texas; while the value of mohair in Texas per mature goat raised for the fleece was \$2.40. The price of wool in 1919 was about three times the pre-war price.

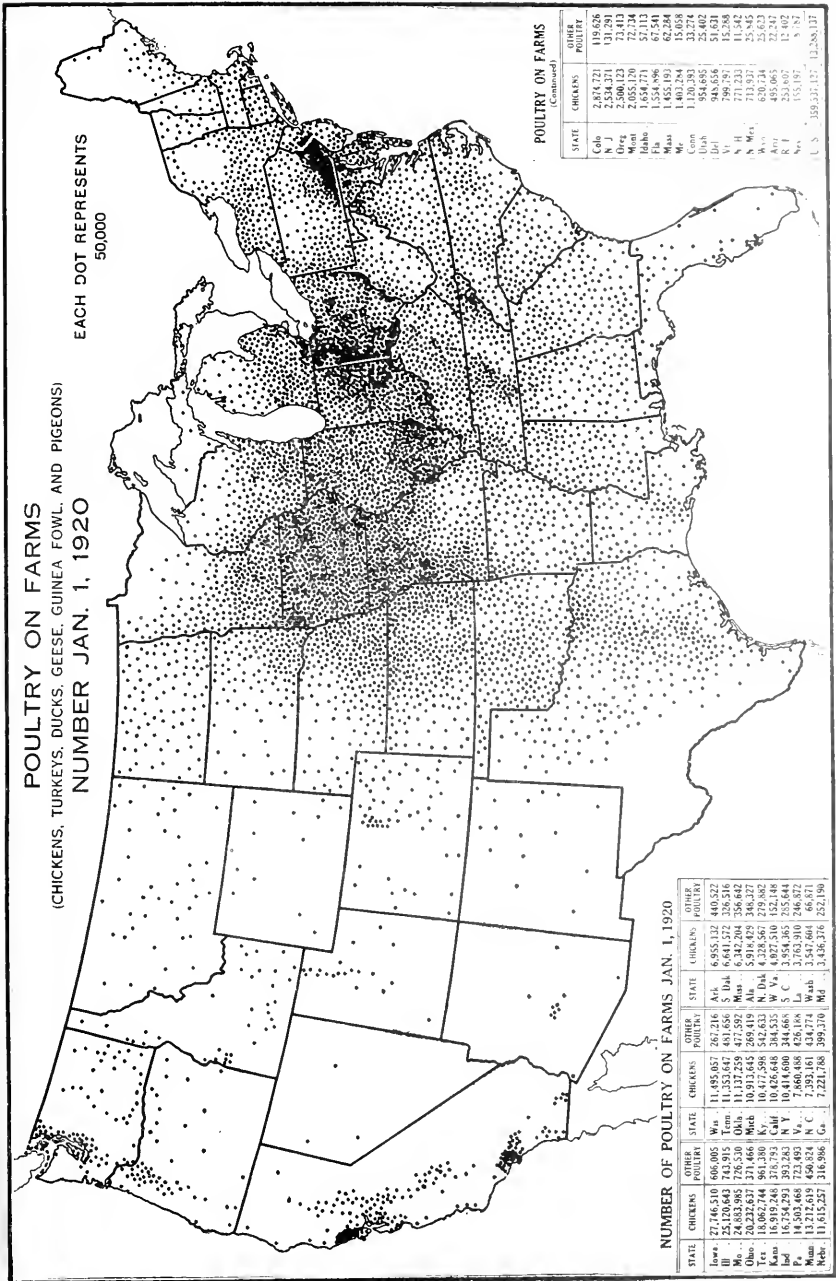
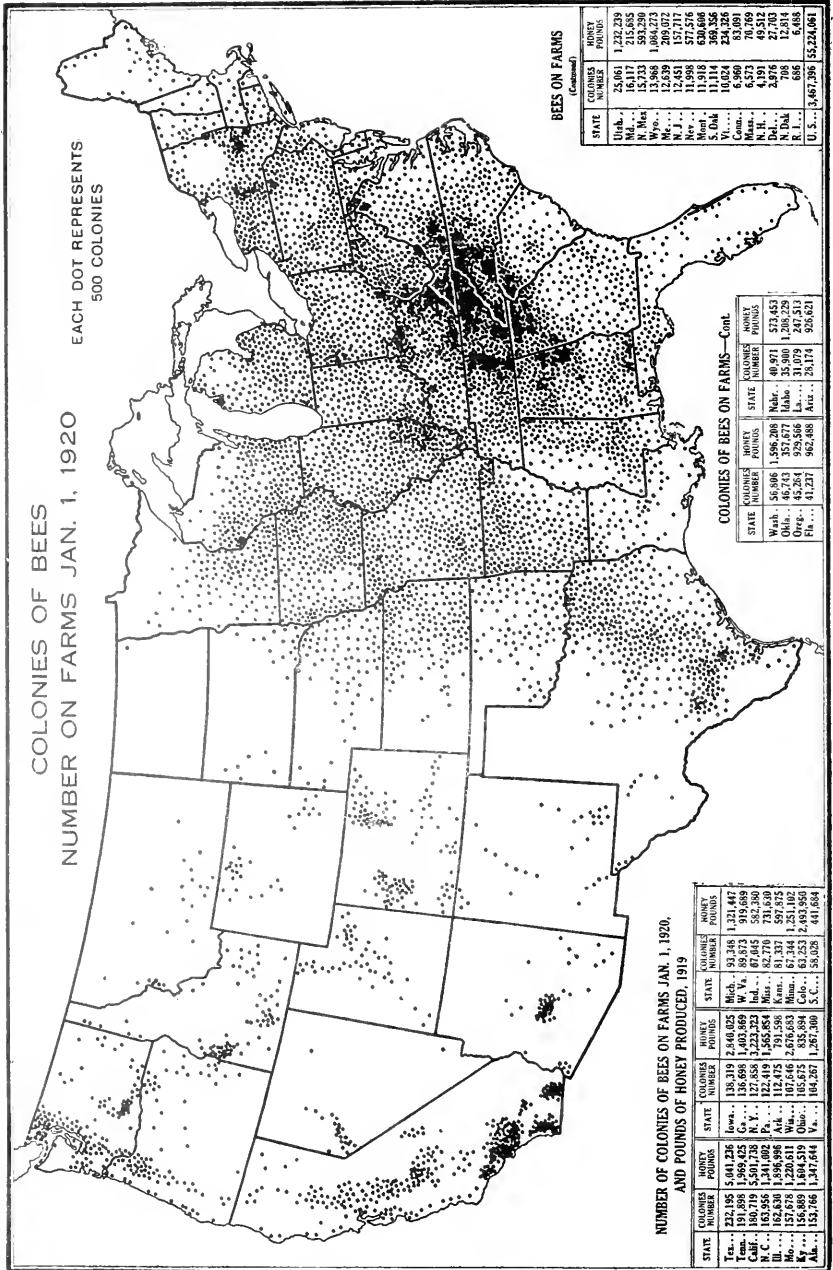


FIG. 95.—Half of the poultry in the United States are in the Corn Belt and around its margin, where feed is cheap. But the two most notable districts of production are the counties in southeastern Pennsylvania, near Philadelphia, and Sonoma County, Calif., especially the district around Petaluma. Six counties in southeastern Pennsylvania had nearly 5 million poultry on January 1, 1920, or 4,000 to the square mile; while in Sonoma County there were over 3 million poultry, with sales of eggs and chickens amounting to over 12 million dollars in 1919. Los Angeles County, Calif., had 1,350,000 poultry. The California cities are supplied largely from these two counties; but the eastern cities draw their supplies from a much wider territory.



COLONIES OF BEES
NUMBER ON FARMS JAN. 1, 1920

EACH DOT REPRESENTS
500 COLONIES

BEES ON FARMS
(Continued)

| STATE | COLONIES NUMBER | HONEY POUNDS |
|---------|-----------------|--------------|
| Utah | 25,061 | 1,232,229 |
| Wid. | 16,117 | 215,655 |
| N. Mex. | 15,733 | 593,290 |
| Wyo. | 13,968 | 1,008,073 |
| N.J. | 12,451 | 157,317 |
| Nev. | 11,998 | 577,576 |
| Mont. | 11,918 | 630,406 |
| V. Ark. | 10,524 | 224,205 |
| Conn. | 6,969 | 83,091 |
| Mass. | 6,573 | 70,769 |
| P. R. | 4,191 | 49,312 |
| N. Dak. | 708 | 12,814 |
| R. I. | 686 | 686 |
| U. S. | 3,467,396 | 15,224,061 |

COLONIES OF BEES ON FARMS—Cont.

| STATE | COLONIES NUMBER | HONEY POUNDS |
|--------|-----------------|--------------|
| W. Va. | 15,046 | 1,668,390 |
| Okla. | 46,213 | 357,672 |
| Ore. | 45,264 | 929,566 |
| Fla. | 41,237 | 962,488 |
| Ark. | 28,174 | 926,621 |

NUMBER OF COLONIES OF BEES ON FARMS, JAN. 1, 1920,
AND POUNDS OF HONEY PRODUCED, 1919

| STATE | COLONIES NUMBER | HONEY POUNDS | STATE | COLONIES NUMBER | HONEY POUNDS |
|--------|-----------------|--------------|-------|-----------------|--------------|
| Tex. | 372,195 | 5,641,226 | Mich. | 92,348 | 1,214,447 |
| Calif. | 180,719 | 5,501,738 | N. Y. | 67,043 | 582,390 |
| N. C. | 163,956 | 1,341,002 | Pa. | 82,770 | 731,630 |
| Ill. | 162,830 | 1,936,696 | Kent. | 81,337 | 597,675 |
| Wis. | 154,809 | 1,604,539 | Ohio | 67,255 | 1,251,002 |
| Ind. | 152,766 | 1,347,444 | S. C. | 58,026 | 441,684 |

Fig. 96.—Two areas of dense distribution of bees stand out on the map, the southern Appalachians and southern California. The southern Appalachian area, extending from eastern Kentucky to northern Georgia and Alabama, had about 600,000 colonies in 1919 and produced about 7,000,000 pounds of honey; whereas California, with only 181,000 colonies, produced 5,500,000 pounds, or almost three times as much per colony. Texas also produced over 5,000,000 pounds of honey in 1919. The irrigated districts in the West, where fruit and alfalfa furnish many flowers, show distinctly on the map. Districts having large numbers of bees may also be noted in New York State, along the Ohio River, and in southern Illinois.

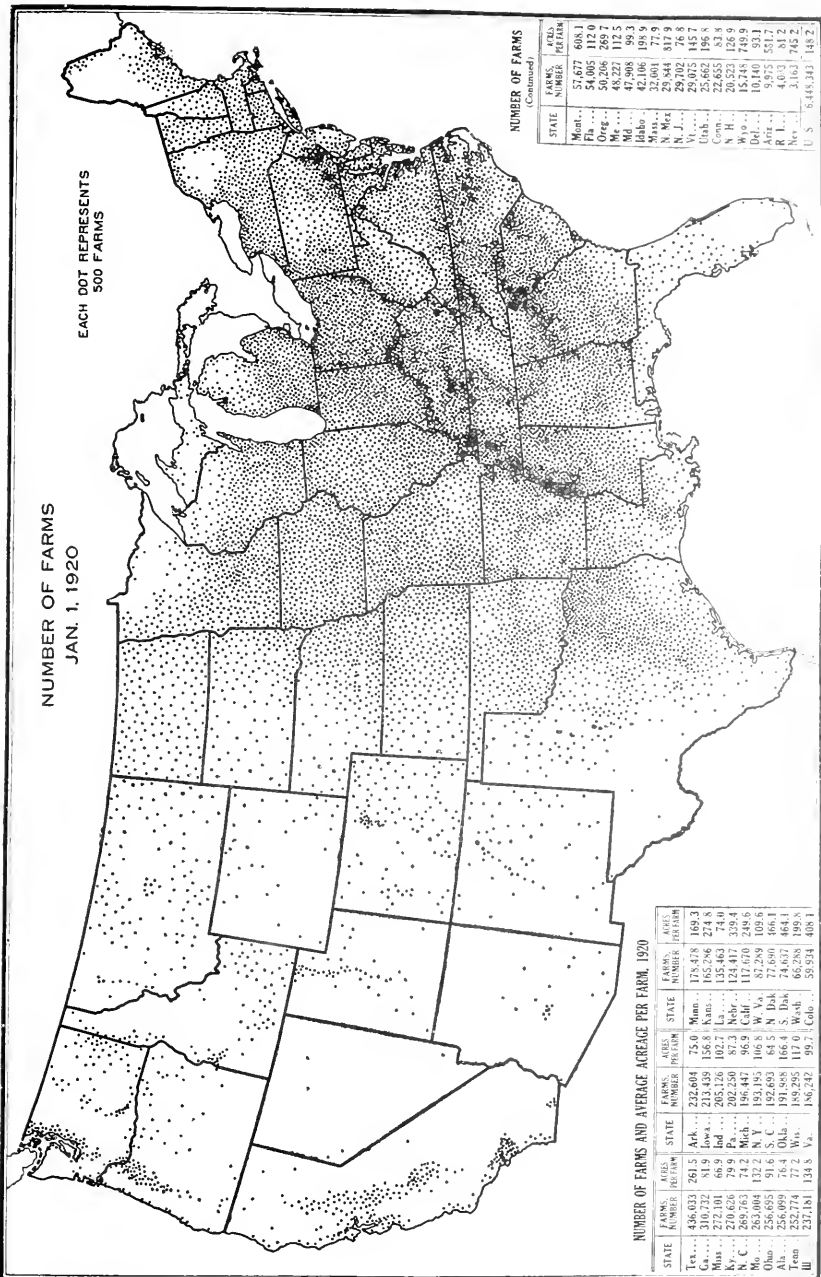
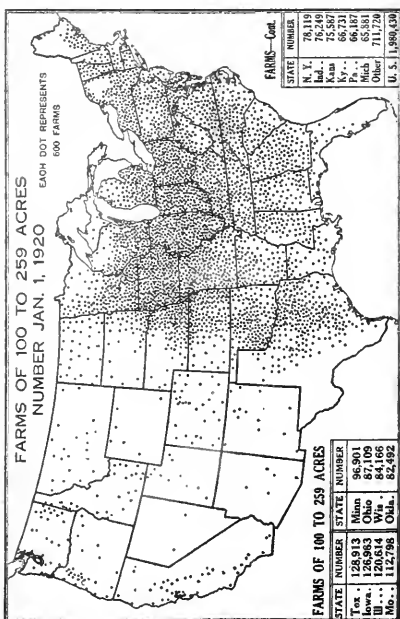
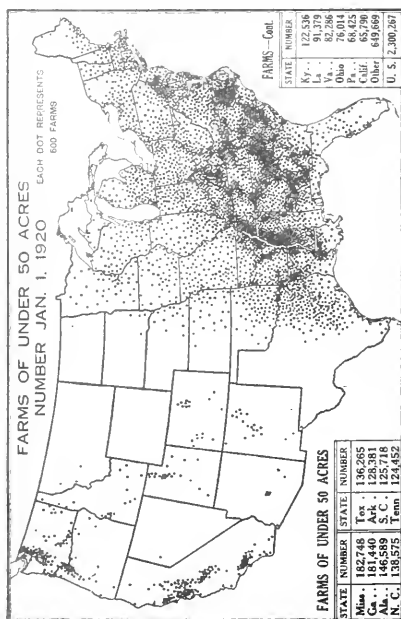
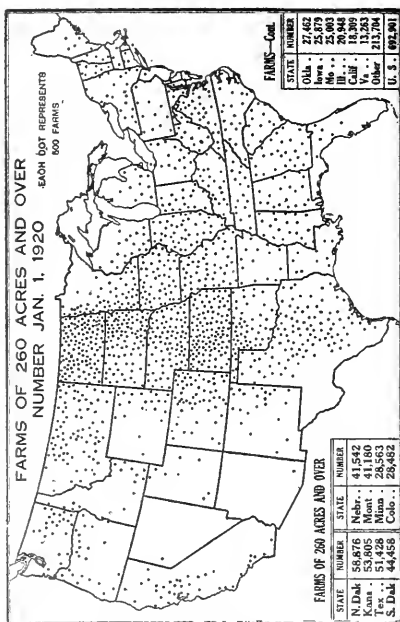
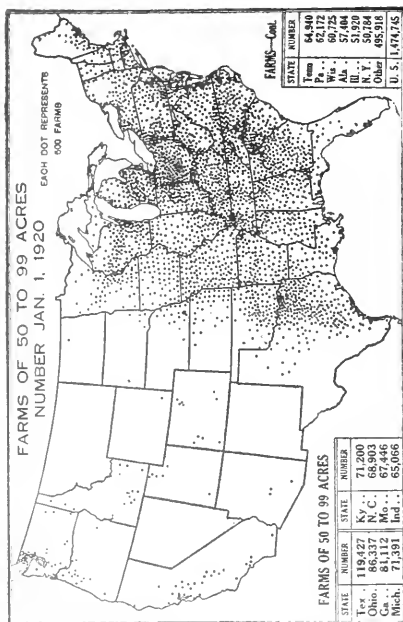


FIG. 97.—This map, showing the distribution of farms, might also serve as a map of farm population. The densest areas are southeastern Pennsylvania, the upper Piedmont of South Carolina and Georgia, eastern, central, and western Tennessee, the Ohio Valley, and the Yazoo Delta in Mississippi. Over half the farms in the United States are in the Cotton Belt and the Corn and Winter Wheat Region. Many of the tenant farms on the plantations in the Cotton Belt, however, are little more than laborers' allotments. The Corn Belt, although it includes over one-third the value of farm property in the United States, has only one-seventh of the farms. Nine-tenths of the farms are in the eastern half of the United States. The relative density of farm population in the South is even greater than that of farms. (See Figs. 104 and 118.)



FIGS. 98 TO 101.—The typical negro tenant farms are from 30 to 50 acres in size, of which about half is in cotton. Many white farmers also have small farms, both in the Cotton Belt and in the Corn and Winter Wheat Region. Farms of 50 to 100 acres are characteristic of the white cotton farmers in the upper Piedmont of the Carolinas and Georgia and the Black Prairie of Texas; also of the fair to good soils of Tennessee, Kentucky, Ohio, and Michigan. On the richer lands of the Corn Belt farms of 100 to 260 acres prevail. Large farms in area—over 260 acres—are found in the Great Plains and Spring Wheat regions. A two-section "dry farm" in the Great Plains Region, however, is no larger in productivity than a quarter-section farm in the Corn Belt (see Fig. 103).

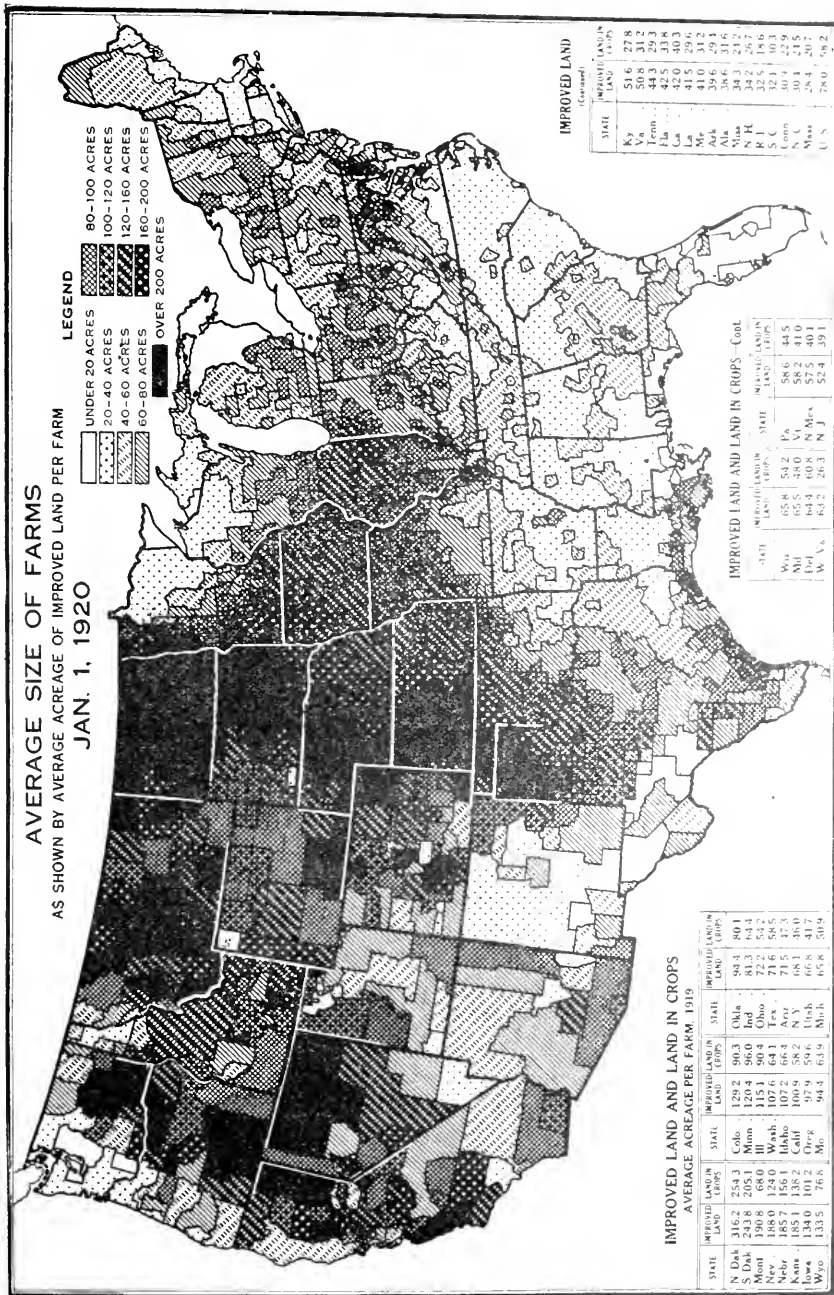


Fig. 102.—Improved land is a better criterion of the real size of a farm than its total area. The Cotton Belt stands out clearly, with the farms in most of the area averaging less than 40 acres. The same small acreage per farm is found in eastern New England, where trucking and dairying dominate, and in the upper Lakes area, where farms are only partially reclaimed from the forest. At the other extreme, much of the Great Plains and most of the Spring Wheat Area average over 200 acres per farm. The sharp gradation zone extending from northwestern Minnesota to Indiana, thence to central Texas, marks the eastern margin of the prairies (see Fig. 7). Prairie farms were more easily and quickly made than forest farms, and have remained larger. (See Fig. 111.)

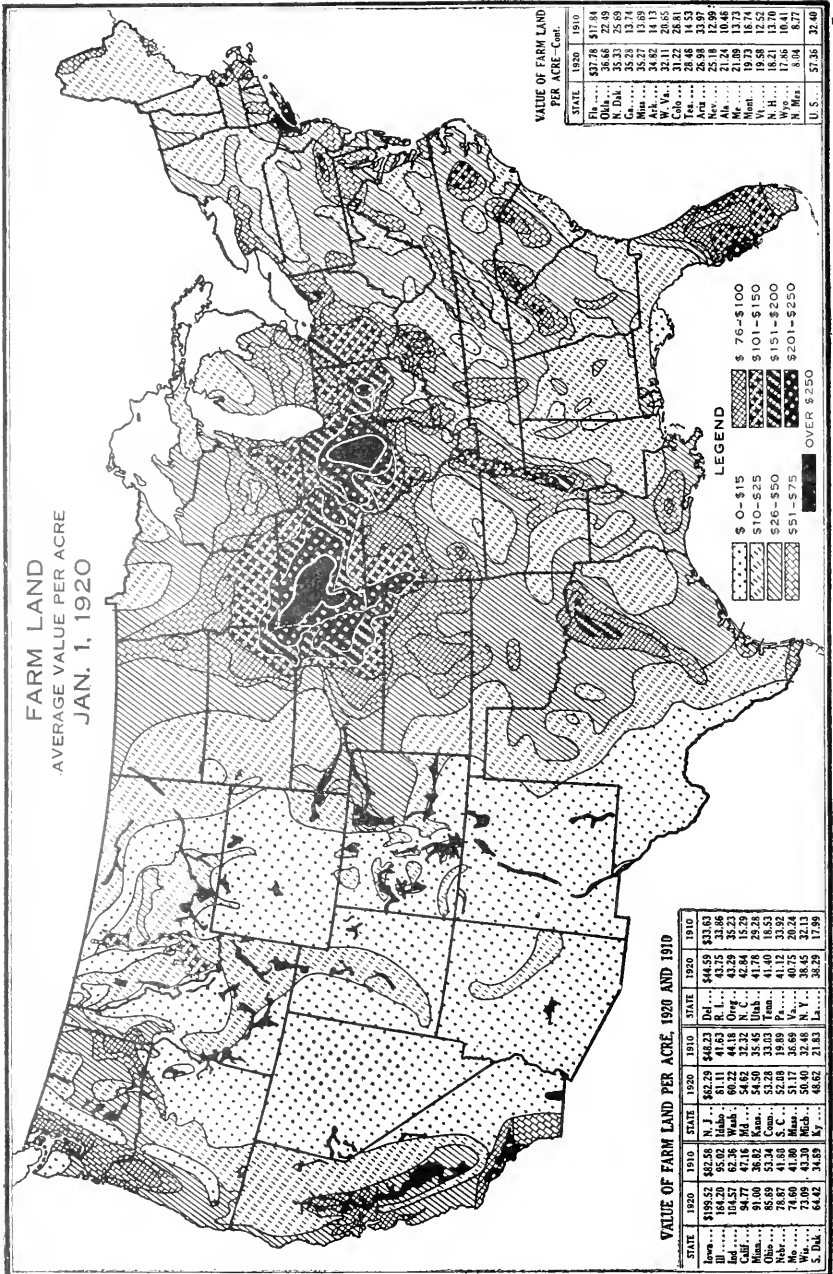
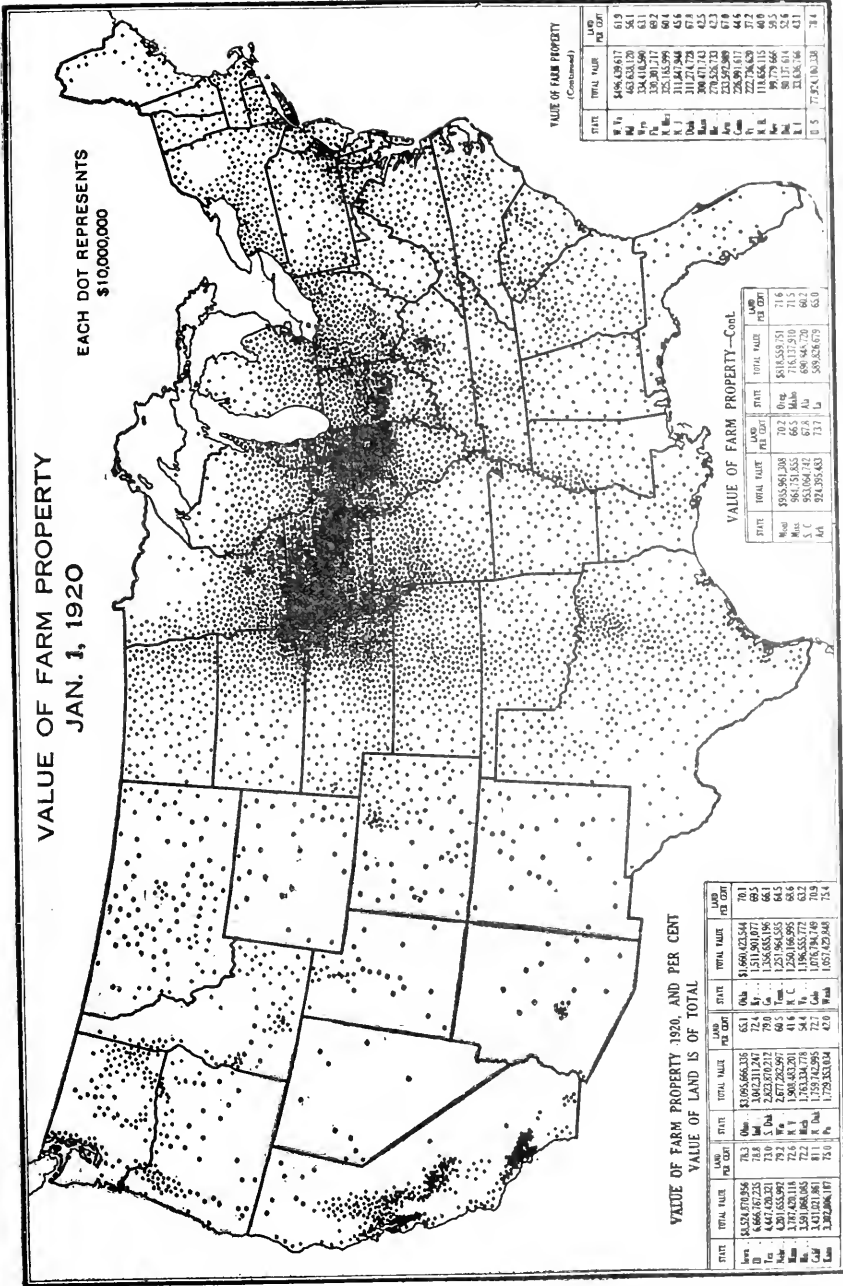


FIG. 103.—The Corn Belt is conspicuous on this map, average land values in central Illinois and northwestern Iowa having risen to over \$250 an acre in 1919. There has been a decline since. The irrigated areas are also shown on the map as having land values of over \$250, but this is not true of all the districts. Even the larger irrigated areas were too small to show other than in black, and many smaller districts could not be shown at all. The regions of low land values are the arid and semiarid lands of the West, the sandy, thin, or stony soils of the upper Lakes area and the North Atlantic States, and the light or leached lands in parts of the South, where also much of the farm may be in forest. The first box in the legend should read \$0-\$10, the second box \$11-\$25.



VALUE OF FARM PROPERTY (Continued)

| STATE | TOTAL VALUE | PER ACRE | LAND PER ACRE | PER ACRE |
|--------|---------------|----------|---------------|----------|
| W. Va. | \$48,629,917 | 61.9 | | |
| W. Va. | 463,624,129 | 56.1 | | |
| W. Va. | 334,416,590 | 63.1 | | |
| Pa. | 320,307,177 | 62.2 | | |
| Pa. | 311,647,549 | 65.6 | | |
| N. J. | 311,271,729 | 67.8 | | |
| Del. | 296,471,743 | 42.5 | | |
| Del. | 233,557,509 | 47.8 | | |
| Del. | 226,991,617 | 44.6 | | |
| Del. | 222,784,629 | 37.2 | | |
| N. H. | 118,656,115 | 66.9 | | |
| N. H. | 99,175,516 | 62.6 | | |
| N. H. | 91,115,516 | 62.6 | | |
| N. H. | 82,185,746 | 43.1 | | |
| U. S. | 77,734,163.39 | 71.4 | | |

VALUE OF FARM PROPERTY—Cont.

| STATE | TOTAL VALUE | PER ACRE | LAND PER ACRE | PER ACRE |
|-------|---------------|----------|---------------|----------|
| Pa. | \$36,964,208 | 70.2 | | |
| Pa. | \$818,538,751 | 71.6 | | |
| Pa. | 716,177,910 | 71.5 | | |
| Pa. | 665,716,000 | 65.0 | | |
| Pa. | 658,828,678 | 65.0 | | |

VALUE OF FARM PROPERTY 1920, AND PER CENT VALUE OF LAND IS OF TOTAL

| STATE | TOTAL VALUE | PER ACRE | LAND PER ACRE | PER ACRE |
|-------|-----------------|----------|---------------|----------|
| Pa. | \$1,629,372,235 | 71.3 | | |
| Pa. | 4,647,428,121 | 71.0 | | |
| Pa. | 4,201,655,991 | 79.2 | | |
| Pa. | 3,197,428,116 | 72.6 | | |
| Pa. | 3,451,021,861 | 81.1 | | |
| Pa. | 3,000,000,147 | 75.0 | | |
| Pa. | 2,856,626,376 | 65.1 | | |
| Pa. | 2,022,111,247 | 72.4 | | |
| Pa. | 2,823,702,717 | 79.0 | | |
| Pa. | 2,677,282,967 | 68.5 | | |
| Pa. | 1,903,632,201 | 61.4 | | |
| Pa. | 1,733,628,995 | 72.7 | | |
| Pa. | 1,729,333,634 | 67.0 | | |
| Pa. | 1,057,627,348 | 75.4 | | |
| Pa. | \$1,629,372,235 | 70.5 | | |
| Pa. | 5,519,801,077 | 69.5 | | |
| Pa. | 1,356,655,196 | 66.1 | | |
| Pa. | 1,251,964,555 | 64.5 | | |
| Pa. | 1,258,655,275 | 62.6 | | |
| Pa. | 1,078,794,149 | 70.9 | | |
| Pa. | 1,057,627,348 | 75.4 | | |

FIG. 104.—Over one-third of the value of farm property in the United States is in the Corn Belt, and nearly two-fifths of the value of farm land. The average value of farm land per acre January 1, 1920, was \$148 in the Corn Belt, as compared with \$40 in the Cotton Belt, \$48 in the Hay and Pasture Region, and \$21 in the Great Plains Region. Only in the South Pacific Coast Region does the value of farm property per square mile and of farm land per acre (\$114) approach the values in the Corn Belt. Note the districts of greater values adjoining New York City, Philadelphia, Detroit, and the Twin Cities, also the Blue Grass district in Kentucky.

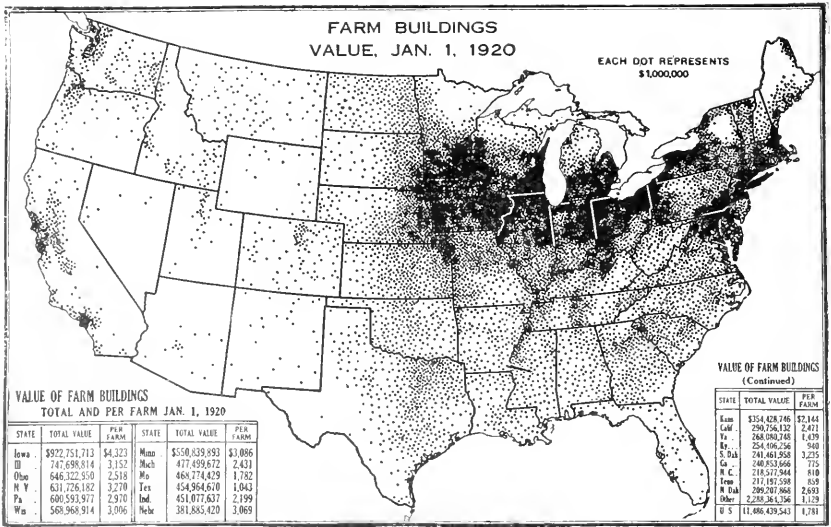


FIG. 105.—The value of farm buildings is greatest in southeastern Pennsylvania, where it exceeds the value of the land, and averages \$4,000 to \$5,000 per farm. In the Corn Belt the average value of farm buildings is \$3,400 per farm, and it is almost as much in the Spring Wheat Area, and the southern portion of the Hay and Pasture Region. In the Cotton Belt, on the other hand, the average value is only \$738, owing in part to the large number of negro shanties. However, the value of the buildings on the landlord's farm in a plantation is almost as great as the values in the Corn Belt. These values of farm buildings include barns and outbuildings, and since the value of the house is, in general, about half that of all farm buildings, the average value of farm houses in the United States is only about \$900.

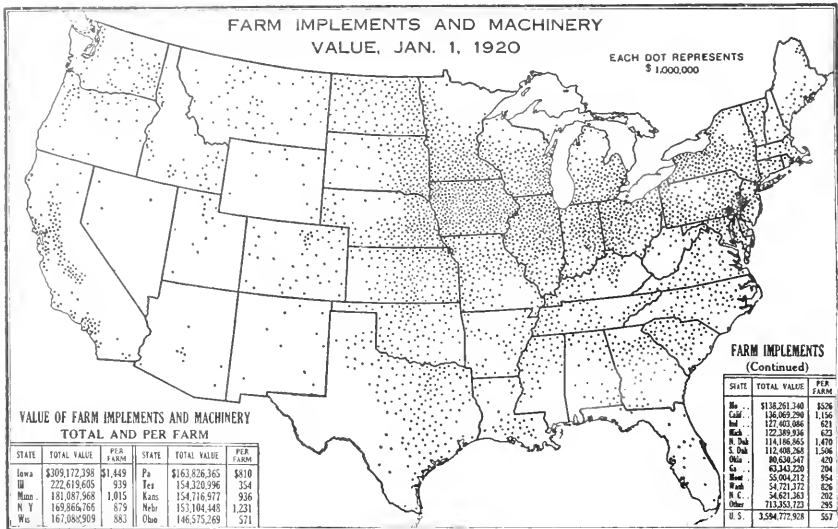


FIG. 106.—About one-half of the value of farm implements and machinery in the United States was reported in 1920 from the Corn Belt and the Hay and Pasture Region; but the greatest value per farm (\$1,370) was in the Spring Wheat Area. In the general farming districts of the North and West the average farm had about \$1,000 worth of machinery in 1920, but the much smaller amount per farm in the Cotton Belt (\$215), and in the Corn and Winter Wheat Region (\$400), reduced the Nation's average to \$557. The proportion which the value of machinery and implements constituted of the total value of farm property was extraordinarily uniform, ranging around 4 to 5 per cent in all the regions, except in the Hay and Pasture Region, where it constituted 7 per cent.

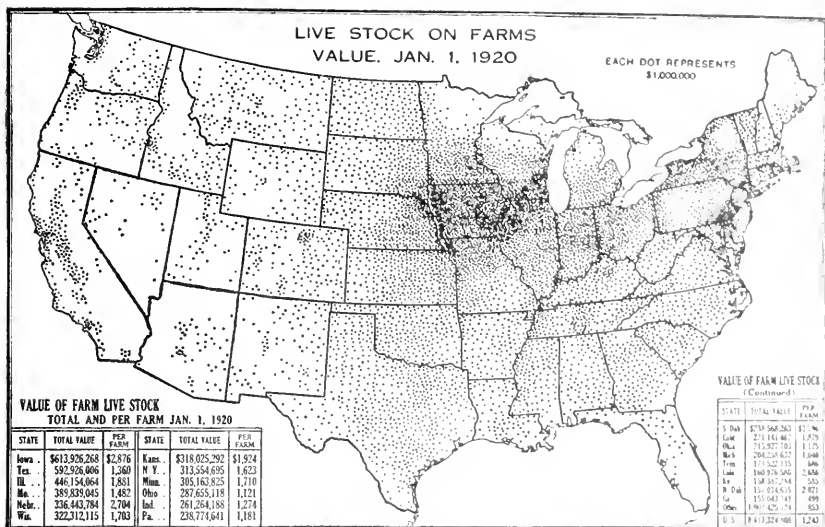


FIG. 107.—The Corn Belt contains one-fourth of the value of all live stock in the United States, or somewhat more than the entire western half of the country. There is also dense distribution in southern Wisconsin and Michigan, in New York, and in southeastern Pennsylvania, in which districts dairying is very important. The greatest average value per farm, over \$3,000, is in the Arid Intermountain and the Great Plains regions; the smallest, \$583, in the Cotton Belt. However, the proportion which value of live stock constitutes of the total farm investment is 12 per cent in the Cotton Belt, as compared with 8 per cent in the Corn Belt. The greatest proportion, 18 per cent, is found in the Rocky Mountain and Arid Intermountain regions.

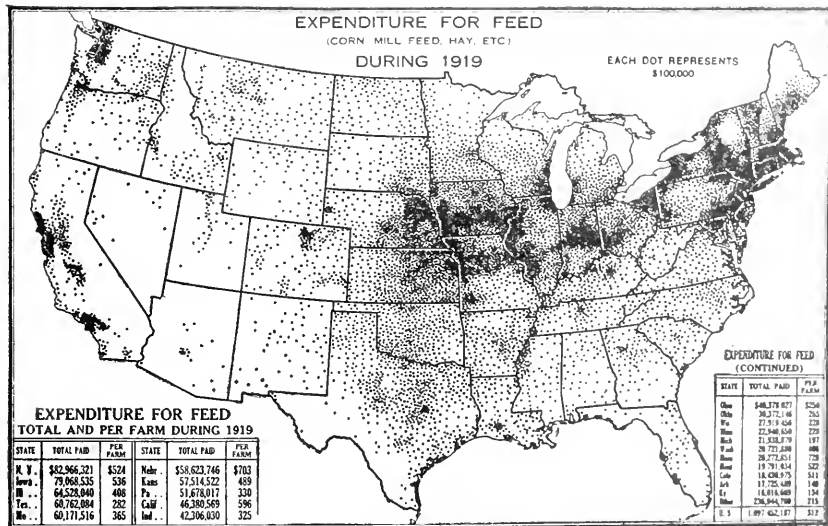


FIG. 108.—The expenditure for feed is greatest in the Hay and Pasture Region, where dairying dominates and the production of grain is deficient, and in the Corn Belt, where feed is freely bought and sold by the farmers, most of whom feed beef cattle and hogs. In north-central Illinois the expenditure for feed is much less because the corn is largely sold to the near-by Chicago market, and few cattle or hogs are raised. (See Figs. 28, 81, 89, and 107.) The heavier expenditure shown in the Puget Sound and Willamette Valleys is largely for feed for dairy cows, while in California the feed is bought principally for dairy cows and poultry.

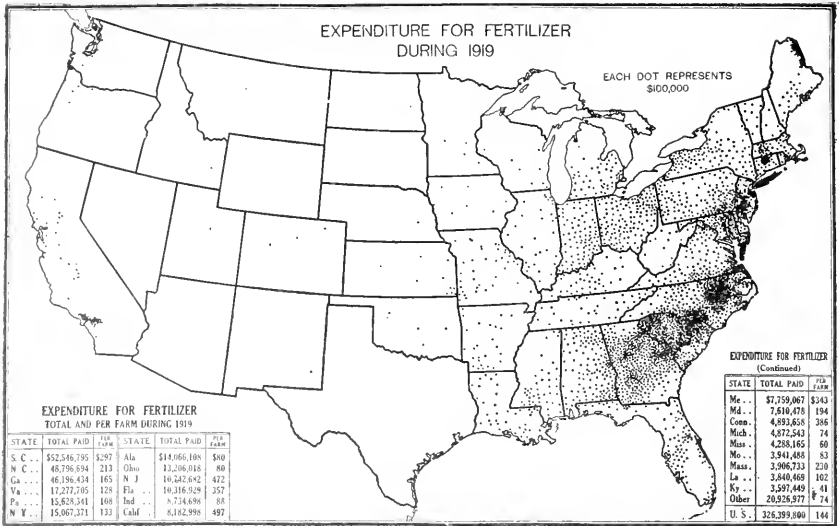


FIG. 109.—Fertilizer is used at present principally on the more intensively cultivated crops, particularly cotton, tobacco, fruit, and truck, including potatoes; and almost wholly as yet in the Eastern States, where the rainfall is heavier and the soils more leached. About half of the expenditure in 1919 was in the Coastal Plain and Piedmont portions of Georgia, the Carolinas, and Virginia. Minor areas are the trucking districts of New Jersey and Long Island, the tobacco-onion district of the Connecticut Valley, the Aroostook potato district in Maine, and the fruit-trucking district in southern California. Especially significant and prophetic is the considerable expenditure shown in Ohio and Indiana and even in Illinois and Iowa.

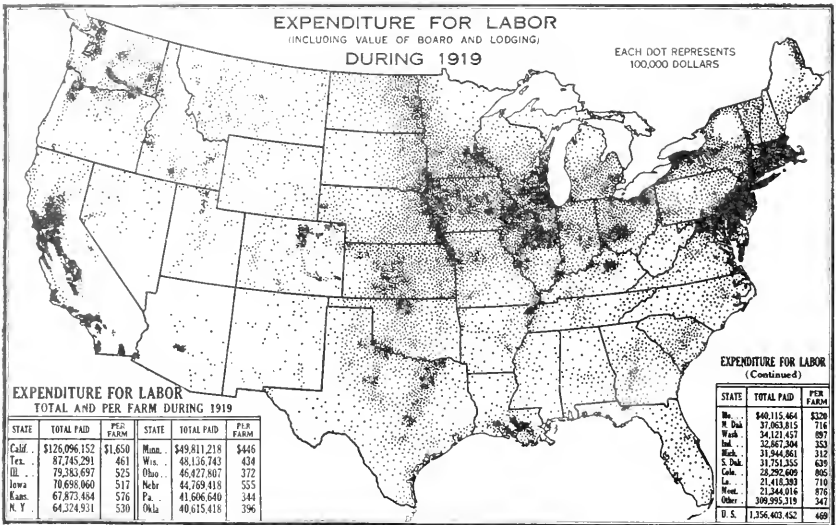
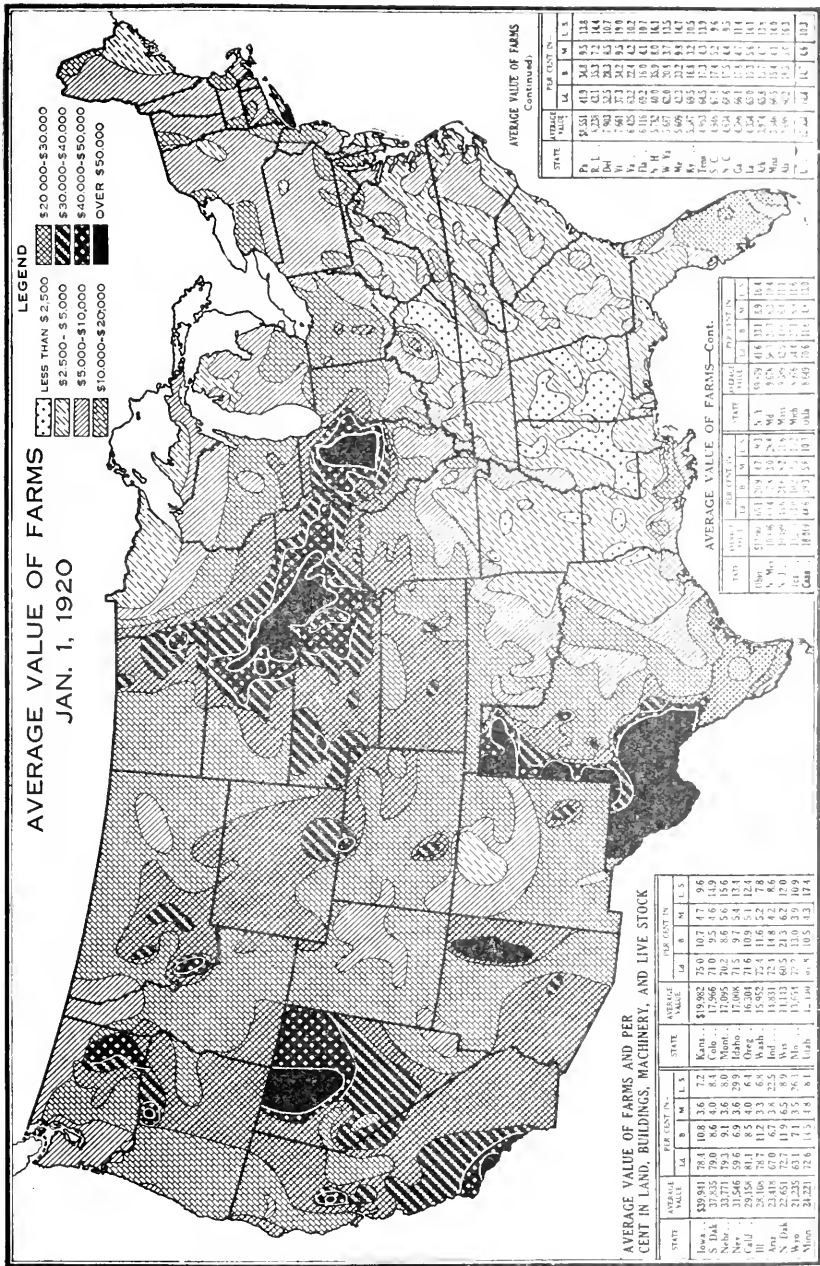


FIG. 110.—The expenditure for labor in 1919 was greatest in the trucking, fruit, and dairying areas, especially the coastal belt from Norfolk, Va., to Salem, Mass., the Ontario lowland of New York, the Elgin dairy district of northern Illinois and southern Wisconsin, and the irrigated valleys of the West. Heavy expenditure is also shown in most of the Corn Belt, and somewhat less in the Winter and Spring Wheat Areas. Although cotton is a crop requiring much more labor than any other major crop, the cash expenditure is small in the Cotton Belt because most of the labor is furnished by croppers and tenants. In the Black Prairie of Texas, however, many Mexicans are hired to pick cotton.



AVERAGE VALUE OF FARMS AND PER CENT IN LAND, BUILDINGS, MACHINERY, AND LIVE STOCK

| STATE | PER CENT IN... | | | STATE | AVERAGE VALUE | PER CENT IN... | | |
|---------|----------------|------|-------|-------|---------------|----------------|------|-------|
| | LA. | M. | U.S. | | | LA. | M. | U.S. |
| Iowa | 33,911 | 78.4 | 108.3 | 72 | Kent. | 19,968 | 75.0 | 107.4 |
| Nebr. | 33,775 | 78.3 | 91.3 | 80 | Mont. | 17,095 | 70.2 | 66.5 |
| Ne. | 31,546 | 59.6 | 6.9 | 36 | Idaho | 17,008 | 71.5 | 97.5 |
| Cal. | 29,156 | 81.1 | 85.0 | 64 | Oreg. | 16,304 | 71.6 | 109.5 |
| Wyo. | 22,651 | 62.7 | 3.8 | 22.5 | Utah | 13,831 | 75.1 | 118.4 |
| N. Dak. | 21,235 | 62.1 | 7.1 | 3.5 | Wis. | 11,113 | 66.5 | 21.3 |
| W. Dak. | 20,221 | 72.4 | 11.5 | 48 | Mo. | 13,574 | 77.7 | 13.9 |
| | | | | | Ariz. | 12,440 | 66.4 | 105.1 |
| | | | | | Utah | 11,511 | 66.5 | 112.1 |

AVERAGE VALUE OF FARMS—Cont.

| STATE | LA. | M. | U.S. | STATE | LA. | M. | U.S. |
|--------|------|------|------|-------|------|------|------|
| Pa. | 10.3 | 36.3 | 35 | N.Y. | 18.7 | 61.8 | 101 |
| R.I. | 2.25 | 6.1 | 2.2 | W.V. | 8.78 | 29.1 | 17.4 |
| Del. | 3.8 | 12.1 | 10.4 | Ind. | 10.1 | 32.8 | 11.1 |
| Md. | 4.85 | 12.2 | 22.4 | Ill. | 10.1 | 32.8 | 11.1 |
| Va. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Mich. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ohio | 10.1 | 32.8 | 11.1 |
| W. Va. | 5.15 | 12.2 | 18.0 | Wis. | 10.1 | 32.8 | 11.1 |
| Pa. | 5.15 | 12.2 | 18.0 | Ind. | 10.1 | 32.8 | 11.1 |
| Del. | 5.15 | 12.2 | 18.0 | Ill. | 10.1 | 32.8 | 11.1 |
| | | | | | | | |

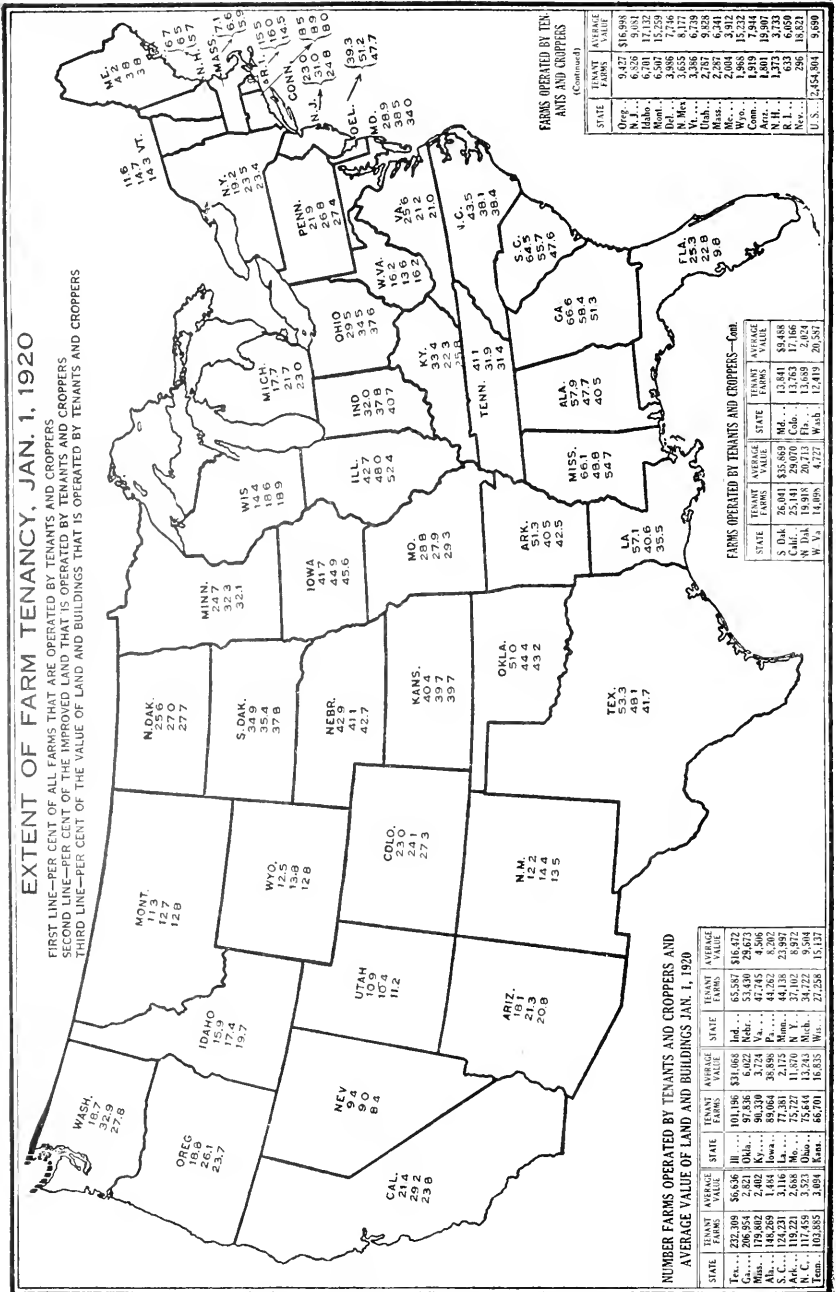


FIG. 112.—The extent of farm tenancy is commonly measured by the proportion of farmers who are tenants; but often of equal significance is the proportion of the improved land, or the proportion of the value of land and buildings included in their farms. In Illinois, for instance, less than 43 per cent of the farmers are tenants, but these tenants operate 48 per cent of the improved land, and their farms include over 52 per cent of the value of land and buildings in the State. In Alabama, on the other hand, nearly 53 per cent of the farmers are tenants, but the tenants operate only about the same proportion of improved land as the tenants in Illinois, and their farms include only about 40 per cent of the value of land and buildings.

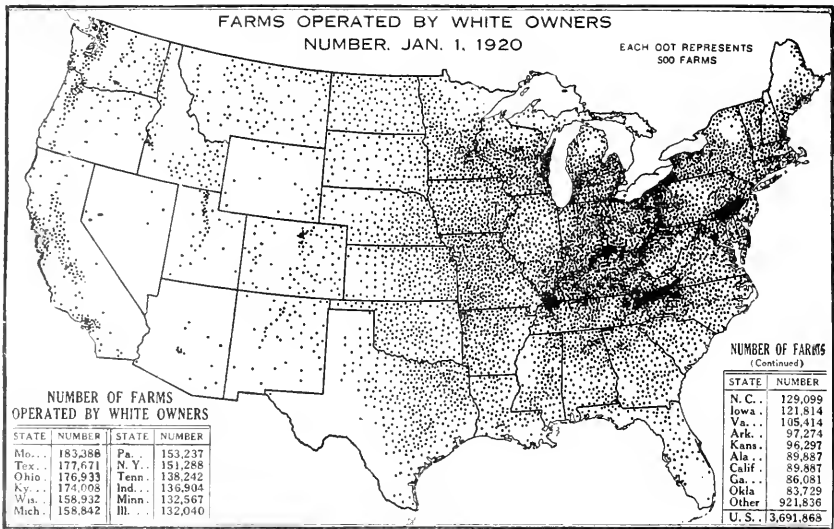


FIG. 114.—The largest number of farms operated by white owners is found among the Germans of southeastern Pennsylvania and eastern Wisconsin, the mountaineers of western Pennsylvania and the southern Appalachians, and the pioneers of western Pennsylvania and the southern Appalachians, and the pioneers of the West. The fewer number of farm owner-operators in the prairie portion of the Corn Belt, as compared with the originally forested portion (see Fig. 7), is noteworthy. This is due, in part, to the larger, consequently fewer, farms (see Fig. 102), and in part to the larger proportion of tenants (see Fig. 112). The thinner distribution in northern New England, the upper Lakes region, and the West is owing to fewer farms and not to a smaller proportion of farms operated by owners (see Fig. 113).

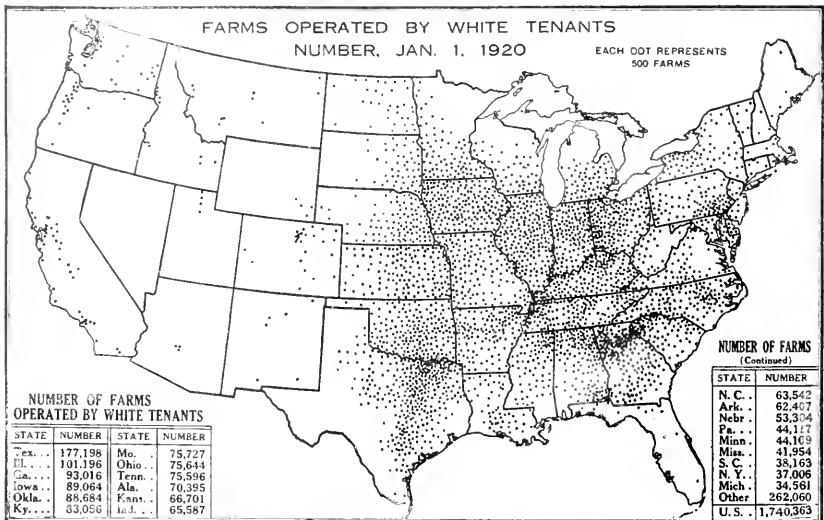


FIG. 115.—The largest number of farms operated by white tenants is in the upper Piedmont of the Carolinas, Georgia, and Alabama, and in the Black Waxy Prairie of Texas. In these districts negroes are less numerous than to the South and East, and the cotton is grown mostly by white farmers. The proportion of tenancy is about the same as in central Illinois. A large number of white tenants are shown in Kentucky and western Ohio, especially in the tobacco districts, and throughout the Corn Belt. The small number of tenants, as compared with owners (Fig. 114), is notable in the Hay and Pasture Region and in the West.

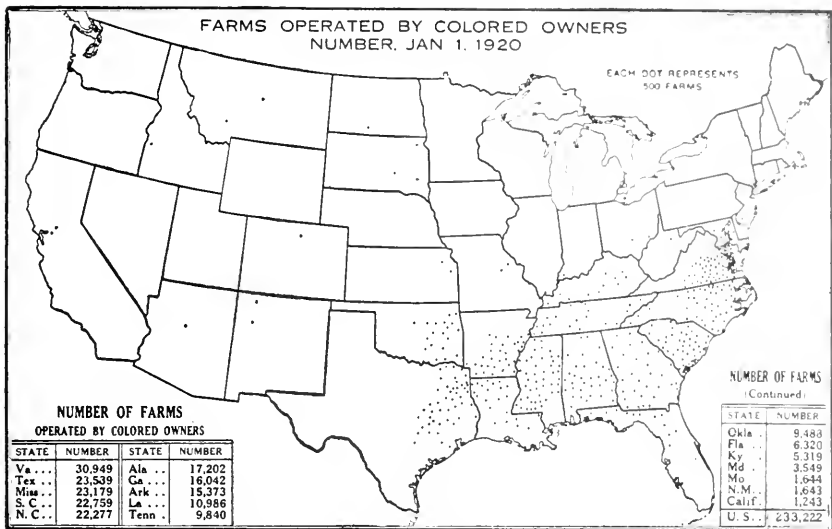


FIG. 116.—The largest number of farms operated by negro owners is found in eastern Virginia, southeastern South Carolina, and northeastern Texas, all areas of cheap land. In Virginia there are almost twice as many farms operated by negro owners as by negro tenants, and in Florida the numbers are about equal, but in the Cotton Belt tenants greatly exceed owners in number (see Fig. 117). Of the 233,222 farms in the United States operated by negro and non-white owners, only 9,153 are in the North and West. However, 71 per cent of the negro and non-white farmers in the North and West own their farms, as compared with 24 per cent in the South. The dots in the western States represent mostly farms owned and operated by Indians, Chinese, and Japanese.

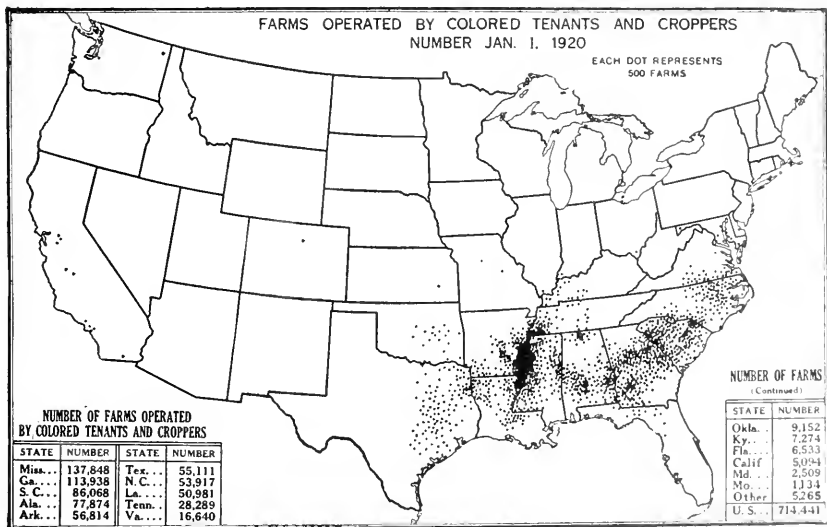


FIG. 117.—The negro tenant and cropper farms or holdings are located mostly in the Yazoo-Mississippi Delta, in the Black Prairie of Alabama, and in the upper Coastal Plain and Piedmont of Georgia and the Californias—districts having the richest soils in the old South. Many of these "farms" are merely allotments to croppers on plantations, the owner of the plantation furnishing the "cropper" with his mule, his farm implements, and sometimes, even, with food, until the crop is "made" in the fall and the proceeds divided between them. Negro tenants are much fewer in Texas because of historical reasons. The dots shown in California represent mostly Japanese and Chinese tenant farmers.

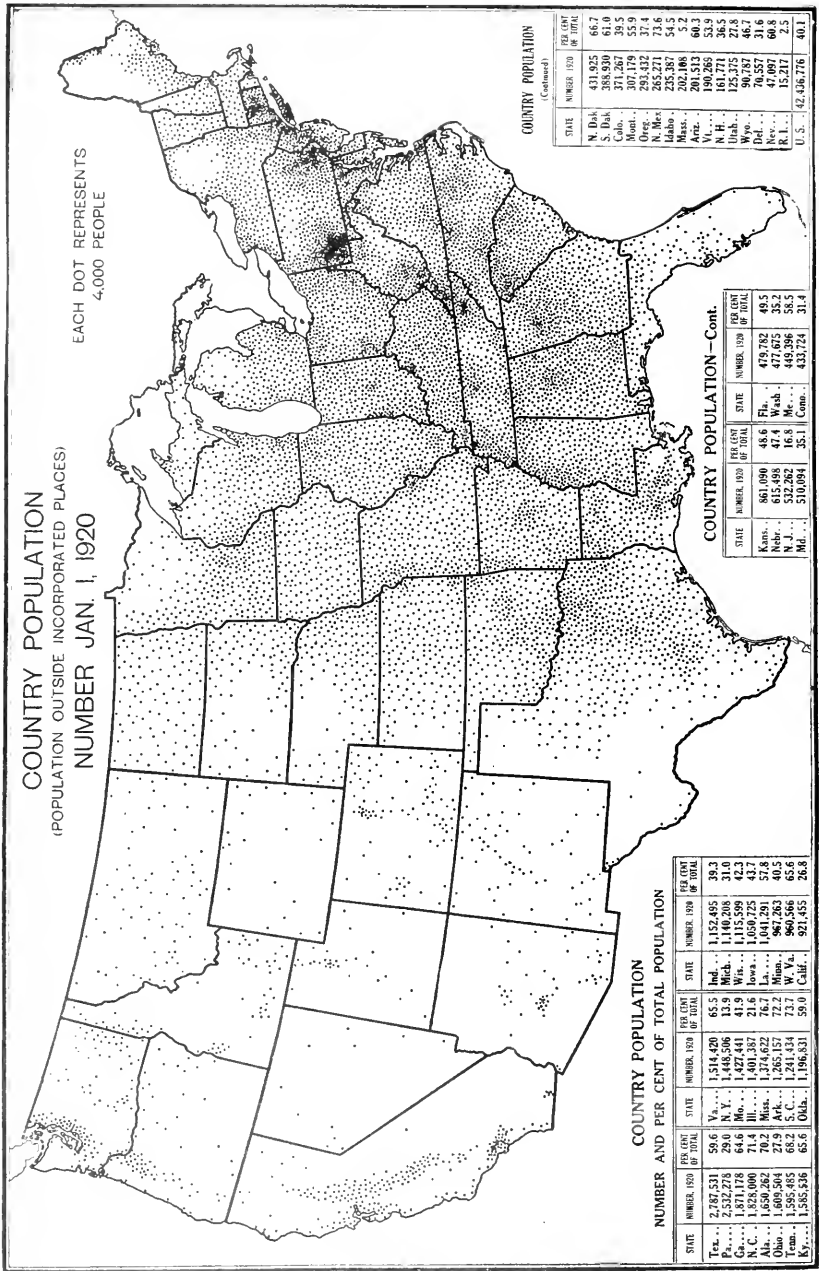


FIG. 118.—Statistics of population outside incorporated places, although including many suburbanites, mill workers, and miners, especially in Pennsylvania, afforded the closest approximation to farm population prior to June, 1922. In the 1920 census the enumerators indicated for the first time persons living on farms. The resulting tabulation shows 31,614,000 people, or about three-fourths those living outside incorporated places. However, a map of farm population showing distribution by counties, like the map above, could not be prepared, as the statistics were tabulated only by States. Figure 97, showing number of farms, may be used to compare the relative density of farm population in different parts of the United States, since the number of people per farm ranges from four to five in most States, except in the South, where there are five to six.

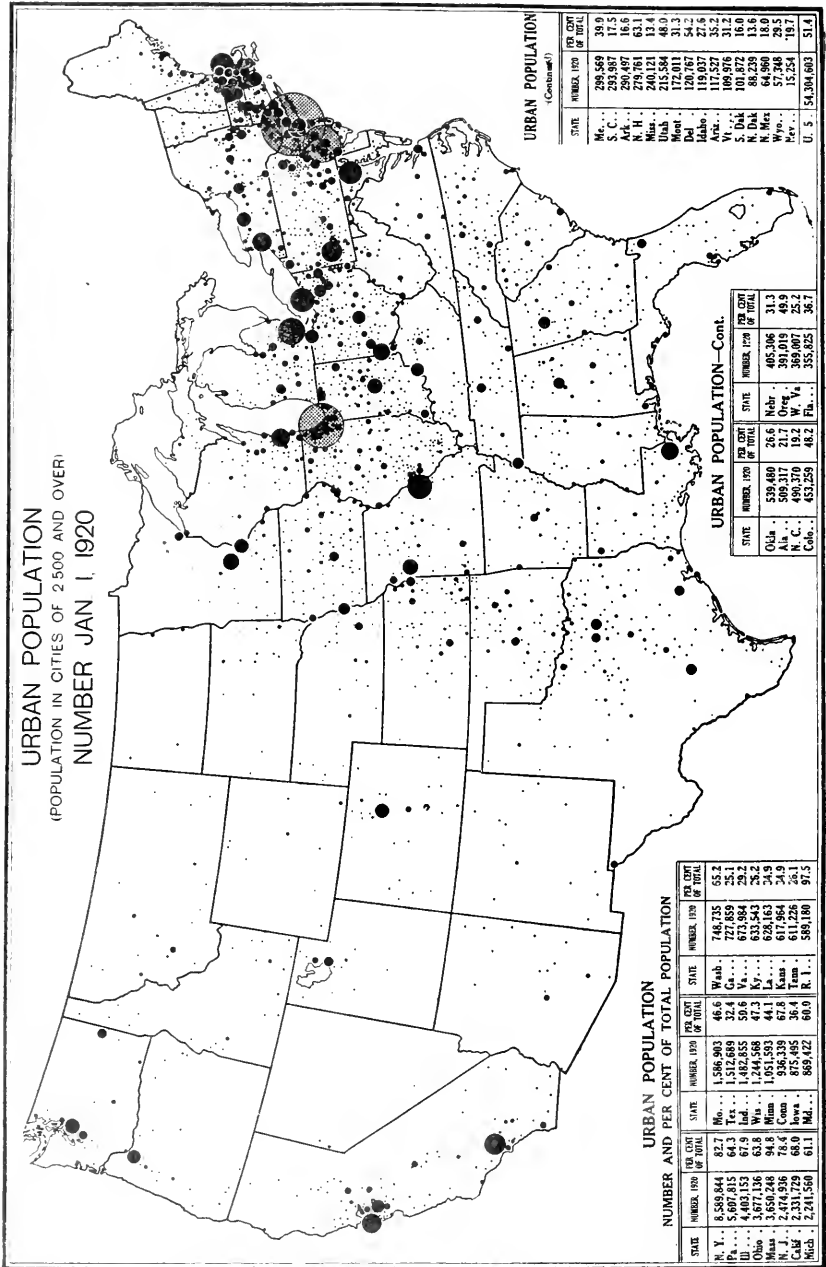


FIG. 120.—Over half of the urban population in the United States resides within the Hay and Pasture Region. The urban population in this region constitutes nearly three-fourths of its total population, and over-one-fourth of the total population of the United States. Into this region the food and fibers of the West and South constantly move. The center of urban population, however, is located in the eastern portion of the Corn Belt, near Piqua, Ohio; while the center of agricultural production is over 400 miles to the west, near Jefferson City, Mo. Outside this Hay and Pasture Region the principal centers of urban population are found along the northern margin of the Corn and Winter Wheat Region, and on or near the Pacific coast. Towns of 2,500 to 10,000 population are shown by the smaller size dot; larger cities by circles of varying size.

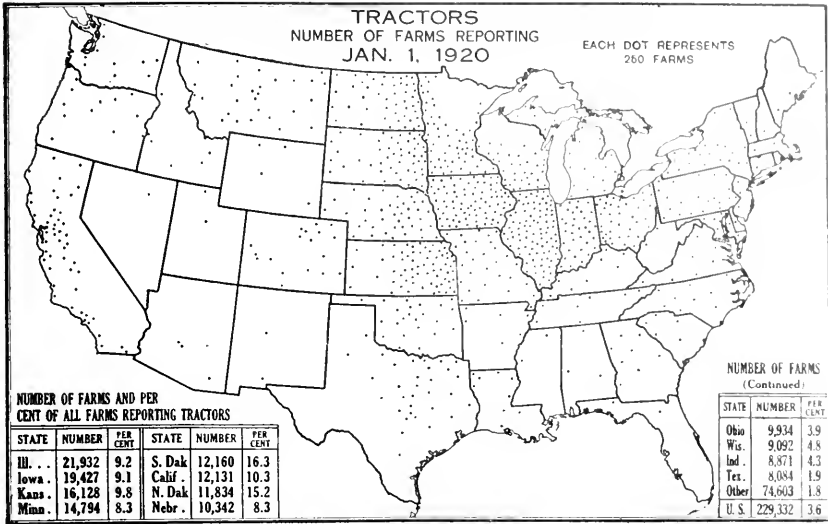


FIG. 121.—Tractors are most numerous in the Corn Belt, in the Spring and Winter Wheat Areas, and in California. In the Spring Wheat Area, on January 1, 1920, about 1 farm in 6 had a tractor; in the Corn Belt, in Kansas, and in California about 1 farm in 10; elsewhere in the United States 1 farm in 20 to 50, except in the States south of the Ohio and Potomac Rivers, where less than 1 farm in 100 had a tractor. The acreage of cotton a farmer can handle is not limited by the acreage he can plow and plant, as with wheat, or can cultivate, as with corn, but by the amount he can pick, and a tractor can not help in picking cotton.

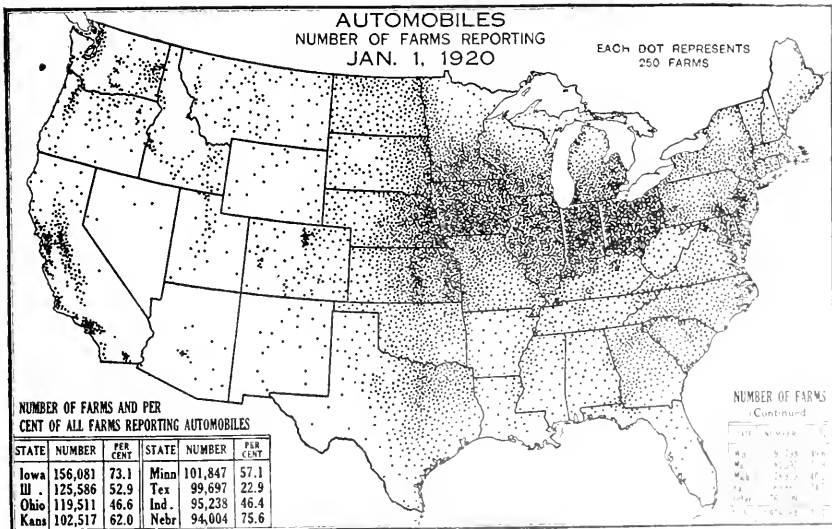


FIG. 122.—Two-fifths of the 2,000,000 automobiles on farms in the United States on January 1, 1920, were in the Corn Belt (see Fig. 101). From one-half in the eastern portion to three-fourths of the farms in the western portion of the Corn Belt had automobiles, and about half the farms in Wisconsin, Minnesota, the Dakotas, and California. Eastward from the Corn Belt the proportion drops to one-third of the farms in New York and one-fourth in New England; southward it drops to one-seventh in the Carolinas and Georgia and to one-twentieth in Mississippi. An automobile is of little help to a negro cropper, or even a poor white tenant in the South, either in marketing his cotton or in attending to his business.

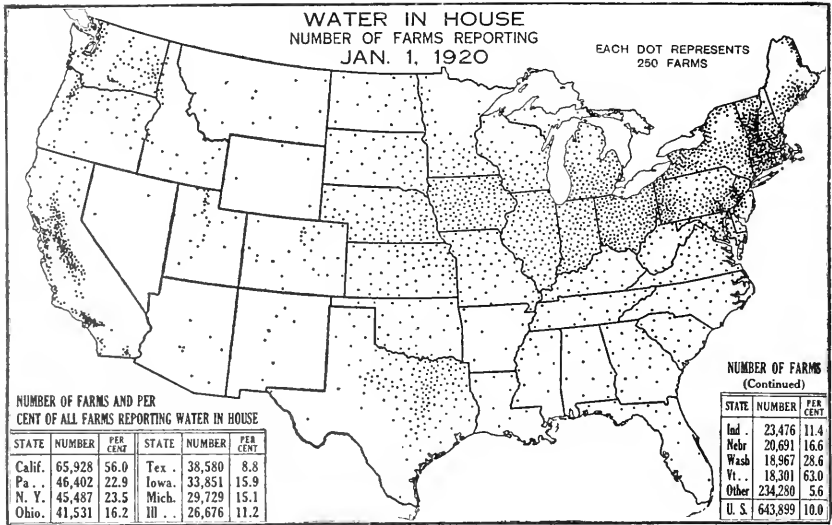


FIG. 123.—About one-half of the farms in New England and in California have water piped into the house, about one-fourth of the farms in New York, Pennsylvania, Oregon, and Washington; about one-eighth of the farms in the Corn Belt; and 1 farm in 50 to 100 in the Cotton Belt. These differences are due, in part, to differences in per capita rural wealth in the several sections of the United States, and in the percentage of tenancy, and in part to differences in the consideration shown for the health and comfort of the housewife.

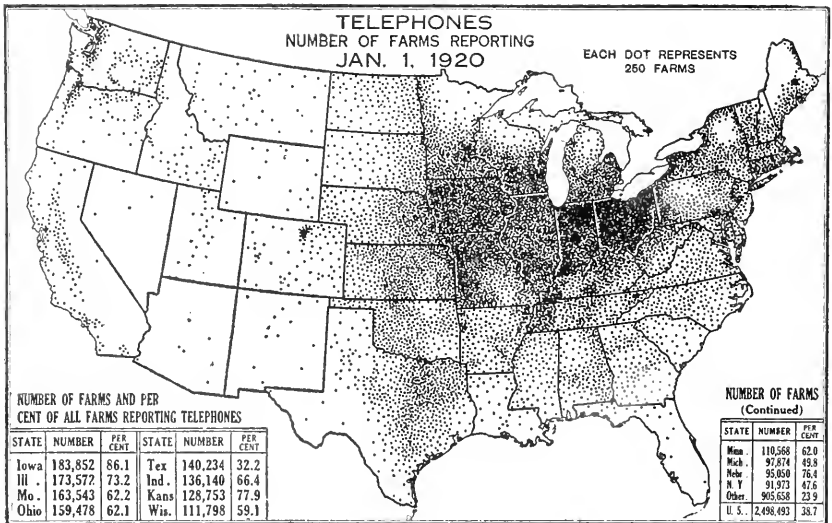


FIG. 124.—Telephones are most common on the farms of the Corn Belt and of Kansas, in which region from 60 to 90 per cent, varying with the State, possess this convenience. In the Hay and Pasture, the Spring Wheat, and the Pacific Coast Regions about half the farms have telephones; in Texas and Oklahoma about one-third of the farms; in the Corn and Winter Wheat Region (except Kansas), in the Great Plains and the Rocky Mountain Regions about a quarter of the farms; but in the Cotton Belt, east of Texas and Oklahoma, only from 5 to 15 per cent. The proportion of the farms possessing a telephone is indicative of the general diffusion of rural progress and prosperity.

The following statistics of farm population, collected for the first time in the census of 1920, have become available since Figure 118 and the explanatory notes beneath were prepared. These statistics are so important that they are given in full.

Farm Population, by Geographic Divisions and States, 1920.

| Division and State. | Total. | | In cities of— | | | In rural territory. | |
|------------------------------|------------|--------------------------------|-----------------|-------------------|------------------|---------------------|--------------------------------|
| | Number. | Per cent of entire population. | 25,000 or more. | 10,000 to 25,000. | 2,500 to 10,000. | Number. | Per cent of entire population. |
| United States..... | 31,614,269 | 29.9 | 52,955 | 36,131 | 166,543 | 31,358,610 | 61.0 |
| Geographic divisions: | | | | | | | |
| New England..... | 625,877 | 8.5 | 8,132 | 16,790 | 65,533 | 535,422 | 41.9 |
| Middle Atlantic..... | 1,892,789 | 8.5 | 12,804 | 2,962 | 15,862 | 1,861,161 | 33.3 |
| East North Central..... | 4,913,633 | 22.9 | 9,279 | 3,094 | 11,056 | 4,887,204 | 58.0 |
| West North Central..... | 5,171,596 | 41.2 | 5,757 | 3,299 | 9,357 | 5,153,181 | 65.9 |
| South Atlantic..... | 6,416,698 | 45.9 | 3,273 | 741 | 11,927 | 6,397,757 | 66.3 |
| East South Central..... | 5,182,937 | 58.3 | 1,202 | 514 | 6,415 | 5,174,806 | 75.0 |
| West South Central..... | 5,228,199 | 51.0 | 1,808 | 1,962 | 13,859 | 5,210,570 | 71.7 |
| Mountain..... | 1,168,367 | 35.0 | 871 | 1,182 | 13,321 | 1,152,993 | 51.4 |
| Pacific..... | 1,014,173 | 18.2 | 9,829 | 5,587 | 13,213 | 985,541 | 47.0 |
| New England: | | | | | | | |
| Maine..... | 197,601 | 25.7 | 1,301 | 3,348 | 3,926 | 189,026 | 10.4 |
| New Hampshire..... | 76,021 | 17.2 | 818 | 2,751 | 7,845 | 64,607 | 39.6 |
| Vermont..... | 125,263 | 35.5 | ..... | 244 | 574 | 123,445 | 51.3 |
| Massachusetts..... | 118,554 | 3.1 | 4,229 | 8,269 | 41,324 | 61,732 | 39.5 |
| Rhode Island..... | 15,136 | 2.5 | 741 | 1,332 | 7,748 | 5,315 | 34.9 |
| Connecticut..... | 93,302 | 6.8 | 1,043 | 846 | 1,116 | 90,297 | 20.3 |
| Middle Atlantic: | | | | | | | |
| New York..... | 800,747 | 7.7 | 7,261 | 1,643 | 8,889 | 782,954 | 43.6 |
| New Jersey..... | 143,708 | 4.6 | 1,890 | 703 | 4,268 | 136,847 | 20.4 |
| Pennsylvania..... | 948,334 | 10.9 | 3,653 | 616 | 2,765 | 941,360 | 30.2 |
| East North Central: | | | | | | | |
| Ohio..... | 1,139,329 | 19.8 | 2,490 | 750 | 2,477 | 1,133,912 | 54.5 |
| Indiana..... | 907,295 | 31.0 | 2,511 | 260 | 1,704 | 902,220 | 62.1 |
| Illinois..... | 1,098,262 | 16.9 | 2,695 | 891 | 3,940 | 1,090,736 | 52.4 |
| Michigan..... | 848,719 | 23.1 | 1,237 | 408 | 2,566 | 844,499 | 59.2 |
| Wisconsin..... | 920,037 | 35.0 | 346 | 785 | 3,669 | 915,237 | 66.0 |
| West North Central: | | | | | | | |
| Minnesota..... | 897,181 | 37.6 | 901 | 518 | 2,302 | 893,460 | 66.9 |
| Iowa..... | 984,799 | 41.0 | 2,973 | 859 | 3,273 | 977,694 | 64.0 |
| Missouri..... | 1,211,346 | 35.6 | 1,641 | 306 | 1,500 | 1,207,694 | 66.5 |
| North Dakota..... | 394,500 | 61.0 | ..... | 759 | 119 | 393,622 | 70.5 |
| South Dakota..... | 362,221 | 56.9 | 35 | 5 | 295 | 361,886 | 67.7 |
| Nebraska..... | 584,172 | 45.1 | 131 | 113 | 1,190 | 582,738 | 65.1 |
| Kansas..... | 737,377 | 41.7 | 76 | 739 | 678 | 735,887 | 63.9 |
| South Atlantic: | | | | | | | |
| Delaware..... | 51,212 | 23.0 | 34 | ..... | 27 | 51,151 | 50.0 |
| Maryland..... | 279,225 | 19.3 | 1,391 | 14 | 164 | 277,656 | 17.9 |
| District of Columbia..... | 894 | ..... | 894 | ..... | ..... | ..... | ..... |
| Virginia..... | 1,064,417 | 46.1 | 190 | 48 | 4,266 | 1,059,913 | 64.8 |
| West Virginia..... | 477,924 | 32.7 | 286 | 75 | 932 | 476,631 | 43.5 |
| North Carolina..... | 1,501,227 | 58.7 | 207 | 257 | 837 | 1,499,946 | 72.5 |
| South Carolina..... | 1,074,693 | 63.8 | 70 | 103 | 2,041 | 1,072,479 | 77.2 |
| Georgia..... | 1,685,213 | 58.2 | 96 | 230 | 4,276 | 1,680,611 | 77.5 |
| Florida..... | 281,893 | 29.1 | 105 | 34 | 2,381 | 279,370 | 45.6 |
| East South Central: | | | | | | | |
| Kentucky..... | 1,304,862 | 54.0 | 100 | 141 | 2,279 | 1,302,342 | 73.0 |
| Tennessee..... | 1,271,798 | 54.4 | 823 | 183 | 1,525 | 1,269,179 | 73.5 |
| Alabama..... | 1,335,885 | 56.9 | 279 | 118 | 975 | 1,331,513 | 72.6 |
| Mississippi..... | 1,270,482 | 71.0 | ..... | 72 | 1,638 | 1,268,772 | 81.8 |
| West South Central: | | | | | | | |
| Arkansas..... | 1,147,049 | 65.5 | 433 | 472 | 1,662 | 1,144,182 | 78.3 |
| Louisiana..... | 786,050 | 43.7 | 269 | 32 | 1,294 | 784,155 | 97.0 |
| Oklahoma..... | 1,017,327 | 50.2 | 173 | 170 | 1,085 | 1,015,899 | 68.2 |
| Texas..... | 2,277,773 | 48.8 | 933 | 1,288 | 9,818 | 2,265,734 | 71.9 |
| Mountain: | | | | | | | |
| Montana..... | 225,667 | 41.1 | 7 | 45 | 226 | 225,389 | 59.8 |
| Idaho..... | 200,902 | 46.5 | ..... | 497 | 3,812 | 199,563 | 63.8 |
| Wyoming..... | 67,306 | 34.6 | ..... | 31 | 199 | 67,076 | 48.9 |
| Colorado..... | 266,073 | 28.3 | 203 | 86 | 503 | 265,281 | 51.5 |
| New Mexico..... | 161,446 | 44.8 | ..... | 9 | 895 | 160,542 | 54.3 |
| Arizona..... | 99,560 | 27.1 | 42 | 1 | 350 | 99,167 | 11.6 |
| Utah..... | 140,249 | 31.2 | 619 | 507 | 7,251 | 131,872 | 56.4 |
| Nevada..... | 16,164 | 20.9 | ..... | 6 | 55 | 16,103 | 23.4 |
| Pacific: | | | | | | | |
| Washington..... | 283,382 | 20.9 | 1,605 | 248 | 1,507 | 280,022 | 16.1 |
| Oregon..... | 214,021 | 27.3 | 200 | 63 | 1,749 | 212,009 | 51.0 |
| California..... | 516,770 | 15.1 | 8,024 | 5,276 | 9,957 | 493,513 | 15.1 |

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