Generalized Types of Farming in the United States

Including a list of counties in type-of-farming regions and subregions

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FOREWORD

Investigations concerning types of farming have brought into focus a strong tendency toward regional specialization of different kinds of farming in the United States. The understanding and closer definition of this specialization, and of the organization and practices on farms that have similar characteristics, have greatly facilitated the development of regional and local agricultural programs. Investigations of this kind have made possible a more practical orientation of research relating to management problems and needed adjustments on individual farms.

The map of types of farming in this publication is a revision of and supersedes the map, "Regionalized Types of Farming in the United States," issued in March 1935, by the United States Department of Agriculture.

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This map portrays the present use of agricultural resources in terms of the kinds of farm enterprises, combination of enterprises, and intensity of farming operations as measured by the amount and distribution of farm income from major sources. Factors influencing type of farming include soils, topography, climate, availability of markets, and others.
GENERALIZED TYPES OF FARMING IN THE UNITED STATES

Prepared in the Bureau of Agricultural Economics

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INTRODUCTION

Studies of types of farming in the United States have several objectives. Three of these are outstanding. They are:

1. The periodic assembling of information concerning the structure of agriculture and its economic units in terms of crops grown, livestock and livestock products produced, methods used in production, and sources of income.

2. A classification of production programs on individual farms into types of farming, and regionalization of the types into type-of-farming areas and groups of areas. To merit designation as a type of farming, a classification must include a group of farms that are closely similar in the essential features of their organization. Sometimes this similarity is discernible among farms widely separated in location. But more often farms of the same type are sufficiently concentrated to make the type the dominant one in the area. Thus, types of farming generally can be identified with particular parts of the United States which may be called type-of-farming regions, subregions, or areas. The discussion in this publication relates primarily to the geographical aspects of types of farming.

3. Formulation of reasons for the inception and course of development of existing types of farming and for their regionalization. An adequate explanation involves an understanding of the physical and economic conditions or forces which make up the environment in which the agricultural development has taken place. These conditions and forces which have been and are now at work, shaping the pattern of agricultural development and determining its trends, are analyzed in an effort to ascertain their significance as factors that influence types of farming.

MATERIALS AND METHODS

The earliest type-of-farming studies in the United States were concerned with the geographic regionalization of the agriculture of the country. Spillman was among the first to outline the types of farming in the United States and to discuss the factors that determine the type of farming. A few years later Smith, Baker, and Hainsworth developed a map of the agricultural provinces in the United States in a graphic summary of American agriculture, which was based largely upon unpublished data compiled from the Census of 1910. They divided the country into 10 major agricultural provinces. The East and the West were each divided into 5 provinces or regions. In succeeding periodic graphic summaries of agriculture, which were based upon the Census of 1920 and the Census of 1930, respectively, Baker refined the map, changed the name of the subdivisions from provinces to regions, and increased the number of regions to 12.

The East was divided into eight regions on the basis of the dominance of a certain crop or kind of farming—the result chiefly of latitude and temperature. The West was divided into four regions on the basis of the use of the land for grazing or crops, which is determined mainly by altitude and rainfall.

1 Members of the Bureau staff who made important contributions to this report are Sherman E. Johnson, Carl P. Heisig, C. W. Crickman, H. L. Stewart, E. L. Langford, O. L. Mimms, E. R. Ahrendes, K. L. Bachman, R. W. Jones, Della Merriek, and Robert F. Turnure. They had the aid of many suggestions from the Bureau field staff and from representatives of each of the State Agricultural Colleges.


During an approximate 5-year period centering around 1930, several State agricultural experiment stations conducted State type-of-farming studies alone or in cooperation with the Bureau of Agricultural Economics. In those studies, the mapping of type-of-farming areas within the State was an important objective. The scope of the investigation was broadened to include an analysis of the internal organization of representative farms in each area, in recognition of the fact that the agriculture within the areas, as usually delineated, often includes several minor types in addition to the designated dominant type. In a few of these early studies, considerable attention was given to an analysis of the causal factors underlying and responsible for the existing types of farming.

The most comprehensive study of types of farming in the United States to date was made as a part of the 1930 Census of Agriculture and reported in a census monograph by Elliott. In the 1930 Census all farms were individually classified into 12 major types. The relation which the value of each of the important sources of income bore to the total value of products (sold, traded, or used by the farm operator) for the whole farm provided the basis for the type classification of the farm. Area delineations of types of farming were then determined in part by the relative number of farms of the designated types and in part by the relative income from each important source. In addition, other factors were taken into consideration in the area differentiation. They were factors which indicate intensity of production, such as proportion of land area in farms and of the farm area in pasture and in different crops; production of important crops and numbers of important classes of livestock per square mile; yields; and character of the vegetation in the range-livestock areas. The agriculture of the United States was differentiated into 514 major type-of-farming areas and into many additional subareas.

In 1935, in a publication of the Department of Agriculture prepared under Elliott’s supervision, the 514 type-of-farming areas were regionalized into 12 major type-of-farming regions and 100 subregions.

In the meantime, most of the State agricultural experiment stations have continued or initiated an analysis of types of farming and type-of-farming areas in their respective States, either alone or in cooperation with the Bureau of Agricultural Economics, in order to take into account the influence of the ever-changing conditions that affect types of farming. Since 1930, many new State reports, some of which were revisions of earlier reports, have been issued.

Progress in this refinement of State type-of-farming areas now has reached a stage when reexamination of generalized types of farming is needed for two reasons: (1) To give an up-to-date view of farming in the United States by types; and (2) to provide a basis for summarizing statistics reported by civil divisions, on a more regionalized pattern than that provided by State type-of-farming areas.

Three steps were necessary in this generalized classification and regionalization of types of farming in the United States: (1) Combining State type-of-farming areas across State lines and within States in which a major degree of uniformity in types of farming exists. These groups of contiguous type-of-farming areas may be called generalized type-of-farming areas to distinguish them from their component parts—State type-of-farming areas. In these generalized type-of-farming areas, uniformity extends generally through kinds of farm enterprises, proportional combination of enterprises, and intensity of farming operations. (2) Grouping the generalized areas into subregions in which kinds of enterprises are similar and the proportional combination is essentially the same, but where the physical and economic conditions that affect farming may differ considerably. The components of these groupings may be widely separated geographically. (3) Associating the subregions into generalized type-of-farming regions on the basis of emphasis in farming on single or closely related groups of enterprises.

CLASSIFICATION AND REGIONALIZATION OF GENERALIZED TYPES OF FARMING

By the process of progressively grouping State type-of-farming areas, the agriculture of the United States is divided into 165 generalized type-of-farming areas, 61 subregions, and 9 major agricultural regions (see folded map) and outline of classification and regionalization on pages 20-22). Some of these regions—the feed-grains and livestock region of the Middle West (Corn Belt), the Cotton Belt of the South, and the range livestock region in the Mountain and Great Basin States—are concentrated in clearly defined and contiguous geographic centers. Others, especially the wheat and small-grains regions in the Great Plains and the Columbia River Basin; and the dairy regions of the Northeastern, Lake, and Pacific Northwest States are fairly well concentrated in those sections of the country. The general farming; tobacco and general farming; fruit, truck, and mixed farming; and special-crops and general-farming regions, however, include several scattered subregions.

Farming throughout the United States generally has assumed its present form in response to well-defined physical, biological, and economic forces or conditions. The physical factors that influence types of farming are mainly climate and topography, and
soils. Agriculture in the humid East varies primarily with temperature and soils, but in most of the West the principal influences are altitude, precipitation, and availability of water for irrigation. In the East the agricultural regions tend to extend east and west, following temperature zones; in the West the regions are determined by rainfall belts or mountain ranges and valleys which extend north and south.

The high degree of correlation between soils and types of farming in the United States is evident, especially where rainfall is not a controlling factor, from a comparison of the generalized map of types of farming with a map of important soil regions (fig. 1). For example, the Corn Belt coincides closely with the important regions of prairie soils, especially the dark-brown silt loams (fig. 1, No. 28). Wheat regions are associated chiefly with the Chernozem Treds soils in regions 31 through 36. The principal dairy regions are found in the stony loam soil regions of podzolic soils (4 through 8). The red and yellow soils in regions 19, 20, and 21, and the alluvial soils in the Mississippi River Delta are important cotton soils. The chief fruit and truck areas are found in the regions of red soils in the Pacific valleys and the sandy soils of Florida and the Atlantic coast.

Among the biological factors, weeds, insect pests, plant and animal diseases, and development of new varieties and strains of crops all affect the type of farming. Crop land that is badly infested with weeds is particularly unsuited to flaxseed, for example, and the crop cannot be profitably grown on such land. The cotton boll weevil, which spread from Texas to North Carolina between 1892 and 1920, has encouraged diversification of crops in the Cotton Belt more than has any other single factor. Likewise, the corn borer may cause Corn Belt farmers to make radical changes in their cropping systems unless practicable methods of control are discovered and put into effect. On the other hand, further developments in hybrid corn may extend the crop to new areas. Texas fever has been one of the chief factors restricting cattle raising in the southern parts of the United States.

Economic forces influence types of farming through comparative returns from particular enterprises or combinations of enterprises. Prices for farm products at the farm vary by the location of potential producing areas with respect to centers of consumption. Costs of production also vary with the facility with which technological improvements in farming practices are adapted to local and regional conditions of farming. Economy in production is further affected by supplementary relationships among enterprises in the productive use of an individual farmer’s resources. Because different enterprises require more attention at some seasons of the year than others, and because some crops can be profitably converted to salable products only by feeding them to livestock on farms where produced, many farmers find it advantageous to add supplementary enterprises to obtain more complete utilization of such resources as family labor, expensive equipment, hay and pasture crops, and crop residues.

Geographic variation in the price of any farm product is largely a reflection of ease and cost of its transportation from farm to market. Products of high perishability or low value per pound tend to be produced adjacent to consuming centers; those of less perishability or higher value per pound are produced at greater distances. This perishability factor, however, is not so important now because of recent advances in rapid delivery and preservation in transit.

A notable illustration of this tendency is the localization of dairy farming. Whole-milk dairying is practiced near consuming centers and butterfat dairying is found in more remote areas. Truck crops and vegetables are usually produced near consuming centers. The usual order of localization of types of farming tends to be as follows: Truck crops are nearest around a city, followed by whole-milk dairying and poultry, grain growing, and butterfat dairying or livestock producing.

Improvements in production and marketing technology are particularly important in influencing changes in regionalization of types of farming. Introduction of a new farm machine or a new development in marketing or processing may so cheapen the cost of production or marketing in areas where it is adapted that it becomes profitable to increase specialization in production in those areas to the point at which the price of the particular product is lowered so much in relation to other products that farmers in competing areas must shift into other types of farming. The most noted example of this type of influence probably was the effect of the advent of the grain binder, the roller process in production of flour, and rail transportation in the upper Mississippi Valley upon eastern agriculture in the two or three decades immediately following the Civil War. In recent years improvements in tractors and new types of harvesting machinery, such as the combine (for grains and soybeans), corn picker, beet harvester, and field forage chopper, have had a similar but less pronounced effect. Such things as the flame cultivator and the mechanical picker for cotton and air transportation and quick freezing for vegetables and fruit may bring further significant changes in location of production.

Another group of influences includes such institutional factors as tariffs, freight-rate zones, and local sanitary regulations. For example, sanitary regulations relating to milk, which have been set up by certain cities, have directly influenced the location of the production of the milk.
The map is schematic. Each soil region outlined includes associated soils developed under a relatively uniform environment. The names in parentheses refer to the more extensive or representative soil series in the respective regions. (Map and legend by Bureau of Plant Industry, Soils, and Agricultural Engineering.

PODZOLS.—The profile consists of a very thin organic layer above a gray leached layer which rests upon a dark-brown or coffee-brown horizon. The Podzol is developed usually under a coniferous forest in a cool moist climate. Its inherent productivity for crop plants is low. The figures below refer to area numbers on the map.
1. Rough stony land, including areas of shallow Podzols.
2. Chiefly loams and silt loams, developed from sandstones and shales of the plateau and mountain uplands. Includes the Leetonia and the Dekalb soils.
3. Dominantly sands and loamy sands, developed on glacial drift. (Roselawn, Kalkaska.)
4. Dominantly loams and clay loams, developed on glacial drift. (Heron, Ontonagon.)

GRAY-BROWN PODZOLIC SOILS.—The profile has a rather thin organic layer over grayish-brown leached soil which overlies a brown horizon. The soils are generally acid, at least in the surface. These soils develop in a moist and cool-temperate climate under a deciduous forest and are inherently more productive than the Podzols.
5. Dominantly loams and silt loams, developed on calcareous glacial drift. (Miami, Crosby, and Honeoye—Ontario associations.)
6. Brownish-yellow silty loams or stony loams with hilly relief developed on sandstones and shales. (Muskingum, Zanesville, Westmoreland.)
7. Loams and silt loams, developed on acid glacial drift, composed of sandstones and shale material.

Some of these soils are imperfectly drained. (Canfield, Volusia, Lordstown.)
8. Dominantly stony and gravelly loams, developed on glacial drift. (Gloucester, Troy.)
9. Loams and silt loams, developed mostly on the crystalline rocks of the northern Piedmont. (Chester, Manor, Penn.)
10. Largely sandy loams developed on the sands and clays of the northern Coastal Plain. (Sassafras, Collington.)
11. Chiefly brown silt loams, developed on limestone. (Hagerstown, Maury, Frederick.)
12. Shallow soils developed on interbedded limestone and calcareous shales. (Fairmont, Lowell.)
13. Loams and stony loams from granitic material with hilly to mountainous relief. (Ashe, Porters.)
14. Silt loams with heavy clay subsoils, developed on Illinoian glacial till. (Gibson, Cory, Clermont, Rossmoyne.)
15. Silt loams, developed largely from loess. (Clinton, Fayette.)
16. Imperfectly drained grayish silt loams with silty clay loam subsoils, developed from acid glacial drift. (Spencer.)
17. Largely loams and silt loams with yellowish subsoils, developed from sandstones and shales. (Melbourne.)
18. Gravish-yellow to reddish silt loams and cherty silt loams, developed from cherty limestones. (Clarksville, Dickson, Baxter.)

RED AND YELLOW SOILS.—This group of soils consists of two general types of profiles which are very intimately associated.
Both have thin organic layers. The profile of the Red soil is a yellowish-brown leached layer over a red horizon while the profile of the Yellow soil is a grayish-yellow.
leached layer over a yellow horizon. Both developed under the forest in a moist, warm-temperate climate. Generally the yellow profile is more pronounced under the coniferous forest and the red under the deciduous forest. The inherent fertility of the Yellow soils is generally relatively low and that of the Red soils, medium.

19. Dominantly brownish-red clay loams and gray sandy loams, developed largely from crystalline rocks of the southern Piedmont. (Cecil, Durham, Appling, Georgeville, Davidson.)

20. Yellow to light-brown silt loams, developed on loess. (Molines, Greatville, Grundy, Putnam.)

21. Dominantly gray to yellow sandy and fine sandy loams, with some sands and fine sands, developed from Coastal Plain materials. (Norfork, Ruston, Orangeburg.)

22. Largely reddish-brown to red silt loams and clay loams, developed from limestone. (Dewey, Decatur, Fullerton.)

23. Grayish-yellow to light-brown sands and fine sands of the Coastal Plain. (Norfork sands.)

24. Grayish fine sandy loams, with some gray or black loams, developed in the flatwoods area of the Coastal Plain. Includes areas underlain by coralline limestone. (Coxville, Leon, Portsmouth.)

25. Grayish-yellow to reddish fine sandy loams and silt loams, developed from sandstones and shales. A considerable portion is hilly and stony. (Hartsells, Hanceville, Conway.)

26. Red soils of the north Pacific slopes. (Aiken, Sierra, Sites.)

PRAIRIE SOILS.—The profile of the Prairie soil grades from a very dark brown or dark grayish-brown surface through brown to lighter colored parent material at a depth from 2 to 5 feet. It is developed in a moist temperate climate under a tall-grass prairie. Inherent fertility for crop plants is high.

27. Reddish-brown soils of variable texture, developed on sandstones, shales, clays, and sands. (Zaneis, Renfrew.)

28. Dark-brown silt loams with yellowish-brown subsoils, developed on glacial drift and loess. (Carrington, Tama, Clarion, Marshall.)

29. Dark-brown to reddish-brown silt loams and clay loams, developed from limestone and calcareous shales. (Summit, Crawford.)

30. Dark-brown or grayish-brown silt loams, having heavy subsoils or claypans. (Parsons, Grundy, Putnam.)

NORTHERN CHERNOZEM.—The profile has a black or dark grayish-brown surface soil grading below into light-colored material which is calcareous at 2 to 6 feet. It is developed in a temperate to cool, subhumid climate under tall and mixed grasses. Inherent productivity is high.

31. Black loams, silt loams, and clay loams, developed on calcareous glacial drift and associated lacustrine deposits. (Barnes, Bearden, Fargo.)

32. Dark grayish-brown loams and silt loams, developed from loess. (Moody, Holdredge.)

33. Dark grayish-brown silt loams with claypans developed from loess. (Crete, Hastings.)

SOUTHERN CHERNOZEM—DARK-BROWN SOILS.—The profiles have dark-brown to reddish-brown surface soils underlain by brown or red horizons, grading below into light-colored material which is calcareous at 3 to 6 feet. These soils develop in a warm, subhumid to semiarid climate under a mixed tall- and short-grass prairie.

34. Heavy or moderately heavy dark-brown soils, developed from calcareous materials. (Pullman, Abilene, Victoria.)

35. Predominantly red and brown sandy loams and sands, developed largely from unconsolidated calcareous sands, silts, and sandy clays. ( Amarillo, Miles, Duval.)

NORTHERN DARK-BROWN (CHESTNUT) SOILS.—The profile grades from a dark-brown surface soil into a whitish calcareous horizon at a depth from 1½ to 3 feet. These soils develop under mixed tall and short grasses in a temperate to cool semiarid climate.

36. Dark-brown soils developed on unconsolidated, calcareous sands, silts, and clays. (Scobey, Rosebud, Keith, Walla Walla.)

37. Dark-brown soils, developed upon heterogeneous material associated with mountainous and plateau terrain.

BROWN SOILS.—A brown surface soil grading at a depth, ranging from 1 to 2 feet, into a whitish calcareous horizon. The profile is developed in a temperate to cool, semiarid climate under short grasses, bunch grasses, and shrubs.

38. (Northern) chiefly brown loams, developed largely on unconsolidated sands, silts, and clays. (Joplin, Weldon.)

39. (Southern) chiefly light-brown to gray fine sandy loams to silty clay loams of smooth relief, developed largely on limestone or unconsolidated sands, silts, and clays. (Uvalde, Reagan.)

SIEROZEM AND DESERT SOILS.—Grayish and reddish soils, closely underlain by calcareous material. These soils develop in an arid climate under short grass and desert plants.

40. (Northern) gray and grayish-brown soils of variable texture, developed largely on loess and alluvial fan material. (Ritzville, Portneuf.)

41. (Southern) gray, brown, and reddish soils of variable texture, developed largely on alluvial fans. (Reeves, Mohave.)

SOILS OF THE PACIFIC VALLEYS.—42. Includes a number of variable zonal, azonal, and intrazonal soils which are too intimately associated to separate on a schematic map. These soils are developed under a range of climatic and geological conditions. (San Joaquin, Fresno, Hanford.)

INTRAZONAL AND AZONAL SOILS.—These soils may possess one of two general types of profile: (a) The profile may express a local condition as drainage or parent material rather than the zonal profile of the region; (b) the profile may be too immature to express a zonal type.

43. Rough and mountainous (azonal).

44. Largely azonal sands, some of which are associated with bogs. (Valentine sand, dune sand, etc.)

45. Black (or brown) friable soil underlain by whitish material excessively high in calcium carbonate. These soils develop under a prairie vegetation and are known as Rendzinas (intrazonal). (Houston, Sumter.)

46. Shallow stony soils from limestone (azonal). (Valera, Ector.)

47. Marsh, swamp, and bog (intrazonal). (Carlisle, Pamilco, Rifle.)

48. Soils largely intrazonal, developed upon lake plains (Brookston, Maumee, Vergennes.)

49. Alluvial soils (azonal). (Huntington, Sharkey, Columbia, Cass.)

50. Rough broken land, including Pierre soils.
CHARACTERISTICS OF MAJOR TYPES OF FARMING AND INFLUENCING FACTORS

Only the more important characteristics of the major types of farming in the United States and the conditions or forces which are shaping their regionalization may be mentioned in a single publication. For a closer examination of the characteristics of agriculture in certain local areas detailed discussions by State type-of-farming areas are cited in the list of references on pages 34 and 35.

FEED-GRAINS AND LIVESTOCK REGION

The feed-grains and livestock region is the well-known Corn Belt of the United States. Here the land is generally level with deep, warm, fertile soils that are rich in organic material and nitrogen which make them particularly adapted to the production of corn. Sufficient rainfall well distributed throughout the growing season, hot days, and warm nights are also ideal for corn.

But the corn crop draws heavily upon the fertility of the soil and it is particularly seasonal in its use of labor and equipment. To protect and replenish his soils and to spread the use of his labor and equipment, the Corn Belt farmer has a cropping system which includes, with corn, chiefly oats, wheat, soybeans, and hay and pasture crops. The oats crop is seeded in the spring before work on the corn crop begins and it is cut in the summer when cultivation of corn is about over. Soybeans are planted after corn and harvested earlier. Winter wheat is seeded in the fall when cultivation of corn is over and before harvesting of corn begins.

Oats and wheat are the transitional crops in the rotation between corn or soybeans and the grass or legume soil-building crops which are essential to a program of soil maintenance or improvement.

Thus the feed crops—corn, oats, and grasses and legumes—form the chief basis of the farming system in practically all parts of the region, not only in respect to the cropping program but also in selecting livestock enterprises to utilize the crops. The dominant crop, corn, which is primarily a meat-producing feed, is used chiefly for feeding hogs, beef cattle, and sheep.

The dominance of the corn crop and other general characteristics are more pronounced in the central part of the region. But differences in topography and soils within the central section are mainly responsible for three characteristic types of central Corn Belt farming—cash corn, oats and soybeans, cattle feeding and hogs, and hogs and soft winter wheat.

CASH CORN, OATS, AND SOYBEANS.—A large proportion of the level, fertile land in central Iowa and east central Illinois can be used for growing corn, oats, and soybeans with large-scale machinery on large farms. The level lands in this subregion (V-B) are rich in organic matter; they have not been subject to serious damage from erosion even though heavily cropped. Hence, farmers in these areas have not been impressed with the need for keeping a part of the cropland in grass or legumes each year as an erosion-control measure. Hay crops and pastures are not highly productive in these areas, either as compared with yields in other parts of the region or as compared with yields of corn, oats, and soybeans in the same area. This results in heavy production of concentrated feeds; but in insufficient hay and pasture for a beef-cattle enterprise. Farmers have not expanded hog production as in other parts of the region because they believe they cannot afford the necessary time from production of crops to carry on efficiently a large hog enterprise.

Moreover, conditions that are favorable to a grain type of farm also are favorable to nonoperator ownership of the land. The landlord usually prefers to receive a share of the crop as payment for use of the land. He also prefers to sell his share for cash soon after harvest. Thus, he is not interested in providing buildings and fences; and the tenant, who often has no security of tenure, does not feel that he can afford to put much money in fences and equipment. All of these conditions are unfavorable to development of a livestock system of farming, even though the cropping system is built mainly around corn and oats, and sale of these crops and of soybeans characterizes the type of farming of the areas.

CATTLE FEEDING AND HOGS.—The cattle-feeding and hogs subregion (V-A), on the other hand, coincides closely with the loessial or wind-blown soil areas bordering the Missouri and Mississippi Rivers. Most of the land in these soil areas is characteristically rolling, which means that a relatively high percentage can be used only for permanent pasture. Furthermore, the cropland, although good enough to produce good yields of corn and soybeans, requires careful soil management because of its slope and susceptibility to erosion. This means a cropping system that includes relatively large acreages of grasses and legumes for protective cover and to maintain organic matter in the soil.

Because hogs convert concentrated feeds into meat with a high degree of physical efficiency, they have first call on corn. But, generally speaking, even with an optimum-sized hog enterprise, there remains a substantial surplus of corn on farms in these areas. Thus abundant supplies of hay and pasture are better utilized when fed to cattle in conjunction with a concentrate ration. Beef cattle generally are selected in preference to dairy cattle because fattening cattle use more grain in proportion to roughage than do dairy cattle.

HOGS AND SOFT WINTER WHEAT.—In the eastern part of the central Corn Belt farms are smaller and soils are lighter and better drained. In this subregion (V-C), conditions are more favorable to production of winter wheat. Production of corn per farm generally is no larger than is needed for the hog enterprise. Thus the
type of farming is characterized by a combination of hogs and winter wheat.

Border Areas.—Outside the central Corn Belt, corn is not so dominant in the cropping system. Again, soils and climate are the chief influencing factors.

On the southern side of the Corn Belt, the difference between subregion (V-H) and the cattle-feeding and hogs subregion (V-A) is that there is more pasture and a less abundant supply of concentrates. The smaller supply of concentrates is partly due to the scarcity of good cropland and partly to the low yields obtained on the land used for crops. These conditions change the character of the beef-cattle enterprise to one in which more emphasis is placed upon grazing and less upon fattening for market. These same factors limit production of hogs.

The type of farming on the western side of the Corn Belt (subregion V-F) is a transition between corn and livestock feeding and wheat and range livestock. Acreage of wheat increases relative to both corn and oats. The low productivity of the hay and pasture land, mainly because of low rainfall, results in fewer cattle and the smaller quantity of corn results in fewer hogs. Moreover, more grain—particularly corn—is sold from this part of the region than from the livestock-feeding areas. This is partly because of the uncertainty of the rainfall which increases the variation in crop yields. To avoid the hazard of insufficient feed in dry years, farmers tend to understock with livestock.

Dairying and poultry raising are important in western Missouri and east central Kansas (subregion V-G) where large acreages of hay are combined with corn or grain sorghums and wheat. Poor soils have been a factor in the development of farming in this subregion. Livestock enterprises are necessary to maintain and improve the soil as well as to utilize hay and pasture.

On the northern side of the Corn Belt, in northeastern Iowa and northwestern Illinois (V-E), the glacial drift soils are a much older formation than in either the Wisconsin drift or the loess soil areas in those States. They are more leached and more acid, and have distinctly less native productivity than have the soils of the newer formations. Corn and oats are important crops but they have less outstanding advantages over forage crops. The percentage of land suitable for cultivation is lower because of more broken topography. These conditions result in a large quantity of roughage in proportion to concentrated feeds.

Dairying rather than production of beef cattle is selected to combine with production of hogs for three reasons. When the supply of concentrates is set aside for hogs, the quantity left bears a wide ratio to the supply of roughage and pasture. Because the hog ration is mainly corn and because production of oats is high in this area in relation to corn, the ratio of fattening grains to protein grains in the remaining supply of concentrates is decidedly favorable to dairying. Another reason is the quality and carrying capacity of pastures. Pastures withstand the hot, dry period of late summer better than in any other part of the region. Most of the milk produced in this area is delivered to local creameries and condenseries.

The other subregion on the northern side of the Corn Belt is located in northeastern Indiana and northwestern Ohio (V-D). Livestock, dairy, soybeans, and cash grains characterize the farming. Acreages of corn and oats are about the same. Soybeans are an important crop and they are becoming more important; wheat also is grown. Hay and pasture occupy a large proportion of the farm land. Proximity to large cities as well as a favorable cropping system encourages whole-milk dairying in combination with the production of hogs.

COTTON REGION

The Cotton Belt of the United States, the largest cotton-producing region in the world, encompasses all or large parts of nine Southern States and smaller parts of four more. Cotton is also produced in some irrigated areas in California, Arizona, and New Mexico.

Cotton, a subtropical plant, requires a long growing season with rather high temperature throughout. Climate is the main factor which determines the location of cotton production. The northern boundary of the Cotton Belt in the United States follows fairly closely the line of 200 frost-free days. Except for areas in which rainfall is supplemented by irrigation, the western boundary follows fairly closely the 20-inch rainfall line. Cotton is not grown in many areas adjoining the Gulf of Mexico and the Atlantic Ocean because of the heavy rainfall during the fruiting and harvesting season. Excessive rainfall during the fruiting season causes rank vegetative growth at the expense of lint yield and makes the control of insects, particularly boll weevil, difficult. Dry weather during the harvesting season is needed to prevent deterioration of the open cotton.

Soils are much less of a limiting factor than is climate. Cotton is produced on a wide variety of soils. It responds well to the use of chemical fertilizers where they are used effectively to offset mineral deficiencies. Good soil drainage, both surface and internal, is essential for profitable production of cotton. Poor drainage, which is frequently associated with high rainfall, is the chief reason why cotton is not grown in some areas within the Cotton Belt where other physical factors are favorable.

Although cotton can be produced on a variety of soils, it does not perform equally well on all soils. Differences in soils and topography, and in their effect on yields of cotton and alternative crops are responsible, to a large degree, for the difference in density of cotton production within the belt. Cotton can be produced in the rice and sugarcane areas (IX-A 1 and 2 and IX-B 1), for
example, but chiefly because of the type of soils and the drainage conditions, rice and sugarcane have an advantage over cotton, and very little cotton is grown in these areas. Likewise, in areas of lighter soils (IX–D 1, D 2, and D 3) peanuts are a more important crop than cotton. In area VIII–A 2, flue-cured tobacco has displaced cotton.

Although physical factors are perhaps more influential, economic forces have had a definite part in shaping the Cotton Belt.

Cotton, as produced in the past, and as now produced in many areas, is a heavy user of hand labor. Since colonial days a large supply of low-wage hand labor has been available in the South. In many areas, farms are small; in other areas, the sharecropper system, with small acreages per family, has developed. This situation has tended to emphasize the importance of maximizing returns per acre which has resulted in cotton retaining a dominant place in the agricultural economy of the South.

Changes in market outlets and in price relationships between cotton and competing crops—such as tobacco, peanuts, wheat and truck crops—are also factors in determining the density of cotton production within the belt. To some degree they modify the general outlines or boundaries as determined by physical factors.

Mechanization of cotton, which has been expanding rapidly in recent years in such areas as the San Joaquin, Imperial, Rio Grande, and Pecos Valleys (VII–K 1, 2, 3 and I–B 3), is increasingly influential in determining the location of cotton production.

Mechanization of cotton production, which is coming into the picture in a major way, is likely to be of increasing significance in location of cotton production, and in affecting farming systems in the future. Production of cotton probably will tend to shift to areas that are best adapted to mechanization. Because of the interplay of physical and economic forces, trends in production of cotton have differed considerably among areas during the last 25 years.

Specialized Cotton.—In general the areas designated as VII–A on the map are the specialized cotton-producing areas. A high proportion of the cropland in these areas is devoted to production of cotton or a high proportion of the cash farm income is derived from cotton.

The High Plains and Corpus Christi areas of Texas, and the Delta area of Arkansas, Louisiana, Mississippi, and Missouri (VII–A 1, 3 and 4), have high proportions of cropland in cotton (from a third to a half in recent years). In these areas, and in the irrigated areas of the West (VII–K 1, 2 and 3), farms are large, topography is level, and mechanization of cotton production has increased more rapidly than in other areas. The trend in acreage of cotton has been either upward or the decline has been much less than in other areas in which specialization is not so great.

But even in these areas other crops are grown. In the Texas areas, grain sorghums are important, and in the Delta either corn, oats, soybeans, or combinations of these crops are grown with cotton on a large proportion of the farms. However, in most cases, cotton receives first choice of the land.

In the other specialized cotton areas (VII–A 2, 5, 6, 7, and 8) cotton is the chief source of cash income on most farms but it does not occupy so high a percentage of the cropland as it does in the specialized areas previously mentioned. Farms are smaller and less mechanized. Even so, cotton forms the nucleus of the farming system on most farms in these areas, with several other minor enterprises fitted in. Production for home use is important.

Cotton and Other Enterprises.—In the less specialized cotton subregions (VII–B through K), cotton is important but other enterprises are also rather important. Commodities named with cotton in the classification indicate the other enterprise or enterprises combined with cotton in the farming systems of the particular subregions and areas.

Some farms in each of these subregions are as highly specialized in cotton as are those in the group of specialized areas. But for the subregions as a whole, cotton is relatively less important for one or more of these reasons: (1) A smaller percentage of the farmers grow cotton; (2) A smaller proportion of the cropland on farms growing cotton is devoted to its production or (3) Another enterprise or enterprises is given first consideration even though cotton is important.

In parts of the Coastal Plains of Georgia, South Carolina, and North Carolina (Areas VII–B 1 and C 1), the light soils are well adapted to production of peanuts and tobacco and these crops have increased in importance at the expense of cotton.

In the Black Belt of Alabama and Mississippi (VII–D 1), and in the brown loam area of Tennessee, Mississippi, and Louisiana (VII–D 2), production of pasture and livestock, with considerable emphasis on dairying, is becoming more important. On some farms no cotton is produced. Range livestock is a noteworthy enterprise in the post-oak strip of Texas (VII–E 2) and this enterprise uses a large part of the land in farms. Cotton farms, which are usually small, are still found on those soils of the area that are adapted to its production.

In central Louisiana (VII–F 1) sugarcane and rice are important crops but cotton occupies a higher percentage of cropland than either of these.

In the low rolling plains of Texas and Oklahoma (VII–G 1) and in central Oklahoma (VII–G 2) wheat, grain sorghum, and in some parts of the area, range livestock, are important enterprises. Some cotton farms are as highly specialized as are those in the specialized areas. On other farms no cotton is grown and wheat is the major enterprise. On other farms both wheat and cotton are grown.
In these areas, in which Cotton and Wheat Belts meet, the relative prices of cotton and wheat have an influential bearing on the proportion of crop-land devoted to their production. Cotton and general farming areas are found in parts of several Southern States. Various enterprises supplement cotton in the farming systems. In the western sandy Coastal Plains of Texas, Arkansas, and Louisiana (VII–H 1) some specialty truck crops such as tomatoes and sweet-potatoes are valuable enterprises. Woodland operations and products for home use are also important on a large number of farms. In the Arkansas Valley and uplands (VII–H 2) and the limestone valleys and uplands (VII–H 3) in Tennessee, Georgia and Alabama, rather highly specialized farms are found in the valleys. General livestock and self-sufficing farms with little or no cotton are numerous on the uplands. In the Piedmont area of central North Carolina (VII–H 4) acreage of cotton has been declining and increased emphasis is given to small grains, pasture, and livestock farming. A large proportion of the land in area VII–J 1 is in timber. Farmers work in woodlands, on their own farms as well as on land owned by large timber companies. Production of crops and livestock for home use and extensive woodland grazing of cattle are noteworthy enterprises. Cotton is a main crop on a considerable number of farms, many of which are small.

In the irrigated cotton areas of California, Arizona, and New Mexico (VII–K 1, 2 and 3) acreage of cotton has increased rapidly during recent years. Many of the farms are highly specialized cotton farms with a relatively high degree of mechanization. On other farms alfalfa is an important crop; on others fruit, truck crops, and dairying.

**Dairy Regions**

Dairy farming is concentrated in the Northeast, in the Lake States, along the North Pacific coast, and in smaller areas adjoining large cities. Reasons for the concentration of dairying in these three sections of the United States vary, but the different parts of the region have some characteristics that are similar. Soils and topography are not favorable to production of cereal crops in competition with the Corn Belt and other grain-producing regions. Soils in the dairy regions are sometimes referred to as timber soils; generally they are not so well adapted to cereal crops as are the prairie soils of the Midwest. Furthermore, the rough and broken terrain limits the use of large tillage machines. But the cool climate, with its ample and well-distributed rainfall, is particularly favorable to production of hay and pasture.

Dairy cattle have an advantage over beef cattle in the dairy regions in utilization of hay and pasture because the pasture is of the high quality essential for dairying, and dairying affords greater opportunity for employment of family labor. A livestock enterprise which is intensive in its use of family labor ordinarily is important on the small farms of the dairy regions. Concentrates which must be shipped in for supplementing hay and silage during the long winter feeding period would be too expensive for livestock-fattening enterprises. In most of the region, dairying has the additional advantage of a large nearby market for fluid milk in the big cities of the East, the Midwest, and the Pacific Coast.

**Specialized Dairy.**—Dairying is highly specialized in the central Northeast, in eastern Wisconsin and northeastern Illinois, and in the Pacific Coast areas (IV–A). Each of these areas is the chief source of supply of fluid milk for large centers of urban population. The parts of the areas that are not so well located for shipment of milk to city markets produce milk for cheese factories and condenseries. Family-sized dairy farms predominate, with the size of the dairy herd usually adjusted to the production of hay and pasture on the farm. Most of the farmers in these areas produce a part of the heavy ration of grain and other concentrates they feed to their dairy herds and to small flocks of poultry. But the areas as a whole depend mainly upon concentrates shipped from other regions. They also draw upon other regions for some of the heifers or cows used for replacements in the herds.

Near large cities specialization in production of milk increases. Near Los Angeles, for example, large herds are handled chiefly by hired workers under essentially factory conditions. Practically all of the concentrates and roughages are bought and fed in corrals or dry lots. Alfalfa hay makes up half or more of the total nutrients fed to cows. Cows are milked for a few years only; they are then replaced with fresh cows bought outside the area.

**Dairy and Other Enterprises.**—In other parts of the dairy regions, which are not so well situated in relation to fluid-milk markets or in which conditions are not favorable to so high a degree of specialization in dairying, the systems of farming are a combination of dairying and other enterprises, with dairying the dominant enterprise.

In east central Wisconsin and southeastern Minnesota, the balance between the production of feed grains and hay and pasture is generally adequate for providing feed for both dairy and hog enterprises. Farm flocks of poultry are fairly large and dairy-herd replacements are raised on the farm, with some surplus for sale. As most of this subregion (IV–B) is remote from fluid-milk markets, it is the center of creamery-butter production in the United States.

Production of creamery butter extends into the northern cut-over sections of each of the Lake States (IV–C). But the cold climate, the scarcity of good tillable land, and the small farms in the cut-over area limit the production of feed crops.
Yield and quality of improved pastures and meadows are good, however, and production from small dairy herds is maintained at a high level with heavy rations of purchased concentrates. Because heavy soils are well adapted to production of potatoes, this crop is the chief source of income aside from dairying. Scattered settlement and small-scale or part-time dairy-potato farms characterize the farming in the Lake States cut-over area. South of the cut-over area in Michigan and in western New York, the soils and climate are favorable for production of several cultivated crops in rotation with hay and pasture, but competition between feed grains and such cash crops as dry beans, sugar beets, potatoes, wheat, fruit, and truck crops, is very close. Hence, farmers in this subregion (IV-D) combine dairying and cash-crop farming.

Dairy, Poultry, and Mixed Farming.—Dairy farming is closely interspersed or variously combined with poultry, fruit, or truck-crop farming in central Maine, in southern New England, in the Hudson River Valley in New York, around Puget Sound in Washington, and in the Willamette Valley in Oregon. In local areas of this subregion (IV-E), still other cash crops are important—for example, tobacco in the Connecticut River Valley, and seeds, grains, and hops in the Puget Sound-Willamette Valley area. The mixture of types of farming or the emphasis on dairying on dairy-poultry and dairy-cash-crop farms varies from area to area and from farm to farm, but among the varied combinations dairying stands out as a dominant enterprise. In New England and in the Hudson River Valley, farm-grown forage is supplemented with heavy rations of purchased concentrates in feeding dairy cows, whereas in the Puget Sound-Willamette Valley area the ration consists chiefly of high-quality hay and pasture. The hay crop generally is either alfalfa or a mixture of vetch and oats. Nearness to market and favorable climate are influential factors underlying dairy-poultry-fruit-truck combinations. Sandy soils along the New England coast also favor truck-crop farming. In New England off-farm employment is a noteworthy source of income and many of the farm operators are part-time farmers.

Dairy and General Farming.—Bordering the central Northeast subregion, both on the south and the west, are several areas (IV-F) in which dairying is a dominant part of a system of general farming. Among the dairy and general-farming areas are central Pennsylvania and the upper Piedmont. In these areas dairying and poultry raising are combined with production of feed grains and wheat, with fruit, truck crops, potatoes, tobacco, and canning crops important on many farms. Variations in elevation, soils, and nearness to market influence the choice of crops in local areas. The climate in these areas also favors a wide adaptation of crops. Another notable area in this subregion is located in northeastern Ohio and northwestern Pennsylvania, where dairying is combined with production of wheat, oats, and hay and pasture. This area surrounds several industrial centers which provide a market for large quantities of fluid milk. Dairying and general farming are also found on the Allegheny plateau in Pennsylvania and in most of northern New England where the dairy farms are somewhat like those in the cut-over area of the Lake States. The chief difference is that poultry is more important here than in the cut-over areas of the Lake States. In both sections, small-scale or part-time farming predominates because of the scarcity of good land and the opportunities for off-farm employment.

In central Wisconsin where the mixture of sandy and heavy, poorly drained soils are generally low in productivity, farming systems range from specialized dairying to a combination of dairying and production of hogs, potatoes, or canning crops. The specialized dairy farms tend to be located on the heavy loam soils which are used chiefly for production of grass and small grains. On the sandy-loam soils, potatoes are combined with dairying. The more general systems of farming are found mostly on the sandy, droughty soils. Most general-type farmers sell some dairy products, a few cattle and hogs, and some cash crops, as grain, potatoes, or canning peas.

Wheat and Small-Grains Regions

Wheat has a wider climatic range than corn or cotton. It is grown commercially throughout most of the United States. Exceptions are areas with less than 12 to 15 inches of rainfall and parts of the deep South where rainfall is excessive and wheat is subject to fungus diseases and rust. The major wheat regions, in which production of wheat is the dominant type of farming, include much of the well-known Great Plains of the central United States, and an area centering in the Columbia Basin of the Pacific Northwest. They comprise primarily deep, brown and dark brown heavy soils, originally covered with short and mid- grasses. The topography of the Great Plains wheat areas is generally that of broad, level to undulating plains, well suited to large-scale mechanized operations, whereas that of the Pacific Northwest area is generally undulating to rolling. Climate is characterized by an average annual precipitation ranging from 15 to 30 inches, and by an average growing season ranging from 100 days in the North to nearly 200 days in the Texas panhandle. The dry and sunny summers that generally prevail are well suited for ripening and harvesting small grains. Limited precipitation in the western portions of this territory necessitates the seeding of wheat on fallow to assure production, but with this and similar practices production of wheat is well adapted to these areas.

Hard Winter Wheat Region.—The more important of these major wheat regions from the
standpoint of acreage and production is the group of hard winter wheat areas of central and western Kansas, southwestern Nebraska, eastern Colorado, and northwestern Texas and Oklahoma. Here, production of hard winter wheat is the chief farm enterprise. It is grown in combination with sorghums, especially in localities with light soils, and with smaller acreages of barley, corn, and oats.

Acreages of summer fallow for the next year’s crop increase from a negligible acreage in the eastern part of the region to as much as half of the cropland on many farms in the western part. Limited acreages of alfalfa and sweetclover are grown in the eastern portions and along the streams of the region, but no satisfactory legume has been developed which is adapted to the limited rainfall and the periodic droughts which have plagued much of the region. As a result, established crop rotations, as they are known in the Corn Belt, have not been adopted and rotations are limited primarily to alternate wheat and summer fallow. Operations generally are on a fairly large scale.

Hard, winter varieties of wheat are grown almost exclusively. Winter wheat is planted in the fall and harvested in June or July. Other annual crops, as barley, oats, and sorghums are planted in the spring. Barley and oats are harvested in July and sorghums in the fall. Winter wheat provides a cover on the ground during the winter and early spring and, in contrast with the spring crops, tends to prevent wind erosion. It also provides excellent winter and early spring pasture except in the drier years. Wheat is grown as a cash crop as are other grains on many farms. Relatively little livestock is found in the areas except along streams and where the topography is rough; and where soils are light and a good deal of sorghum is produced. When wheat pasture is available in the hard-land areas in which wheat predominates, substantial numbers of cattle and sheep are brought in on contract to graze the wheat pasture.

Spring Wheat Region.—A second major wheat and small-grain region is the group of spring-wheat areas of western Minnesota, North and South Dakota, and Montana. Here rainfall ranges from about 15 inches in the west to about 25 inches in the east. Its distribution throughout the year is especially suited to wheat. About 50 percent falls between March and June, after which a period of dry weather generally prevails during the ripening and harvesting period of the crop. The growing season, which averages from 100 to 120 days for most of the region, permits production of spring wheat, flaxseed, barley and rye, but the winters are too long and severe for production of winter wheat. An exception is the Triangle-Judith Basin area of north central Montana (III-C1) where the growing season ranges from 120 to 140 days, and where much of the wheat is of winter varieties.

Although production of wheat is the dominant farm enterprise throughout this region, farm organizations vary substantially. In the Red River Valley (III-E2) and in northeastern South Dakota and southeastern North Dakota (III-E3) where precipitation is highest, farms are smaller and less specialized than elsewhere in the region. Wheat is grown in combination with other spring crops, as barley, oats, flaxseed, and some corn. Special crops such as potatoes and sugar beets also are grown in the Red River Valley. Farm livestock herds are more numerous than farther west where yields are lower and supplies of feed less dependable.

West of this more general farming area, to the breaks of the Missouri River in North Dakota and in northeastern Montana (III-A2 and 3), production of wheat is more specialized. The crop is grown generally in combination with other small grains, as barley, flaxseed, and rye. Farms are larger and summer fallow occupies an increasing portion of the cropland. As in those parts of the hard winter wheat areas where rainfall is limited, little acreage is in legumes and the livestock are few.

Farming operations are most extensive in Montana and that part of North Dakota which is west of the Missouri River (III-C2). Here rainfall is limited and substantial parts of the terrain are so rough and broken that they are best suited for range livestock production. Much of the wheat is produced on livestock-wheat ranches, which are relatively large organizations with some acreage suitable for production of wheat and other acreage suitable only for production of livestock. Much of the wheat is grown on summer fallow. Barley, flaxseed, and some corn also are grown and native hay is harvested for livestock feed. Crop enterprises often are limited to cash crops, although the introduction of corn into east central Montana in recent years has been associated with the practice of substituting corn for summer fallow and of grazing off the corn by cattle. Lack of stock water precludes production of livestock in some parts of the area. In such places, wheat and other crops are strictly cash enterprises and land that is too rough for production of crops is left idle.

Pacific Northwest Region.—A third major wheat region is in the Columbia River Basin of the Pacific Northwest. Both soft red and soft and hard white wheats are produced. Precipitation ranges from about 20 inches in the Palouse area of eastern Washington and northern Idaho (III-B1), to a low of little more than 10 inches in the Big Bend area immediately east of the Columbia River (III-A1). Growing season ranges from about 140 to 180 days and both spring and winter wheat varieties are produced. It is not uncommon in this region to reseed to spring wheat acreage that was winter-killed after being seeded to winter wheat in the preceding fall. But winter wheat is generally preferred because it yields better than spring wheat and it provides some cover during the winter, which retards erosion. The topography is undulating to rolling;
that in the Palouse area is so rolling that track-laying tractors were adopted when farming operations were mechanized.

In the western, drier Big Bend area, wheat is grown exclusively on summer fallow. In the eastern parts where additional rainfall permits more alternatives, common practice has been to rotate fallow with wheat every 2 or 3 years, primarily as a means of weed control. Recently, however, favorable rainfall, improved tillage practices, and use of both green manures and nitrogenous fertilizers have resulted in an expansion of continuous production of wheat. Dry edible peas are the major crop alternative to wheat. A common practice is to rotate wheat and peas, in which case peas take the place of fallow in the rotation. Barley, oats, seed peas, and hay, including hay from small grains, also are grown, but wheat is the chief single enterprise.

Production of livestock is a definite part of the farm economy in this region. In the Palouse area it generally comprises small farm enterprises such as 3 or 4 milk cows, 10 or 12 beef cattle, 3 or 4 brood sows, and a farm flock of chickens. In the drier Big Bend area, where feed supplies are less abundant and less dependable, production of wheat is more specialized and production of livestock is more generally confined to localities in which adjacent nonplowable pasture or range with water supplies is available.

**Range Livestock Region**

Range land in the Western States covers more than 700 million acres—more than a third of the total land area of the United States. From the western Dakotas and the sandhills of Nebraska it extends westward and south over much of southwestern Texas, New Mexico, and Arizona, the Mountain and Intermountain States, and the Pacific Coast States. Other important areas are the Flint Hills of Kansas and Oklahoma, the Arbuckle Mountain area of Oklahoma, and the north central Texas grazing area. The range region is that part of the West in which soils, elevation, topography, and climate make production of range livestock more profitable than production of crops. Rainfall in much of the region is low and uncertain. Cropland farming is impossible or hazardous except under irrigation. Thus livestock is often the only agricultural enterprise. Drought, or continuous threat of drought, is a menace to stable ranching in many parts of the range livestock region.

About half of the western range area is Federal and State land, a large part of which is public domain and National forests. More than 50 million acres is State-owned, being chiefly school and other grant land. Private ownership is dominant in the stock-farm areas of Nebraska, Kansas, and Oklahoma, and in Texas.

**Year-Long Grazing.**—Year-long grazing of livestock on the range is generally practiced in the Southwest, extending northwestward from the Rio Grande plains of Texas to southwestern Nevada (II-D). Here winters are mild except on the high-altitude land. Rotation grazing and holding back of some grazing land for winter use is practiced on some ranches. The seasons of best grazing in much of the Southwest are late summer, fall, and early winter. Range feed is likely to be short in late winter and early spring.

Considerable supplemental feeding is necessary in dry years and some cottonseed cake is commonly fed in winter, except on the better and properly stocked ranges. Many ranchers feed their bulls in late winter and early spring. A few feed their ewes previous to lambing. Compared with areas to the north and northwest, relatively little hay is fed in the Southwest, and much of this is fed to horses.

Little or no crop production is found on most of the livestock ranches. The small irrigated areas in the region supply very little feed to the surrounding livestock economy. Only a few ranchers have access to locally grown hay or irrigated pastures. Cottonseed cake is a byproduct from the irrigated cotton areas in the Southwest.

Cattle and sheep use a major part of the range in the year-long grazing section of the Southwest. Cattle do better than sheep in the rougher and sandy short-grass areas and where few browse plants and annual weeds are found. Cattle ranching is the chief enterprise in the Rio Grande plains area. Sheep are more likely to be on fine-textured soils or moderately rough rolling lands where there is a combination of grass, perennial browse, and annual weeds. On the rougher and brush-covered range in the Edwards Plateau of Texas, goats are a major enterprise. In this same area cattle generally predominate on the smoother open grasslands, whereas sheep, cattle, and goats, may be on the same ranch to utilize better some of the mixed type of range.

Shipments of feeder cattle and lambs in the fall to outside fattening areas are prevalent, but some are moved to local irrigated areas for fattening. Some grass-fat cattle are shipped out partly because of the important growth of range in late summer and fall. Many other cattle not ready for market are moved in the spring from the Southwest to the Flint Hills of Kansas and Oklahoma. They are grazed until late summer or fall when they are shipped to market as grass-fat cattle.

**Seasonal Grazing.**—In the remainder of the range livestock region, grazing is seasonal. Except for areas in California, this part of the region lies generally north of the year-long areas. The northern range is characterized by extremes in temperature, topography, and rainfall. Some ranchers have both dry land and irrigated land, the latter furnishing the winter-feed base. Others rely on feed from nearby irrigated farms. Renting aftermath pastures or buying hay is common in some areas. And in areas bordering the Winter
Wheat Belt some stock is moved to the wheat fields in winter. Dates of moving to wheat pasture and period of grazing depend mainly upon the condition of the crop. Many ranchers rent wheat pasture for stop-over grazing en route to feeding areas and central markets. But some wheat farmers buy stockers to utilize their wheat pastures.

The seasonal grazing areas differ widely as to season of use and type of ranch operation. In some areas (II–A) there is migration within the area and movement between areas. The widely known Intermountain region includes most of the migratory grazing areas except the Sierra foothills and the coast range in California (II–A6) and the upland summer grazing areas (II–C). Topographically, it varies from high mountains, broad plateaus, deep canyons, and extensive alluvial valleys, to barren salt flats. Winter snows occur over much of the region which has wide extremes in temperature and precipitation. Vast stretches of grassland and brush-covered areas surround occasional mountain ranges. These areas furnish winter and spring-fall grazing; and the mountains furnish summer grazing. It is not unusual for sheep and cattle to use the same range.

Sheep are usually grazed on open range throughout the year; but they must be moved, often long distances, from one seasonal range to another. In winter many sheep are kept in the desert areas which can be used only when snow is present to furnish stock water. When snow is heavy, supplemental feeding is necessary and death losses are high. On winter ranges sheep are herded in bands of 2,000 to 2,500 ewes. The bands are divided and moved to the foothills for the spring and to the mountains for the summer. Summer bands usually number between 1,000 and 1,250 ewes, plus lambs, making a total of 2,000 to 2,500 animals. Lambs are removed from the bands for market in late summer or early fall. Shed lambing in some areas permits earlier marketing. At the end of the summer grazing period sheep are moved back to the foothills for fall grazing, then back to the desert range.

In general, cattle are grazed on the mountain summer ranges for 3 to 5 months, pastured on hay or cropland during spring and fall or run on spring-fall range, and fed during the winter. A considerable number of cattle run on the lower ranges in summer. The length of the feeding period depends upon the feed supplies and weather. Livestock marketed include grass-fat steers, usually 2-year-olds, long yearlings as feeders, and old or culled cows. In years of poor feed supply, both older and younger stock may be sold to reduce the herds. The feeders go to the feed lots of the Midwest and to a lesser extent to the Pacific coast.

The range-livestock economy of the Intermountain region is based upon the interdependent relationship of irrigated lands and the large acreages of private and public range lands. Public lands cover about 80 percent of the Intermountain region. Irrigated lands and mountain meadows, sometimes an integral part of the ranch unit, furnish pasture and hay and other winter feed for livestock.

The Sierra foothills-coast range areas in California (II–A6) with open timber and brush, forage grasses, and adequate stock water provide grazing for both sheep and cattle. They are found on both farms and ranches. The foothills provide winter grazing and lambing grounds for range ewes. As the feed dries up, many sheep are trailed or shipped to the high mountains for summer grazing. Some are kept on local pastures and grain stubble for summer and fall grazing. Beef cattle are raised mainly under range conditions on relatively large ranches. Young stock are marketed mainly as long yearlings or 2-year-olds, either as grass-fat or finished cattle.

Seasonal grazing-nonmigratory areas (II–B) include the sandhills of Nebraska, the western parts of the Dakotas and northeastern Wyoming, and extend across Montana. Farther south the subregion includes the Osage-Flint Hills area in Kansas and Oklahoma, the Canadian breaks in Texas and Oklahoma, and the north central Texas grazing area. These areas are a big expanse of range country. They include some dry-land farming and surround a number of irrigated areas. Year-long grazing is possible in some of the areas, but 2 to 4 months winter feeding is the rule. Both sheep and cattle use the nonmigratory seasonal grazing areas. Sheep, however, are chiefly in Wyoming, the Dakotas, and Montana (II–B1).

In years of favorable precipitation and high prices large areas of range land are seeded to wheat. Gradually, under less favorable circumstances, grazing replaces wheat. In some areas, particularly the Great Plains, there are combination wheat and cattle ranches. Most ranches grow at least part of their winter feed supply. A few have irrigated land for hay and other feed. Many have meadows of wild grasses which may furnish both hay and grazing. In the northern Plains some ranchers have crested wheat grass for both hay and pasture. It provides a month to 6 weeks of early feed, thus delaying the use of native range.

In the sand hills of Nebraska, hay for wintering the breeding herd is usually harvested from meadows of native grass. Here, as in many other areas, cottonseed cake is also used in winter feeding. Some ranchers with irrigated land in the valleys and range land in the hills fatten their cattle and sell as slaughter stock. This is chiefly a cattle area. The sandy soil and coarse grasses are not suited to sheep.

Farther south grain sorghums are used rather than hay for winter forage and some ranchers rent winter wheat pastures. Cake is fed here, too. Many cattle are shipped from Texas and other areas into the Flint Hills area, primarily for spring and summer grazing en route to market. This
stop-over grazing is often on a contract basis at so much a head. They move out of the Flint Hills from July to November. Some are sold to local operators to be wintered there and fattened on grass in the spring. These are more likely to be on ranches with creek-bottom range land better suited for winter grazing, rather than in the ridge areas which are used largely for spring and summer grazing.

Some grass-fat slaughter stock move out of the nonmigratory seasonal grazing areas. Chiefly, however, feeders are sold. These go mostly to feed lots in the Midwest. Feed lots within the areas also take a number of feeders. These are mainly in the irrigated areas where alfalfa hay and other feeds, including sugar-beet pulp and tops, are available for feed.

**Upland Summer Grazing.**—The summer range (II-C) is chiefly in the higher altitude areas of the Rocky Mountains and associated ranges and the Sierra Nevadas and southern Cascade Mountains. Areas so designated on the map are not used exclusively for summer grazing. Limited amounts of spring-fall range and even some winter grazing are included. Both sheep and cattle ranches are in the mountain areas. The summer grazing areas surround a number of large important irrigated farming areas; and scattered farming areas are found which produce hay, grain, and other crops. Otherwise, the areas generally are too rough or are otherwise unsuited for agricultural use other than grazing.

The climate is rigorous, the winters long, and the snowfall heavy. All livestock kept within the area must be fed some during the winter; continuously in sections where the snow cover remains all winter. From 3 to 5 months feeding is common practice. Hay is the universal feed, but some grain and cottonseed cake is fed. The hay comes largely from mountain meadows, irrigated land near ranch headquarters, or from irrigated farms. The location of home ranches is governed chiefly by land suitable to produce hay, either native or alfalfa, for winter feed.

**Fruit, Truck-Crop, and Mixed Farming Region**

Fruit and truck-crop farming is very much localized and widely dispersed throughout the United States. The fruit, truck-crop, and mixed farming region, as delineated on the generalized type-of-farming map, is made up of 17 widely scattered areas which are grouped into four subregions on the basis of the combinations of fruit, truck, and mixed farming. Even in local areas in which fruit or truck crops are of sufficient importance to characterize the farming of the area, the specialized fruit or truck farms are usually interspersed among farms of other types because of special conditions of soil, slope, and drainage that are required for fruit or truck crops. Many fruit and truck-crop farmers add supplementary enterprises. And, as already mentioned in connection with discussion of other regions, many farms of other types include fruit or truck crops as supplementary enterprises.

The principal specialized deciduous fruit areas (I-A) are located in intermountain valleys and on protected mountain slopes. These areas include central Washington, southern Oregon, the Sacramento and San Joaquin Valleys in California, the Colorado west slope, the Ozark Plateau, and the Shenandoah and Cumberland Valleys in Pennsylvania, Maryland, Virginia, and West Virginia. Important deciduous fruit and truck-crop areas (I-B) are located near large bodies of water, as the eastern shore of Lake Michigan and the southern shores of Lake Erie and Lake Ontario. Deciduous fruits (apples, pears, peaches, etc.) are better adapted to areas in which late spring and early fall frosts are not likely to occur. Slopes which provide air drainage and bodies of water which moderate temperature changes are important in that respect. Extra fertile soils are not a requirement for fruit growing, but they must be well drained.

Dairying and poultry raising generally are combined with fruit and truck-crop farming in the lake-shore areas, and with fruit growing on the Ozark plateau and in the Shenandoah and Cumberland Valleys. In the western fruit areas other enterprises vary considerably. In southern Oregon fruit is combined with poultry raising; in central Washington other enterprises are hay, truck crops, and hops; in the Sacramento Valley, hay, dry beans, sugar beets, and rice; in the San Joaquin Valley, citrus fruit, grapes, cotton, potatoes, hay, and dairy; and on the Colorado west slope, dry beans, hay, and livestock.

The citrus fruit and truck-crop areas are on the central California coast and in southern California and southwestern Arizona, the lower Rio Grande Valley, and central Florida. Climate is the chief determining factor in location of citrus fruits and vegetables produced for the early season market. In central Florida, citrus fruit and vegetables are the only important crops grown. In the Rio Grande Valley cotton is the other main crop. In southern California and southwestern Arizona, dry beans, hay, and dairy and poultry are other main enterprises. Sugar beets, livestock, dairy, and poultry are produced along with fruit and truck crops on the central California coast.

The more highly specialized truck farming (I-D) in the United States is in southern Florida where winter vegetables are grown for the early season market. Areas of specialized truck and mixed farming (I-C) are located along the Gulf Coast and in the Atlantic sandy coastal plain. Other enterprises are fruit, poultry, and dairy.

The areas in which fruit and truck farms are interspersed with those of other types and where these crops are supplementary enterprises on farms of other types, are found chiefly in the dairy and general farming regions. Centers of
both fruit and truck crops in the dairy region are southern New England and the Hudson River Valley, central Pennsylvania and the upper Piedmont, and the Puget Sound-Willamette Valley area. In the general farming region both crops are produced in central Utah and southeastern Idaho. Fruit is important in the central Virginia Piedmont and the Appalachian Mountains. The Ozark and Ouachita Mountains and the upper Ohio River Valley are centers for truck crops. Centers for truck crops in the dairy region are northern New England and the Allegheny Plateau in Pennsylvania.

**General Farming Regions**

The largest group of contiguous general farming areas is located in the section between the Corn Belt and dairy regions in the North and the Cotton Belt in the South—centering in Virginia, West Virginia, Tennessee, Kentucky, southern Ohio, Indiana, Illinois, and Missouri, and in Arkansas and eastern Oklahoma and Kansas. Other scattered general farming areas are found along the Atlantic and Gulf coasts, in Texas and New Mexico, and in some irrigated valleys throughout the West.

**Eastern Areas.**—In the large general farming region in the east central part of the United States, climate and soils favor production from many enterprises with no one having an outstanding advantage over the others. Corn, wheat, oats, hay, and to a lesser extent soybeans, tobacco, fruit, and truck crops are grown. Much of the land is kept in pasture because of the broken topography. Both pasture and hay have place in the rotations on cropland to maintain or improve the soils, which are generally low in fertility and subject to considerable erosion. This cropping system requires livestock for effective utilization of the pasture and roughages. Hogs, beef cattle, and poultry are found on the majority of farms. Some farmers keep dairy cattle or sheep, and many of those who keep a beef type of cattle get a considerable part of their income from the sale of dairy products.

Farming centers around dairying, livestock, and poultry in the St. Louis milkshed (VI–G1), in the Ozark Mountains and border areas (VI–G2), and on southern Illinois gray lands (VI–G3). Livestock and dairying are also a considerable part of the systems of general farming in the highland rim of Tennessee (VI–J1) and in the Shenandoah and associated valleys (VI–J2). Other main crops in these areas are: Wheat and corn in the St. Louis milkshed, wheat and fruit in the Ozark Mountains area, redtop seed and fruit in southern Illinois gray lands, and fruit in the Shenandoah Valley.

In a group of areas that center in Ohio, Indiana, Kentucky, Tennessee, and Virginia, livestock and tobacco are significant parts of the general type of farming. Small grains are important in the knobs and coal fields area (VI–H1) and the central basin of Tennessee (VI–H2). Truck crops are grown in the upper Ohio valley and hill area (VI–H3) and hay and fruit are important crops in the central Virginia Piedmont area (VI–H4). In the tide-water area of Virginia and North Carolina (VI–L), truck crops, tobacco, and livestock are the chief enterprises.

Small-scale and part-time general farming predominates in some mountainous areas and in the flatwoods area along the Atlantic and Gulf coasts. Livestock, truck crops, and cotton are important in the southern Ozark and Ouachita Mountains area (VI–F). In the Appalachian Mountain area (VI–K), chief enterprises are livestock, truck crops, and cotton. Forest products, truck crops, and cotton are the chief sources of income in Atlantic and Gulf Coast flatwoods area (VI–M).

**Western Areas.**—In the West, general farming areas are usually relatively small and often widely separated. Most of them are irrigated. Availability of water for irrigation is the major reason that the agriculture differs from that of adjoining or surrounding areas. But the supply of water in the general farming areas is not adequate for large acreages of crops which require considerable moisture for efficient production. Farmers, therefore, combine small acreages of such crops as sugar beets and potatoes with larger acreages of hay, grain, dry beans, or other crops which require less water.

Irrigated areas in western Nevada (VI–A1) are characterized by production of hay, dairy products, livestock, potatoes, and poultry. The lower Snake River area in Idaho and Oregon (VI–B1) produces hay, potatoes, sugar beets, dry beans, seed corn and other seed crops, some fruit, and small grains. It has some dairying, livestock, and livestock-feeding operations. The central Utah-southeastern Idaho areas (VI–D1) produce hay, sugar beets, potatoes, fruit and truck crops, and grain. They also have some dairying and produce some livestock. The areas in western Montana (VI–D2) and the upper Arkansas Valley (VI–D4) are characterized by production of sugar beets, hay, feed grains, and livestock. The San Luis Valley (VI–D3) produces chiefly hay, livestock, potatoes, dry beans, and some truck crops. In the San Juan Basin in southeastern Colorado and northwestern New Mexico, farms have varying combinations of livestock, hay, cash grain, potatoes, and dairying. Fruit is grown on many of the farms. The southern Yakima Valley (VI–D6) has a few specialized fruit farms and potato farms, but it is characterized chiefly by fruit, potatoes, and dairying.

One or more of the many small general-farming areas in irrigated valleys (VI–D7) is found in each of the 11 Western States. These are primarily hay-small grain-livestock areas with specialty crops such as dry beans, sugar beets and potatoes, important in several. Dairying is carried on to
some extent, and livestock-feeding operations are practiced in some of the areas. In the central and northern New Mexico areas, dry beans, fruit, and truck crops are important.

Another irrigated general farming area is in Nebraska. This area produces chiefly corn, sugar beets, popcorn, potatoes, truck crops, and hay. Many of the farms in this area, as in others, also own or use nonirrigated land either for crops or for grazing. Some dairying, beef cattle, and feeder cattle are found in the area.

In the northern Rocky Mountain cut-over area (VI–C1) are chiefly small-scale dairying and livestock farming on nonirrigated land. Small grains and hay for livestock, with some cash grain and potatoes, are the principal crops. Forest products are a source of income on some farms. Dairy and other cattle are the principal livestock in these areas.

Other small nonirrigated general type-of-farming areas are in northeastern New Mexico and northwestern Texas. Grain sorghums, wheat, and livestock are principal sources of income, although some corn, oats, and barley are grown. The area farthest south, which is mostly in New Mexico, grows cotton also.

**TOBACCO AND GENERAL FARMING REGION**

This region comprises four subregions which are located in the east central part of the United States. Each subregion grows a different type of tobacco. But the dominant influence of an intensive crop is noticeable in all areas. Production of tobacco requires 300 to 500 hours of man labor per acre, depending upon the type grown. Much of this is hand labor which is heavily concentrated in the harvest season. Harvest operations are not mechanized and there has been little advantage in mechanizing the preharvest operations. Thus, family-operated tobacco farms are small in terms of acres. Much of the tobacco on the larger farms is grown by sharecroppers.

The chief differences in the characteristics of the farming systems in the four subregions are the nature and relative importance of supplemental enterprises. Tobacco farmers in the flue-cured areas of North Carolina and Virginia depend almost entirely upon cash crops for their income. Southern Maryland also approaches the cash-crop economy of the South. At the other extreme is the burley area in north central Kentucky. Here tobacco is produced in combination with livestock in a unique intensive-extensive type of farming. Farming systems built around dark air-cured tobacco in the Pennyroyal-Purchase areas in Kentucky and Tennessee are quite varied, the relative importance of livestock depending mainly upon the quality of pasture and the yields of the feed crops.

Tobacco is also produced in small areas outside the main tobacco region. The more important of these local areas are found in the Connecticut River Valley, southeastern Pennsylvania, southern Ohio and Indiana, Wisconsin, southeastern Georgia, and northern Florida.

**FLUE-CURED TOBACCO.**—The flue-cured subregion includes a section of the Piedmont in south central Virginia and north central North Carolina (VIII–A1) and a section of the central Coastal Plains in North Carolina (VIII–A2).

Soils and other physiographic differences between the Piedmont and Coastal Plains are reflected in the cropping systems of the two areas. “Old Belt” tobaccos grown on Piedmont soils are heavier in body and darker in color than are the “New Belt” types grown on the light sandy soils of the Coastal Plains. Tobacco, corn, and hay are the principal crops in the Piedmont farming system. Tobacco accounts for about a fifth of the harvested crop acreage and corn for roughly twice as much. Wheat is the only important small grain, but barley has gained favor as a grain crop to supplement corn. A small acreage of cotton is grown in the eastern Piedmont counties. Tobacco cannot be grown in combination with legumes so two rotations commonly are followed with a substantial acreage of tobacco land lying idle while “resting.”

Cotton is the major supplementary crop in most of the central Coastal Plains area. Historically, cotton is the principal crop, but tobacco now is grown on those soils best suited to it. But most farmers still grow some cotton in combination with tobacco in a highly intensive farming system. Peanuts are produced along the northeastern border. However, they are minor in the economy of the area as a whole. Unlike the Piedmont section, relatively little idle cropland is found in the Coastal Plains.

In both areas the hand methods used in harvesting and curing flue-cured tobacco limit the scale of production per family to the labor and facilities available for harvesting and curing the crop. Family-operated farms are small in terms of acres, typically one- and two-mule units. Most of the cash crops on the larger units are grown by sharecroppers or by tenants who work small acreages. This subregion is characterized by a high degree of stability in the farming system. There has been little change in farm size or methods of production during the last quarter century.

**BURLEY TOBACCO.**—A livestock-tobacco type of farming characterizes the burley-tobacco area of north central Kentucky, more commonly known as the bluegrass (VIII–B). The fertile soils, which are derived from the phosphatic limestone underlying the area are peculiarly well adapted to this type of farming. In addition to producing good yields of high-quality burley tobacco, these soils produce excellent bluegrass pastures which occupy about half of the farm land. Farms in this area tend to be somewhat larger and more diversified than the typical tobacco farms in other parts of the region. Net family
earnings likewise are comparatively high judged by tobacco-farm standards.

Bluegrass holds a central position in the intensive-extensive type of farming system which distinguishes this area. Considering its complementary and supplementary relation to the tobacco enterprise, bluegrass pasture has a comparative advantage over other crops. It is an excellent soil builder. Thus it "restores" soils depleted by the intensive tobacco enterprise. At the same time, bluegrass furnishes a feed base for the extensive livestock enterprise. Tobacco seldom is grown 2 years on the same land. Bluegrass sod usually is broken for tobacco or corn and after producing one tobacco crop the land is returned to bluegrass. The typical rotation seldom is shorter than 8 years, including 3 to 5 years of bluegrass pasture. Acreage of hay is about double that of tobacco, and acreage of tobacco and hay combined is about the same as the acreage of corn. Small grains are relatively unimportant on most farms.

Dairy and beef cattle, sheep, hogs, and poultry are the principal livestock. Dairy cows are far more numerous than are strictly beef cows. The number of sheep is comparatively large, especially in some counties. A large proportion of the hogs are sold as feeder pigs and grain feeding of lambs is the exception rather than the rule. Management of the livestock enterprises throughout the bluegrass area emphasizes grazing as a source of animal feed.

**Dark Tobacco.**—The dark air-cured tobacco producing region of southwestern Kentucky and northwestern Tennessee (VIII-C) presents a varied agricultural picture. Diversity among enterprise combinations reflects three decades of basic adjustments in the system of farming and physiographic differences between parts of the area. After 1919, the export demand for dark air-cured and fire-cured tobacco dropped off sharply. The resulting low prices stimulated some shifting to alternative and supplemental enterprises. White burley now practically has replaced other types in the eastern part of the area, and livestock and dairy have become relatively important sources of income in some sections. Production of livestock is limited, however, by the small production of feed crops and low quality of pastures, particularly in the Pennyroyal counties. Heavy population pressure, lack of a more profitable labor-intensive crop, and favorable soils have kept tobacco in its dominant role.

About a third of the farm land is in crops and a somewhat higher percentage is idle or in plowable pasture. From an acreage standpoint, corn is the chief crop. Some cotton is grown in the southwest Jackson Purchase counties. On those farms where it is grown, cotton occupies a high percentage of the total cropland. In some localities, truck crops, fruit, potatoes, and dairying are important enterprises. On the whole, most of the work on farms in the Pennyroyal-Purchase area is for production of field crops: Tobacco, corn, wheat, and hay.

**Southern Maryland.**—In the five southern Maryland counties that lie between the Chesapeake Bay and the Potomac River (VIII-D), the type produced is known as Maryland Leaf. It is an air-cured type, light in body and color, and possesses good burning and blending qualities. This area, with its cash-crop system of agriculture and abundance of negro labor, resembles parts of the "Old South." And, like cash-crop farmers throughout the South, southern Maryland farmers depend upon a single cash crop for their income.

Only a small proportion of farm land is in crops. Tobacco and corn occupy about equal acres. Minor crops include small grains, hay, potatoes, and vegetables for sale. Their combined acreage approximates that used for corn or tobacco. The prevailing rotation for tobacco includes large acreages of idle land. Despite the abundance of idle land suitable for feed crops and pasture, production of livestock is not sufficient even for local consumption.

**Special Crops and General-Farming Regions**

The so-called special crops, including potatoes, sugar beets, dry beans, peanuts, rice and sugar cane, are grown under conditions which range from the dominant enterprise in the system of farming to a supplementary cash crop in a general system of farming. The latter situations already have been mentioned in the discussion of other types of farming. Here the discussion centers on those areas in which one or more of the special crops identify the type of farming, with only a brief reference to some of the areas in which the crops are important from the standpoint of their contribution to total production of the crop, but of only minor importance from the standpoint of characterizing the type of farming of the area.

**Potatoes.**—Production of potatoes is becoming more concentrated in the better adapted areas, but it still takes place under a wide range of growing, harvesting, and marketing conditions. The trend toward concentration and specialization in adapted areas has been associated with increased use of power equipment and other technical devices which have made production more efficient but which often are not adapted to small acreages. The late-crop areas which are in the northern third of the United States are characterized by high yields, by storage facilities adequate for a normal crop, and by marketing over a period of 6 to 8 months. The intermediate and early crop areas, which are primarily in the South, get generally lower yields and usually sell the crop very soon after harvest with little, if any, storage.

Aroostook County, Maine (IX-C1), is one of the more intensive late-crop areas. Soils are productive and the rolling topography is suited to
mechanized farming, but soil erosion is a problem. The growing season is short and relatively cool. Alternative opportunities for the farm people are few. This combination of conditions has led to intense specialization in production of potatoes. Potatoes account for around 80 percent of the farm income in the area and an even higher percentage in the central section of the county. The balance of the farm income is obtained primarily from canning crops and from milk, both of which tend to be concentrated in the southern tip of the area where topography is less favorable to large-scale production of potatoes.

Late potatoes are a major cash crop in several of the western irrigated areas. They are the principal crop in the Klamath Basin area of southern Oregon and northern California (IX-C2). In the upper Snake River area (IX-E2) they are usually the most profitable crop and compete with sugar beets and other crops. In the middle Snake area (IX-E1) they compete chiefly with sugar beets and dry beans. Other important irrigated potato areas include the southern Yakima Valley (VI-D6) in Washington and the San Luis Valley (VI-D3) and part of the South Platte River area (IX-F3) in Colorado.

A major part of western potato production is the late crop. Kern County, Calif., however, has become a highly specialized and important early commercial area, with many large-scale operations. Cotton and alfalfa are also important alternative cash crops in this area. Another western early area is the lower Snake River section (VI-B1) in Oregon and Idaho.

Scattered throughout the Midwest, the Northeast, and the South, are a number of areas in which potatoes are produced in large quantities, but usually in combination with, or interspersed with, other enterprises. The Red River Valley of Minnesota and North Dakota is an example; it represents a main potato section in a wheat and general-farming type of farming area (III-E2). Examples of substantial potato production in dairy areas are found in central Wisconsin, and in different parts of Michigan, Ohio, New York, Pennsylvania, and New England. Large quantities of early and intermediate potatoes are produced in truck-combination areas (I-C1 and VI-L1) along the Atlantic seaboard from Long Island and New Jersey on the north to Florida on the south. Other early and intermediate areas occur on the Gulf coast and farther inland in the South.

Sugar Beets.—Sugar beets are the major crop in systems of farming on irrigated land in the Yellowstone River and Milk River areas in Montana, the Big Horn Basin and North Platte River areas in Wyoming and Nebraska, and in northeastern Colorado (IX-F). Sugar beets, an intensive crop, require large amounts of hand labor and, in some areas, large quantities of fertilizer. Mechanical harvesters and other improved techniques, however, are coming into use. These save labor and encourage expansion of the acreage per farm. In these intensive sugar-beet areas, other important crops in the rotation are potatoes and alfalfa, and dry beans, except in the Milk River area. The alfalfa crop and the byproducts from the beet crop are the basis for an important livestock enterprise. Wet or dry beet pulp and most of the tops are fed to fattening cattle and sheep. On some farms tops are left in the field to be plowed under later.

The combination of potatoes, sugar beets, and other enterprises in the upper and middle Snake River areas in Idaho (IX-E) was discussed as one of the specialized potato areas. Except that sugar beets have a less important place in the rotation in these areas, they are handled much the same as in the more specialized irrigated areas. Sugar beets also are an important crop in the Sacramento Valley (I-A3) and along the central California coast (I-B1). In these areas they compete with cotton, alfalfa, vegetables, flax, and to some extent with small grains. Important irrigated areas in which sugar beets are combined with feed crops, other special crops and livestock are the lower Snake River area (VI-B1), central Utah and southeastern Idaho (VI-D1), western Montana (VI-D2), and the upper Arkansas Valley in Colorado (VI-D4).

In the Midwest, sugar beets are grown in rotation with potatoes and small grains in the Red River Valley (III-E2), as a part of dairy and cash-crop farming in east central Michigan (IV-D1), and as a part of livestock farming in northwestern Ohio (V-D1).

Sugar cane.—Sugar cane for sugar is grown chiefly in Louisiana in the lower Mississippi River Delta (IX-B1) on the flat alluvial soils which have an elevation of 15 to 35 feet. Sugar cane is the chief crop in the area. Approximately three-fourths of the gross farm income of the area is from sugar. Truck crops, rice, and beef cattle are other main enterprises in some sections. In the eastern part of the area, along both sides of the Mississippi River, many sugar plantations are large. In the central and western parts of the area, small farms are more common. Some sugar cane for sugar is produced in other sections of the State. A small acreage is grown in Florida.

Dry Beans.—The areas most highly specialized in production of dry beans are the dry-land farming areas in New Mexico and Colorado (IX-G1). In these areas, grain sorghums and livestock are supplementary enterprises, but the chief source of income is dry beans which are mostly the pinto variety. In recent years dry beans have also been the most profitable crop in some of the dry-land areas of southwestern Colorado.

The largest part of the total production and the highest yields of dry beans are obtained from
irrigated areas where they are grown in crop rotations with potatoes and sugar beets, as indicated in the discussion of those crops. These areas are in Colorado, Wyoming, Montana, Idaho, and California. An important problem in production of dry beans is control of the leaf hopper, which spreads a virus that causes curly top. The problem is most acute west of the Rocky Mountains.

Other important dry-bean-producing areas are the dairy-cash crop areas in east central Michigan and western New York which are discussed as a part of the dairy region.

Dry beans require much less labor and fertilizer than do sugar beets, potatoes, or vegetables. An increasing proportion of the crop in the West is harvested from the windrow with a combine. A few farmers combine from the standing vine. The other common method of harvesting is to cut, shock, and haul the crop to the thresher or stack it for later threshing. Shocking or stacking is more common in Michigan and New York where much of the straw is saved for feed or bedding for livestock. In the West some aftermath is grazed by sheep, but generally very little of the straw or leaves is saved for feed.

Rice.—The three major rice areas in the United States are the Gulf coastal prairies in southwestern Louisiana and southeastern Texas, the Arkansas prairies in Arkansas, and parts of the Central Valley in California. The growing of rice requires a dependable supply of fresh water for irrigation and impervious subsoils, which prevent undue loss of water from seepage. Rice farms are generally large and require considerable investment in land, water installations, and machinery.

The Texas-Louisiana Gulf coastal prairies (IX-1) are low-lying and practically flat, with varying conditions of soils and drainage. Rice, cotton, and beef cattle are the main sources of income. Production of rice is confined mainly to the fertile lands with impervious subsoils. Cotton is grown chiefly on the better-drained dark, alluvial clay soils. More is grown in Texas than in Louisiana. Beef cattle fit into the farm organization to utilize the pasture that is available on idle rice land. In addition, many livestock farms and ranches on the large, undrained areas can be used for little other than grazing.

The Arkansas Grand Prairie (IX-A2) is the most intensive rice-producing section in Arkansas, although a considerable acreage of rice is now grown in some sections of the Arkansas delta. Rice, oats, hay, and soybeans are other main crops on rice farms in this area. Livestock are used principally for grazing rotation land and to salvage crop residues. A considerable acreage of cotton is grown on the better-drained soils of the area, but cotton and rice are not usually produced on the same farm.

In California production of rice is confined to well-defined areas in the Sacramento and San Joaquin Valleys. It is usually grown on hard-pan soils of such shallow depths that they are of limited value for other crops, but a variety of crop and livestock enterprises are produced in the same general area.

Peanuts.—A large part of the commercial production of peanuts is concentrated in three intensive peanut areas, although some peanuts are grown from Virginia to Texas. The best soil types for peanuts have good drainage, sandy loam, or fine sandy loam surface layers, and friable subsoils.

The North Carolina-Virginia coastal plains area (IX-D3) is the oldest and most intensive peanut-producing area in the United States. Agriculture in the area is characterized by keen competition between cash crops. About half of the cropland is used for peanuts, cotton, and tobacco and of this half approximately 70 percent is used for peanuts. Soils are favorable for production of peanuts and yields are high. Virginia-type peanuts are produced in this area and most of the acreage is harvested for nuts. Many plantations and farms in this area are large, but progress in mechanization of production and harvesting operations on peanuts has been slow due to rainy weather at harvest time.

The southern coastal plains in Georgia and Alabama (IX-D2) comprise the largest peanut area in the United States in terms of both acreage and production. The agriculture of the area has long been based on a cash-crop economy. During the last 30 years, however, emphasis has shifted from almost complete reliance on cotton to major reliance on peanuts as a source of cash income. Corn is an important feed crop and a considerable part of the acreage of peanuts is hogged-off. Hogs are the chief livestock enterprise. Commercial production of hogs and hogging-off of peanuts are carried on mainly on the larger farms. Farms vary considerably in size, ranging from small one-horse farms to plantation units.

The chief area of commercial peanut production in the western part of the Cotton Belt is the West Cross Timbers area of Texas (IX-D1). Peanuts have almost completely replaced cotton on the sandy soils. Yields in this area are considerably lower than in the eastern areas, but climate, topography, and farm sizes have all been favorable to mechanization of peanut production. Farms are relatively large and most of them are now highly mechanized so far as production of peanuts is concerned. A considerable number of livestock farms and ranches are located on prairie soils and rougher land in this area. Sandy soils used for peanuts are low in organic matter and in some
essential nutrients and they are often subject to erosion.

Nonfarming Areas

Desert, swampy, mountainous or forested areas, in which little or no farming is done, are found throughout the United States. The Mohave Desert, the Florida Everglades, the Rocky Mountains, and the northern woods in Maine and New Hampshire are examples of these areas. Other examples are the major national parks. The location of 17 of the larger nonfarming areas is shown on the map of types of farming.

The very limited amount of farming that is done in some parts of these areas consists almost entirely of grazing livestock and small part-time farming operations. The part-time farming in the forested areas usually includes the cutting and marketing of forest products. Provisioning and servicing of recreation centers is also an increasingly important part of the activities of rural residents in these areas.

Part II

Outline of Classification and Regionalization of Generalized Types of Farming

The basis for the following classification and regionalization of generalized types of farming in the United States is explained on page 2. For conciseness, the order of classification—region, subregion, and generalized type-of-farming area—is not repeated at appropriate places throughout the outline. Enterprises specified within the parentheses that follow the titles of certain generalized type-of-farming areas are those which are important in addition to the dominant enterprises indicated in the regional and subregional titles.

I. Fruit, truck, and mixed-farming region

A. Fruit and mixed-farming subregion
   1. Central Washington area (deciduous fruit, hay, truck crops, and hops)
   2. Southwest Oregon (deciduous fruit and poultry)
   3. Sacramento Valley (deciduous fruit, rice, dry beans, hay, and sugar beets)
   4. San Joaquin Valley (deciduous and citrus fruit, grapes, dairy, hay, cotton, and potatoes)
   5. Colorado west slope (fruit, dry beans, hay, and livestock)
   6. Ozark plateau, Mo.-Ark.-Okla. (fruit, poultry, and dairy)
   7. Shenandoah-Cumberland Valleys (fruit and dairy) *

B. Fruit, truck, and mixed farming
   1. Central California Coast (deciduous fruit, truck, livestock, sugar beets, dairy, and poultry)
   2. Southern California and southwestern Arizona (citrus fruit, truck, dairy, poultry, dry beans, and hay)
   3. Lower Rio Grande Valley (citrus fruit, winter vegetables, and cotton)
   4. Central Florida (citrus fruit and truck)
   5. Eastern shore of Lake Michigan (fruit, truck, dairy, and poultry)
   6. Southern shore of Lake Ontario (fruit, truck, and dairy)
   7. Southern shore of Lake Erie (fruit, truck crops, and dairy) *

C. Truck and mixed farming
   1. Atlantic sandy Coastal Plain (truck crops, poultry, dairy, and fruit)
   2. Gulf Coast (truck crops, small fruit, poultry, and dairy)

D. Truck
   1. Southern Florida (winter truck crops)

II. Range livestock

A. Seasonal grazing—migratory
   1. Great Basin
   2. Wyoming Basin
   3. Colorado Plateau
   4. Columbia Basin—Blue Mountains
   5. Snake River
   6. Sierra foothills—Coast Range *

B. Seasonal grazing—nonmigratory
   1. Northern Great Plains
   2. Southern High Plains
   3. Nebraska sandhills stock farms
   4. Osage-Flint Hills stock farms
   5. Arbuckle Mountain, Oklahoma stock farms
   6. North central Texas grazing area
   7. Canadian River breaks
   8. Central Plains stock farms *

C. Upland summer grazing
   1. Sierra and southern Cascade Mountains
   2. Northern Rocky Mountains and associated ranges
   3. Southern Rocky Mountains
   4. Middle Rocky Mountains *

D. Yearlong grazing
   1. Southwestern semidesert, migratory
   2. Southwestern semidesert, nonmigratory
   3. Edwards Plateau
   4. Rio Grande Plains—Texas

III. Wheat and small grains

A. Specialized wheat
   1. Columbia River Basin, western portion—spring and winter wheat
   2. East of Missouri River—spring wheat
   3. Central North Dakota—spring wheat
   4. Central Plains—winter wheat

B. Wheat and peas
   1. Columbia River Basin, eastern portion—spring and winter wheat

C. Wheat and range livestock
   1. Triangle-Judith Basin, Montana—spring and winter wheat
   2. Northern Plains—spring wheat
   3. Central High Plains—winter wheat
   4. Red Hills—winter wheat
   5. Southern Montana—winter wheat *

D. Wheat, grain sorghums, and range livestock
   1. Southern High Plains—winter wheat *

E. Wheat and general farming
   1. Southern Idaho (winter wheat, livestock, and dairy)
   2. Red River Valley (spring wheat, small grains, livestock, potatoes, and sugar beets)
   3. South Dakota-North Dakota, spring wheat—corn transition
   4. Central Kansas-Oklahoma (winter wheat, livestock, and dairy)

F. Small grains
   1. California Valley borders *

* See p. 22 for explanation of omission from lists of counties.
IV. Dairy

A. Specialized dairy
1. North Pacific coast
2. Eastern Wisconsin-northeastern Illinois
3. Central Northeast
4. Boise Valley and Star Valley
5. San Joaquin Valley
6. Los Angeles milkshed

B. Dairy and livestock feeding
1. Minnesota cut-over fringe
2. Southeast Minnesota-west central Wisconsin

C. Dairy, hay, and potatoes
1. Lake States cut-over—small scale

D. Dairy and cash crops
1. East central Michigan (dry beans and sugar beets)
2. Western New York (truck crops, fruit, wheat, potatoes, hay, and dry beans)

E. Dairy, poultry, and mixed farming
1. Puget Sound-Willamette Valley (dairy, poultry, fruit, truck crops, cash grains, seeds, and hops)
2. Southern New England (dairy, poultry, truck crops, potatoes, tobacco, and fruit)
3. Hudson River Valley (fruit, dairy, poultry, and truck crops)
4. Central Maine (dairy, poultry, fruit, truck crops, and potatoes)

F. Dairy and general farming
1. Central Wisconsin (dairy, livestock, and potatoes)
2. Central Pennsylvania (dairy, poultry, truck crops, fruit, potatoes, and wheat)
3. Northern Piedmont (dairy, poultry, truck crops, potatoes, tobacco, and fruit)
4. Lake Erie border (dairy, wheat, and small grains)
5. Northern New England—small scale (dairy, poultry, potatoes, and truck crops)
6. Allegheny Plateau, Pa.—small-scale (dairy, poultry, and truck crops)

V. Feed grains and livestock (Corn Belt)

A. Cattle feeding and hogs
1. Central Missouri River Valley
2. Eastern Iowa-western Illinois

B. Cash corn, oats, and soybeans
1. Central Iowa
2. East central Wisconsin

C. Hogs and soft winter wheat
1. Central Indiana-southwestern Ohio
2. Wabash and lower Ohio River Valleys

D. Livestock, dairy, soybeans, and cash grain
1. Northwestern Ohio-northeastern Indiana

E. Hogs and dairy
1. Northeastern Iowa-northern Illinois-southwestern Wisconsin

F. Livestock and cash grain
1. Northwestern corn-livestock transition
2. Southwestern corn-hard winter wheat transition
3. Western Corn Belt fringe
4. Northwestern Corn Belt fringe
5. Northern Iowa-southwestern Minnesota

G. Livestock, cash grain, and dairy
1. Western Missouri-eastern Kansas

H. Livestock and pasture
1. Southern Iowa-northern Missouri-west central Illinois
2. Northwestern Indiana-southwestern Michigan

VI. General farming

A. Dairy and livestock feeding—irrigated
1. Western Nevada

B. Dairy, hay, and sugar beets—irrigated
1. Lower Snake River

C. Dairy and range livestock—small-scale
1. Northern Rocky Mountain cut-over

VI. General farming—Continued

D. Livestock and special crops—irrigated
1. Central Utah and southeastern Idaho (hay, sugar beets, fruit, and truck crops)
2. Western Montana (sugar beets and feed grains)
3. San Luis Valley (hay and potatoes)
4. Upper Arkansas Valley (sugar beets and feed grains)
5. San Juan Basin (hay, fruit, and potatoes)
6. Southern Yakima Valley (fruit, potatoes, and dairy)

7. Other irrigated valleys

E. Livestock and cash grain
1. Grand Prairie of Texas (some cotton)
2. Southeast Kansas—northeast Oklahoma (dairy and poultry)
3. Southern High Plains, Texas-New Mexico (grain sorghums and other)

F. Livestock, truck, and cotton—small-scale
1. Southern Ozark and Ouachita Mountains

G. Dairy, livestock, and poultry
1. St. Louis milkshed (wheat and corn)
2. Ozark Mountains and border (wheat and fruit)
3. Southern Illinois gray lands (redtop seed and fruit)

H. Livestock and tobacco
1. Knobs and coal fields, Indiana-Kentucky (small grain)
2. Highland rim of Tennessee
3. Upper Ohio River Valley and hills (truck crops)
4. Central Virginia Piedmont (hay and fruit)

J. Livestock and dairy
1. Central Basin of Tennessee
2. Great Appalachian Valley

K. Livestock, fruit, and tobacco—small-scale
1. Appalachian Mountains
2. Truck, tobacco, and livestock
3. Tidewater Virginia—North Carolina

M. Forest products, truck crops, and cotton—small-scale
1. Atlantic and Gulf coast flatwoods
2. Texas-Louisiana cut-over

VII. Cotton

A. Specialized cotton
1. Southern High Plains
2. Texas black waxy prairies
3. Corpus Christi (some truck crops)
4. Deltas of Mississippi River and tributaries
5. Mississippi and Tennessee clay hills and sand loams

6. Sand Mountain—Alabama
7. Southern Piedmont
8. Upper Coastal Plains

B. Cotton and tobacco
1. Central Coastal Plains, North Carolina-South Carolina

C. Cotton, tobacco, hogs, and peanuts
1. Lower Coastal Plains, Georgia-Florida

D. Cotton and livestock
1. Alabama-Mississippi Black Belt
2. Mississippi-Tennessee-Louisiana silt loam

E. Cotton and range livestock
1. Post Oak strip of Texas

F. Cotton and sugarcane
1. Central Louisiana

G. Cotton and wheat
1. Rolling plains, Texas-Oklahoma
2. Mixed prairies and cross timbers of Oklahoma

H. Cotton and general farming
1. Western sandy Coastal Plains, Texas-Arkansas-Louisiana-Oklahoma
2. Arkansas River valleys and uplands
3. Limestone valleys and uplands, Tennessee-Georgia-Alabama

* See p. 22 for explanation of omission from lists of counties.
VII. Cotton—Continued

J. Cotton and forest products
1. Gulf coast Piney Woods

K. Irrigated cotton and alfalfa
1. Southern Arizona (cotton, alfalfa, citrus, and truck crops)
2. Rio Grande-Pecos (cotton, alfalfa, dairy, and livestock)
3. San Joaquin Valley (cotton, alfalfa, fruit, and dairy)

VIII. Tobacco and general farming

A. Flue-cured
1. Piedmont, Virginia-North Carolina
2. Central Coastal Plains, North Carolina (some cotton)
B. Burley
1. Central Kentucky Bluegrass
C. Dark
1. Pennyroyal—Purchase, Kentucky-Tennessee
D. Southern Maryland
1. Southern Maryland

IX. Special crops and general farming

A. Rice
1. Gulf Coastal Prairies, Texas-Louisiana (rice, cotton, and range livestock)
2. Arkansas prairies (rice, cotton, and livestock)
B. Sugar beets
1. Lower Louisiana delta
C. Potatoes
1. Aroostook County, Maine
D. Peanuts
1. Cross Timbers, Texas (peanuts, cotton, and livestock)
2. Southern Coastal Plains, Georgia-Alabama
3. Northern Coastal Plains, Virginia-North Carolina
E. Potatoes, dry beans, sugar beets, and livestock—irrigated
1. Middle Snake River
2. Upper Snake River
F. Sugar beets, dry beans, and livestock—irrigated
1. Upper Yellowstone River and Wyoming
2. North Platte River
3. Northeastern Colorado
G. Dry beans—nonirrigated
1. Colorado-New Mexico

X. Nonfarming

A. Deserts
1. Mohave Desert
2. Utah Salt Flats
3. Black Rock Desert
B. Mountains and forests
1. Cascade Mountains and associated ranges
2. Adirondack Mountains
3. Green Mountains of Vermont
4. Northern Maine and New Hampshire woods
5. New Jersey pines
6. Yosemite, General Grant, and Sequoia National Parks and vicinity
7. Grand Canyon National Park and vicinity
8. Northwestern Rocky Mountains area
9. Glacier National Park and vicinity
10. Yellowstone National Park and vicinity
11. Rocky Mountain National Park and vicinity
12. Big Bend National Park and vicinity
C. Lowlands and Everglades
1. Florida Everglades and flatwoods
2. Okefenokee Swamp

COUNTIES IN TYPE-OF-FARMING REGIONS, SUBREGIONS, AND GENERALIZED AREAS, BY STATES

The map of generalized types of farming in the United States shows approximate actual boundaries of the generalized areas, subregions, and regions without relation to boundaries of civil divisions. This is necessary for an adequate regionalization of types of farming. But regularly available agricultural statistics are commonly reported by counties or minor civil divisions. Thus, a grouping of counties by type-of-farming regions, subregions, and generalized areas is needed as a basis for summarizing census and other similar kinds of data. In setting up the following groups of counties, boundaries shown on the folded map were adjusted to the nearest county line.

Representation of type-of-farming areas and regions by groups of counties is not entirely satisfactory, because in some parts of the United States, particularly in the West, delineation of type of farming on county boundaries gives only a confused picture. Many of the counties in the Western States that are designated as having a certain type of farming under irrigation, for instance, have only a small part of the land area under irrigation. The greater part of the land is used for dry-land farming or range; yet, production on the irrigated land is the major source of income in the county. Census statistics, for example, for such counties are for a combination of two or more distinct types of farming, hence they do not give an adequate description of any one type. When data are available by minor civil divisions, this difficulty may be overcome in part by grouping the minor civil divisions in border counties according to approximate actual boundaries of type-of-farming areas as shown on the type-of-farming map.

In the process of adjusting approximate actual boundaries of the type-of-farming areas to the nearest county lines, several of the small generalized types-of-farming areas delineated on the map and designated in the classification and regionalization outlined in the preceding section (and on the reverse side of the folded map) were omitted because they are only a minor part of one or more counties.

I. Fruit, truck, and mixed-farming region

A. Fruit and mixed-farming subregion
1. Central Washington area
Washington
Benton Kittitas Yakima
Chelan Okanogan
2. Southwest Oregon
Oregon Douglas Josephine

For conciseness, the designations: region, subregion, and area are not repeated at appropriate places throughout this list.
### I. Fruit, truck, and mixed-farming region—Continued

#### A. Fruit and mixed-farming subregion—Continued

3. Sacramento Valley
   - California
     - Butte
     - Colusa
     - Glenn
     - Nevada

4. San Joaquin Valley
   - California
     - Fresno
     - Kings

5. Colorado west slope
   - Colorado
     - Delta
   - Missouri
     - Barry
     - Jasper
     - Arkansas
     - Benton
     - Oklahoma
     - Adair

   - Missouri
     - Adair

#### B. Fruit, truck, and mixed farming

1. Central California coast
   - California
     - Alameda
     - Contra Costa
     - San Francisco
     - Marin
     - Mendocino
     - Monterey

2. Southern California and southwestern Arizona
   - California
     - Imperial
     - Los Angeles
     - Orange
     - Arizona
     - Maricopa

3. Lower Rio Grande Valley
   - Texas
     - Cameron

4. Central Florida
   - Florida
     - Brevard
     - Citrus
     - Clay
     - Duval
     - Flagler
     - Hardee
     - Hernando
     - Highlands

5. Eastern shore of Lake Michigan
   - Michigan
     - Allegan
     - Benzie
     - Berrien
     - Grand Traverse

6. Southern shore of Lake Ontario
   - New York
     - Monroe
     - Niagara

#### C. Truck and mixed farming

1. Atlantic sandy coastal plain
   - New York
     - Bronx
     - Kings
     - Nassau
     - New Jersey
     - Atlantic
     - Bergen
     - Burlington
     - Camden
     - Cape May
     - Cumberland

### II. Range livestock

#### A. Seasonal grazing—migratory

1. Great Basin
   - Oregon
   - Nevada
   - Utah

2. Wyoming Basin
   - Wyoming

3. Colorado Plateau
   - Utah

4. Columbia Basin-Blue Mountains
   - Oregon

5. Snake River
   - Idaho

#### B. Seasonal grazing—nonmigratory

1. Northern Great Plains
   - Montana
   - North Dakota
   - South Dakota

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II. Range livestock—Continued

B. Seasonal grazing—nonmigratory—Continued
   1. Northern Great Plains—Continued

   South Dakota
   Armstrong
   Bennett
   Butte
   Corson
   Custer
   Dewey
   Fall River
   Haakon

   2. Northern High Plains
   Colorado
   Baca
   Custer
   De Baca
   Guadalupe

   Nebraska sandhills stock farms
   Nebraska
   Arthur
   Blaine
   Brown
   Cherry
   Garden
   Garfield

   4. Osage-Flint Hills stock farms
   Oklahoma
   Osage
   Butler
   Chase
   Chautauqua
   Cowley
   Garfield

   5. Arbuckle Mountain, Okla., stock farms
   Oklahoma
   Carter
   Jefferson

   6. North central Texas grazing area
   Texas
   Archer
   Baylor
   Brown
   Burleson
   Collin
   Colleyville
   Cooke
   Collin
   Colorado
   Arapahoe
   Bent
   Baca
   Blair
   Broomfield
   Bernalillo
   Cibola
   Chaves
   Charlestown
   Colorado
   Weld
   Logan
   McKee
   Moffat
   Montezuma
   Morgan
   Montrose
   Mesa
   Mora
   Moapa
   Mitchell
   Middle
   Madison
   Maricopa
   Mohave
   Mule
   Monroe
   Merrimack
   Merrick
   McCook
   Merrick
   Merrick
   Mitchell
   Miller
   Montezuma
   Mongu
   Montezuma
   Monroe
   Morehead
   Moultrie
   Monroe
   Montgomery
   Monticello
   Morgan
   Montezuma
   Montezuma
   Monroe
   Morehead
   Moultrie
   Monroe
   Montezuma
   Montezuma
   Monroe
   Morehead
   Moultrie
   Monroe
   Montezuma
   Montezuma
   Monroe
   Morehead
   Moultrie
   Monroe
   Montezuma
   Montezuma
   Monroe
   Morehead
   Moultrie
   Monroe
   Montezuma

   C. Upland summer grazing—Continued
   1. Sierra and southern Cascade Mountains
   California
   Alpine
   Amador
   Calaveras
   Ed Dorado
   Inyo
   Idaho
   Adams
   Boise
   Montana
   Beaverhead
   Broadwater
   Deer Lodge
   Gallatin
   Granite
   Wyoming
   Lincoln
   Sublette
   Utah
   Daggett
   Rich

   3. Southern Rocky Mountains
   Colorado
   Archuleta
   Chaffee
   Clear Creek
   Dolores
   Eagle
   Gilpin
   Grand
   Gunnison
   New Mexico
   Rio Arriba
   Sandoval

   D. Year-long grazing
   1. Southwestern semi-desert—migratory
   Nevada
   Clark
   Esmeralda
   Arizona
   Apache
   Coconino
   Utah
   Kane
   New Mexico
   Bernalillo
   Catron
   Texas
   Andrews
   Brewster
   Cochran
   Crane
   Culberson
   Ector
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves

   2. Southwestern semi-desert—nonmigratory
   Arizona
   Cochise
   New Mexico
   Grant
   Hidalgo
   Texas
   Andrews
   Brewster
   Cochran
   Crane
   Culberson
   Ector
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves
   Reeves

   3. Edwards Plateau
   Texas
   Bandera
   Blanco
   Burnet
   Coke
   Comal
   Concho
   Crockett
   Edwards
   Gillespie
   Glasscock
   4. Rio Grande Plains—Texas
   Texas
   Atascosa
   Brooks
   Dimmit
   Duval
   Frio
   Jim Hogg

   A. Specialized wheat
   1. Columbia River Basin, western portion—spring- and winter wheat
   Oregon
   Gilliam
   Hood River
   Washington
   Adams
   Douglas
   Franklin

   III. Wheat and small grains
   A. Specialized wheat
   1. Columbia River Basin, western portion—spring- and winter wheat
   Oregon
   Gilliam
   Hood River
   Washington
   Adams
   Douglas
   Franklin

   C. Upland summer grazing—Continued
   3. Southern Rocky Mountains
   Colorado
   Archuleta
   Chaffee
   Clear Creek
   Dolores
   Eagle
   Gilpin
   Grand
   Gunnison
   New Mexico
   Rio Arriba
   Sandoval

   D. Year-long grazing
   1. Southwestern semi-desert—migratory
   Nevada
   Clark
   Esmeralda
   Arizona
   Apache
   Coconino
   Utah
   Kane
   New Mexico
   Bernalillo
   Catron
   Texas
   Andrews
   Brewster
   Cochran
   Crane
   Culberson
   Ector

   3. Edwards Plateau
   Texas
   Bandera
   Blanco
   Burnet
   Coke
   Comal
   Concho
   Crockett
   Edwards
   Gillespie
   Glasscock

   4. Rio Grande Plains—Texas
   Texas
   Atascosa
   Brooks
   Dimmit
   Duval
   Frio
   Jim Hogg

   A. Specialized wheat
   1. Columbia River Basin, western portion—spring- and winter wheat
   Oregon
   Gilliam
   Hood River
   Washington
   Adams
   Douglas
   Franklin
### III. Wheat and small grains—Continued

#### A. Specialized wheat—Continued

2. East of Missouri River—spring wheat

- **Montana**
  - Daniels
  - North Dakota
    - Burke
    - Burleigh
    - Divide
    - Emmons
  - South Dakota
    - Campbell
    - Edmunds
    - Faulk
    - Hand
  - **Griggs**

3. Central North Dakota—spring wheat

- **North Dakota**
  - Barnes
  - Benson
  - Bottineau
  - Cavalier
  - Eddy
  - Foster
  - Griggs

4. Central Plains—winter wheat

- **Colorado**
  - Phillips
- **Nebraska**
  - Banner
  - Chase
  - Cheyenne
- **Kansas**
  - Barton
  - Cheyenne
  - Decatur
  - Edwards
  - Finney
  - Gove
  - Graham

### B. Wheat and peas

1. Columbia River Basin, eastern portion—spring and winter wheat

- **Idaho**
  - Benewah
- **Washington**
  - Asotin
  - Columbia

### C. Wheat and range livestock

1. Triangle-Judith Basin, Mont.—spring and winter wheat

- **Montana**
  - Cascade
  - Chouteau
  - Fergus

2. Northern Plains—spring wheat

- **Montana**
  - Blaine
  - Dawson
  - Fallon
  - Hill
  - **North Dakota**
    - Adams
    - Billings
    - Bowman
    - Dunn
    - Golden Valley

3. Central High Plains—winter wheat

- **Colorado**
  - Arapahoe
  - Cheyenne
  - Douglas
  - Greeley
  - Hamilton
  - Kearny

### III. Wheat and small grains—Continued

#### C. Wheat and range livestock—Continued

4. Red Hills—winter wheat

- **Oklahoma**
  - Blaine
  - Custer
  - Kansas
  - Barber
  - New Mexico
  - Curry
  - Oklahoma
  - Beaver
  - Texas
  - Armstrong
  - Briscoe
  - Carson
  - Castro
  - Dallam
  - Deaf Smith

#### D. Wheat, grain sorghums, and range livestock

1. Southern High Plains—winter wheat

- **Kansas**
  - Ford
  - Grant
  - Gray
  - New Mexico
  - Curry
  - Oklahoma
  - Beaver
  - Texas
  - Armstrong
  - Briscoe
  - Carson
  - Castro
  - Dallam
  - Deaf Smith

### E. Wheat and general farming

1. Southeastern Idaho

- **Idaho**
  - Bannock
  - Caribou
  - Bear Lake
  - Franklin

2. Red River Valley

- **Minnesota**
  - Clay
  - Kittson
  - North Dakota
  - Cass
  - Grand Forks

3. South Dakota-North Dakota, spring wheat-corn transition

- **North Dakota**
  - Dickey
  - Ransom
  - South Dakota
  - Beadle
  - Brown

4. Central Kansas-Oklahoma

- **Kansas**
  - Clay
  - Cloud
  - Dickinson
  - Ellis
  - Ellsworth
  - Harper
  - Oklahoma
  - Alfalfa
  - Canadian
  - Garfield

#### IV. Dairy

A. Specialized dairy

1. North Pacific Coast

- **California**
  - Del Norte
- **Oregon**
  - Clatsop
  - Columbia
- **Washington**
  - Clallam
  - Grays Harbor

- **Idaho**
  - Bannock
  - Caribou
  - Bear Lake
  - Franklin

- **Minnesota**
  - Clay
  - Kittson
  - North Dakota
  - Cass
  - Grand Forks

- **Missouri**
  - Boone
  - Calliope

- **Nebraska**
  - Banner
  - Chase
  - Cheyenne

- **Kansas**
  - Clay
  - Cloud
  - Dickinson
  - Ellis
  - Ellsworth
  - Harper
  - Oklahoma
  - Alfalfa
  - Canadian
  - Garfield

- **Colorado**
  - Arapahoe
  - Cheyenne
  - Douglas
  - Greeley
  - Hamilton
  - Kearny
### IV. Dairy—Continued

#### A. Specialized dairy—Continued

**2. Eastern Wisconsin-northeastern Illinois**

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#### B. Dairy and livestock

**1. Minnesota cut-over fringe**

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**2. Southeast Minnesota-west central Wisconsin**

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**C. Dairy, hay and potatoes**

#### 1. Lake States cut-over—small-scale

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#### 2. Western New York

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#### 3. Central Northeast

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#### 4. Dairy and cash crops

**1. East central Michigan**

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#### 5. Dairy, poultry, and mixed farming

**1. Puget Sound-Willamette Valley**

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**2. Southern New England**

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IV. Dairy—Continued

F. Dairy and general farming

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2. Central Pennsylvania

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3. Northern Piedmont

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4. Lake Erie border

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5. Northern New England—small scale

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6. Allegheny Plateau, Pa.—small scale

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V. Feed grains and livestock (Corn Belt)

A. Cattle feeding and hogs

1. Central Missouri River Valley

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2. Eastern Iowa—western Illinois

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B. Cash corn, oats, and soybeans

1. Central Iowa

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<td>Story</td>
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<td>Dallas</td>
<td>Humboldt</td>
<td>Webster</td>
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<tr>
<td>Franklin</td>
<td>Pocahontas</td>
<td>Wright</td>
</tr>
<tr>
<td>Greene</td>
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2. East central Illinois

| Illinois  | Cass | Kankakee | Menard |
|           | Champaign | Kendall | Moultrie |
|           | Coles | La Salle | Piatt |
|           | De Witt | Livingston | Sangamon |
|           | Douglas | Logan | Tazewell |
|           | Edgar | McLean | Vermilion |
|           | Ford | Mason | Will |
|           | Grundy | Mason | Woodford |
|           | Iroquois |   |   |
| Indiana  | Benton | Warren | White |

27
## V. Feed grains and livestock (Corn Belt)—Continued

### C. Hogs and soft winter wheat

1. Central Indiana-southwestern Ohio

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<td>Shelby</td>
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<td>Johnson</td>
<td>Tipppecanoe</td>
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<td>Union</td>
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### D. Livestock, dairy, soybeans, and cash grain

1. Northwestern corn-livestock transition

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2. Southwestern corn-hard winter wheat transition

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<td>Furnas</td>
<td>Lincoln</td>
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<td>Dundy</td>
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<td>Fillmore</td>
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<td>Franklin</td>
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3. Western Corn Belt fringe

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### E. Hogs and dairy

1. Northeastern Iowa-northwestern Wisconsin

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<td>Fayette</td>
<td>Winnebago</td>
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<td>Floyd</td>
<td>Winnesheik</td>
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### G. Livestock, cash grain and dairy

1. Western Missouri-eastern Kansas

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V. Feed grains and livestock (Corn Belt)—Continued

H. Livestock and pasture

1. Southern Iowa—northern Missouri—west central Illinois

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2. Northwestern Indiana—southern Michigan

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VI. General farming—Continued

D. Livestock and special crops—irrigated—Continued

4. Upper Arkansas Valley

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E. Livestock and cash grain

1. Grand prairie of Texas

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2. Southeast Kansas—northeast Oklahoma

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<td>Montgomery Wilson</td>
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F. Livestock, truck, and cotton—small-scale

1. Southern Ozark and Ouachita Mountains

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2. Ozark Mountains and border

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3. Southern Illinois gray lands

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G. Dairy, livestock, and poultry

1. St. Louis milkshed

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2. Ozark Mountains and border

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<td>Crawford</td>
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<tr>
<td>Dallas</td>
<td>Morgan Warren</td>
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<tr>
<td>Dent</td>
<td>Oregon Washington</td>
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</tr>
<tr>
<td>Douglas</td>
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</tr>
<tr>
<td>Franklin</td>
<td>Perry Webster</td>
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</tr>
<tr>
<td>Gasconade</td>
<td>Phelps Wright</td>
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Illinois

| Alexander      | Johnson Pulaski |
| Harding        | Massac Union |
| Jackson        | Pope |

3. Southern Illinois gray lands

<table>
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<th>County</th>
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<td>Jefferson Wayne</td>
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</tr>
<tr>
<td>Franklin</td>
<td>Marion Williamson</td>
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<td>Hamilton</td>
<td>Perry</td>
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### VI. General farming—Continued

#### H. Livestock and tobacco—Continued

1. Knobs and coal fields, Indiana-Kentucky

<table>
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<td>Pike</td>
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<td>Dubois</td>
<td>Lawrence</td>
<td>Ripley</td>
</tr>
<tr>
<td>Floyd</td>
<td>Martin</td>
<td>Scott</td>
</tr>
<tr>
<td>Franklin</td>
<td>Monroe</td>
<td>Washington</td>
</tr>
<tr>
<td>Harrison</td>
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</table>

#### Kentucky

| Adair     | Green     | Menifee |
| Allen     | Hancock   | Mcetal |
| Breckinridge | Hardin   | Monroe |
| Bullitt   | Hart      | Muhlenberg |
| Butler    | Hopkins   | Ohio   |
| Casey     | Jefferson | Powell |
| Clinton   | Larue     | Pulaski |
| Crittenden | Lewis    | Rockcastle |
| Cumberland | Lincoln  | Rowan  |
| Edmonson  | Livingston| Russell |
| Estill    | Lyon      | Taylor |
| Grayson   | Meade     | Wayne  |

2. Highland rim of Tennessee

<table>
<thead>
<tr>
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<th>Humphreys</th>
<th>Putnam</th>
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<td>Wayne</td>
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3. Upper Ohio River Valley and hills

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<table>
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<td>Noble</td>
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<td>Tuscarawas</td>
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<td>Vinton</td>
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<td>Guernsey</td>
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<td>Washington</td>
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<table>
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<td>Wood</td>
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4. Central Virginia Piedmont

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<th>Goochland</th>
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<td>Albemarle</td>
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<td>Louisa</td>
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<td>Nelson</td>
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<td>Appomattox</td>
<td>Dinwiddie</td>
<td>Notroway</td>
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<tr>
<td>Bedford</td>
<td>Edward</td>
<td>Powhatan</td>
</tr>
<tr>
<td>Buckingham</td>
<td>Fluvanna</td>
<td>Prince</td>
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#### J. Livestock and dairy—Continued

1. Central basin of Tennessee

<table>
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<tr>
<td>Cannon</td>
<td>Marshall</td>
<td>Sumner</td>
</tr>
<tr>
<td>Davidson</td>
<td>Maury</td>
<td>Trousdale</td>
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<tr>
<td>De Kalb</td>
<td>Moore</td>
<td>Williamson</td>
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<td>Giles</td>
<td>Rutherford</td>
<td>Wilson</td>
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<td>Jackson</td>
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#### Virginia

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<th>Rockingham</th>
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<td>Russell</td>
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<td>Scott</td>
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<td>Bland</td>
<td>Lee</td>
<td>Shenandoah</td>
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<td>Botetourt</td>
<td>Montgomery</td>
<td>Smyth</td>
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<td>Carroll</td>
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<td>Pulaski</td>
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<td>Wythe</td>
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<td>Frederick</td>
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<tr>
<td>West Virginia</td>
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<td>Berkeley</td>
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<td>Pendleton</td>
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<td>Grant</td>
<td>Mineral</td>
<td>Pocahontas</td>
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<td>Greenbrier</td>
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<td>Randolph</td>
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<td>Hampshire</td>
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<td>Hardy</td>
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#### Tennessee

<table>
<thead>
<tr>
<th>Anderson</th>
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<th>Monroe</th>
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<tbody>
<tr>
<td>Blount</td>
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<td>Rhea</td>
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<td>Campbell</td>
<td>Hawkins</td>
<td>Roane</td>
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<td>Claiborne</td>
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<td>Coke</td>
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<td>Union</td>
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<td>Greene</td>
<td>Meigs</td>
<td>Washington</td>
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<td>Hamblen</td>
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#### K. Livestock, fruit, and tobacco—small-scale

1. Appalachian Mountains

<table>
<thead>
<tr>
<th>West Virginia</th>
<th>Kanawha</th>
<th>Putnam</th>
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<td>Barbour</td>
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<td>Boone</td>
<td>Lewis</td>
<td>Raleigh</td>
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<tr>
<td>Braxton</td>
<td>Lincoln</td>
<td>Ritchie</td>
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<td>Cabell</td>
<td>Logistic</td>
<td>Roane</td>
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<tr>
<td>Calhoun</td>
<td>McDowell</td>
<td>Summers</td>
</tr>
<tr>
<td>Clay</td>
<td>Marion</td>
<td>Taylor</td>
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<tr>
<td>Doddridge</td>
<td>Mason</td>
<td>Upshur</td>
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<tr>
<td>Fayette</td>
<td>Mercer</td>
<td>Wayne</td>
</tr>
<tr>
<td>Gilmer</td>
<td>Mingo</td>
<td>Webster</td>
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<tr>
<td>Harrison</td>
<td>Monongalia</td>
<td>Wirt</td>
</tr>
<tr>
<td>Jackson</td>
<td>Nichols</td>
<td>Wyoming</td>
</tr>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

#### Kentucky

| Bell         | Jackson | McCreary |
|             | Johnson | Magoffin |
| Boyd         | Knott   | Martin |
| Breathitt    | Knox    | Morgan |
| Carter       | Laurel  | Owsley |
| Clay         | Lawrence | Perry |
| Elliott      | Lee     | Pike |
| Floyd        | Leslie  | Whitley |
| Greenup      |        |        |
| Harlan       | Letcher | Wolfe |
|              |         |       |

#### Virginia

<table>
<thead>
<tr>
<th>Buchanan</th>
<th>Dickenson</th>
<th>Wise</th>
</tr>
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<tbody>
<tr>
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#### North Carolina

<table>
<thead>
<tr>
<th>Allegany</th>
<th>Graham</th>
<th>Mitchell</th>
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<tbody>
<tr>
<td>Ashe</td>
<td>Haywood</td>
<td>Swain</td>
</tr>
<tr>
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<td>Henderson</td>
<td>Transylvania</td>
</tr>
<tr>
<td>Buncombe</td>
<td>Jackson</td>
<td>Watauga</td>
</tr>
<tr>
<td>Cherokee</td>
<td>Macon</td>
<td>Yancee</td>
</tr>
<tr>
<td>Clay</td>
<td>Madison</td>
<td></td>
</tr>
</tbody>
</table>

#### Tennessee

| Bledsoe | Johnson | Scott |
| Carter  | Marion  | Sequatchie |
| Cumberland | Morgan | Unicoi |
| Fentress |         |       |
| Georgia |         |       |
| Dawson  | Lumpkin | Towns |
| Fannin  | Pickens | Union |
| Gilmer  | Rabun   | White |
| Habersham |        |       |

30
### VI. General farming—Continued

L. Truck, tobacco, and livestock

1. Tidewater Virginia-North Carolina

<table>
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<td>Charles City</td>
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<tr>
<td>Elizabeth</td>
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<tr>
<td>Essex</td>
</tr>
<tr>
<td>Gloucester</td>
</tr>
<tr>
<td>Hanover</td>
</tr>
<tr>
<td>Henrico</td>
</tr>
<tr>
<td>North Carolina</td>
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M. Forest products, truck, and cotton—small-scale

1. Atlantic and Gulf coast flatwoods

<table>
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<tr>
<td>Beaufort</td>
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2. Texas-Louisiana cut-over

<table>
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<td>Hardin</td>
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<tr>
<td>Jasper</td>
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### VII. Cotton—Continued

A. Specialized cotton—Continued

1. Southern high plains

<table>
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<tbody>
<tr>
<td>Bailey</td>
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<tr>
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<td>Dawson</td>
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2. Texas black waxy prairies

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<tbody>
<tr>
<td>Bee</td>
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<td>Bell</td>
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<td>Bexar</td>
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<td>Caldwell</td>
</tr>
<tr>
<td>Collin</td>
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<tr>
<td>Dallas</td>
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<tr>
<td>Delta</td>
</tr>
<tr>
<td>De Witt</td>
</tr>
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<td>Ellis</td>
</tr>
<tr>
<td>Falls</td>
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<td>Fannin</td>
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3. Corpus Christi

<table>
<thead>
<tr>
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4. Deltas of Mississippi River and tributaries

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<tbody>
<tr>
<td>Bolivar</td>
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<tr>
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5. Mississippi and Tennessee clay hills and sand loam

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<td>Attala</td>
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<tr>
<td>Clarke</td>
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<tr>
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6. Sand Mountain—Alabama

<table>
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<tbody>
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7. Southern Piedmont

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<table>
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<tbody>
<tr>
<td>Abbeville</td>
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<table>
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<table>
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<table>
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<table>
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<tbody>
<tr>
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</table>
VII. Cotton—Continued

A. Specialized cotton—Continued
  8. Upper Coastal Plains

South Carolina
- Aiken Clarendon Marlboro Orangeburg
- Allendale Darlington Orangeburg Richland
- Bamberg Hampton Richland Sumter
- Barnwell Kershaw Sumter
- Calhoun Lee
- Chesterfield Lexington

Georgia
- Bibb Jefferson Taylor
- Bleckley Jenkins Telfair
- Burke Johnson Treutlen
- Chattahoochee Marion Washington
- Crawford Muscogee Wheeler
- Dodge Richmond Wilkinson
- Glascock Screven

Alabama
- Autauga Franklin Russell
- Bibb Lamar Tuscaloosa
- Chilton Macon Walker
- Elmore Marion Winston
- Fayette Pickens

B. Cotton and tobacco
  1. Central Coastal Plains—North Carolina—South Carolina

North Carolina
- Cumberland Moore Robeson
- Hoke Richmond Scotland

South Carolina
- Dillon Horry Williamsburg
- Florence Marion

Georgia
- Appling Coffee Jeff Davis
- Atkinson Colquitt Lanier
- Bacon Cook Lowndes
- Berrien Decatur Montgomery
- Brooks Emanuel Tattnall
- Bulloch Evans Thomas
- Candler Grady Toombs

Florida
- Bay Holmes Okaloosa
- Calhoun Jackson Santa Rosa
- Columbia Jefferson Suwannee
- Escambia Lafayette Taylor
- Franklin Leon Wakulla
- Gadsden Liberty Walton
- Gulf Madison Washington

H. Cotton and general farming
  1. Western sandy Coastal Plains, Texas-Arkansas—Louisiana—Oklahoma

Mississippi
- Alcorn Lee Noxubee
- Chickasaw Lowndes Okoloba
- Clay Monroe Prentiss

Alabama
- Bullock Lowndes Perry
- Dallas Marengo Sumter
- Greene Montgomery Wilcox
- Hale

2. Mississippi-Tennessee-Louisiana silt loam

Tennessee
- Crockett Hardeman Obion
- Dyer Haywood Shelby
- Fayette Lauderdale Tipton
- Gibson Madison

Mississippi
- Adams Grenada Pike
- Amite Hinds Tate
- Carroll Holmes Warren
- Claiborne Jefferson Wilkinson
- Copiah Lincoln Yalobusha
- De Soto Madison Yazoo
- Franklin Panola

D. Cotton and livestock—Continued

Louisiana
- East Baton Rouge
- West Feliciana

E. Cotton and range livestock
  1. Post Oak strip of Texas

Texas
- Bastrop Freestone Leon
- Brazos Grimes Madison
- Burleson Lee Robertson

F. Cotton and sugarcane
  1. Central Louisiana

Louisiana
- Arovilles Lafayette St. Landry
- Evangeline Pointe Coupee

G. Cotton and wheat
  1. Rolling Plains, Texas—Oklahoma

Texas
- Borden Foard Motley
- Callahan Garza Nolan
- Childress Hall Runnels
- Clay Hardeman Scurry
- Coleman Haskell Stonewall
- Collingsworth Jones Taylor
- Cottle Kent Wheeler
- Dickens King Wichita
- Donley Knox Wilbarger
- Fisher Mitchell

Oklahoma
- Beckham Grady Kiowa
- Caddo Greer Stephens
- Comanche Harmon Tillman
- Cotton Jackson Washita

H. Cotton and general farming
  1. Western sandy Coastal Plains, Texas—Arkansas—Louisiana—Oklahoma

Arkansas
- Ashley Drew Little River
- Bradley Grant Miller
- Calhoun Hempstead Navada
- Clark Hot Springs Ouachita
- Cleveland Howard Sevier
- Columbia Lafayette Union

Texas
- Anderson Henderson Rusk
- Bowie Hopkins Shelby
- Camp Houston Smith
- Cass Marion Titus
- Cherokee Morris Upshur
- Franklin Nacogdoches Van Zandt
- Gregg Panola Wood
- Harrison Rains

2. Arkansas River Valley and uplands

Arkansas
- Cleburne Johnson Sebastian
- Conway Logan Van Buren
- Crawford Pope White
- Faulkner Pulaski Yell
- Franklin

32
### VII. Cotton—Continued

**H. Cotton and general farming—Continued**

2. Arkansas River Valley and uplands—Continued

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oklahoma</td>
<td>Muskogee, Sequoyah</td>
</tr>
<tr>
<td>Le Flore</td>
<td>Okmulgee, Wagoner</td>
</tr>
<tr>
<td>McIntosh</td>
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</tr>
</tbody>
</table>

3. Limestone valleys and uplands, Tennessee-Georgia-Alabama

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Lauderdale, Morgan</td>
</tr>
<tr>
<td>Cherokee</td>
<td>St. Clair, Cherokee</td>
</tr>
<tr>
<td>Colbert</td>
<td>Limestone, Colbert</td>
</tr>
<tr>
<td>Jackson</td>
<td>Madison, Talladega</td>
</tr>
<tr>
<td>Jefferson</td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td>Bartow, Floyd, Polk</td>
</tr>
<tr>
<td>Chattooga</td>
<td>Murray, Whitfield</td>
</tr>
<tr>
<td>Dade</td>
<td></td>
</tr>
<tr>
<td>Tennessee</td>
<td>Bradley, McMinn, Polk</td>
</tr>
<tr>
<td>Lawrence</td>
<td></td>
</tr>
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4. Piedmont of central North Carolina

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
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<tbody>
<tr>
<td>North Carolina</td>
<td>Davidson, Orange, Rowan</td>
</tr>
<tr>
<td>Cabarrus</td>
<td>Davie, Randolph</td>
</tr>
<tr>
<td>Catawba</td>
<td>Iredell, Rowan</td>
</tr>
<tr>
<td>Chatam</td>
<td>Montgomery, Stanly</td>
</tr>
</tbody>
</table>

### J. Cotton and forest products

1. Gulf Coast Piney Woods

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Clarke, Washington</td>
</tr>
</tbody>
</table>

### K. Irrigated cotton and alfalfa

1. Southern Arizona

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>Pima, Pinal</td>
</tr>
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</table>

2. Rio Grande-Pecos

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Mexico</td>
<td>Dona Ana, Eddy</td>
</tr>
<tr>
<td>Texas</td>
<td>El Paso</td>
</tr>
</tbody>
</table>

### VIII. Tobacco and general farming—Continued

**B. Burley**

1. Central Kentucky bluegrass

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>Gallatin, Nelson</td>
</tr>
<tr>
<td>Bath</td>
<td>Garrard, Nicholas</td>
</tr>
<tr>
<td>Boone</td>
<td>Grant, Oldham</td>
</tr>
<tr>
<td>Bourbon</td>
<td>Harrison, Owen</td>
</tr>
<tr>
<td>Boyle</td>
<td>Henry, Pendleton</td>
</tr>
<tr>
<td>Bracken</td>
<td>Jessamine, Robertson</td>
</tr>
<tr>
<td>Campbell</td>
<td>Kenton, Scott</td>
</tr>
<tr>
<td>Carroll</td>
<td>Madison, Shelby</td>
</tr>
<tr>
<td>Clark</td>
<td>Marion, Spencer</td>
</tr>
<tr>
<td>Fayette</td>
<td>Mason, Trimble</td>
</tr>
<tr>
<td>Fleming</td>
<td>Mercer, Washington</td>
</tr>
<tr>
<td>Franklin</td>
<td>Montgomery, Woodford</td>
</tr>
</tbody>
</table>

**C. Dark**

1. Pennyroyal—purchase, Kentucky-Tennessee

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>Fulton, Marshall</td>
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<tr>
<td>Barren</td>
<td>Graves, Simpson</td>
</tr>
<tr>
<td>Caldwell</td>
<td>Hickman, Todd</td>
</tr>
<tr>
<td>Calloway</td>
<td>Logan, Trigg</td>
</tr>
<tr>
<td>Carlisle</td>
<td>McCracken, Warren</td>
</tr>
<tr>
<td>Christian</td>
<td></td>
</tr>
<tr>
<td>Tennessee</td>
<td>Montgomery, Weakley</td>
</tr>
<tr>
<td>Cheatham</td>
<td>Henry, Robertson</td>
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</table>

**D. Southern Maryland**

1. Southern Maryland

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
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</thead>
<tbody>
<tr>
<td>Maryland</td>
<td>Anne Arundel, Charles St. Marys, Calvert, Prince Georges</td>
</tr>
</tbody>
</table>

### IX. Special crops and general farming

**A. Rice**

1. Gulf coastal prairies, Texas-Louisiana

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
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</thead>
<tbody>
<tr>
<td>Louisiana</td>
<td>Calcasieu, Cameron, Jefferson Davis, Vermilion</td>
</tr>
<tr>
<td>Texas</td>
<td>Fort Bend, Galveston, Orange, Refugio, Victoria, Liberty, Wharton</td>
</tr>
</tbody>
</table>

2. Arkansas prairies

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkansas</td>
<td>Lonoke, Prairie</td>
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</tbody>
</table>

**B. Sugarcane**

1. Lower Louisiana delta

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louisiana</td>
<td>Ascension, St. James, St. Mary</td>
</tr>
<tr>
<td>Assumption</td>
<td>St. John the Baptist, Terrebonne</td>
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<tr>
<td>Iberia</td>
<td>Iberville, St. Martin</td>
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<tr>
<td>Lafourche</td>
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</table>

**C. Potatoes**

1. Aroostook County, Maine

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
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<tbody>
<tr>
<td>Maine</td>
<td>Aroostook</td>
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</table>

**D. Peanuts**

1. Cross Timbers, Texas

<table>
<thead>
<tr>
<th>State</th>
<th>Counties</th>
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</thead>
<tbody>
<tr>
<td>Texas</td>
<td>Brown, Erath, Parker</td>
</tr>
<tr>
<td>Comanche</td>
<td>Hood, Somervell</td>
</tr>
<tr>
<td>Eastland</td>
<td>Montague, Wise</td>
</tr>
</tbody>
</table>
IX. Special crops and general farming—Continued

2. Southern Coastal Plains, Georgia-Alabama

- Baker, Lee
- Ben Hill, Macon
- Clay, Mitchell
- Crisp, Tift
- Dougherty, Quitman
- Early, Randolph
- Houston, Schley
- Irwin, Columbus
- Barbour, Covington
- Butler, Crenshaw
- Coffee, Dale
- Conecuh, Geneva

E. Potatoes, dry beans, sugar beets, and livestock—irrigated

1. Middle Snake River
   - Idaho: Cassia, Jerome, Minidoka, Twin Falls
   - Nebraska: Morrill, Scotts Bluff
   - Wyoming: Big Horn, Carbon, Sheridan

2. Upper Snake River
   - Idaho: Bingham, Fremont, Madison, Teton
   - Utah: Beaver, Emery, Garfield

3. North Platte River
   - Nebraska: Morrill, Scotts Bluff, Platte

4. Southern Coastal Plains, Georgia-North Carolina

- Virginia: Greensville, Prince George, Surry
- Isle of Wight, Southampton, Sussex
- North Carolina: Bertie, Halifax, Northampton
- Chowan, Perquimans
- Gates, Martin, Washington

REFERENCES TO STUDIES OF TYPES OF FARMING BY STATES

Each of the State agricultural experiment stations, working either alone or in cooperation with the Bureau of Agricultural Economics, has made studies of types of farming in the State. Many of these studies have been reported in State, Federal, or cooperative publications. In other States, an unpublished map of type-of-farming areas and other assembled information and data are in the Station's reference files. Among those States that have issued reports, as indicated by the following list, several have revised the analyses as new and more complete data have become available. Some have issued revised reports; others have the revised information in their files.

Where revised reports have been issued, the reference here is to only the latest publications.

Alabama:
Alvord, Ben F., Crosby, M. A., and Shiffman, E. G.

Arkansas:
Arkansas University.
College of Agriculture. Extension Service

California:
Crawford, L. A., and Hurdy, Edgar B.

Colorado:
Hunter, Byron, Moorhouse, L. A., and Burdick, R. T.

Connecticut:
Davis, I. G.

Idaho:
Vogel, Harold A., and Johnson, Neil W.

Illinois:
Case, H. C. M., and Myers, K. H.

Indiana:
Robertson, Lynn, Young, E. C., and Houk, H. J.

Iowa:
Holmes, C. L., and Crickman, C. W.

Kansas:

Kentucky:
Poundstone, Bruce, and Roth, Walter J.

Maryland:
Hamilton, A. B., and Johnson, T. D.

Massachusetts:
Mighell, R. L., and Brown, Marian.

Michigan:
Hill, E. B.
North Dakota:

Mississippi:

Missouri:

New Mexico:

Nebraska:

Montana:

Oklahoma:

Pennsylvania:

South Dakota:

Tennessee:

Texas:

Utah:

West Virginia:

Wisconsin: