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Type of Farming Areas in Texas



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TYPE-OF-FARMING AREAS IN TEXAS

C. A. BONNEN AND F. F. ELLIOTT

Anyone who has but casually observed farming is impressed with the changes in its character from one part of the country or state to another. In some cases these changes are gradual in nature, while in others they are quite abrupt, representing a distinct break in the character of the agriculture followed. In some cases these variations may be accidental; in the main, however, they reflect the efforts of farmers to adjust their organizations and practices to the specific conditions encountered.

In the early years of settlement and development of the agriculture of an area, there necessarily is considerable instability and uncertainty. Everything is new. Many things have to be learned and these mostly by trial and error. Eventually out of years of this accumulated knowledge and experience there evolves a more or less settled conviction on the part of the majority of farmers that a particular type of farming best fits the conditions in the area.

This tendency of farmers to adjust their organizations and practices to their environmental conditions is merely an attempt to get a maximum utilization of the resources at their command. They are consciously or unconsciously seeking to economize on their resources by producing those commodities which will give them a maximum of value for the resources used. In doing so they necessarily depend upon obtaining from others commodities and services which they themselves are at a comparative disadvantage in producing. The inevitable consequence of such a development is that farmers in different regions will follow different types of farming. Conversely, farmers in the same region will tend to produce the same kinds and proportions of crops, or in other words, follow the same type of farming.

The object of this Bulletin is to indicate and describe the areas in which farmers are following similar types of farming. As will be seen later, the agriculture of Texas can be divided into 20 major type-of-farming areas. In order that the reader may have a clear understanding of the basis for this division, it is essential that a rather detailed discussion be made of the effect that various factors have had in determining the organizations and practices followed in different parts of the State. As a starting point in this discussion, a brief consideration will first be given to the conditions and forces which affect types of farming in general.

FACTORS IN THE AGRICULTURAL DEVELOPMENT OF TEXAS

Broadly considered, types of farming result from two general groups of factors. On the one hand are included that large group of factors,

The State has been divided into twenty major areas, within each of which there is a high degree of similarity as to the crop and livestock systems and as to such physical characteristics as soils, surface, and climatic conditions. The main objective of this Bulletin is to call attention to these areas and to present descriptive material for the State as a whole as well as for each area so as to provide those interested in Texas agriculture with a general knowledge of the character of farming in different parts of the State.

The ways in which different natural and economic factors operate to determine the kinds and amounts of crops and livestock grown are explained. The distribution of crops and livestock over the State is presented by means of dot maps. The concentration of certain crops and types of livestock in different parts of the State and the trend in the production of each is indicated.

The manner in which these crop and livestock enterprises are combined in different parts of the State to form type-of-farming areas is discussed. The type of farming and the physical characteristics of each area are described in such a way as to indicate to the reader the relationship between them. The combination of enterprises in Areas 7 and 15 serve to illustrate the sharp contrasts in the types of farming among some of the areas. The major enterprises in the Edwards Plateau grazing area (Area 7) are the production of beef cattle, sheep, wool, Angora goats, and mohair under range conditions. In the Black Prairie (Area 15) cotton production is the only major enterprise and, although a small acreage of other crops such as corn, sorghums, and small grain is grown, it is hardly sufficient to provide feed for the work-stock and the few cows, chickens, and hogs kept on the farms in this area. In the Edwards Plateau grazing area agriculture is based largely on the native vegetation, whereas, in the Black Prairie a high percentage of the land is cultivated and everything centers around the production of cotton.

Typical farming systems for farms of different sizes have been determined and one to four such systems are presented for the more important sizes of farms in each area in which cropper farmers are not found in significant numbers. In this way the so-called "average farm" is broken up into groups of farms of approximately the same size and organization and for which the average is fairly representative of the individual farms of each group.

The differentiation of the agriculture of a State into type-of-farming areas should facilitate gaining a clear picture of the character of farming in different parts of the State. Type-of-farming studies further give agencies advising farmers a better idea of the limits within which specific recommendations may apply and also provide a more accurate basis for making recommendations. They likewise supply a background of information for farm management and other economic studies which should serve to make research in this field more accurate and precise.

physical and biological in character, such as soil, surface and drainage, rainfall, temperature, diseases, pests, etc.; and on the other, those of an economic nature, such as availability of labor and capital, relative prices and costs, transportation charges, changes in the methods of production, and the like.

Effect of Physical and Biological Factors

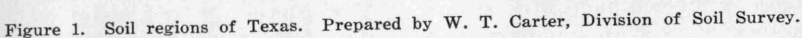
Soil. Soil type affects types of farming largely through its influence upon the physical adaptability of crops. Because of their peculiar biological characteristics and habits of growth, certain crops are particularly affected by the texture of the soil, others by its plant food content, and still others by its water-holding capacity. It is not so much a question, however, of absolute as of relative adaptability. Almost any crop will make some sort of growth on any type of soil but certain crops may make a better growth on a particular type of soil, and for this reason are grown in preference to other crops. For example, on the sandy soils in the northwestern corner of the Panhandle, grain sorghums are grown as a main crop in preference to wheat. It is not because grain sorghums will not grow on the best wheat soils, but rather because they do much better than wheat on sandy soils.

Furthermore, the nature of a soil with respect to its depth and fertility may also affect types of farming or force changes in types. Soils which are low in fertility, due to inherent lack of plant nutrients or to continuous cropping, may necessitate a particular system of farming in order that the agriculture be given a greater degree of permanency.

There is a wide range in the types of soil in Texas, varying from dune sand to heavy clay soils (Figure 1). This wide range in soil types has had a marked influence on types of farming as will be pointed out in the discussion of the factors affecting the agriculture in each particular area.

Topography. The character of the surface of the land also affects the type of farming followed. This is due in part to the influence of topography upon the facility with which labor and machinery are used and in part upon its effect in influencing the particular crop and livestock organization followed. The character of land surface may determine to a considerable extent the amounts of intertilled crops that are grown. The large amount of erosion present even on land of moderate slope often forces a particular type of cropping or increased terracing to minimize the effect of erosion.

Aside from the question of control of moisture and erosion, there is the additional problem of the utilization of non-tillable pasture land resulting either from an uneven or broken topography or from inadequate drainage. With large amounts of non-tillable pasture land, it becomes necessary for complete utilization to follow a type of farming in which livestock plays a greater part than would be necessary were the surface less rugged. Likewise land which is tight, poorly drained, or not susceptible to drainage, must be handled with these limitations in view and be utilized by livestock or by growing crops adapted to these peculiar conditions.



Due to the greater mechanization of agriculture in recent years, topography is becoming of increasing importance as a factor affecting types of farming. The economies resulting from the use of power machinery and equipment on land adapted to their use is increasing the competition for the hill-farmer and continuously adding to the advantage of the more level land over the rough and hilly land in crop production.

Climate. Another important factor affecting types of farming is that of climate, including rainfall, temperature, and evaporation. Rainfall, both in its total amount and in its seasonal distribution, governs to some extent the choice of a cropping system. The variation in rainfall from year to year is also important. This is particularly true in those areas where the average amount of rainfall verges on the minimum for successful crop production. The amount of rainfall which comes in certain weeks or months during the critical season of growth is an important consideration in determining whether particular crops will be grown in many sections of Texas.

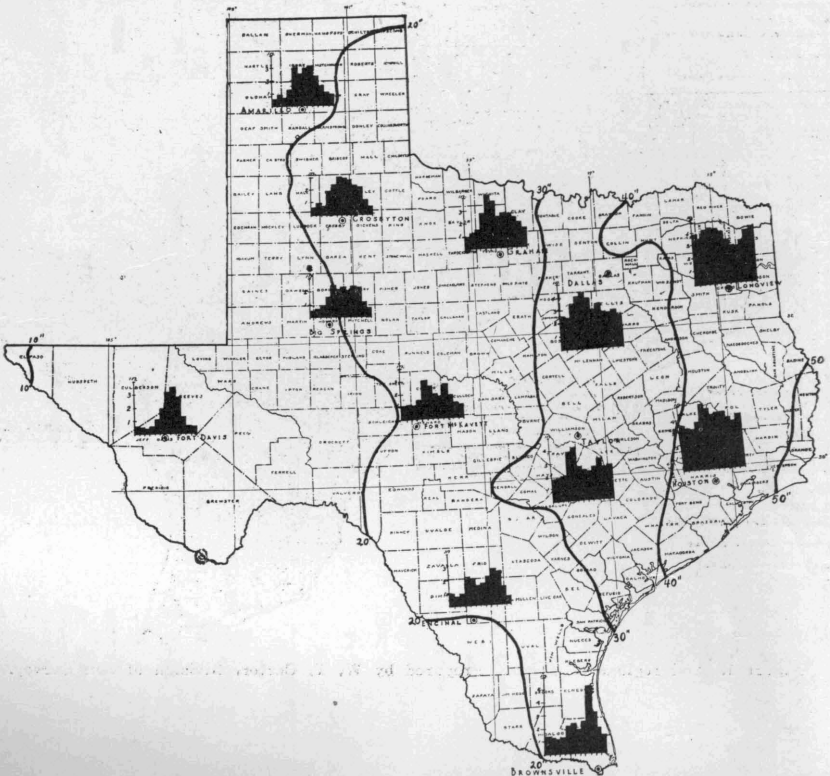


Figure 2. Rainfall map of Texas. The average annual rainfall ranges from 50 inches in eastern to 10 inches in the extreme western part of the State.

The rainfall in Texas varies widely, ranging from 50 inches in the eastern section of the State adjacent to Louisiana and the Gulf to 10 inches in the extreme western part of the State. In Figure 2 is shown the State divided into zones on the basis of average annual rainfall. Superimposed on this chart is also shown the average monthly distribution of the rainfall at selected weather stations in each of these zones. In Figure 3 is shown the variation in total rainfall from year to year or a few representative points in the State.

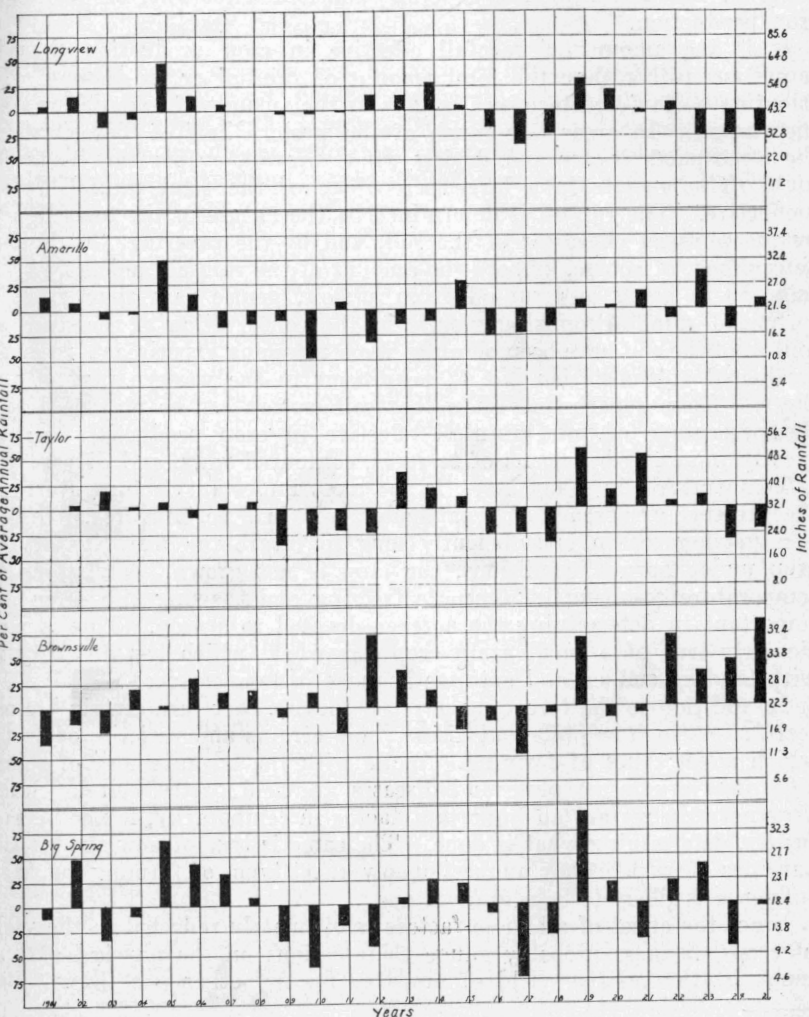


Figure 3. Showing variations in annual rainfall at selected stations in Texas. (Per cent above or below average annual rainfall.)

In general, the amount of rainfall rapidly becomes less, and the variability becomes greater as one goes from the northern and eastern to the southern and western parts of the State. For example, at Longview, where the average annual rainfall is over 43 inches, the variation in rainfall from year to year in terms of the coefficient of variability is only 17 per cent, whereas at Big Spring, where the annual rainfall averages only 18.4 inches, the variability is almost 40 per cent. This means that the annual rainfall in the Big Spring section occasionally will not exceed 10 to 12 inches, an amount generally considered too low for profitable crop production.

It is the amount of rainfall effective in crop production that is important rather than the total amount of rainfall or its seasonal distribution. This is determined largely by the amount of evaporation and the run-off. In areas like much of the western half of Texas, where the atmosphere is dry and drying winds prevail, evaporation is fairly high. This results in a large percentage of the total rainfall being ineffective. The run-off is determined by the nature of the topography, by the physical character of the soil, and by the covering. It is also determined, of course, by both the amount of the rainfall and the way it falls, there being less run-off from a slow, gentle rain than from a torrential rain. Promising results in the conservation of moisture as well as of the soil have been obtained from terracing experiments recently conducted at Substation No. 7, near Spur in the western part of the State. These experiments show that soil erosion can be prevented and the percentage of total rainfall effective in crop production can be greatly increased by means of terraces, contoured rows, and dikes.¹

Temperature, in many cases, is the most important factor governing the presence or absence of a particular crop in a certain area. Unless the growing season is sufficiently long to insure the maturity of the crop under normal conditions, the crop is not grown. Variations in temperature resulting in alternate freezing and thawing also often are important in determining the acreage devoted to a crop. This is particularly true of a small grain crop like wheat which has difficulty in withstanding sudden and extreme changes in temperature.

In addition to the foregoing physical factors, there are certain biological factors such as pests and disease, new strains and varieties of crops, which affect types of farming. While with the advancement of scientific discovery insect pests and diseases are held pretty well in check, they nevertheless are an important factor in temporarily, if not permanently, determining what is done. The same is true of new strains and varieties of crop. They unquestionably affect types of farming but their influence is likely to be a gradual one.

Since the effect of all these factors is ultimately reflected in the yield of crops, farmers probably gauge their actions on the physical side as much by the relative yield of crops as by any other one thing. But

¹See Texas Station Bulletin 411, "Factors Influencing Run-off and Soil Erosion."

farmers are not interested alone in the relative yield of crops for a particular year nor how variable these yields are over a period of years. In coming to a final decision as to what their systems of farming shall be, it is obvious that farmers cannot and do not stop at this point. It is also necessary to know which enterprises or combination of enterprises will yield the maximum return in dollars and cents for the resources used. In other words, economic factors play an important part in determining what is finally done.

Effect of Economic Factors

Two enterprises may be equally adapted to the physical conditions within an area and yet not be comparable from the standpoint of returns. The price of the products from one enterprise may be entirely out of line, on account of conditions of production in other parts of the world or changing consumption habits, or changes in demand from other causes.

Likewise from the standpoint of economy in production one enterprise may require a much smaller amount of labor and also its labor demands may be supplementary rather than competing with respect to the labor demands of other enterprises included in the farming system. Due to the growing habits of different crops, certain of them fit together or into a farming system better than do others. Because of this fact it is advantageous to combine those enterprises which demand attention at different seasons of the year and thereby avoid peak periods of labor demand in so far as possible.

In order to insure a more complete utilization of materials and other resources, such as waste and low-grade feeds, family labor, untillable pasture land, etc., farmers also will often add supplementary enterprises to their organizations which they probably would not do were they in different circumstances. The promise of the additional gain is sufficient to effect the change.

Other factors of economic importance that affect types of farming are transportation facilities, freight rates, and markets. Since their effect is reflected either in the prices at which the products sell or in the expenses with which they are produced, their influence is ultimately one of price and is so measured.

In order to minimize the effect of long hauls or high freight rates farmers in areas remote from market centers tend to produce those commodities which have a high value per unit of weight. By so doing, the price they receive in such areas necessarily approximates more closely the central market price than would be true were they to grow the more bulky products with low values per unit of weight.

Another factor which has an influence upon types of farming and which comes about through its effect upon price and returns is that of invention and changes in methods of production. The introduction of a new process or a new machine may so cheapen the costs of production in areas where the machine is adapted that it becomes profitable to grow

a larger proportion of the crop or crops affected and to grow them on grades of land which before were sub-marginal. The result of such an influence may be the expansion of production to a point where price is so lowered that farmers in competing areas are forced out. That is, the price of that particular commodity may be so reduced that farmers in competing areas find that the returns which can be obtained from it relative to the returns which can be obtained from alternative enterprises in the area are so low as to make it advantageous to shift out of it completely.

Two other closely associated economic factors which have their influence on types of farming are the amount of tenancy and the character of the population. While on first thought it may seem that these are the result of other factors rather than factors in themselves, they do affect types of farming indirectly in that they influence the ease and rapidity with which changes in types of farming are made. For example, in the eastern part of Texas, where most of the negro population is concentrated and where the percentage of tenancy is high, the one-crop system of cotton farming continues dominant, even though it is generally considered more profitable to supplement cotton production with other enterprises. The ease of collecting rent in the form of cotton and the difficulties encountered in dealing with poorly educated white and negro tenants in more complicated landlord and tenant relationships probably explains the resistance to change. Clearly then it is seen that economic factors play an important role in determining types of farming.

With this discussion of the way in which both physical and economic factors affect types of farming in general as a background we are now ready to consider the effect each has had in determining types of farming in Texas. As a starting point in reaching a better understanding of the agriculture of Texas, attention is called to the geographical distribution of the different crops and livestock.

GEOGRAPHIC DISTRIBUTION OF CROPS AND LIVESTOCK IN TEXAS

Present Utilization of Land in Texas

The State of Texas has a land area of approximately 168,000,000 acres. Within its boundaries are found great differences in soils, surface, and climate. Differences in these three physical factors roughly determine the way in which the lands of the State are utilized for agricultural purposes.

In 1924, 17.5 per cent of the total area of the State was used for crop production. (U. S. Census of Agriculture, 1925.) The remainder was in pasture, forests, roads, cities, etc. It has been estimated by various authorities that 10,000,000 acres, or 6 per cent, is devoted to forests, while approximately 2 per cent is used for roads, cities, river beds, etc. Most of the remainder, or more than 70 per cent of the total area, is used for grazing purposes. From Figure 4 it will be noted that the greater portion of the cropped land lies in the northeastern one-

fourth of the State and on the level plains of the northwest. It is made up largely of the blacklands of central and southeastern Texas, the sandy lands of northeastern Texas, and of the more level and fertile portions of the plains country. That portion of the State lying southwest of the Colorado River and west of a line drawn north and south through Austin is devoted almost entirely to grazing.

Much of the land in the Coastal Plains and along the Canadian River in the Panhandle is used for grazing, while throughout the north-central part of the State from the Blacklands to the High Plains, large areas of grazing lands alternate with areas of cropped lands. The greater portion of the grazing land of the State is rough and broken or low in fertility or is too dry to be farmed without irrigation.

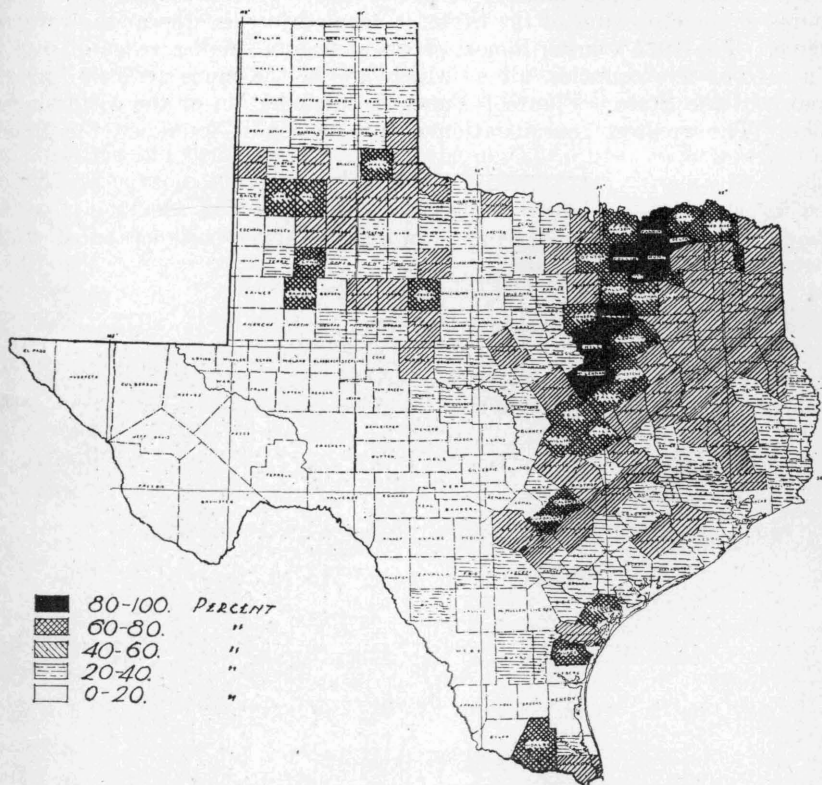


Figure 4. The percentage of Texas farm land used for crop production in 1924.

Much of the State is covered with some kind of timber growth. However, the timber of commercial value other than for firewood and posts is limited largely to a strip of land about 100 miles wide along the entire eastern side of the State. The more important forests are concentrated in some dozen counties, centering around Polk and Tyler Counties.

Distribution and Trends in Production of Important Crops and Classes of Livestock

A somewhat better idea of the utilization of the land in the State may be obtained by a study of the dot maps on the following pages showing the distribution of the principal agricultural enterprises.

CROPS

Cotton

The adaptability of cotton to wide variations of soil and rainfall makes it the most widely distributed as well as the most important crop grown in the State. Approximately 60 per cent, or between 17 and 18 million acres of the crop land of the State, is devoted to this crop at the present time. The 1925 Census Report shows at least a small acreage of cotton in all but five counties, all of which are in the more arid and rough parts of the State. Figure 5 shows the distribution of the cotton acreage. The greatest concentration of production is found on the Black

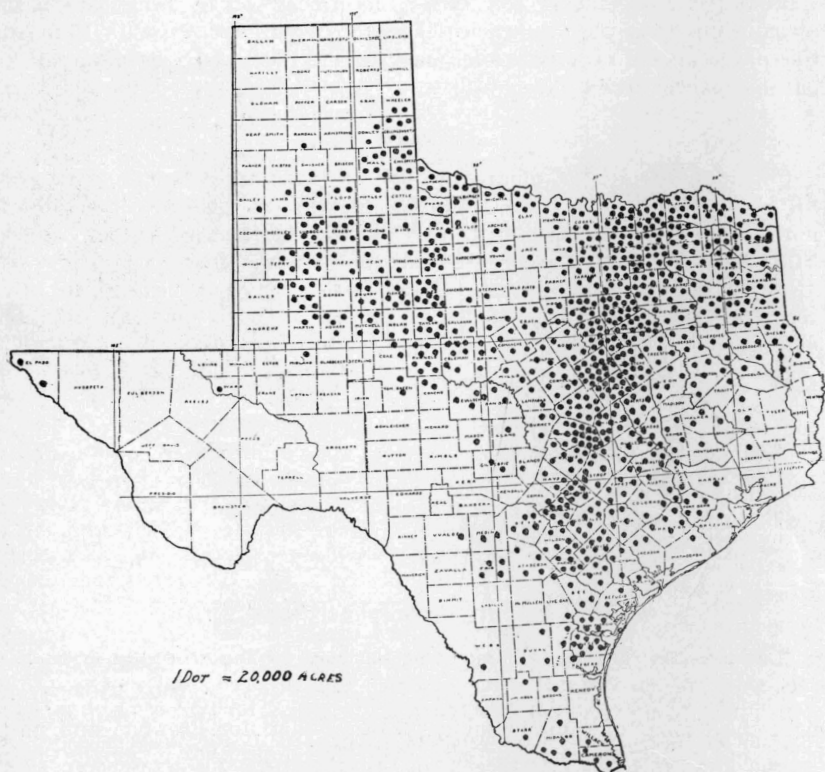


Figure 5. Distribution of the cotton acreage in 1924.

Prairie Lands. Approximately one-third of the cotton produced in the State comes from this area. Other important cotton areas are found around Corpus Christi in the Coastal Plains and on the plains of the western part of the State. It is in these latter areas that machine production of cotton has its greatest possibilities.

There is a marked similarity between the distribution of crop land and cotton production. This is another indication of the importance of cotton in the cropping systems of the State and of its wide adaptation. The acreage of cotton harvested has increased from slightly over 2 million acres in 1880 to more than 17 million in 1930. The acreage exceeded 10 million for the first time in 1910 and has not dropped below that figure since. There was not much change in the area devoted to cotton between the years 1910 and 1922, but from 1922 to 1924 it was increased from 11,874,000 to 17,125,000 acres and has been well maintained above that figure to date. The rapid increase between 1922 and 1924 was largely the result of the development of new areas in the western and southern parts of the State. However, there has also been a fairly general tendency to increase the acreage in the older producing areas. The relatively high price of cotton from 1922 through 1925 and the development of large-scale machinery undoubtedly stimulated expansion of the area devoted to cotton.

Corn

Considered from the standpoint of the proportion of farm area devoted to the crop and total value produced, corn ranks next to cotton in importance. Its production is limited chiefly to the eastern half of the State (see Figure 6), where rainfall and other climatic conditions are more favorable to its growth. Very little corn is produced in areas receiving less than thirty inches of rainfall. In recent years the corn acreage has fluctuated between 3 and 5 million acres, or from 10 to 20 per cent of the land in crops. Corn is grown chiefly as a feed crop. There are no large areas in the State producing a surplus of corn for sale.

Previous to 1890 the acreage in corn exceeded the acreage devoted to cotton. Since that date the acreage in cotton has been increased more rapidly than the corn acreage, although it was not until about 1920 that the acreage in cotton was twice the area in corn. The maximum corn acreage of 7,854,000 was reached in 1908. The trend has been distinctly downward since.

Grain Sorghums

The grain sorghums take the place of corn in the cropping systems of the western part of the State. (See Figure 6.) The ability of the sorghums to thrive under conditions of low rainfall makes them adapted to the existing climatic conditions. Very little sorghum is produced as yet for grain in any portion of the State having more than thirty inches of rainfall. However, large quantities of sorghums are grown

for forage as far east as the eastern boundary of the blacklands. Although slightly less than 10 per cent of its crop land is planted to grain sorghums, Texas leads all other states in its production. During years of heavy production large quantities of this grain are shipped to other states and some to foreign countries. There is also a heavy shipment of grain sorghums into the feed-deficit areas in the eastern part of the State.

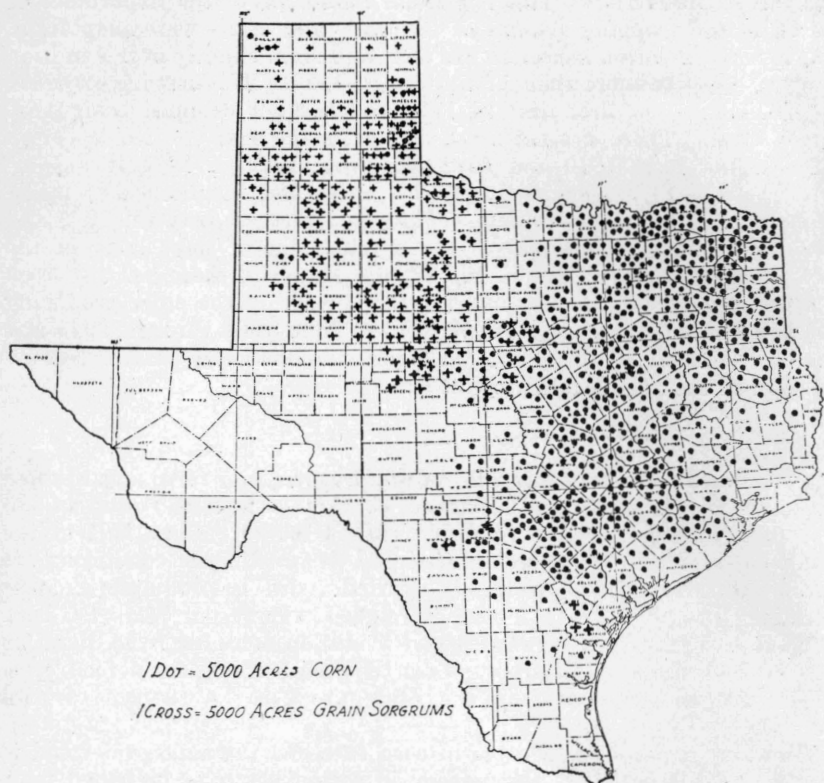


Figure 6. Distribution of the corn and grain sorghum acreage in 1924.

Grain sorghums were the pioneer crop of West Texas and to a great extent made possible the development of large areas of land which, because of low rainfall, had formerly been considered unfit for cultivation. They have become an important crop only within the last 25 to 30 years. According to the Federal Census of Agriculture, there were less than 25,000 acres planted to grain sorghums in 1900. By 1910 the acreage harvested for grain had increased to over a half million acres and, in addition, a considerable acreage was grown as a forage crop. There was approximately 2,600,000 acres grown for all purposes in 1919. Except for the ordinary yearly fluctuations, there has been little change in the acreage of grain sorghums during the last 10 years.

Wheat

Wheat is the most important small grain crop grown in Texas. It occupies 5 to 10 per cent of the total crop land and ranks next to cotton in importance as a cash crop.

Wheat production is largely concentrated in the Panhandle counties, where a level topography and heavy soils, together with a limited rainfall and short growing season, give it an advantage over other crops. The rapid increase in the use of the combine-harvesters and other labor-saving machinery since 1924 has stimulated the extension and concentration of wheat production in this area.

It will be noted that there are two other fairly important wheat producing areas in the State (see Figure 7), one centering in Hardeman, Foard, Wilbarger, and Wichita Counties, and the other in Cooke, Denton, Grayson, and Collin Counties. In these counties wheat competes successfully with cotton only on the shallow, heavy soils. On the sandy soils and the deeper, heavy soils very little wheat is grown.

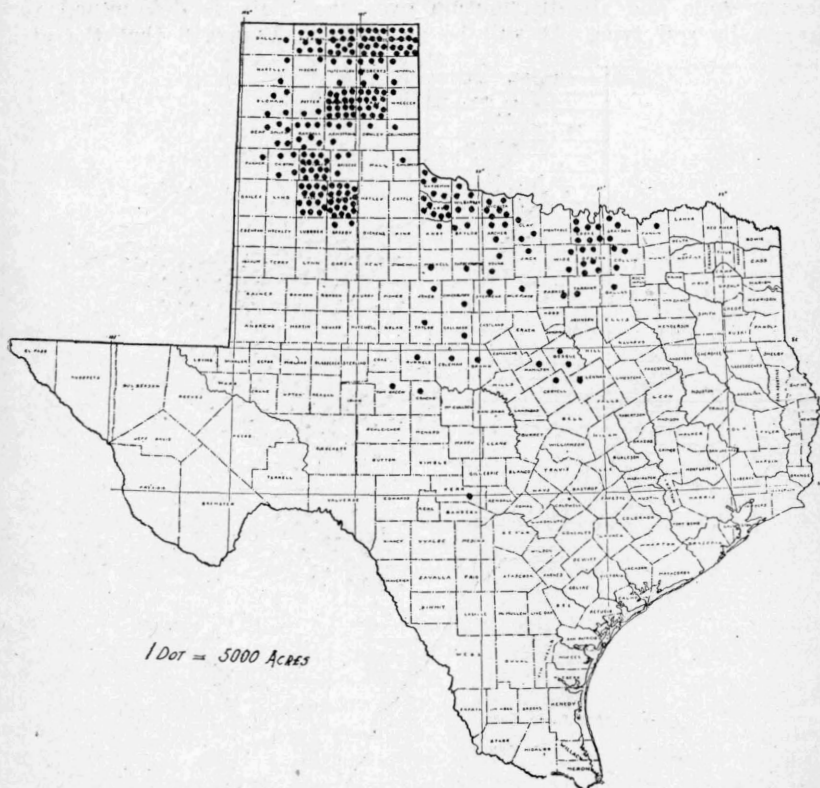


Figure 7. Distribution of the wheat acreage in 1924.

The production of wheat in Texas dates back to the time of earliest settlement. It has, however, occupied a very minor place in the State's cropping system until recent years. The acreage of wheat harvested seldom exceeded 500,000 acres previous to 1900. The trend has been distinctly upward since that date and in each of the years 1929 and 1930 over 2,500,000 acres of wheat were harvested. Expansion of the wheat acreage has been rapid on the smooth, level lands of the High Plains, where the combine, wheat-land plow, and other labor-saving machines can be used to the greatest advantage. However, increases in that part of the State have been partially offset by decreases in acreage on the older wheat lands in north-central Texas.

Oats

Oats occupied approximately the same proportion of the cropped land as did wheat in 1924. It ranks next to corn and grain sorghums in importance as a feed crop. Like wheat, it is better adapted to the heavier soils and its distribution over the State is determined very largely by soil type. It will be noted from Figure 8 that the great

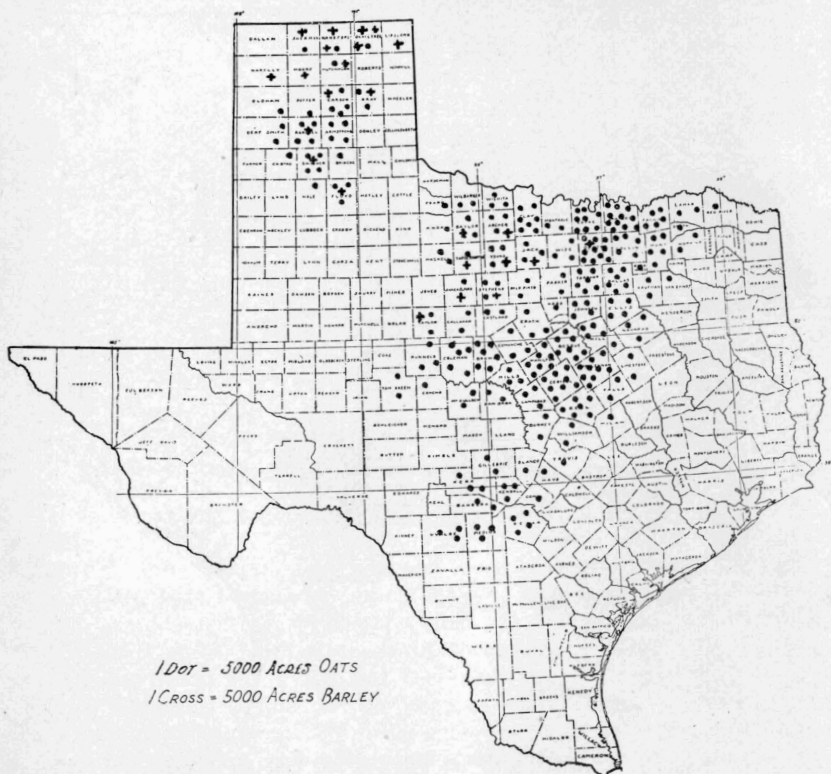


Figure 8. Distribution of the oats and barley acreage in 1924.

bulk of the oat crop is produced on the heavier soils in the north-central part of the State. A minor concentration area may be noted on the High Plains of the Panhandle. The area devoted to the production of oats has slowly but steadily increased from approximately 250,000 acres in 1880 to 750,000 in 1900, and between 1,500,000 to 2,000,000 acres at the present time.

Barley

The distribution of the barley acreage is shown in Figure 8. Although barley is a minor crop in the State, the trend in acreage has been sharply upward. From 10,000 acres in 1918 the area devoted to this crop has been increased to approximately 200,000 acres in 1929.

Other Crops

Other crops of minor importance when measured in terms of land area but which occupy a large part of the crop area in certain localities are hay, rice, citrus, tomatoes, cabbage, watermelons, onions, and peaches. The distribution of these crops is indicated in Figures 9 to 12. The

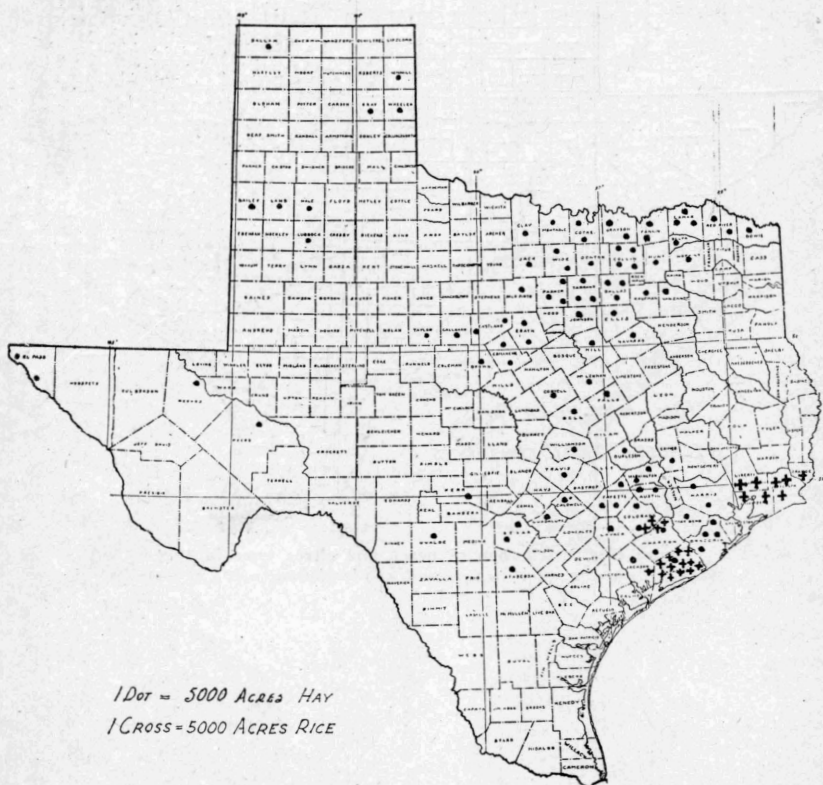


Figure 9. Distribution of the hay and rice acreage in 1924.

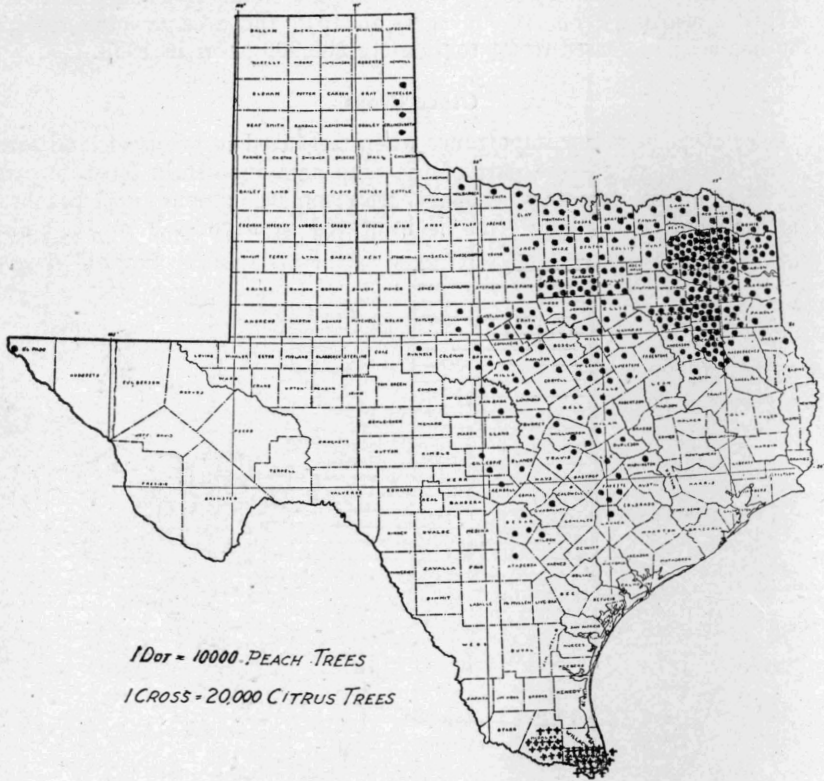


Figure 10. Distribution of peach and citrus trees in 1924.

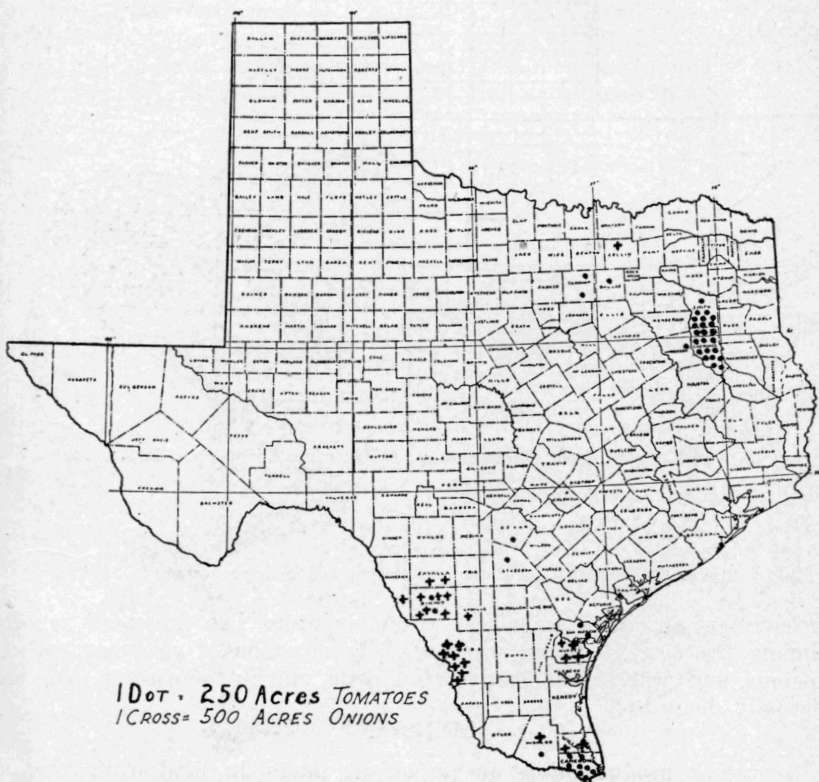


Figure 11. Distribution of the tomato and onion acreage in 1924.

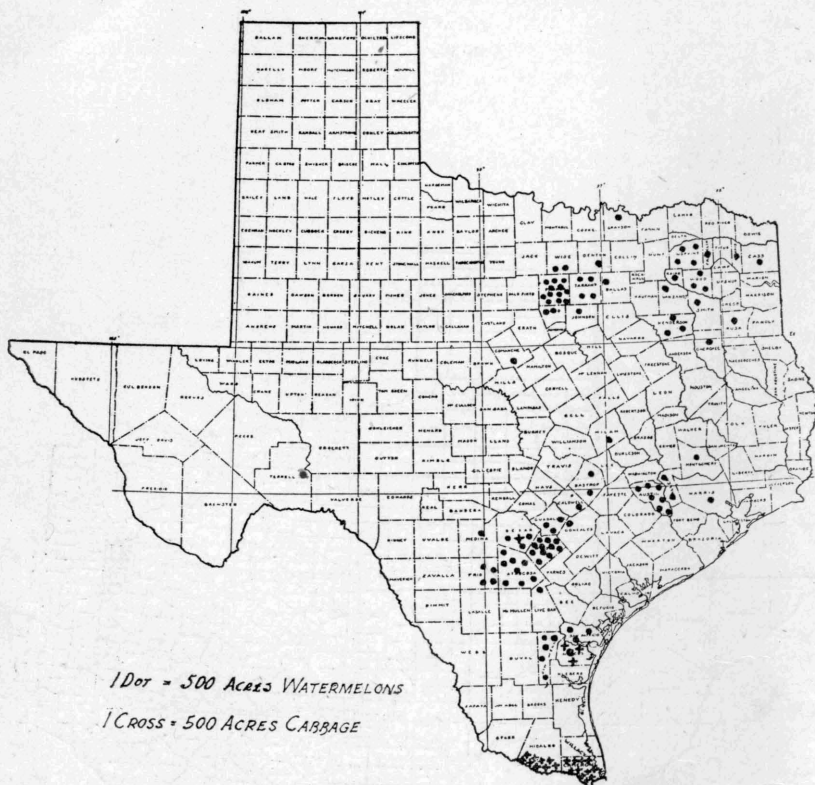


Figure 12. Distribution of the watermelon and cabbage acreage in 1924.

production of citrus and most vegetable crops has increased rapidly during the past 10 years, whereas the production of rice, hay, watermelons, and peaches has changed but little, and in the case of some has actually decreased.

LIVESTOCK

Livestock production is an important factor in land utilization in Texas. Because of the large amount of grazing land in the State as compared to crop land the grazing types of livestock predominate. The proportion of grazing land to crop land and the nature of the crops produced largely determine the distribution of the different types of livestock.

Beef Cattle

Beef cattle production is the most important livestock enterprise in Texas. According to the 1925 Census, approximately three-fourths of the cattle in the State were used primarily for beef production and only one-fourth were classed as dairy cattle. Beef cattle production is pri-

marily a grazing enterprise. There is only a small amount of commercial feeding being done. Figure 13 shows the distribution of beef cows. While beef cattle production is an important enterprise over the greater portion of the State, it will be noted that there are several widely scattered areas in which production is more highly concentrated than in the rest of the State. The more important of these areas center in the Coast Prairie between Houston and Beeville, the more smooth and open parts of the Edwards Plateau, the Davis Mountains and Big Bend country, Throckmorton County in north-central Texas, and in the Canadian River basin in the Panhandle. The concentration of beef cattle in these regions is due primarily to the existence of large areas of grazing land and to the fact that vegetation, soil, and climatic conditions favor beef cattle over other types of grazing animals.

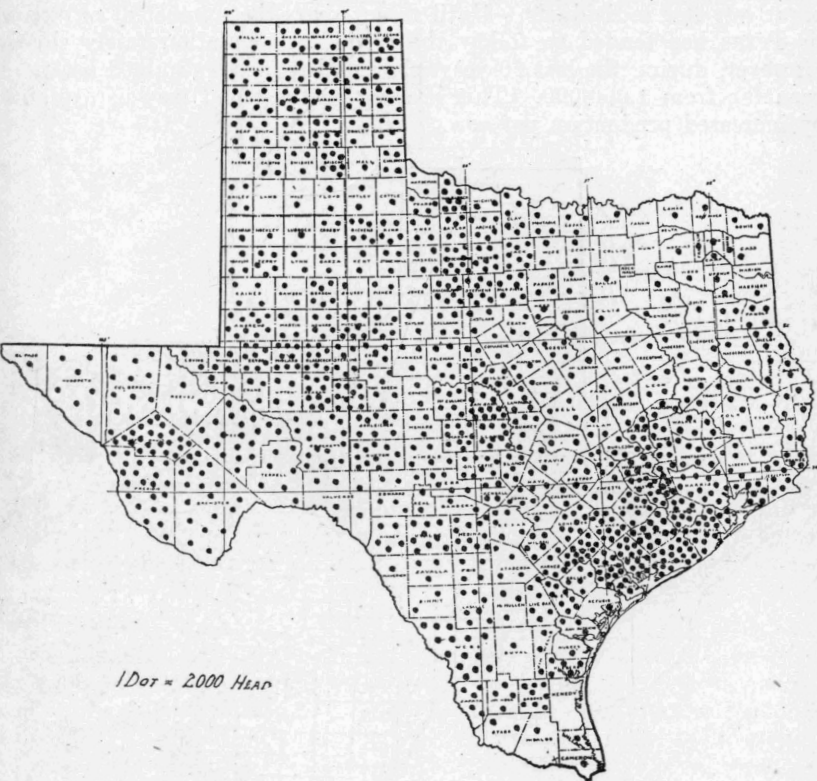


Figure 13. The distribution of beef cows, January 1, 1925.

Beef production apparently reached its peak in Texas in 1906 when it was estimated that there were more than 8,500,000 cattle in the State. The trend has been distinctly downward since that year. The total number of cattle has varied between a minimum of approximately

4,500,000 to a maximum of 5,500,000 since 1911. The yearly changes in beef cattle numbers are characterized by long, gradual swings which move in response to price changes.

Dairy Cattle

The production of dairy products in Texas is confined chiefly to the regions that are heavily cropped and to areas around the large cities. (See Figure 14.) There are no large areas in which dairying is a major farm enterprise. The bulk of the dairy products comes from small farm herds of four to ten cows which are cared for by family labor and maintained on cheap, coarse feeds and by-products of the cotton enterprise. Fluid milk production around the larger cities of the State is a highly specialized business and is in the hands of a comparatively few individuals. Until recent years the number of milk cows in Texas has tended to follow the trend in population fairly closely. However, during the last 20 years the number of cows milked has never been far from 1,000,000. This leveling in the trend may be explained by increased production per cow.

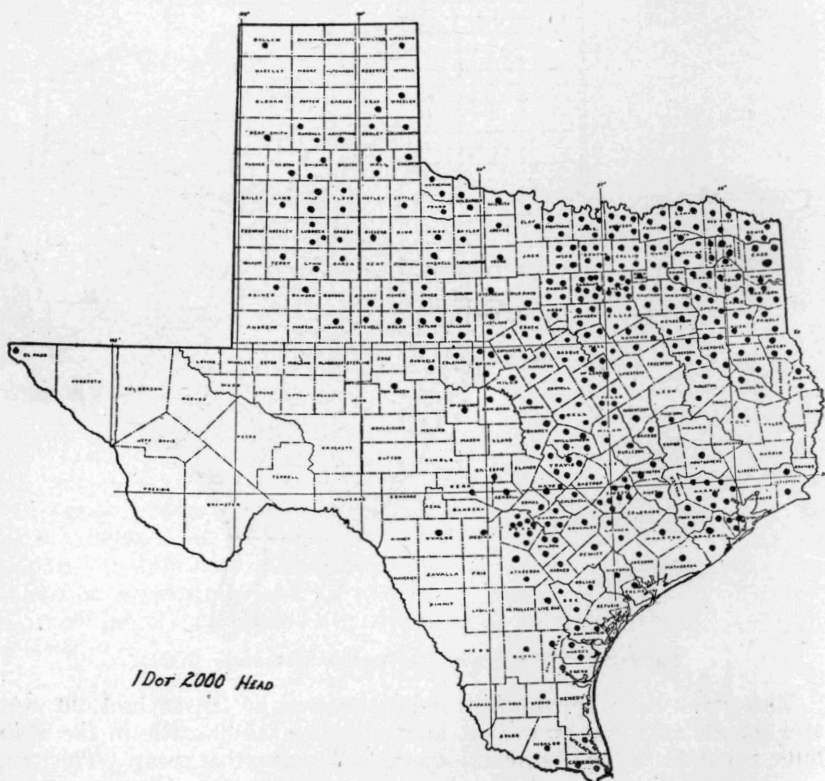


Figure 14. The distribution of dairy cows, January 1, 1925.

Sheep and Goats

It will be noted from Figures 15 and 16 that the sheep and goat population is largely centered in the Edwards Plateau, where they are grazed in combinations with cattle on most ranches. This is a high, dry plateau on which is found a wide range of vegetation, including brush, weeds, and grass. The brush is largely live-oak and shin-oak and provides year-round browse for goats as well as reserve feed for cattle and sheep. It also provides protection from cold winds, making it possible to carry on lambing and kidding operations practically without shelter. Much of the Plateau is rough, broken, and stony, and cannot be used for farming purposes. The more broken portions are also more easily grazed by sheep and goats than by cattle. These characteristics largely explain the concentration of sheep and goat production in that area.

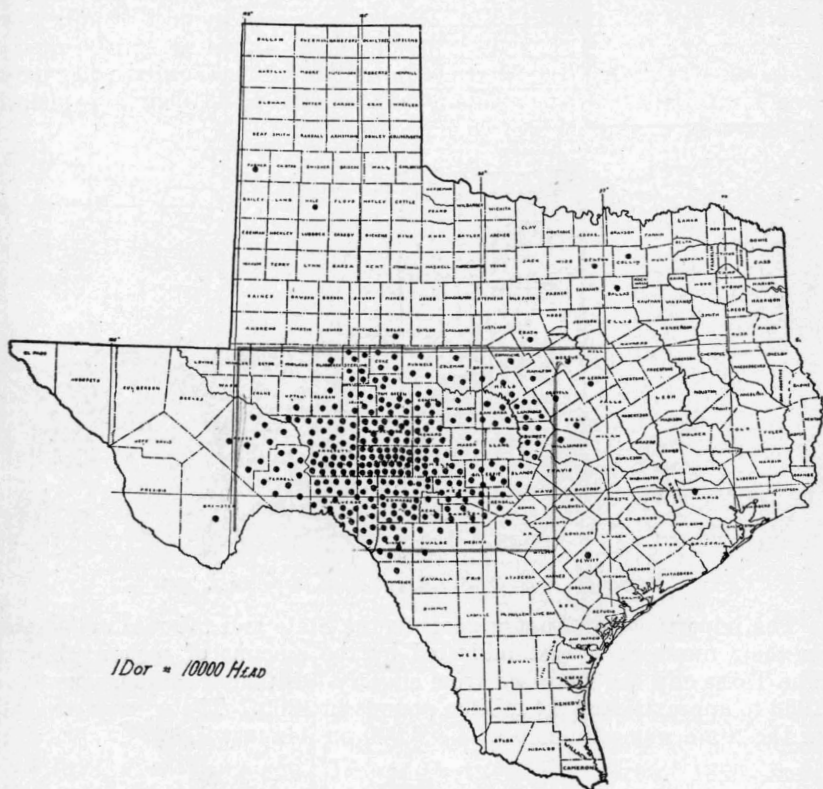


Figure 15. The distribution of sheep, January 1, 1925.

The State of Texas produces approximately 12 per cent of the wool and 85 per cent of the mohair grown in the United States, the great bulk of which is produced in this area. The peak in sheep numbers of

more than 7,500,000 head was reached in this State about 1885. The number then declined almost continuously until 1905, when it was estimated that there were only 1,600,000 sheep in the State. Since 1905 the trend has been continuously upward, the number reaching a new high level of 6,050,000 on January 1, 1931.

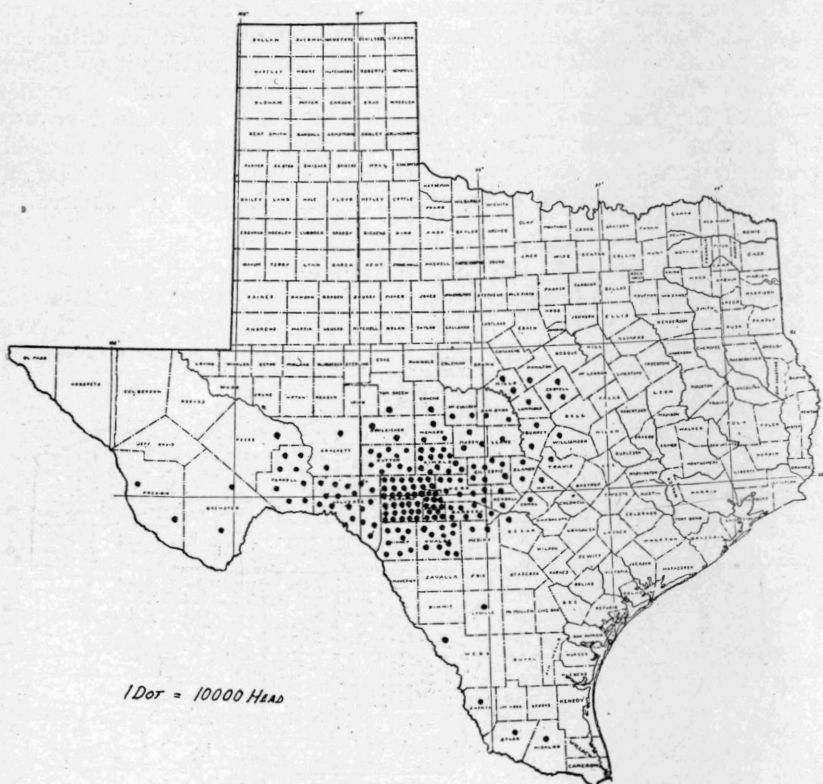


Figure 16. The distribution of goats, January 1, 1925.

The importance of Angora goats in the State and the rate of increase in their numbers is best indicated by the amount of mohair clipped. The Texas clip has increased from slightly less than 7 million pounds in 1920 to approximately 14 million pounds in 1930. The number of goats in the State was estimated at 3,300,000 on January 1, 1931.

Hogs

Pork production is a minor enterprise in Texas. Hogs are grown on less than half of all farms in the State, and the great majority of these produce very few more than are needed for home consumption. The dominance of cash crops such as cotton and wheat in the cropping

systems of the State and the large amount of pasture land and rough feeds grown as compared with concentrates favor types of livestock that can utilize large amounts of bulky feeds in their rations. This situation is not favorable to hog production. The great bulk of the hog population is rather evenly distributed over the eastern part of the State. (See Figure 17.) It will be noted that this is the same area in which most of the corn is grown.

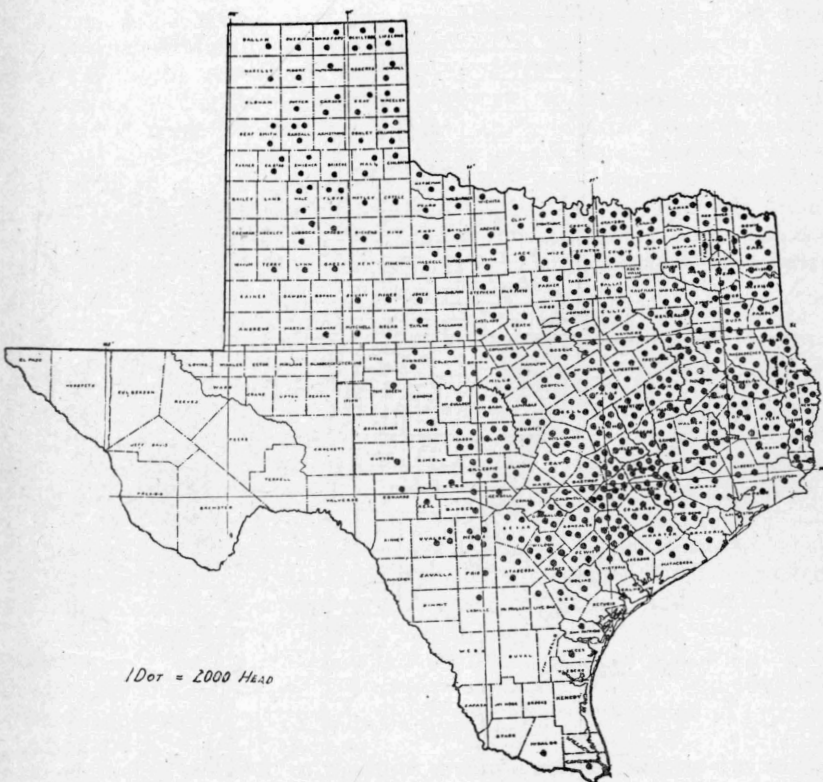


Figure 17. The distribution of hogs, January 1, 1925.

The trend in the number of hogs has been sharply downward since 1917. There is a smaller number of hogs on Texas farms at the present time than at any time since 1880. The Census Report of 1880 shows 1,818,000 hogs at that time. In 1917 the number was estimated at 3,229,000 head, while at the present time the number is placed at slightly above 1,000,000. From 1885 through 1923 there was never less than 2,000,000 and seldom more than 3,000,000 hogs on the farms of the State.

Poultry

The distribution of chickens is shown in Figure 18. It will be noted that the chicken population is concentrated in the portions of the State most heavily cropped and in which population tends to be most dense.

Data showing the distribution of turkeys within the State are not available. Turkeys are, however, an important source of income on many farms and ranches in the central part of the State. Judging from

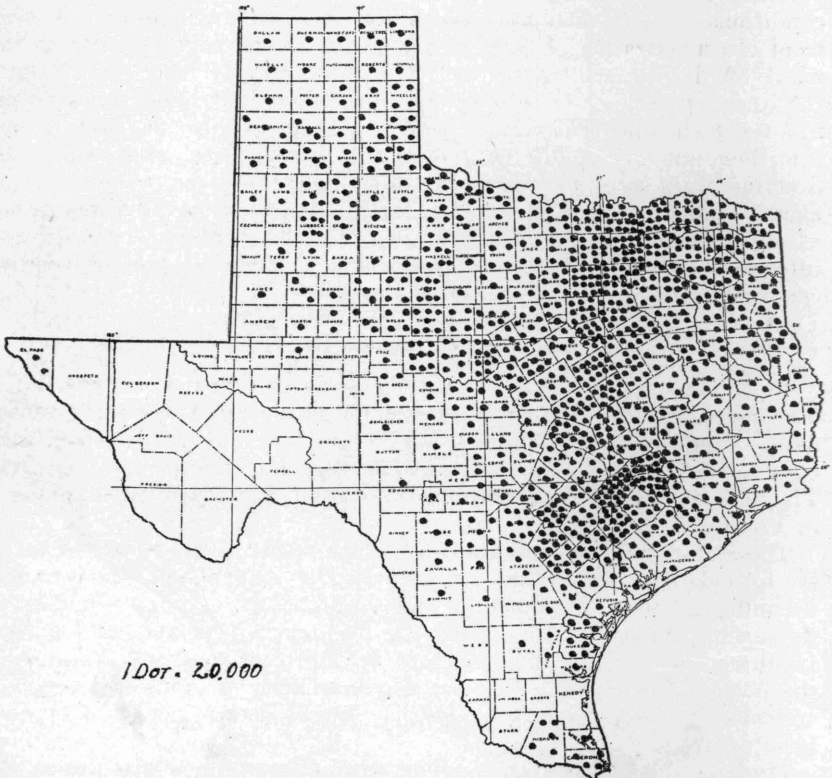


Figure 18. The distribution of poultry, January 1, 1925.

car-lot shipment records, the most important area of concentration of turkey production is in the northern part of the Edwards Plateau and the southern portion of the rolling plains. A minor area of concentration is centered in DeWitt and Gonzales Counties.

The trend of poultry production has just about kept pace with the increase of population.

TYPE-OF-FARMING AREAS

The foregoing discussion of the agricultural uses of lands of the State gives an idea of the broad, general uses to which the land is put and also where the more important crops and livestock are grown. The next step will be to show how farmers in different parts of the State are combining these enterprises in the organization of their farm businesses.

The type-of-farming map for the State (Figure 19) indicates the portions of the State within which the organization of farms and the conditions under which they are being operated are similar. A very brief characterization of each area is given on the page opposite to the map. While the areas have been determined largely from county data, the lines separating the different areas do not follow county lines except in a few instances. The method of determining the areas has been to outline them roughly on the basis of county census data, after which the dividing lines were shifted to fit major soil and topographical differences. These boundaries should not be looked upon as fixed but rather as approximate divisions between areas which gradually shade off one into another and which shift from time to time because of relative changes in prices and costs of the products grown.

Crop and Livestock Systems

In determining the type-of-farming areas the greatest emphasis has been placed on crop and livestock systems as indicated by county census data. Counties having similar combinations of crops and livestock were considered to have the same type of farming and were grouped together. The data on which these groupings were based are presented graphically in Figures 20 to 23.

These crop and livestock systems are the result of the efforts of farmers to make the most of the resources at their command. They reflect the influence of all other factors, such as quality of land and condition of its surface, climatic factors, labor supply, market demand, and market facilities, and such personal factors as the experience and training of the farmers themselves. Consequently similarity of crops and livestock systems represents the best single basis for the determination of type-of-farming areas.

Much of the variation in the data within a given group is due to the fact that some of the counties contain two or more distinct types of farming or were in a different stage of agricultural development. A more accurate picture of the crop and livestock systems in each type area would be possible were data available by smaller political units than the county. In the absence of such data a comparison of the data for typical counties lying entirely within the area will bring out more clearly the chief differences in the crop and livestock systems of the areas. Such a comparison is shown in Table 1.

It will be noted that the chief difference between Area 1 and Area 2 lies in the proportion of the area cropped rather than in the kinds of

CHARACTERISTICS OF AREAS

AREA:

1. **Panhandle Wheat Area**—wheat, grain sorghums and beef cattle. Smooth, level plains; dark, heavy soils. Large-scale methods of production.
2. **Canadian River Grazing Area**—beef cattle. Rough, broken lands of the Canadian River basin.
3. **High Plains Cotton Area**—cotton and grain sorghums; cattle-grazing in the less developed parts of the area. Smooth, level plains; light, sandy soils; large-scale methods.
4. **Low Rolling Plains**—mixed types. Cotton and grain sorghums, small grains and cattle-grazing. Rolling plains; wide variation in soil types. Numerous grazing and farming areas alternating.
- 5a. **High Plains Grazing Area**—cattle grazing. Dry, level plains; light, sandy soils.
- 5b. **Trans Pecos**—cattle grazing. Dry and mountainous.
6. **Upper Rio Grande Valley Irrigation Project**—cotton and alfalfa.
- 7a. **Edwards Plateau Grazing Area**—cattle, sheep, and goats. Shallow, stony soils; rough, broken topography; live-oak and shin-oak brush; large ranches.
- 7b. **Edwards Plateau Grazing Area**—cattle, sheep, and goats. Small ranches; some farming.
8. **Rio Grande Plain**—mixed types. Cattle grazing; some cotton; vegetable growing under irrigation.
9. **Lower Rio Grande Valley**—winter vegetables, citrus, and cotton grown principally under irrigation.
10. **Corpus Christi Cotton Area**—cotton and vegetables. Dark, rich soils; very level topography. Large-scale methods.
11. **Upper Red River Valley**—mixed types; cotton and grain sorghums on sandy soils; wheat on heavy soils; some grazing.
12. **North-Central Grazing Area**—cattle grazing; small amount of farming which is similar in nature to that in surrounding areas—west cross timbers and adjacent grazing lands.
13. **Western Cross Timbers Farming Area**—cotton, sorghums and corn, peanuts, and watermelons—sandy soils.
- 14a. **Grand Prairie**—cotton, oats, corn, and livestock. Dark, heavy soils of varying depths; rolling topography.
- 14b. **Grand Prairie**—cotton, small grains, corn, grazing. Dark, rolling prairies.
15. **Black Prairie**—cotton, corn, and small grains. Deep, black, fertile soils; level to rolling topography.
16. **Piney Woods Farming Area**—cotton, corn, vegetables, fruits, and short-leaf pine. Sandy soils; rolling topography; small farms, small irregular-shaped fields; small tools.
17. **Post Oak Strip**—cotton, corn, and beef cattle; sandy soils. Farming mostly on interior prairies and bottom lands.
18. **Upper Coast Prairie**—cotton, corn, and beef cattle. Interior black prairies; soils more variable but similar in type to those in Area 15.
19. **Coast Prairie**—mixed types; cotton and corn, rice, fruits and vegetables, cattle grazing. Coast prairie; widely varying soils; level topography and poor drainage.
20. **Piney Woods Lumbering Area**—lumber, cattle, hogs, cotton, and vegetables. Long-leaf and loblolly-pine area; sandy soils; rolling topography; very little farming.

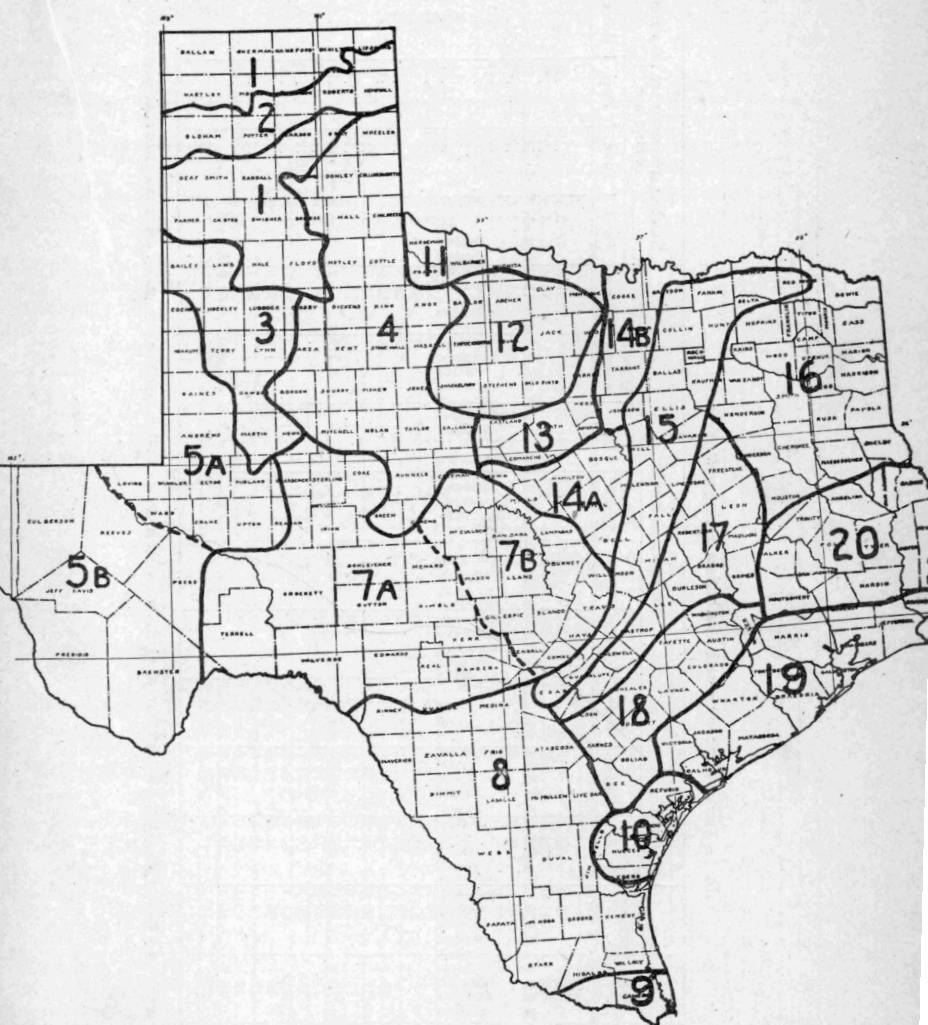


Figure 19. Type-of-farming areas in Texas.

crops and livestock produced. As between Areas 1 and 3, however, the difference is largely in the kinds of crops grown; small grains and grain sorghums mainly in Area 1 and cotton and grain sorghums in Area 3.

The main distinction between Areas 3 and 4 is the greater amount of ranching and small-grain production and the broken nature of the surface in Area 4. Large portions of the grazing land in Area 4 are rough and broken and unsuited for cultivation, whereas most of the grazing

Table 1.—Average crop and livestock organizations in representative counties.

County	Area	Per cent in farms	Per cent of farm land in crops	Per cent farm land in								Numbers of livestock per 100 acres of farm land			
				Cotton	Corn	Sorghum	Wheat	Other grains	Hay	Miscel- laneous	Pasture	Cows	Sows	Ewes	Goats
Swisher.....	1	79.0	42.0	4.7	.1	10.7	14.9	5.8	.4		57.5	2.1	.10	.20	
Potter.....	2	61.0	14.5	.3	.1	5.2	3.1	2.7	.5		85.4	4.0	.10	.20	
Lubbock.....	3	78.0	53.6	31.6	.6	16.8	.5	.1	.8		43.6	1.7	.10	.50	
Fisher and Childress.....	4	73.0	45.0	32.0	.2	10.0	1.0				54.0	2.5	.06	.08	
Midland.....	5a	*115.0	4.2	1.8		.8					96.0	2.6			
Presidio.....	5b	77.0	.6	.3		.1					99.0	2.3			.8
El Paso (irrigated).....	6	98.0	97.0	75.0	.8				14.0	4.5	.7	4.0	2.00		
Sutton.....	7a	99.0	.3								96.5	2.2	.10	15.20	10.2
Gillespie.....	7b	86.3	15.2	8.1	3.1	1.1	.3	1.6			82.5	2.9	.60	6.20	11.3
La Salle.....	8	51.5	10.4	7.7	.8	.8				.1	88.9	2.9			
Cameron.....	9	36.0	54.8	35.5	4.1	1.7				8.3	38.5	3.7	.20	.10	
Nueces.....	10	52.6	74.5	62.9	1.1	5.3			.3		23.2	2.4		.10	
Wilbarger.....	11	90.0	39.3	23.9	1.8	4.2	4.3	2.5	.5		49.5	3.6	.10		
Jack.....	12	79.5	18.9	5.7	2.1	1.4	.9	3.6	1.5		79.7	3.3	.10	.10	
Eastland.....	13	60.0	36.1	14.5	5.3	4.5	.5	2.8	3.2	1.6	61.2	2.9	.20	.20	
Hamilton.....	14a	82.8	37.6	19.2	5.5	1.5	.7	8.6	.3		59.8	2.7	.10	1.60	
Cooke.....	14b	80.3	50.4	24.2	6.3	.9	5.8	8.7	2.2		44.8	3.0	.20	.40	
Ellis.....	15	81.1	87.0	68.6	9.2	1.8	.4	4.4	1.1		10.0	1.3	.10	.30	
Smith.....	16	68.1	55.2	32.9	11.4	.2	.1	.2	.5	1.0	31.0	2.9	.30		
Madison.....	17	62.0	42.4	29.5	10.6	.3			.1		52.1	4.2	.30	.30	
Austin.....	18	69.1	38.0	20.6	11.4	.4		.1	3.6		59.6	6.9	.30	.10	
Wharton.....	19	60.4	43.8	22.8	7.2	.7			2.6	6.0	53.0	6.3			
San Jacinto.....	20	18.5	46.5	26.6	11.0					3.0	40.0	7.6	3.40		

*Due to the fact that the entire acreage of a farm is tabulated as in the county in which the headquarters are located, even though a part of the farm may be situated in an adjoining county.

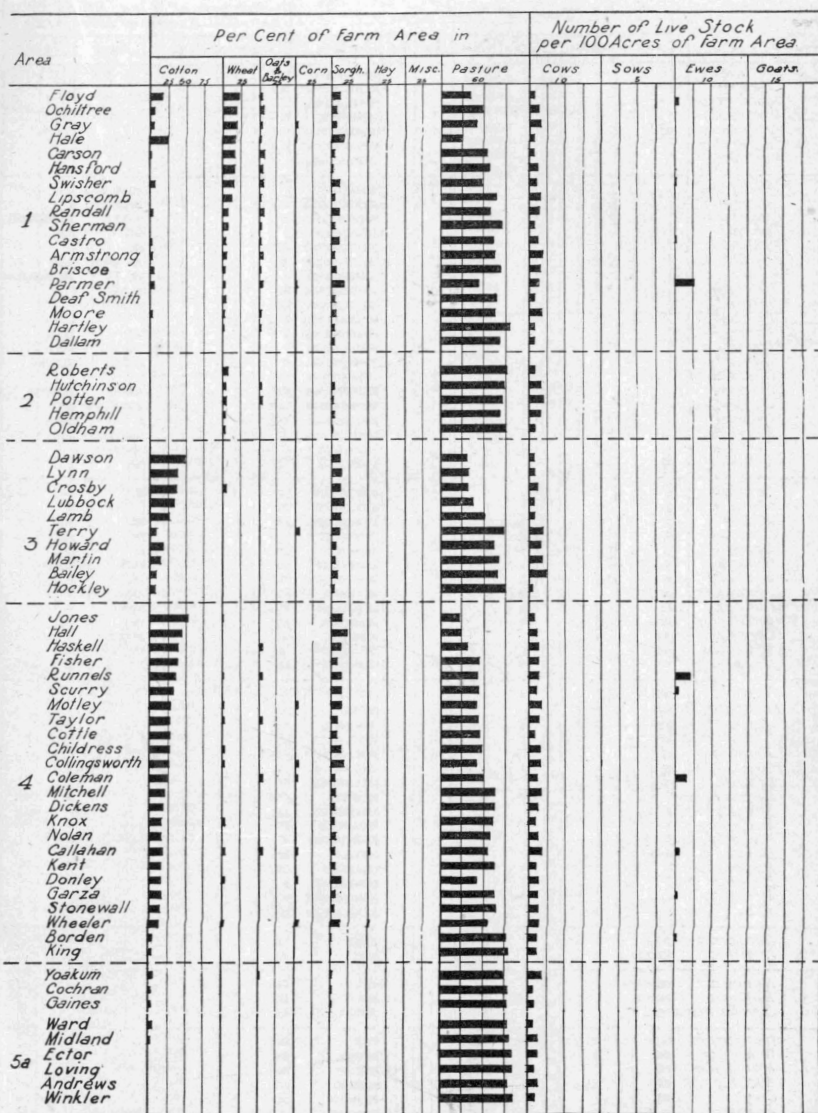


Figure 20. Distribution of the farm area and kinds of livestock by counties in type-of-farming Areas 1 to 5a.



Figure 21. Distribution of the farm area and kinds of livestock by counties in type-of-farming Areas 5b to 11.

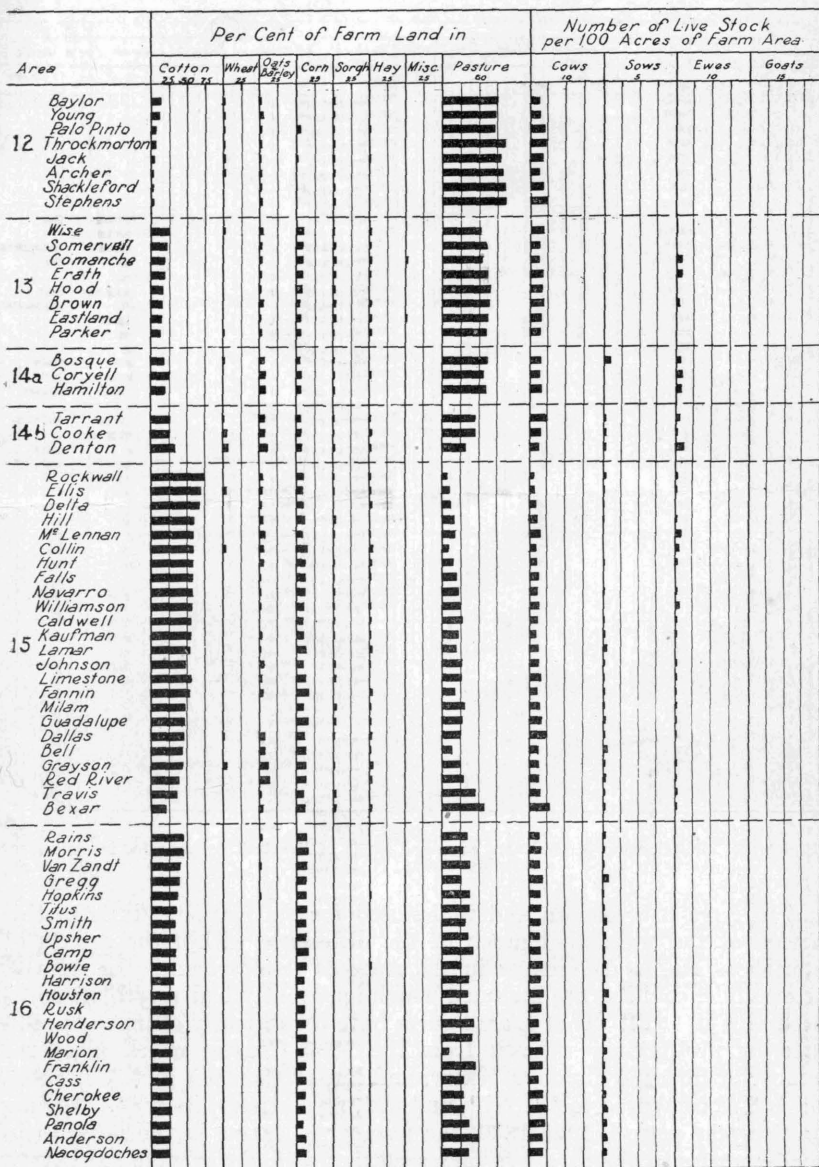


Figure 22. Distribution of the farm area and kinds of livestock by counties in type-of-farming Areas 12 to 16.

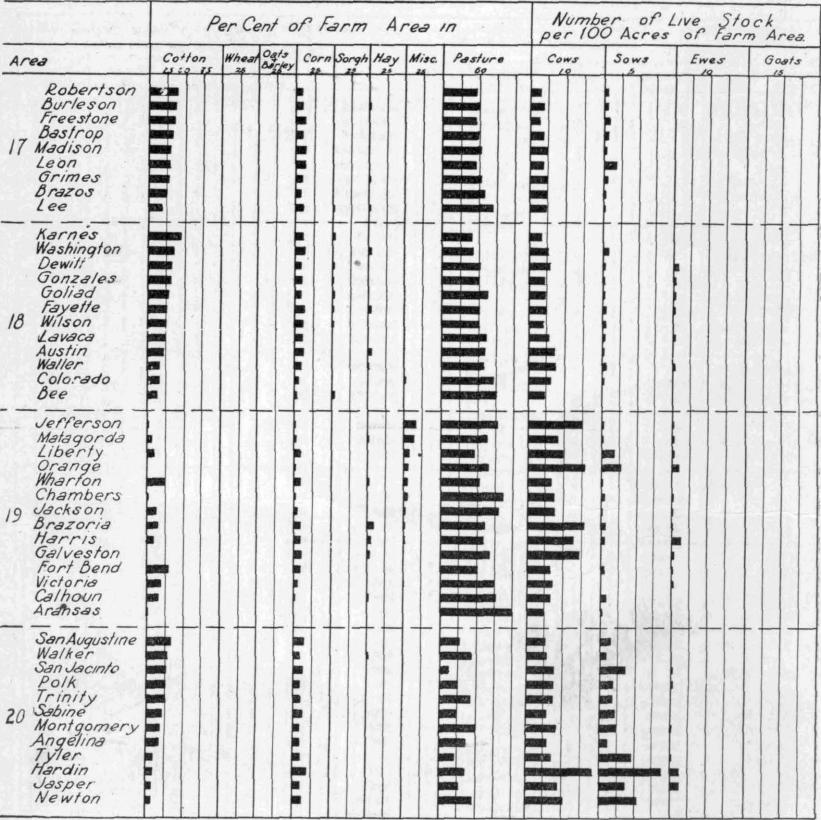


Figure 23. Distribution of the farm area and kinds of livestock by counties in type-of-farming Areas 17 to 20.

land in Area 3 is smooth and well-suited for cultivation. It is in this portion of the State that much of the difference within the groups of counties is due to differences in the stage of development. In Area 3, for example, counties are included which apparently had very little cultivated area in 1924. That these figures have been greatly changed is indicated by preliminary releases from the 1930 Census, which place the number of farms in Lamb, Hockley, and Bailey Counties at 2,380, 1,342, and 758 as compared to 632, 279, and 302, respectively, in 1925. During the five-year period, 1925-1930, the number of farms in the seven principal counties of the area was increased by 6,756, an average increase of almost 1,000 farms per county.

Further differences between these areas may be noted in a study of Table 1 and in reading the section immediately following in which a

description of each area is given together with a brief explanation of why agriculture has become what it is in each of these type-of-farming areas.

DESCRIPTION OF TYPE-OF-FARMING AREAS AND FACTORS CONTRIBUTING TO THEIR DEVELOPMENT

Panhandle Wheat Area (Area 1)

The character of agriculture in this area (Fig. 19) has been undergoing a rapid change in recent years. As in many other portions of the Great Plains, cattle ranching has retreated before the plow. From an important cattle-producing region it is changing rapidly to the production of wheat on a large scale.

Farming in the area is characterized by a high degree of specialization on the part of farmers in the production of hard winter wheat. This is particularly true in that portion of the area lying north of the Canadian River. Wheat exceeds all other crops in importance, both on the basis of acres in crop and per cent of farm income. Most farmers also grow enough grain sorghums to feed the limited numbers of livestock on the

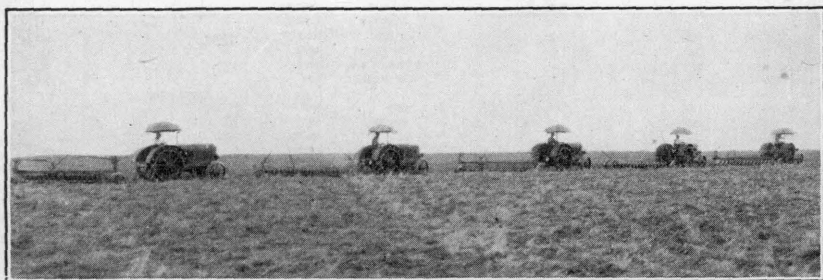


Figure 24. Preparing land for wheat with one-way or disc plows in the Panhandle wheat area of Texas.

farm, while a few produce some for sale. Oats and barley are also grown to a limited extent. Although cattle ranching is rapidly decreasing, growing of beef cattle is still the most important livestock enterprise. In many instances beef production and wheat growing are combined to very good advantage. In some parts of the area, particularly in the southern part, the production of dairy products has become an important source of income. Although hogs and poultry are minor enterprises, farms having from 5-15 brood sows and 100-200 hens are not uncommon.

The physical features of the area have largely determined the type of farming followed. The low average rainfall, which is about 20 inches for the area, has limited the crops that can be successfully grown to the drought-resistant crops or those which make most of their growth during the fall and spring months. The choice in cropping systems is limited

principally to some combination of either cotton and grain sorghums or small grains and grain sorghums. A cropping system of small grains and grain sorghums has developed in Area 1 largely because the heavy soils and relatively short growing season are more favorable to wheat production than to cotton. Very little cotton is grown north of the line indicating the 200-day growing season. On the other hand, the division between the wheat and cotton is approximately the same as the dividing line between the heavy soils as represented by the Richland and Amarillo clay loams and the light soils as typified by the Amarillo sandy loam.

An exception to the usual type of farming in this area is found in Hartley and Dallam Counties, where a large body of sandy soils exists. On these soils grain sorghums and corn are about the only crops produced. The soils are too sandy for wheat production, and the growing season is too short for successful cotton-growing.

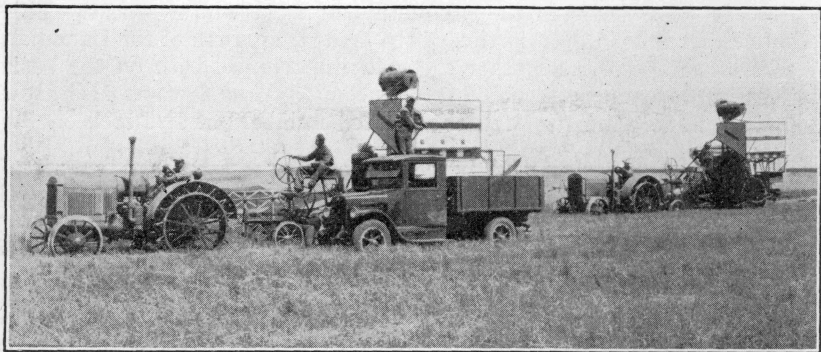


Figure 25. Showing a typical harvesting scene in the Panhandle wheat area. Low production and harvesting costs through the use of labor-saving machines have made possible the rapid expansion of wheat production in this area.

Economic factors have also had their influence on this area. The development of low-cost methods of growing wheat, including the use of combines, wheat-land or one-way plows, etc., have largely been responsible for the rapid expansion of wheat production. The combination of uniformly fertile soils, level topography, and low rainfall permits the maximum utilization of these low-cost methods.

When wheat prices are relatively unfavorable as compared to the price of cotton, it may be possible for cotton to replace some of the wheat in the southern counties of the area where slightly lighter soils and longer growing seasons obtain. In 1923 wheat sold for less than \$1.00 per bushel and cotton around 30 cents per pound. The following year (1924) there was a large shift from wheat to cotton as far north as Swisher County. This shift was only temporary and most of the acreage was returned to wheat the following year. However, if these low-cost methods of producing wheat should result in a continued expansion of wheat production in competing regions and materially lower the level

of wheat prices, the experience of 1924 suggests that the type of farming in these counties might be changed. As a result of the shift in 1924 the importance of cotton in the area was greatly exaggerated by the 1925 Census.

Canadian River Grazing Area (Area 2)

The rough, broken lands along the Canadian River make up this area (Fig. 19). Most of it can be used only for grazing; and beef production is the only important enterprise. Two main types of cattle ranches exist; those having breeding herds and those which run very few cattle other than steers. Such farming as is done on the limited portions of level land is similar to that followed in Area 1.

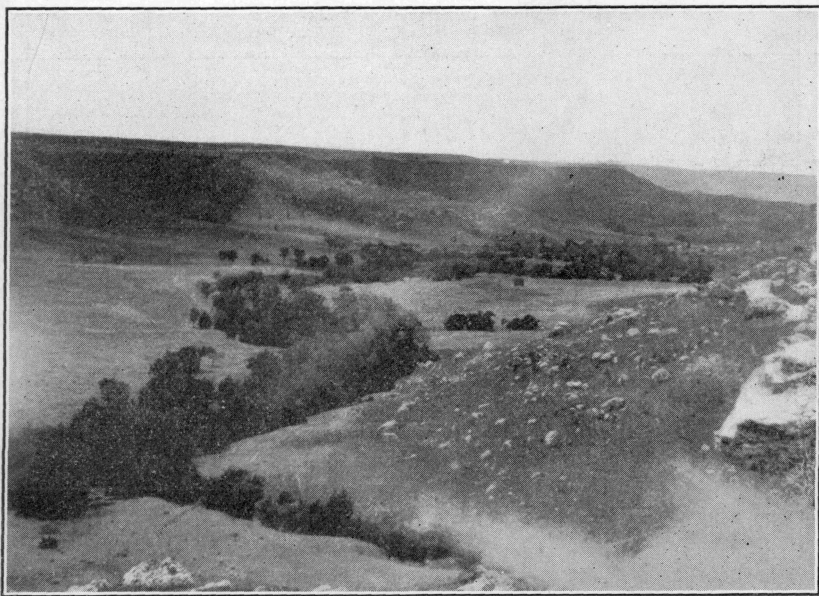


Figure 26. A typical landscape in the Canadian River grazing area. Cattle ranching is the leading enterprise.

High Plains Cotton Area (Area 3)

This area includes that portion of the High Plains in which the Amarillo sandy loam soils predominate (Fig. 19). The cropping system is made up almost entirely of cotton and grain sorghums. On the average, cotton occupies about three-fourths of the crop area and grain sorghum about one-fourth. In addition to the above-named crops, farmers usually grow small acreages of sudan grass, mainly to supplement the native pastures.

Except in the less developed portion of the area where beef cattle are

still depended upon to utilize the range, livestock are of secondary importance. Most farms have one to five cows and 50 to 100 hens, while an occasional farm may have a brood sow or two.

Like Area 1, the crop alternatives in this area are limited to drought-resistant crops. In Area 1, soil conditions and length of growing season favored wheat production. In Area 3, the sandy nature of the soil and the somewhat longer growing season favor cotton. The tendency of the sandy soils to blow makes wheat production hazardous, while the greater water-holding capacity of these sandy soils makes them well-suited to the production of cotton.



Figure 27. Showing the level topography of the High Plains cotton area and the leading feed crop of West Texas. The grain sorghums were the pioneer crop of West Texas and to a great extent made possible the development of large areas of land which, because of low rainfall had formerly been considered unfit for cultivation.

Conditions have also been conducive to the application of low-cost methods of producing cotton. The light rainfall makes weed control easy, while the relatively level topography of the area permits the use of multi-rowed planting and cultivating machinery. With two-row equipment, which is becoming standard in the area, one man can plant and cultivate 100 acres or more of cotton. In 1928 it was estimated that about ninety per cent of the machinery sales at Lubbock were two-row outfits and machinery companies were beginning to push the sales of three- and four-row machines. Conditions favorable to the use of large-scale low-cost methods of production undoubtedly explain the rapid development of farming in this area.

The Low Rolling Plains (Area 4)

This area, as outlined in Figure 19, constitutes the low, rolling plains, or what is sometimes called the eroded plains.

The area as a whole has the same enterprise limitations as Areas 1 and 3. Crop production is largely restricted to crops which do well under conditions of comparatively low rainfall. Two rather distinct types of farming are found: cattle ranching, which is sometimes supplemented by small-grain production, and the cotton and grain-sorghum type of farming, which is similar in character to that found in Area 3.

The area is characterized by alternating areas in which one or the other of these two types of farming predominate. The existence of these two widely different types in the same area is due primarily to wide differences in topography and soil types. On the more level areas of sand and sandy loam soils, cotton and grain sorghums are practically the only crops grown, while on the so-called "tight land" or areas of heavy soils, grazing and small-grain production are more often the rule. The more broken areas, of course, are used for grazing.

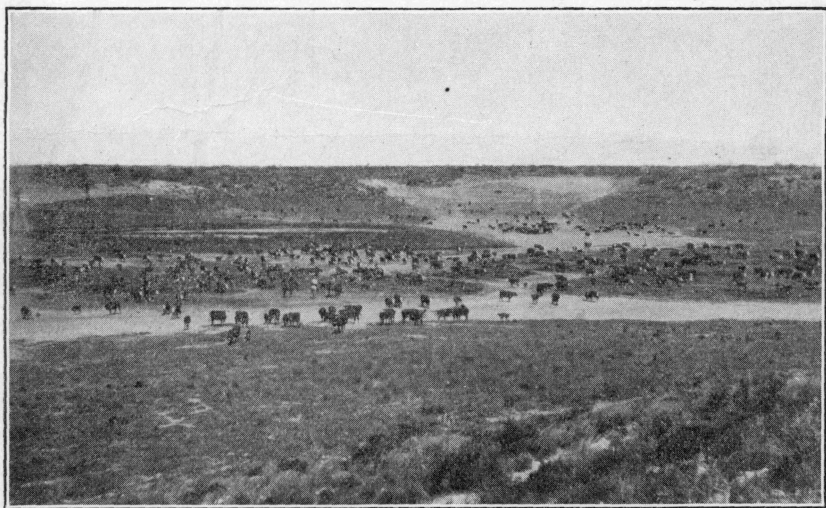


Figure 28. Cattle around a watering place in the High Plains grazing area.

High Plains Grazing Area (Area 5a)

This area includes the most southern and arid portion of the high plains (Fig. 19). Except for a little dry-land farming where it merges into Area 3, it is used entirely for cattle ranching. The annual rainfall becomes rapidly less and the hazards of farming are correspondingly greater from the north to the south in this area. The low and erratic rainfall, combined with a rather infertile soil, is the most important factor explaining the lack of farming in the area.

The question may be asked why sheep and goats are not found on these ranches as they are in Area 7. The two most obvious reasons seem to be the lack of natural shelter and the sandy nature of the soil. Shelter is an important requirement at lambing time and the sand gets into the wool, making shearing difficult and expensive. In the case of goats, an additional reason, and perhaps the most important one, is the lack of good browse, especially the year-round varieties.

Trans-Pecos Cattle Grazing (Area 5b)

The greater portion of the State lying west of the Pecos River is included in this area (Fig. 19). As in Area 5a, beef-cattle production is the only important enterprise. There is practically no dry-land farming and such farming as is done is confined to the small areas that can be irrigated with the limited supplies of water from springs and streams. In these small areas cotton and alfalfa, with a little truck and fruit, are

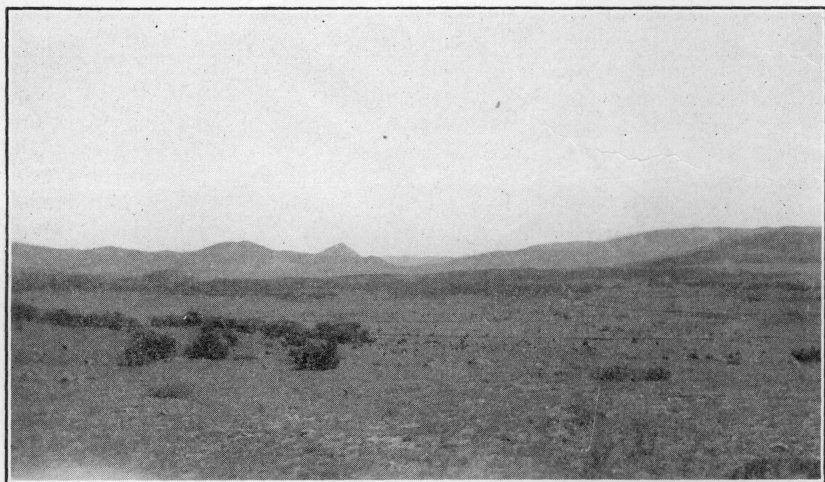


Figure 29. Typical range in the Trans-Pecos near Alpine, Texas.

practically the only enterprises. This area has the lowest average rainfall of any large section of the State and is usually classed as arid. The topography varies from smooth, level plains and basins to mountains, with some peaks rising to over 8,000 feet. Most of the area averages well over 4,000 feet in altitude. The soils are mostly shallow and stony or gravelly, except in some of the basins. This combination of light rainfall, rugged topography, and thin soils has resulted in a light covering of vegetation, a low carrying capacity, and consequently a most extensive type of ranching. Some of the larger ranches include several hundred sections of land.

During the past few years there have been a few flocks of sheep and

goats brought into the Davis Mountains and into the southeastern part of the area where the range contains considerable browse.

Upper Rio Grande Valley Irrigation Project (Area 6)

The irrigated portions of the Upper Rio Grande Valley constitute this area. It is a narrow strip of land extending 60 to 70 miles down the river from El Paso (Fig. 19). Cotton occupies more than 75 per cent of the farm area, while alfalfa, the crop next in importance, makes up 15 per cent. Truck and fruit crops share the remainder of the crop area with feed crops, which consist largely of corn and sorghums. Pears are easily the leading fruit, while cantaloupes occupy a similar position with respect to vegetables. From 100 to 200 cars of each are normally shipped from the area each year. Dairying and poultry are minor enterprises, which depend largely on El Paso for a market.

The great distance from consuming centers and central markets has had an important influence on the type of farming followed. The tendency has been to limit production to such products as have high values per unit of weight. This helps explain the increasing importance of cotton in the cropping system and the tendency of the acreage devoted to alfalfa to remain practically constant for the past 10 to 15 years. Being located in a great ranching area which is subject to regular periods of feed shortage, there is naturally a strong local market for hay. Due to its bulk, hay is not shipped for great distances; consequently the alfalfa acreage has not been expanded beyond that needed to supply the limited demand for hay within a comparatively short radius of El Paso. Cotton, on the other hand, has a high unit value and can be placed in the central markets at a transportation cost that represents a comparatively small percentage of its value. A question may logically be asked regarding the small place given to vegetable production in the farming of this area. Undoubtedly distance to consuming centers and winter temperatures which do not permit the area to compete in the choice of winter vegetable markets have been the greatest limiting factors.

Edwards Plateau Grazing Area (Areas 7a and 7b)

The Edwards Plateau and adjacent lands somewhat similar in character comprise this area (Fig. 19). The practice of grazing cattle, sheep, and goats together on the same range is almost universal. In the western division of the area (7a) there is practically no farming and ranches average much larger than they do in the eastern division (7b), where rainfall is heavier and more or less farming is done in the river valleys and in the more level and fertile portions of the area.

The physical characteristics of this area are such that most of it can be used only for grazing. It is, however, an excellent area for ranching.

The type of ranching followed can be explained largely in terms of these physical characteristics and by the resulting vegetative growth. The Plateau is rather generally covered with different kinds of grasses

and weeds, as well as with live-oak and shin-oak brush. The character and variety of the vegetation is such that no one kind of livestock can completely utilize it. The feeding habits of the three kinds of livestock are such that they supplement each other admirably and make for a most complete and profitable utilization of the natural resources of the area. Normally, cattle feed largely on grasses and consume but little browse. Sheep consume both grasses and weeds and slightly more browse than do cattle, while goats feed more heavily on browse than on any other type of vegetation. Sheep and goats can graze with ease on the steep slopes of the hills and canyons where cattle find it difficult or impossible to go. The rough, broken nature of the land and the heavy covering of brush provide fine natural protection for sheep and goats at lambing and kidding time. The soils of the Plateau are uniformly heavy so that little difficulty is encountered from soil particles in the wool and mohair.

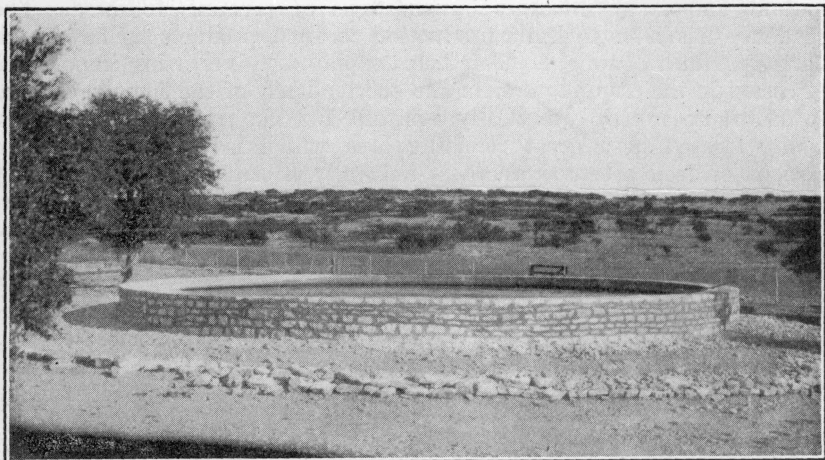


Figure 30. Showing a typical landscape in the Edwards Plateau grazing area with a common type of water reservoir in the foreground.

The proportion of cattle, sheep, and goats is determined within certain rough limits by these physical factors and the proportion of the various types of vegetation. However, sheep may replace goats to a limited extent and cattle to a fairly large extent, and vice versa. The proportions at any particular time are greatly influenced by the relative returns from the three kinds of livestock. During the past ten years the purchasing power of cattle has been low relative to the purchasing power of sheep and goats, and wool and mohair. This situation has resulted in greatly increased numbers of sheep and goats and a rapid decline in the number of cattle.

Rio Grande Plain (Area 8)

Cattle and sheep ranching was the first use made of this area (Fig. 19). The great bulk of the land is still used for cattle grazing, the sheep having moved on to the Edwards Plateau. However, two other rather distinct types of farming have developed; one featuring cotton and feed-crop production by dry-land methods, and the other, vegetable growing under irrigation with a rather high degree of specialization in the production of Bermuda onions and spinach. This area leads all other sections of the country in the production of these two crops. The principal feed crops are corn and grain sorghums.

The area is in a transition stage, with cattle ranches being broken up and put into one or the other of these two types of farming. Sometimes all three types are found on the same ranch. The greatest development of vegetable production has been in Webb County around Laredo and in the counties immediately to the north: namely, Dimmit, Zavalla, and La Salle Counties. From 7,000 to 10,000 cars of vegetables, mainly spinach and onions, are shipped from the area each year. Between 1,000 and 2,000 cars of watermelons are also shipped from the area per year. These come very largely from Atascosa and adjoining counties. Most of the dry-land farming is done in those counties in the north and east portions of the area, where a somewhat greater and more dependable rainfall is secured than in the area generally. Climatic conditions throughout most of the area are such, however, that except under irrigation only crops that are fairly drought-resistant are grown.

Lower Rio Grande Valley (Area 9)

That portion of the State commonly referred to as the Lower Rio Grande Valley makes up this area (Fig. 19). Winter vegetables and citrus production under irrigation characterize its agriculture. Grapefruit is by far the most important citrus crop. A census of citrus trees taken by the United States Department of Agriculture as of April 1, 1930, indicated slightly more than 6,000,000 citrus trees in the area. Of this number, more than 4,200,000 were grapefruit and 1,440,000 were oranges—the remainder being well distributed among 7 or 8 other kinds of citrus. Of the total number of citrus trees in the area, more than 80 per cent have been planted since 1925. Cabbage ranks first among the vegetables, with carrots, potatoes, beets, green corn, green beans, and tomatoes of secondary importance. The growing importance of the area as a center of vegetable and citrus production is indicated by the above figures and by carlot shipment data. Shipments of citrus have steadily increased from 15 cars during the season of 1921-1922 to over 3,500 cars for the season 1929-1930, while vegetable shipments have increased from an average of less than 2,000 cars for the years 1908 through 1919 to an average of over 17,500 cars per year during the period 1927 through 1929.

While the area is ordinarily considered a highly specialized fruit and

vegetable section, the most generally produced, and the most important single crop from the standpoint of income, is cotton. Cameron and Hidalgo Counties, which comprise the greater portion of the area, ordinarily produce about 100,000 bales of cotton per year, the value of which far exceeds that of any other crop.

The availability of water for irrigation, productive soils favorable to irrigation, and the long growing seasons with high average winter temperatures have been the important contributing factors which have made it possible to develop citrus and winter-vegetable production.

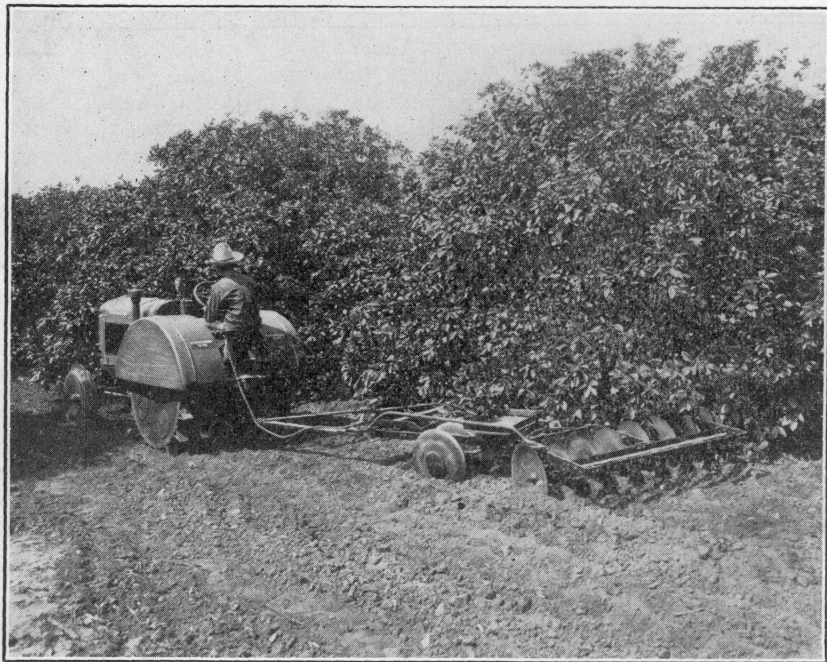


Figure 31. Citrus production is rapidly becoming the leading enterprise in the Lower Rio Grande Valley.

Corpus Christi Cotton Area (Area 10)

Cattle ranching has given way to large-scale cotton production in this area (Fig. 19). It is the most highly specialized cotton-producing section of the State. Cotton occupies approximately 85 per cent of the total crop land. The rest of the crop land is taken up by grain sorghums, corn, and vegetable crops. The area is a fairly important vegetable-growing center. Cabbage, onions, spinach, and various other vegetables are produced mainly under dry-land conditions.

It is in this area that multi-rowed planters and tillage machines were introduced and have reached their greatest utilization. The extensive

use of tractors and two-, three-, and four-row planters and cultivators has been made possible by the large areas of very fertile and practically level land, and to climatic conditions favorable to weed control.

Upper Red River Valley (Area 11)

This is another area in which the types of farming are quite mixed (Fig. 19). It is similar to Area 4 in that cotton, small grain, and beef cattle are produced in alternating sub-areas with the three types tending to merge into one where the sub-areas join. It differs from Area 4 in

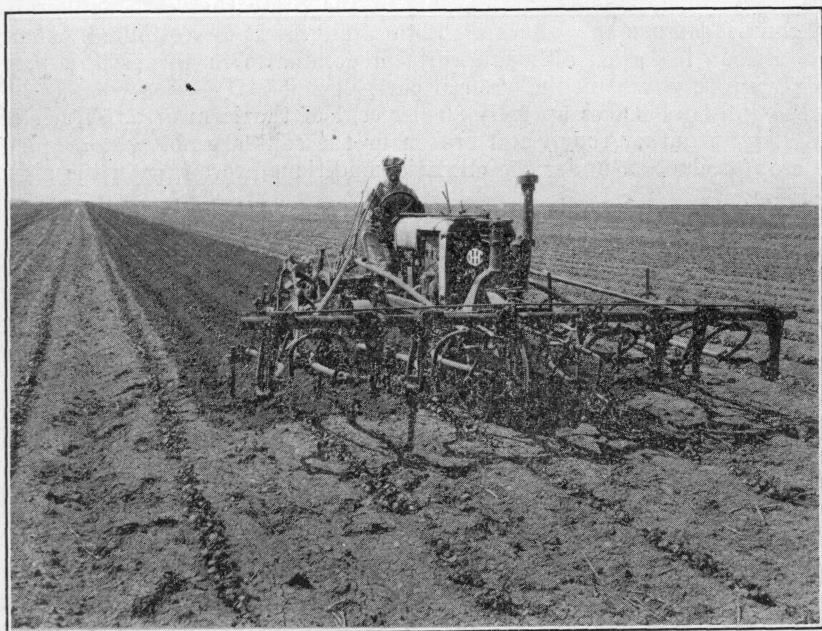


Figure 32. Cultivating four rows at one time in the Corpus Christi cotton area.

that wheat occupies a much larger portion of the crop area while grain sorghums and cotton occupy a correspondingly smaller portion. However, there is the same tendency for cotton to be produced on the lighter or sandy soils, with wheat on the heavy soils and grazing on the less desirable heavy soils and rough, broken lands; the difference in the importance of the three being due mainly to differences in the amounts of the various soil types.

There is also a small irrigated section in Wichita County along the Wichita River. The major crops grown, however, are much the same as in the rest of the area.

North Central Grazing Area (Area 12)

Cattle ranching characterizes the agriculture of this area (Fig. 19). It is one of the important beef-producing centers of the State. Crop production is relatively unimportant, although small farming communities are scattered throughout the area. These communities are located on the small interior prairies and in the more fertile of the narrow valleys that traverse the area. The type of farming in these communities is similar to that in adjacent areas. Cotton is the main crop, while corn, grain sorghums, and small grains make up the balance of the cropping system. It is in this part of the State that corn and grain sorghums compete or overlap. Both are grown to a limited extent throughout the area, although corn predominates in the eastern part and grain sorghums in the western part.

Pasture land makes up fully 80 per cent of the farm area. Much of this land is either rough and broken or the soils are not well adapted to crop production under the climatic conditions prevailing in the area.

Western Cross Timbers Farming Area (Area 13)

This area includes the more productive portion of that soil region generally designated as the western cross timbers and associated prairies (Fig. 19). The soils are generally sandy and the topography of most of the area is gently rolling. About three-fourths of the land area is in farms, although somewhat less than 40 per cent of the farm land is cropped. The remainder of the farm land is in woods and pasture. Cotton, the most important crop, occupied 45-50 per cent of the crop land in 1924, corn and sorghums together accounted for approximately 25 per cent of the crop land, and small grains about 10 per cent. The rest of the crop land was partly in hay, peanuts, watermelons, and other crops and partly abandoned.

The character of farming in this area has been greatly changed since 1915. Previous to that time cotton occupied two-thirds to three-fourths of the crop area and was the only important source of income. Since that time the annual production of cotton has averaged about one-third of the average production of the previous 15 years. People living in the area ascribe this sudden falling off in cotton production mostly to reduced yields of cotton caused by insect damage. Undoubtedly the droughts of 1917, 1918, and 1921 and the leasing of land for oil, beginning in 1918 and 1919 also contributed to the decrease in production. The failure of cotton caused farmers to turn to other enterprises. On the more sandy soils in the western portion of the area peanuts became an important cash crop, while in the northeastern part watermelons replaced some of the cotton acreage. For the most part, however, feed crops such as grain sorghums, corn, small grains, and peanuts have taken the place of cotton.

Grand Prairie (Area 14a)

This area lies almost entirely in the lower half of the soil region known as the "Grand Prairie" (Fig. 19). It is an almost treeless, rolling prairie with dark, heavy, stony soils of varying depths. According to the 1925 Census of Agriculture, approximately 80 per cent of the area is in farms. The farm area is divided, roughly, 40 per cent to crops and 60 per cent to pasture. Almost half of the crop land is used in the production of cotton. Small grains (mostly oats) occupy 20 to 25 per cent, corn 10 to 15 per cent, while sorghums (used primarily as a forage crop) and other hay crops occupy 5 to 10 per cent of the crop land. A fairly large proportion of the oats is produced for cash sale.

Livestock, particularly cattle and sheep, are kept in sufficient numbers to utilize the pasture and a large portion of the feed crops grown. The production of hogs and poultry is only slightly in excess of the farm needs for meat and poultry products.

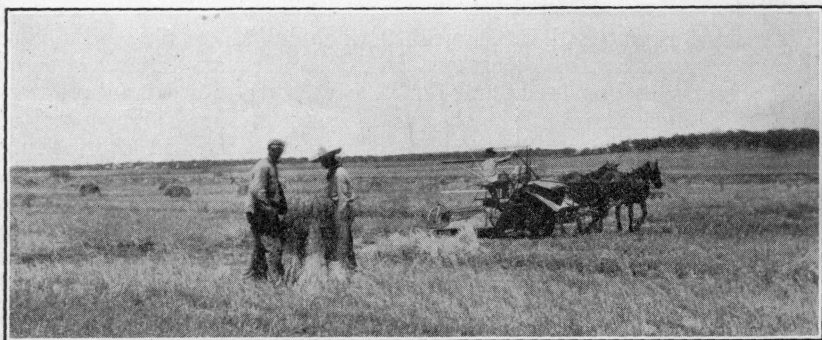


Figure 33. Small grains occupy an important place in the cropping systems on the Grand Prairie (Area 14b).

The type of farming in this area differs from that in Area 13 in that cotton and small grains occupy a larger proportion of the crop land, corn and grain sorghums a somewhat smaller proportion, while special crops like peanuts and watermelons are of no commercial importance.

Since the topography and climatic conditions in the two areas are very similar, soil differences apparently account for the differences in the type of farming. The heavier soils of this area are not so favorable to peanut and watermelon production as are the sandy soils in Area 13. On the other hand, they are well adapted to small grains, which, on the more shallow soils, compete successfully with cotton for the use of a rather large portion of the land.

Grand Prairie (Area 14b)

That portion of the Grand Prairie commonly referred to as the Fort Worth prairie comprises the bulk of this area (Fig. 19). Like Area 14a

it is a rolling prairie with dark, heavy soils of varying depths. About 80 per cent of the area is in farms with 50-60 per cent of the farm land in crops. Cotton occupies approximately 50 per cent while small grains make up 20 per cent and corn 10 per cent of the crop area. The balance of the area is mostly in hay, sorghums, and other feed crops.

As compared to Area 14a, proportionately more of the farm land in this area is in crops. The cropping systems of the two areas differ in that wheat makes up a rather large part of the small-grain acreage in this area, whereas in Area 14a wheat is relatively unimportant as compared to oats. This difference is due to the greater amount of damage from wheat rust in Area 14a. Yields of wheat in that area are lowered by rust damage to a point where oats are more profitable.

Separating this area from the Black Prairie Belt is a narrow strip of post-oak sandy type of land which is commonly known as the eastern cross timbers. The type of farming in this portion of the area is similar to that in Area 13.

Black Prairie (Area 15)

This area as outlined in Figure 19, includes all of the soil region commonly known as the Black Prairie Belt of Texas. It is an area of level to gently rolling lands and dark, heavy soils of great natural fertility. The agriculture of the area is characterized by a high degree of specialization in the production of cotton. It has been the leading cotton-producing area of the State during the last 50 years or more. Cotton occupies approximately 75 per cent of the crop area and is the source of about 90 per cent of the farm income. Corn ranks second to cotton in acreage, is grown generally throughout the area, and occupies 10-15 per cent of the crop land. The rest of the crop area is devoted primarily to small grains, hay, and other forage crops. Wheat is an important crop only along the western edge of the area from Dallas County north. Oats is produced in a limited amount throughout the area, but is also grown more extensively in the northwestern part of the area and is an important crop as far south as Bell County.

Livestock occupies a small place on the majority of farms in this area. Around the population centers a limited number of farmers are producing whole milk on a fairly large scale. In the same localities poultry production is of more importance than elsewhere in the area. Scattered throughout the areas are a few farms having considerably more than the average amount of pasture. Such farms will generally have a small flock of sheep and in some cases a few head of beef cattle.

Why do farmers of this region raise so much cotton and so little feed and livestock? It is to be pointed out first that the soils, which are principally of the Houston and Wilson series or similar types, are highly productive and have been able to withstand heavy and continuous cropping. Further, only a very low percentage of this area is not tillable so that there is no necessity of maintaining livestock enterprises and of growing large acreages of feed crops in order to completely utilize the land resources of the area such as is the case on the dark, rolling prairie

just to the west of this area. The effect of climatic conditions and other factors affecting yields is such that a larger and more dependable return is secured from land, labor, and capital devoted to the production of cotton than from other crops. In order to secure a maximum income, farmers grow a minimum of low-value crops and a maximum of the higher-value crops. All of these things go to explain the heavy emphasis placed on cotton as compared to other crops.

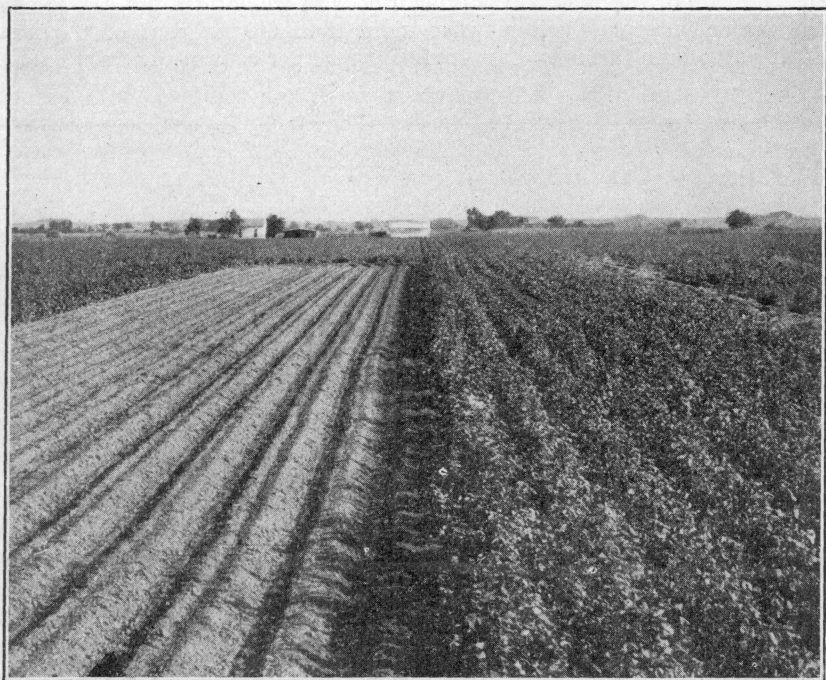


Figure 34. Cotton occupies approximately 75 per cent of the crop area in the Black Prairie Belt.

Corn is grown more generally than small grains because the same tools used to produce cotton can be used for corn, whereas special machines are required in the production of small grains. Where only small acreages of feed crops are desired, the additional investment in machinery is not warranted. In the southern part of the area climatic conditions are such as to make corn a more dependable crop than small grains.

It has been pointed out that small grains are fairly important in the northwestern part of the area. Here again soil differences seem to be the explanation. Some of the soils in this part of the area are shallow and in dry years yields of all crops are quite low. Yields of cotton and corn are more adversely affected than small grains, making it possible

for the small grains to compete successfully for a place in the cropping system. Rust damage has served to restrict wheat production very largely to the extreme northern portion of the area, where more rigorous winters make it impossible for the rust spores to live from one year to the next.

Piney Woods Farming Area (Area 16)

The twenty-three counties comprising this area (Fig. 19) represent that portion of the East Texas piney woods in which farming has become the major enterprise. Somewhat more than 60 per cent of the land of this area is in farms and approximately 50 per cent of the farm land is cropped.



Figure 35. Small, irregular-shaped fields and the use of small machines characterize farming in the Piney Woods farming area.

Farming in the area is characterized by small farms, small irregular-shaped fields, small simple tools, and the use of comparatively large amounts of commercial fertilizer as compared to other farming areas of the State. It is further characterized by a basic cropping system of cotton and corn which is supplemented in different parts of the area by a wide variety of special crops, mainly fruits and vegetables. Cotton occupies approximately two-thirds and corn almost one-fourth of the crop land. Other crops of minor importance which are grown fairly

generally throughout the area are cowpeas, oats, sorghum and peanut hay, sweet potatoes, and watermelons. It is a fairly common practice to interplant cowpeas in alternate rows with corn. Special crops constitute major enterprises in certain sections of the area. For example, tomatoes are a major source of income on many farms in Cherokee and Smith Counties, although they are a relatively minor crop from the standpoint of the area as a whole. The production of sweet potatoes on a commercial scale is limited largely to a few counties centering around the town of Pittsburg in Camp County. Peas are grown on a commercial scale in Henderson County, while peach production is important only in the western half of the area.

Similar to other areas in which cotton occupies the major portion of the crop land, livestock are of minor importance. In addition to workstock, the majority of farms have one or two cows, a "meat hog," and 25 to 50 chickens. Efforts are being made at the present time to stimulate the dairy industry. These efforts include the erection of milk plants, encouraging farmers to buy more and better cows, and the organization of cow finance corporations to facilitate the purchase of cows by farmers.

Some fairly large bodies of commercial timber are still found in certain parts of the area. There are also small amounts of timber land on the majority of farms. The chief commercial outlet for farm timber is in the form of crossties, poles, and firewood. During winters following short cotton crops large numbers of crossties are cut and sold.

The physical characteristics of this area, including the sandy nature of the soils, the rolling to hilly topography, the comparatively heavy annual rainfall, and the persistence of timber growth, give the fullest encouragement to small-scale operation. It is not surprising that intensive methods of culture are followed and that the production of those crops having high acre values is extended as far as market outlets will permit. This explains the large number of special crops grown in addition to cotton. However, the area is none too favorably situated from the standpoint of marketing early vegetables. Local markets are small and soon over-supplied, while in the central markets competition is encountered from more southern areas and from a large portion of the old cotton belt where returns from cotton have been very unsatisfactory and unusual efforts are being made to substitute vegetables for a part of the cotton acreage. Because of these limitations the production of certain special crops tend to be concentrated in parts of the area where conditions are especially favorable. For example, tomato production is concentrated very largely in Cherokee and Smith Counties and small portions of adjoining counties where the so-called red lands are found. These soils are naturally better drained and warm up earlier in the spring than the light-colored soils. This is a distinct advantage in tomato production since it permits earlier marketing.

In addition to soil differences, other factors have operated within the area to restrict the production of various crops. Weevil infestation and

the resulting restrictions have greatly limited the area within which sweet-potato production is important. Only moderate success has been attained in commercial peach production, due to the fact that warm weather too frequently causes fruit buds to form in mid-winter only to be killed later by frost. The concentration of peach trees in the western half of the area may be due either to a somewhat greater elevation or to the activities of certain agencies in encouraging good practices in peach growing, or to both.

Livestock production is quite limited because of the lack of good pasture and because of the small amounts of feed crops produced. Yields of such crops are low and not very dependable as compared to cotton. Small-scale methods also add greatly to the cost of production and help discourage the production of feeds other than the quantity needed for workstock. Woodland and upland pastures have very low carrying capacities, while bottom-land pastures are very limited in extent. Dairying has increased most in those portions of the area in which bottom-land pastures are most numerous.

Post Oak Strip (Area 17)

This area lies entirely within the post-oak portion of the East Texas timber country (Fig. 19). The soils are mostly sandy, while the surface is gently rolling and largely covered with a growth of oak timber. Scattered throughout the area are small interior prairies having fairly productive soils. Several rivers, the valleys of which contain rich alluvial soils, cross the area. It is on these prairies and river-bottom lands that most of the farming of the area is done.

Approximately 60 per cent of the area is in farms and about 45 per cent of the farm land is cropped. Cotton and corn are the only important crops grown. In 1924 cotton occupied 70 per cent of the crop land and corn 20 per cent. The remainder was accounted for largely in abandoned crops (mainly cotton and corn) although other feed crops such as oats, sorghums, and hay are produced in small quantities.

Since only about 25 per cent of the total area is cultivated it is not surprising that beef cattle are found in rather large numbers. However, a large part of the area has not as yet been freed from ticks, and cattle are usually of low grade.

Other types of livestock are of minor importance. Most farmers keep 25 to 50 chickens and small flocks of turkeys are not uncommon. A few more hogs are raised than is usual in a cotton-producing area. This is no doubt due to the fact that during a certain portion of the year the hogs can be maintained very largely on mast, which is very plentiful in the area and which would otherwise be wasted. Dairying is practically limited to the production of whole milk for the small town population. Pastures of the area are low in carrying capacity and of uncertain quality because of frequent droughts. The yields of feed crops are also low and uncertain. These factors, together with tick infestation, make the area better adapted to beef production than to dairying.

Yields of cotton are more certain and returns to resources devoted to the production of this crop are greater than for any other crop that can be grown in the area. These facts account for the large place filled by cotton in the cropping systems.

If cotton is more profitable than other crops why do farmers raise so much corn? The answer is that some feed must be produced for the workstock and corn is given preference over oats because soil and climatic conditions in the area are more favorable to its growth. It can also be produced with the same machinery used in cotton production, whereas additional machines must be purchased if small grains are included. Corn does not compete at all times with cotton for labor so that a farmer can produce some corn in addition to all of the cotton he can plant and cultivate. Corn is planted and can be cultivated at least once before cotton-planting time.

Another advantage of corn over oats is that it permits more flexibility in the time of harvest. Corn can be left standing several weeks after it ripens without serious loss, whereas oats must be harvested as soon as they are ripe or the entire crop may be lost.

Upper Coast Prairie (Area 18)

This area is made up largely of those lands which have been classified as minor interior prairies (Fig. 19). The soils are similar in character to those of Area 15. The type of farming is also similar to the extent that cotton and corn predominate in the cropping systems. However, no small grain is produced, while hay and forage crops occupy a much larger proportion of the cropping system than in Area 15. A further difference is that livestock and livestock products make up a much larger part of the farm income in this area. Approximately two-thirds of the land is in farms and about 40 per cent of the farm land is cropped. Cotton occupies almost 65 per cent of the crop land, corn over 20 per cent, while hay and other forage crops (mostly sorghums) make up 5 to 10 per cent. Cattle are the most important livestock enterprise and are largely of the beef type. The increasing importance of dairying, however, is indicated by the location of a milk condensing plant and several creameries in the area. Hogs are somewhat more numerous than in surrounding areas, while poultry are also important relative to other areas. In the southern part turkeys are produced and shipped out in large quantities.

The greater relative importance of livestock, particularly cattle, as compared to Area 15 is due principally to the existence of large amounts of untilled land, most of which can be used only for pasture. The greater number of livestock in turn has resulted in the production of more corn and forage crops. The lack of small grain crops is largely a consequence of unfavorable climatic conditions.

Exceptions to the usual type of farming are found in the special truck crops such as watermelons and tomatoes, which are grown on a large number of farms. They are produced largely on the narrow strip of

sandy soils along the east side of the area, and in Wilson County where a small area of the sandy soils of the Rio Grande plains are found.

Coast Prairie (Area 19)

This area lies entirely within the coast prairie (Fig. 19) and is generally low and flat. Much of the land is poorly drained and large sections along the coast are marshy and of little agricultural value at the present time.

Slightly more than half of the land area is in farms, and less than 30 per cent of the land in farms is cropped. Cotton occupies approximately 40 per cent of the crop land, corn 20 per cent, and hay 10 per cent. Limited acreages of such crops as rice, vegetables, and fruits are grown in various parts of the area. The bulk of the land is used for grazing, and beef-cattle production is the major enterprise. It was in this area that Brahma cattle were first introduced for the purpose of developing herds resistant to tick fever. Although a large portion of the area is now tick free, many Brahma cattle are still found throughout the area.

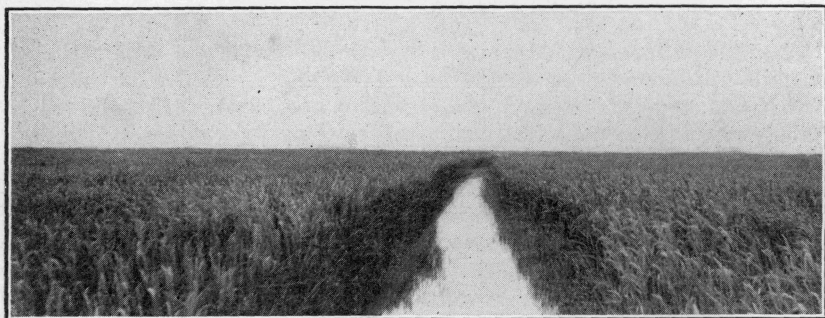


Figure 36. Rice is grown to the practical exclusion of all other crops in parts of the Coast Prairie.

As indicated in the above description, widely different types of farming exist in the area. The principal types are cattle ranching, the usual cotton type of farming, and rice-growing. The distribution of these types of farming is determined largely by soil type. The more fertile and well-drained lands are best adapted to cotton production and are used primarily for this purpose. The cotton type of farming is most important in those counties of the area lying to the west of Harris County; the largest acreages being in Fort Bend and Wharton Counties. Very little cotton is grown in that part of the area lying east of the city of Houston.

There are two important rice-producing sections, one centering around Beaumont in Jefferson, Liberty, Chambers, and Orange Counties, and the other centering in Matagorda and Wharton Counties, with minor acreages in adjoining counties. Rice is grown on lands that are prac-

tically level, easily flooded and drained, and have the capacity to hold water. Very few crops do well on land on which rice is grown. Consequently, rice-growing has become a rather highly specialized business. Cattle-grazing combines well with the rice-growing. When rice is grown continuously on the same land for several years, yields decline to an unprofitable level. The usual practice is to let such land "lie out" for a year or two in order to build up its fertility. Many farmers keep a herd of cattle to graze this land while not being cropped.

It was pointed out in a previous section of this Bulletin that this area has the most dense cattle population of any part of the State. This is accounted for by the large proportion of the land in pasture, moisture conditions favorable to pastures, and by the fact that conditions in the area are more favorable to cattle than to other types of grazing animals.

Piney Woods Lumbering Area (Area 20)

Lumbering is the major industry in this area (Fig. 19). The largest bodies of pine timber land in the State are found here. Only 17.4 per cent of the land is in farms and but 37 per cent of the farm land is cropped.

Cotton, the principal crop, occupies about 50 per cent, while corn, the only other important crop, makes up almost 30 per cent of the crop land. The rest of the crop land is about evenly divided between abandoned crops (mostly cotton and corn) and miscellaneous feed and vegetable crops.

Measured in terms of numbers of cattle per farm and per 100 acres of farm area, cattle-grazing is an important enterprise in the area. There are also more hogs per farm than in any other part of the State.

The unusually large numbers of cattle and hogs kept in connection with an otherwise cotton type-of-farming are undoubtedly due to the large areas of free range available in the form of cut-over timber land. The hogs are of a rather low grade and normally roam the woods, feeding largely on mast and other natural sources of feed. Most of the cattle are also low grade. The entire area is tick-infested, making it difficult and hazardous to improve herds by bringing in good bulls from tick free areas.

CLASSIFICATION AND DESCRIPTION OF THE FARMS AND FARMING SYSTEMS IN EACH AREA

The discussion up to this point has been confined to the geographical distribution of the agriculture of Texas and to a consideration of the various physical and economic factors which in the main have been responsible for this distribution. From this analysis it will be seen that Texas may be divided into 20 major areas in which different types of farming are followed. The distinction between these areas is based largely on the major differences in the crop and livestock organizations and on the physical conditions under which production takes place. A noticeable difference either in the organization of farms or in physical

conditions was assumed to mark the end of one area and the beginning of another. From this it should not be assumed, however, that there is complete uniformity either in organizations or in conditions within each area. Such uniformity rarely, if ever, exists even in an area as small as a precinct. There are a number of reasons for this.

Reasons for Variations Within Type-of-Farming Areas

In the first place, even though there is a fairly high degree of uniformity in an area as a whole, in particular localities and on specific farms considerable variation is to be found. Because of these local differences, a farmer may find it advantageous to follow a system of farming which may vary quite widely from that which the group follows. In the second place farmers differ considerably in their aptitudes and in their likes and dislikes. Some farmers are more alert to their opportunities than are other farmers. They respond more readily to changing economic conditions and seek to take advantage of every new situation. Other farmers are less "price sensitive." They are influenced more by custom and established ways of doing things. These farmers make changes very slowly in their organizations and practices. At any particular time, therefore, there will be found rather wide differences in farming systems in the same community, due to this difference in aptitudes among individual farmers.

Variations in family labor supply also cause farmers to follow different systems of farming. Farmers with available family labor will sometimes follow a more intensive system of farming than they would be disposed to follow were it necessary to hire the labor.

Another factor is that of land tenure and degree of encumbrance in land ownership. Tenant operators do not always have complete freedom of choice in what they do. They do not always feel free to adopt rotations and make permanent improvements since their length of tenure is uncertain. Likewise encumbered owners with heavy obligations do not behave in the same way as farmers who have their farms paid for and are free of debt. The encumbered farmers are more likely to work harder, pushing their resources to the limit of profitability in an attempt to make the farm yield as much as possible. Farmers who are free of financial pressure are not interested in pushing themselves and their resources to such limits but will work along in a more leisurely way not particularly attempting to keep abreast of latest developments.

Lack of capital or insufficient credit or both also often prevent individual farmers from getting into a particular system of farming which their best judgment tells them would be more profitable.

These are some of the most important factors which cause farming systems to vary within an area where other conditions are fairly uniform.

The extent and the nature of the variations existing within type-of-farming areas in Texas have been made the subject of special study. The results of this study are presented in the form of typical farming systems in the tables and discussions which follow.

Method of Determining the Typical Farming Systems

Acreage and livestock data were secured from the original farm census schedules for 1925 of all farms in several precincts in each type-of-farming area. These precincts had previously been selected with the aid of local people as being representative of conditions in the area. From 400 to 1,000 records were taken in each area. Approximately 11,000 such records were used.

The data (including size of farm, acres in the different crops, pasture and other land, and number of each class of livestock) for each farm were tabulated on cards, there being one card for each farm. The cards were sorted into size-groups in order to get the farms of approximately the same size together. By counting the cards in each size-group the relative frequency of the different sizes of farms was secured.

The cards in each size-group were then arrayed and sub-arrayed on the basis of the most important enterprises in the area. By arranging the cards in this manner the farms having approximately the same organization were grouped together. The average or most common organization within each of these groups was taken as the representative or typical farming system of the group.

Just how this works out in a specific case is illustrated in the following example taken from a representative sub-area in Area 3. In this sub-area a sample of 505 farms was taken. The farms of different sizes represented the following percentages of all farms (Table 2).

Table 2.—Distribution of farms by size in a representative sub-area in area 3.

Size—group (acres)	Number	Per Cent
0-60.....	45	9.0
61-100.....	74	14.8
101-140.....	56	10.2
141-180.....	195	38.8
181-220.....	39	7.8
221-260.....	32	6.4
261-300.....	9	1.9
301-340.....	37	7.5
341 and over.....	18	3.6
Total.....	505	100.0

To illustrate how the typical farming systems are obtained, one of the size-groups will be taken and arrayed so as to get the farms with the same or essentially the same organization together. Since cotton is the most important crop in the area, it will be used as the basis of the array. Grain sorghums, pasture, and the different classes of livestock are also included in the array. The farms thus arrayed appear in final form as shown in Figure 37 (showing variation in the organization of one hundred and forty-seven 160-acre farms in Lubbock County) (Area 3).

The first thing about this chart that probably will attract the reader's attention is the rather wide variation in the acreage of the different crops grown. Cotton occupies from as low as 10 per cent to as high as

95 per cent of the farm area. The acreage of grain sorghum varies from 0 to 65 per cent of the farm area. There is also a wide variation in the amount of pasture and other land. It is obvious from this chart, therefore, that an average (arithmetic mean) would not be at all representative of the majority of these farms.

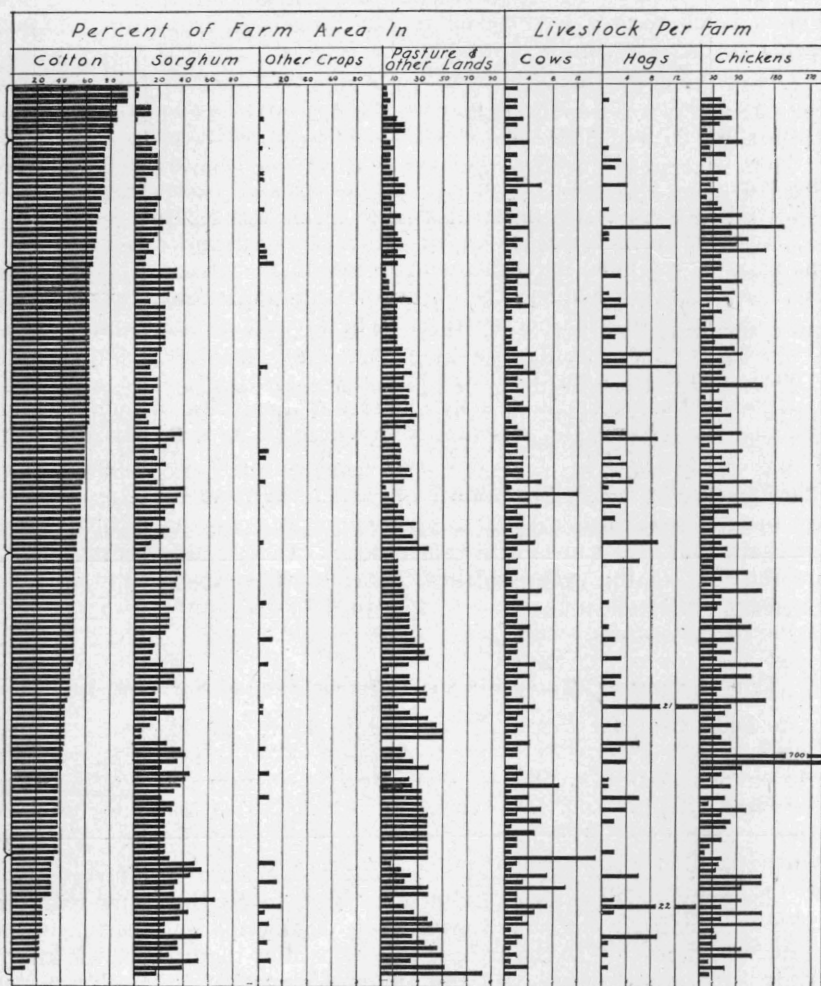


Figure 37. Showing variation in the organization of one hundred and forty-seven 160-acre farms in Lubbock County (Area 3).

Although for the group as a whole there is no pronounced central tendency to be noted, there is, however, such a tendency exhibited by certain of these farms. That is, there are certain of them which tend to segregate into distinct groups. For example, at the top of the chart

there is a group of 9 farms which have on the average close to 85 per cent of their farm area in cotton. Just below this group there is another group with less cotton or with around 70 per cent of the farm area in cotton. Likewise, below this there are three other groups which respectively have 60, 45, and 25 per cent of their farm area in cotton.

It will be noted that there is a tendency for the farms with a large cotton acreage to have a small grain sorghum or pasture acreage or both.

Livestock, on the other hand, do not vary very widely. About as many cows and sows are found on the farms with a high percentage in cotton as on those with a moderate or small percentage in cotton.

Thus, instead of one "average farm" of this size there are four or five distinct groups of farms. The range in the acreages of the different crops in these groups is much narrower and an average of the farms in them would really be fairly representative of the individual farms of the group. Instead of taking an arithmetic mean of these groups, however, it is usually better to take a mode or median. This can be done quite accurately by inspection, thus avoiding lengthy computations and at the same time showing the thing which is typical or most common.

The organizations resulting from such an analysis are termed "typical farms." Such organizations have been set up for all the important sizes of farms in the type areas located in the western two-thirds of the State. It was found impossible to use census data in the eastern part of the State because of the large number of cropper farmers. These croppers are merely hired men paid in kind and the unit they operate is not a true farm but only a part of a larger farm. Unless these cropper units are included in the proprietorship units, of which they are a part, an erroneous impression is created of both the size and organization of farms in those areas.

Typical Farming Systems in the Different Type-of-Farming Areas

In Table 3 of the text and Tables 4 to 18 in the Appendix typical farming systems found on farms of different sizes in the type-of-farming areas in the western two-thirds of the State are presented. Rather than laboriously follow each table through, calling attention to the various sizes of farms and organizations found on each, etc., the essential facts will be pointed out for one of them and this explanation will suffice for all the others. For this purpose, Table 3, showing the typical farming systems in Area 3, is used.

At the top of the table is first shown the size of the farms. The first footnote at the bottom of the table calls attention to the per cent which each size of farm is to the total number of farms in that area. In other words, it shows the relative importance of each size of farm from the standpoint of numbers.

Immediately below each size of farm in parallel columns are shown the organizations commonly followed on that particular size of farm. These organizations show the acreage in each crop grown and the number of each class of livestock handled. Just above the cropping system in

Table 3.—Typical farming systems in the High Plains cotton area (area 3) (Lubbock County) (special tabulations, 1925 census).

Item	Typical 80-acre farms*		Typical 120-acre farms*		Typical 160-acre farms*			Typical 200-acre farms*			Typical 320-acre farms*		
	30-45 Acres cotton	50-60 Acres cotton	60-70 Acres cotton	75-90 Acres cotton	60-75 Acres cotton	80-95 Acres cotton	100-120 Acres cotton	60-80 Acres cotton	100-120 Acres cotton	125-150 Acres cotton	100-125 Acres cotton	165-185 Acres cotton	195-210 Acres cotton
Relative frequency of type†	% 40	% 54	% 34	% 30	% 20	% 23.5	% 33.33	% 23	% 23	% 30	% 19	% 22	% 24
Cropping System:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cotton.....	40	55	65	85	65	90	110	70	110	140	110	175	200
Sorghum.....	20-35	10-30	20-40	20-35	40-60	30-60	20-50	25-40	40-70	30-55	35-75	50-100	50-90
Pasture and other land.....	5-15	0-10	20-40	10-20	30-60	20-40	10-30	80-110	25-50	20-40	120-180	45-80	30-60
Livestock Systems:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules.....	4	4	4-6	4-6	4-6	4-6	4-8	4-8	6-8	6-10	6-9	7-10	8-12
Cows.....	1-3	1-3	1-3	1-2	1-4	1-5	1-4	1-3	1-4	2-4	2-5	2-5	1-6
Cows milked.....	1-3	1-2	1-3	1-2	1-3	1-3	1-3	1-2	1-3	2-3	2-3	1-4	1-4
Other cattle.....	0-3	0-2	0-2	0-2	0-3	0-3	0-2	0-3	1-4	1-3	0-4	0-4	0-3
Sows.....	0	0	0	0	0-2	0-2	0-1	0-1	0	0	0	0	0
Chickens.....	40-80	25-100	25-100	50-100	50-100	50-100	50-100	50-100	50-100	50-100	100-150	75-100	50-60

*Farms of different size represent the following percentages of the total number of farms: 80 acres, 9 per cent; 100 acres, 6 per cent; 120 acres, 11 per cent; 160 acres, 39 per cent; 200 acres, 8 per cent; 240 acres, 6 per cent; 320 acres, 7 per cent.

†The percentage figures indicate the relative number of farmers on each size of farm who follow the indicated organization. It will be noted that in most cases they do not total 100 per cent. This is due to the fact that the remaining farms are not typical of any particular group.

each case is shown a figure headed "Relative Frequency of Type." This figure represents the percentage of the farmers on that size of farm which follow the indicated organization.

It will be noted that the 160-acre farms in 1924 were the most common size of farm, representing 39 per cent of the total number of farms. Other important sizes were 80-, 100-, 120-, 200-, 240-, and 320-acre farms.

Within each size-group there were a number of different organizations followed. Thus, on the 160-acre farms there were five organizations commonly followed in 1924. The chief difference in them turns on the respective acreages of cotton and grain sorghums grown. About 10 per cent of the farmers followed an organization having around 40 acres of cotton; 20 per cent, an organization with 65 acres of cotton; 24 per cent, an organization with 90 acres of cotton; 33 per cent, an organization with 110 acres of cotton; and 10 per cent, an organization with 135 acres of cotton. The acreage in grain sorghums varied inversely with the cotton acreage, decreasing in importance as the acreage of cotton increased.

On the 120-acre farms there were three common organizations followed. One of these had 35 acres of cotton, the second 65 acres of cotton, and the third 85 acres of cotton. These were followed by 16, 34, and 30 per cent of the farmers, respectively. The nature of the organizations on the other sizes of farms in both this and other areas may be obtained by referring directly to Tables 3 to 18. They are all interpreted in the same way and if this brief explanation is kept in mind, there will be no difficulty in understanding them.

Changes in Organization Since 1925

The farming systems presented in Tables 3 to 18 were based on census data taken as of January 1, 1925. They represent the systems of farming prevailing at that time. In the older sections of the State very little change has taken place since 1925; hence these farming systems are still representative of the situation in those areas.

In the farming sections of the High Plains region of West Texas, however, rather significant changes have taken place. There has been a great increase in the use of combines and other types of large-scale machinery. The increased efficiency due to the use of these machines has resulted in a great expansion of the area in crops. It is probable that significant changes have also taken place in both the size of farms and in the proportion of the important crops grown.

The relative prices of cattle, sheep, and goats since 1925 have been such as to bring about significant changes in the proportions of these three kinds of livestock in Areas 6a and 6b. Prices of sheep, wool, and mohair have all been high relative to prices of beef cattle. The result has been that the numbers of sheep and goats have greatly increased and the number of cattle have declined since the census was taken in 1925.

In the vegetable and citrus areas of South Texas there has been a

rapid expansion in the production of these crops. In these areas, however, there probably have been no pronounced changes in the farming systems.

These or any other important changes which are known to have taken place should be taken into consideration when use is to be made of the 1925 Census data or of farming systems based upon them for areas concerned. It will not be possible to determine the extent or importance of these changes until the 1930 Census data become available. However, in outlining the type-of-farming areas and describing the character of farming within each area, the more important of these changes have been anticipated.

USES THAT MAY BE MADE OF THE RESULTS OF TYPE-OF-FARMING STUDIES

The results of type-of-farming studies may be used advantageously in several ways in both research and extension work. In recent years the various State extension services have given a great deal of attention to the development of agricultural programs. These programs are designed to point the way in the task of helping farmers to make their farms most profitable. The variations in size and organization of farms suggest the inadvisability of making blanket suggestions for farmers as a whole. On the other hand, the great number of farmers make it impracticable to go to the other extreme and attempt to advise every individual farmer. The alternative is to take a middle course and seek to advise groups of farmers who are doing essentially the same things. The type-of-farming study with its classification of farms as to type, size, and systems of farming provides such groups. It is apparent that recommendations to these groups can be made much more specific than they can to farmers generally.

The determination of desirable systems of farming is usually the major objective in detailed farm management studies. A thorough knowledge of the conditions and forces contributing to the character of farming in the area and the typical farming systems provided in a type-of-farming study makes an excellent starting point in determining these systems.

The high cost of conducting farm management research has been a matter of concern for many years. This high cost has been due to the great amount of detailed information required in farm management analysis and to the limited number of cases that one research worker could observe. It is important, therefore, that detailed farm management projects be so located that the results will be usable by the greatest number of people. The type-of-farming study provides a scientific basis for locating such projects and at the same time supplies descriptive or background material in connection with which detailed farm management data can be most accurately interpreted and applied.

Another important use of type-of-farming data is in the interpretation of outlook reports. Changes in prices, either up or down, do not affect

all farming systems or farmers in the same way. On farms of the same type, size, and system of farming, however, the effect will be practically the same. Because of this fact typical farming systems may be used as the basis for determining the probable effect of such changes upon farmers in the entire group. Until the outlook is localized in this way and interpreted to the individual farmer in terms of an organization with which he is familiar, intelligent response on the part of farmers to "Outlook" information cannot be expected.

Type-of-farming studies may also be used as the basis for other studies. Farm-income studies may be made more real and useful if made on the basis of type-of-farming areas and presented by typical groups instead of by averages of farms of all sizes and types. So also will farm-power studies and all other such studies of methods and practices be more useful and applicable if confined to type-of-farming areas.

Briefly, then, the differentiation of the agriculture of a state into type-of-farming areas affords a clear picture of the conditions existing in different parts of the State. Type-of-farming studies further give agencies advising the farmer a better idea of the limits within which specific recommendations may apply and also provide a more accurate basis for making such recommendations. They likewise supply a background of information for farm management studies which should serve to make research in this field more accurate and precise.

APPENDIX

Includes fifteen tables similar to Table 3 in the text. These tables show typical systems of farming on farms of different sizes in Areas 1, 2, 4, 5a, 5b, 7a, 7b, 8, 12, 13, and 14a.

Table 4.—Typical farming systems in the Panhandle wheat area (area 1) (Hansford and Ochiltree Counties) †(special tabulations, 1925 Census).

Item	Typical 320-acre farms*			Typical 480- acre farms		Typical 640-acre farms*				Typical 800-acre farms*			
	70-120 Acres Wheat	125-165 Acres Wheat	175-230 Acres Wheat	100-150 Acres Wheat	175-250 Acres Wheat	60-110 Acres Wheat	125-175 Acres Wheat	180-220 Acres Wheat	275-320 Acres Wheat	75-100 Acres Wheat	130-175 Acres Wheat	250-300 Acres Wheat	350-450 Acres Wheat
Relative frequency of type.....	% 30	% 16	% 13	% 36	% 40	% 14	% 20	% 17	% 15	% 23	% 16	% 13	% 33
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Wheat.....	70-120	125-165	175-230	100-150	175-250	60-110	125-175	180-220	275-320	75-100	130-175	250-300	350-450
Oats.....													
Barley.....	20-60	0-50	0-20	20-100	30-60	60-120	80-150	50-100	50-100	0 50-100	0-30 150-250	0-40 100-110	0-40 100-125
Sorghum.....	15-40	20-40	20-45	30-100	25-50	40-80	25-110	0-70	60-110	0-30 70-95	60-125	10-20 50-150	0-50 100-150
Pasture and other land.....	120-170	80-150	80-120	150-300	180-250	320-460	225-400	240-340	140-300	400-700	250-525	300-500	200-350
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules.....	6-10	6-10	5-8	6-11	8-12	7-11	6-12	6-12	8-12	6-15	2-14	8-24	5-15
Cows.....	2-8	2-6	2-5	1-8	1-9	3-10	3-12	6-10	6-12	0-6 10-15	0-10 20-50	3-10	2-10
Cows milked.....	2-6	2-4	2-3	1-5	1-6	3-8	3-7	3-8	1-6	1-8	0-7	3-8	1-6
Other cattle.....	0-8	2-6	0-5	0-7	0-3	3-12	3-12	4-12	1-10	0-15	0-15	5-15	2-10
Sows.....	0-3	0-4	0-7	0-4	0-5	0-5	0-4	0-4	0-6	0-5	0-5	0-5	0-6
Chickens.....	100-250	100-250	100-150	100-200	125-200	75-150	50-150	75-150	100-200	0-60	60-125	100-200	100-200
Per cent having tractors.....	22	33	70	25	50	44	41	33	61	43	20	25	60

*Farms of different sizes represent the following percentages of all farms: 320-acre farms 11 per cent; 480-acre farms 6 per cent; 640-acre farms 20 per cent; 800-acre farms 6 per cent; 941-1020-acre farms 5 per cent; 1021-1250-acre farms 6 per cent; 1251-1920-acre farms 7 per cent; 1921-2560-acre farms, 3 per cent.

†About 10 per cent of the farms were less than 320-acres in size and varied too much to group.

Table 4.—(Continued.)—Typical farming systems in Panhandle wheat area (area 1) (Hansford and Ochiltree Counties) (Special tabulations, 1925 Census).

Item	Typical 941-1020-acre farms*			Typical 1021-1280-acre farms*			Typical 1281-1920-acre farms*			Typical 1921-2560-acre farms*		
	100-175 Acres Wheat	200-250 Acres Wheat	275-375 Acres Wheat	100-150 Acres Wheat	200-300 Acres Wheat	350-500 Acres Wheat	100-200 Acres Wheat	250-350 Acres Wheat	400-500 Acres Wheat	0-100 Acres Wheat	150-300 Acres Wheat	400-550 Acres Wheat
Relative frequency of type.....	$\frac{\%}{20}$	$\frac{\%}{23}$	$\frac{\%}{22}$	$\frac{\%}{17}$	$\frac{\%}{30}$	$\frac{\%}{30}$	$\frac{\%}{24}$	$\frac{\%}{24}$	$\frac{\%}{18}$	$\frac{\%}{38}$	$\frac{\%}{23}$	$\frac{\%}{32}$
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Wheat.....	100-175	200-250	275-375	100-150	200-300	350-500	100-200	250-350	400-500	0-100	150-300	400-550
Oats.....	0-40	0	0	30-60	0-50	0-50	0-50	0-60	0-50	0-50	0-50	0-40
Barley.....	100-200	75-100	100-200	125-200	100-150	100-200	100-200	100-200	100-160	100-200	100-140	100-200
Sorghum.....	0-40	0-25	0-40	0-25	0-50	0-50	0-50	0-60	0-60	0-50	0-50	0-50
	100-140	75-150	75-80	60-75	100-200	150-250	60-100	125-200	100-200	75-125	100-150	100-250
Corn.....										10-50	0	0
Pasture and other land.....	450-800	400-700	450-600	700-1000	700-900	400-800	900-1500	800-1400	700-1400	1800-2400	1700-2200	1200-1800
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules.....	4-12	8-12	8-12	8-15	10-20	1-10	6-15	15-30	10-15	7-12	15-20	5-12
	15-30	15-25	15-20	35	25-35	15-30	20-45	15-30	25-30	20-40	20-30	20-30
Cows.....	3-10	3-15	1-8	3-10	0-12	2-8	2-10	5-15	4-15	3-12	7	3-15
	15-30	35-100	25-30	30-75	25-100	15-35	50-100	20-60	25-60	50-175	50-150	50-100
Cows milked.....	2-6	3-15	1-14	3-6	0-9	1-8	2-10	2-10	2-10	2-12	2-12	1-10
Other cattle.....	2-20	0-10	0-10	1-15	0-10	1-10	4-10	0-15	4-15	0-15	5-10	0-12
		50-150	15-20	40-60	20-45	15-20	25-70	25-75	30-60	50-150	25-75	20-80
Sows.....	0-6	0-9	0-7	0-10	0-8	0-8	0-5	0-12	0-11	0-10	0-5	0-20
Chickens.....	100-200	50-100	75-150	100-200	75-150	50-150	50-150	50-150	150-200	50-200	100-200	0-60
												100-200
Per cent having tractors.....	62	33	66	25	60	60	21	50	64	10	50	75

*Farms of different sizes represent the following percentages of all farms: 320-acre farms 11 per cent; 480-acre farms 6 per cent; 640-acre farms 20 per cent; 800-acre farms 6 per cent; 941-1020-acre farms 5 per cent; 1021-1250-acre farms 6 per cent; 1281-1920-acre farms 7 per cent; 1921-2560-acre farms, 3 per cent.

†About 10 per cent of the farms were less than 320 acres in size and varied too much to group.

Table 5.—Typical farming systems in area 1 (Dallam and Parmer Counties).

Item	Typical 160-acre farms*				Typical 320-acre farms*			Typical 640-acre farms*			Typical 1281-2560-acre farms*	
	15-40 Acres Sorghum	50-85 Acres Sorghum	87-120 Acres Sorghum	125-180 Acres Sorghum	55-100 Acres Sorghum	101-150 Acres Sorghum	155-200 Acres Sorghum	50-90 Acres Sorghum	100-150 Acres Sorghum	160-225 Acres Sorghum	85-120 Acres Sorghum	225-370 Acres Sorghum
Relative frequency of type.....	$\frac{7}{17}$	$\frac{2}{23}$	$\frac{7}{35}$	$\frac{7}{19}$	$\frac{2}{23}$	$\frac{7}{24}$	$\frac{7}{17}$	$\frac{2}{27}$	$\frac{7}{30}$	$\frac{7}{20}$	$\frac{7}{40}$	$\frac{7}{32}$
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Sorghum.....	25	65	100	140	85	125	165	60	125	200	100	260
Corn.....	20	10-20	0 10-20	0-7 10-20	10-40	10-20 40-50	10-25	25-60	0-10 30-60	10-40	0-25	0 25-40
Wheat.....	0-10 30-45							0-100				0 220-320
Oats.....	0 20-45	0 40-50										0-75
Hay.....					0-25							
Pasture and other land.....	35-60	15-25 45-70	0 40-60	0 10-30	100-160 170-220	110-190	70-115	380-540	340-540	320-400	1480-2450	960-2230
Cotton.....	0-12 30-45	20-35 45-65	0 10-25	0-10 20-50	0-40	0 20-60	0 50-75		25-40	15-30		
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules.....	5-9	3-7	3-6	3-7	4-8	3-9	4-10	5-10	6-15	9-15	12-16	7-14 20-26
Cows.....	1-3 5-9	2-6	2-8	1-7	3-13	3-11	3-8	5-25	2-7 25-40	3-10 25-50	0-30 100-130	25-60 100-220
Cows milked.....	2-8	2-6	1-4	1-7	3-10	1-9	2-5	5-20	2-6 10-15	3-6	0 10-20	0 7-15
Other cattle.....	0-5	1-8	1-6	1-7	0-6	0-7	0-7 12-30	5-25	1-6 20-40	0-7 17-21	0-20 100-150	20-45 75-300
Sows.....	0-2	0-3	0-3		0-1	0-2	0-4	0-2	0-2	0-3	0-3	0-4
Chickens.....	50-125	75-200	50-100	25-75	50-100	50-150	50-150	75-125	75-150	50-150	50-125	35-40 100-200

*The farms of different sizes represent the following percentages of all farms: 160-acre farms 18 per cent; 320-acre farms 21 per cent; 640-acre farms 14 per cent; 1281-2560-acre farms, 6 per cent.

Table 6.—Typical farming and ranching systems in the Canadian River grazing area (area 2) (Oldham and Roberts Counties) (special tabulations, 1925 census).

Item	Typical 320-acre farms*			Typical 480-acre farms*	Typical 640-acre farms*			Typical 1280-acre farms*		Typical 1920-acre farms*		
	100-160 Acres Wheat	210-250 Acres Wheat	270-310 Acres Wheat	175-230 Acres Wheat Most Common	140-220 Acres Wheat	287-360 Acres Wheat	400-500 Acres Wheat	3-10 Cows	30-45 Cows	0-6 Cows	25-45 Cows	60-100 Cows
Relative frequency of type.....	% 25	% 17	% 30	% 43	% 20	% 20	% 27	% 57	% 42	% 37	% 18	% 37
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Wheat.....	140	230	300	200	170	320	435	400-600	200-350	300-500	500-700	200-400
Oats and barley.....	0-55	0-15	0-20	15-30	0-30	30-70	10-30	0-120	50-80	40-125	.....	0-60
Sorghum.....	0-60	20-80	.....	40-80	0-80	40-60	10-40	40-110	30-55	60-120	30-100	50-125
Cotton.....	.....	.....	.....	10-20	0-50	0-25	0-25	.....	.....	.....	.....	.....
Pasture.....	60-120	30-60	0-20	130-200	250-400	200-250	75-160	400-800	750-1000	1300-1500	1200-1350	1400-1700
Per cent having tractors.....	33	33	75	25	20	66	37	100	50	70	60	40
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules.....	5-9	7-12	4-8	7-14	8-12	4-6	6-14	5-12	10-15	7-12	8-12	7-12
Cows.....	3-9	1-6	0-7	2-6	3-6	3-7	2-8	3-10	30-45	0-6	25-45	60-100
Cows milked.....	2-6	1-4	0-5	2-4	2-5	2-5	2-6	3-6	2-7	0-4	3-8	0-5
Other cattle.....	4-10	2-6	0-5	2-4	3-12	3-5	1-6	6-12	25-40	0-10	15-25	25-70
Sows.....	0-2	0-2	0-2	0-3	0-3	0-4	0-1	0	0-2	0-1	0-3	0-2
Poultry.....	75-100	50-100	50-100	100-150	75-100	50-150	50-150	50-200	50-150	50-100	75-200	50-150

*The farms of different sizes represent the following percentages of all farms: 0-300-acre farms, 22 per cent; 320-acre farms, 12 per cent; 400-acre farms, 4 per cent; 480-acre farms, 5 per cent; 640-acre farms, 10 per cent; 1280-acre farms, 5 per cent; 1920-acre farms, 9 per cent; typical cow ranches, 13 per cent; typical steer ranches, 12 per cent.

Table 6.—(Continued.)—Typical farming and ranching systems in the Canadian River grazing area (area 2) (Oldham and Roberts Counties) (special tabulations, 1925 census).

Item	Typical cow ranches*				Typical steer ranches*			
	3000-10000 Acres	3000-7500 Acres	4500-15000 Acres	14000-31000 Acres	4000-8000 Acres	5000-10000 Acres	20000-25000 Acres	50000-100000 Acres
	25-50 Cows	100-200 Cows	300-500 Cows	700-1100 Cows	100-200 Steers	600-900 Steers	1200 Steers	4000-6000 Steers
Relative frequency of type	% 16	% 34	% 20	% 11	% 20	% 28	% 12	% 16
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Wheat	0-370	100-500	0-500	0	50-150	0	0-150	0
Oats and barley	0-150	20-60	0-150	0	0-70	0-60	0	0
Sorghum	0-50	30-200	0-100	150-500	0-200	0-200	0-300	200-300
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules	5-15	10-20	10-25	18-30	14-25	10-20	20-30	30-50
Cows	25-50	100-200	300-500	700-1100	8-15	0-50	250	500-1200
Other cattle	20-300	25-150	225-300	400-800	0-45	0-50	0-125	0-900
Steers					100-200	600-900	1200	4000-6000
Sows	0-3	0-6	0-3	0	0-10	0	0-5	0-1
Poultry	0-250	25-100	25-100	0-75	25-100	0-75	50-100	50-150

Table 7.—Typical farming systems on the low, rolling plains (area 4) (Jones County) (special tabulations, 1925 census)

Item	Typical 80-acre farms*			Typical 120-acre farms*			Typical 160-acre farms*				Typical 240-acre farms*	
	20-35 Acres Cotton	36-50 Acres Cotton	55-65 Acres Cotton	55-65 Acres Cotton	70-80 Acres Cotton	85-110 Acres Cotton	40-60 Acres Cotton	65-85 Acres Cotton	90-108 Acres Cotton	110-130 Acres Cotton	80-100 Acres Cotton	135-155 Acres Cotton
Relative frequency of type.....	% 28	% 45	% 25	% 24	% 28	% 22	% 13	% 33	% 30	% 22	% 37	% 34
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cotton.....	30	45	60	60	75	95	50	75	100	115	90	145
Sorghum.....	10-25	10-25	5-20	15-30	10-25	5-20	10-25	20-35	15-35	15-30	30-40	25-45
Pasture and other land.....	20-40	15-30	0-20	30-45	20-35	5-20	75-100	40-70	20-50	15-30	95-120	45-60*
Livestock Systems:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules.....	2-4	2-5	4-5	4-5	4-6	4-8	4-6	4-7	4-7	5-8	4-7	6-8
Cows.....	0-2	1-3	0-3	1-3	1-3	0-2	1-2	1-3	1-3	0-3	0-4	1-4
Cows milked.....	0-2	1-2	0-2	1-2	1-2	0-2	1-2	1-3	1-2	0-3	0-2	1-3
Other cattle.....	0-2	0-1	0-1	0-2	0-2	0-2	0-2	0-3	0-2	0-3	0-4	1-4
Sows.....	0	0	0	0	0	0	0	0	0	.....	.....	.....
Chickens.....	25-50	25-50	25-50	25-100	25-100	25-75	25-50	40-75	50-125	25-125	50-100	50-75

*Farms of different sizes represent the following percentages of the total number of farms: 80 acres, 16 per cent; 120 acres, 17 per cent; 160 acres, 21 per cent; 240 acres, 5 per cent. 23 per cent of all farms were less than 80 acres in size. On these farms cotton occupied approximately 100 per cent of the area. The most common livestock organizations was 2-4 mules, 0-2 cows, no hogs and 0-50 chickens.

Table 8.—Typical ranches in the High Plains grazing area, 5a, (Andrews, Ector, and Upton Counties)*.

Item	101-300 †Cattle		300-500 †Cattle			501-1000 †Cattle			1000-1500 †Cattle		1501-2000 †Cattle		2001-3000 †Cattle	3001-5000 †Cattle	
	2-6 Sec.	4-15 Sec.	5-10 Sec.	9-25 Sec.	15-20 Sec.	15-30 Sec.	20-40 Sec.	20-50 Sec.	25-80 Sec.	20-30 Sec.	70-85 Sec.	60-85 Sec.	40-50 Sec.	70-90 Sec.	125-200 Sec.
	50-100 Cows	110-150 Cows	150-200 Cows	250-300 Cows	350-400 Cows	200-300 Cows	350-400 Cows	500-800 Cows	200-400 Cows	600-800 Cows	350-600 Cows	800-1000 Cows	1000-1400 Cows	1000-1500 Cows	2500 Cows
Relative frequency of type	$\frac{7}{51}$	$\frac{7}{40}$	$\frac{7}{31}$	$\frac{7}{43}$	$\frac{7}{25}$	$\frac{7}{30}$	$\frac{7}{38}$	$\frac{7}{23}$	$\frac{7}{45}$	$\frac{7}{45}$	$\frac{7}{43}$	$\frac{7}{57}$	$\frac{7}{60}$	$\frac{7}{50}$	$\frac{7}{50}$
Livestock Systems:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Cows.....	50-100	110-150	150-200	250-300	350-400	200-300	350-400	500-800	200-400	600-800	350-600	800-1000	1000-1400	1000-1500	2500
Heifers.....	0-25	0-10 35-50	0-50	0	0-25	0-40	75-150	0-75	0-25	0-100	0-150	50-350	100-150	0-500	0-300
Steers.....	0-25	0	0-10	0	0	0-100	0 100-300	0	400-600	0-500	150-1000	0-75	100-600	600-1500	0-500
Calves.....	25-50 60-100	30-50 60-100	100-150	75-150	75	200-400	100-200 300-400	100-300	300	0-400	100-400	400-700	300-800	0-1300	1500-1800
Bulls.....	1-7	3-7	5-10	5-12	6-18	10-30	12-30	30-45	10-20	20-50	10-35	40-75	40-50	75-100	100-140

*About 30 per cent of the farms in the area had practically no crops and from nothing to less than 10 head of cows. This situation may be due to the oil development in the area.

†Ranches of different sizes represent the following percentages of all ranches: 100-300 cattle, 14 per cent; 300-500 cattle, 7 per cent; 500-1000 cattle, 11 per cent; 1000 to 1500 cattle, 4 per cent; 1501 to 2000 cattle, 3 per cent; 2001-3000 cattle, 2 per cent; 3001-5000 cattle, 2 per cent.

Table 9.—Typical ranches in Trans-Pecos grazing area (5b), (Brewster, Culberson, and Jeff Davis Counties).

Item	301-500 cattle*		501-1000 cattle*		1001-1500 cattle*		1501-2000 cattle*		2001-3000 cattle*		3001-5000 cattle*	5001 & * over cattle
	6-30 Sec.	8-25 Sec.	6-40 Sec.	20-70 Sec.	30-110 Sec.	30-60 Sec.	40-75 Sec.	60-200 Sec.	50-400 Sec.	70-150 Sec.	70-150 Sec.	400-600 Sec.
	100-200 Cows	250-300 Cows	300-400 Cows	450-600 Cows	400-600 Cows	700-850 Cows	800-850 Cows	1000-1200 Cows	1500 Cows	2000 Cows	2000-2500 Cows	5000-6000 Cows
Relative frequency of type	% 50	% 30	% 50	% 30	% 30	% 56	% 33	% 66	% 37	% 50	% 80	% 66
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Cows . . .	100-200	250-300	300-400	450-600	400-600	700-850	800-850	1000-1200	1500	2000	2000-2500	5000-6000
Heifers	0-25 50-100	15-50 65-100	25-50 75-125	0-50 75-100	0 100-200	0-65 100-175	0-300	25-100 200-300	150-350	100-200	200-600	200-800
Steers	0-50 100-250	0	0-50 75-125	0	0-100 300-450	0-100 200-600	0	0-50	0	0	0-50	1000-4000
Calves	75-150	25-50 100-125	100-200 250-300	100-150 250-300	0-150 300-500	0-100 150-300	400-750	150-400	400-700	300-600	800-1200	1500-5000
Bulls	7-15	7-11	10-25	20-30	20-35	25-45	40-50	50-80	65-90	75-100	80-100	200-300

*Ranches of different sizes represent the following percentages of all ranches; 301 to 500 cattle, 14 per cent; 501 to 1000 cattle, 12 per cent; 1001 to 1500 cattle, 5 per cent; 1501 to 2000 cattle, 3 per cent; 2001 to 3000 cattle, 2 per cent; 3001 to 5000 cattle, 1 per cent; 5001 and over cattle, 2 per cent.

Table 10.—Typical ranches in central part of the Edwards Plateau (area 7a) (Sutton County).

Item	Typical 1 to 3.9 section ranches*			Typical 4 to 7.9 section ranches*				Typical 8 to 11.9 section ranches*			
	100-200 Sheep	250-400 Sheep	425-575 Sheep	400-700 Sheep	800-1100 Sheep	1200-1600 Sheep	1700-2000 Sheep	500-900 Sheep	1500-1900 Sheep	2000-2500 Sheep	3500-4500 Sheep
Relative frequency of type.....	% 30	% 30	% 26	% 18	% 18	% 22	% 22	% 14	% 33	% 24	% 14
Livestock Systems:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Sheep.....	100-200	250-400	425-575	400-700	800-1100	1200-1600	1700-2000	500-900	1500-1900	2000-2500	3500-4500
Goats.....	100-300	150-700	100-500	350-1050	200-700	0-300	100-600	1800	800-1800	10-50 800-2000	30-800
Cows.....	0-20	5-25	5-25	25-50	25-50	20-130	10-60	25-175	75-250	100-400	70-150
Other cattle.....	0-15	5-25	10-15	10-40	10-35	10-35	15-60	15-70	100-375	50-150	75-250

Item	Typical 12 to 19.9 Section ranches*			Typical 20 to 29.9 section ranch*	Typical 30 to 60 section ranches*	
	1300-1800 Sheep	2000-2500 Sheep	4000-5000 Sheep	4300-4800 Sheep	6000-9000 Sheep	13000-18000 Sheep
Relative frequency of type.....	% 30	% 30	% 40	% 66	% 50	% 40
Livestock Systems:	No.	No.	No.	No.	No.	No.
Sheep.....	1300-1800	2000-2500	4000-5000	4300-4800	6000-9000	13000-18000
Goats.....	0-20 700-1200	0-450 1000-1700	400-800 1500-2500	0-500 3000-5000	600-800 1000-1600	1500-2500
Cows.....	150-400	100-400	100-350	100-300 900-1000	250-500 800-1100	200-500 1100-1600
Other cattle.....	100-300	20-40 200-400	50-120 200-400	100-300	200-600 900-1600	300-700 1700-2200

*Ranches of different sizes represent the following percentages of all ranches: 1 to 3.9 sections, 21 per cent; 4 to 7.9 sections, 21 per cent; 8 to 11.9 sections, 16 per cent; 12 to 19.9 sections, 16 per cent; 20 to 29.9 sections, 7 per cent; 30 to 59.9 sections, 8 per cent.

Table 11.—Typical ranching organizations in the eastern part of the Edwards Plateau (area 7b) (all ranches 640 acres and over in Gillespie and Mason Counties)

Typical ranches	0-50 Cattle*			51-100 Cattle*			101-200 Cattle*			201-300 Cattle*		301-400 Cattle*	
	0-8 Cows	12-24 Cows	25-40 Cows	22-35 Cows	36-50 Cows	60-75 Cows	40-60 Cows	65-85 Cows	90-125 Cows	75-125 Cows	150-175 Cows	125-175 Cows	185-240 Cows
Relative frequency of type.....	41	36	23	22	50	19	28	34	34	50	40	40	46
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Cows.....	0-8	12-24	25-40	22-35	36-50	60-75	40-60	65-85	90-125	75-125	150-175	125-175	185-240
Other cattle.....	0-2 5-10	4-8 18-26	1-5 15-20	15-30 35-60	15-30 35-55	10-20 25-40	55-85	35-50 65-90	30-50 65-100	75-115 140-160	75-125	175-240	100-170
Sows.....	0-2	0 2-4	0-3 8-15	0-2 3-7	0-5 10-20	0 10-30	0-6	0-8	0-4 8-15	3-10	0-13	0-5 12-25	0-2 15-20
Other hogs.....	0-3 8-20	0 1-3	0-10 25-40	0-12	0-5 10-25	0 20-40	0-15 25-40	0-10 20-40	5-10 25-50	0 25-40	25-40	0-40 80-115	0-6
Sheep.....	0 175-300	0-50 125-220	.....	0 240-320	0-20 30-100	0 75-100	0 170-460	0 80-120	0 40-80	0 75-350	0 100-250	0-25 140-200	0-10 85-300
Goats.....	0 100-300	0 100-250	0 20-65	0-20 130-350	0-25 125-250	0-15 90-200	0-40 135-225	0-40 110-300	0 75-250	0-50 760-800	0 115-1500	0-12 100-175	
Poultry.....	25-50	30-60	30-60	30-75	30-75	30-70	25-75	20-60	25-75	25-75	60	45	30-150
Acres in Ranch:	770-3000	640-1725	640-1588	690-2284	670-1950	850-3700	700-3200	900-2500	1200-6000	1000-5960	1500-6000	1740-5800	3200-4000
Corn.....	0-8 10-20	0-8 20-25	10-20	0-8 10-20	0 10-30	0-6 18-30	0-10 15-25	0-20	0-10 15-40	8-18	10-80	0-20	0-6
Oats and barley.....	.....	.....	.....	.....	.....	.....	.....	.....	0-15	10-18	.....	0-15	0-8
Sorghum.....	0-5	0-15	0-10	0-9	0-12	.....	.....	0-4	0-5	.....	.....	0-8	0-20
Hay.....	0-3	0-8	0-10	0-8	0-10	0-6	0-7	0-6	0-3	0-3	0-5	0-15	0
Cotton.....	0-20 40-60	0 20-40	0 25-50	0-15 35-50	0-20 35-90	0-30	0 20-30	0 15-35	0 20-40	0-9	15-50	0 20-40	0 20-40

*The ranches of different sizes represent the following percentages of all ranches over 640 acres in size: 0-50 cattle, 20 per cent; 51-100 cattle, 34 per cent; 101-200 cattle, 29 per cent; 201-300 cattle, 7 per cent; 301-400 cattle, 7 per cent.

Table 12.—Typical farming systems in the eastern part of the Edwards Plateau (area 7b) (Gillespie County).

Item	Typical 80-acre farms*			Typical 120-acre farms*			Typical 160-acre farms*			Typical 200-acre farms*			Typical 260-acre farms*		
	15-30 Acres Cotton	35-45 Acres Cotton	50-70 Acres Cotton	30-40 Acres Cotton	42-55 Acres Cotton	60-80 Acres Cotton	20-40 Acres Cotton	45-60 Acres Cotton	70-90 Acres Cotton	25-40 Acres Cotton	45-55 Acres Cotton	60-80 Acres Cotton	20-40 Acres Cotton	45-60 Acres Cotton	70-95 Acres Cotton
Relative frequency of type.....	% 22	% 32	% 32	% 25	% 32	% 27	% 24	% 30	% 33	% 27	% 27	% 34	% 35	% 35	% 22
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cotton.....	15-30	35-45	50-70	30-40	42-55	60-80	20-40	45-60	70-90	25-40	45-55	60-80	20-40	45-60	70-95
Corn.....	10-20	10-20	0-20	10-20	10-20	10-30	15-30	10-20	15-30	15-30	10-20	15-25	10-20	15-30	10-30
Oats and barley.....	.....	.....	.....	0-10	0	0	0	.....	.....	.....	0-15	.....	0-10	0-10	0-10
Pasture.....	30-50	20-35	0-20	50-80	45-70	10-40	90-125	70-95	45-75	130-160	110-145	95-125	190-225	160-200	125-170
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses.....	2-5	3-6	3-6	3-6	3-6	3-6	3-6	3-7	4-8	4-7	4-7	4-8	3-6	5-9	6-10
Cows.....	2-10	0-5	0-3	3-10	2-6	0-6	2-10	1-8	2-8	2-10	2-10	1-9	1-7 10-20	2-7 10-25	3-12
Cows milked.....	0-4	0-3	0-3	0-4	1-3	0-4	2-6	0-4	2-6	1-5	0-4	0-3	1-5	1-5	1-5
Other cattle.....	0-4	0-3	0-3	0-5	1-6	0-4	2-10	0-4	2-8	1-8	2-15	1-8	1-10	1-10	2-7
Sheep.....	0	0	0	0	0	0	0	0	0	0-50	0-35	0	0-100	0-75	0-50
Goats.....	0	0	0	0	0	0	0	0	0	0-100	0-100	0-100	0-100	0-100	0-35
Sows.....	0	0	0	0-1	0	0	0-1	0	0	0-1	0	0	0-1	0	0
Other hogs.....	0-7	0-5	0-3	0-5	0-6	0-5	0-8	0-6	0-7	1-5	0-8	1-7	0-10	1-15	1-10
Poultry.....	25-75	0-40	0-40	25-75	50-75	0-50	25-50	25-50	50-75	25-50	25-50	30-60	50-100	50-100	50-75

*Farms of different sizes represent the following percentages of all farms: all under 80 acres, 10 per cent; 80 acres, 15 per cent; 120-acre farms, 13 per cent; 160-acre farms, 11 per cent; 200-acre farms, 11 per cent; 260-acre farms, 12 per cent; all over 300 acres, 26 per cent.

Table 13.—Typical ranches on the Rio Grande plain, (area 8) (Dimmit and Webb Counties).

Item	1000-2000-acre ranches*			2000-4000-acre ranches*			4500-6000-acre ranches*		6000-10000-acre ranches*		10000-acre and over ranches*	
	0-30 Cattle	60-125 Cattle	175-350 Cattle	10-50 Cattle	150-300 Cattle	475-750 Cattle	150-300 Cattle	450-650 Cattle	450-525 Cattle	725-975 Cattle	1000-1500 Cattle	2000-3000 Cattle
Relative frequency of type.....	% 43	% 28	% 29	% 37	% 37	% 17	% 36	% 43	% 42	% 42	% 52	% 28
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cotton.....	0-40 75-110	0 30-75	0-75	0-10 50-150	0 100-300	0-10	0	0	0	0	0	0
Sorghum.....	5-15 40-120	0-10	0-10	0-40	0-20	0-20	0	0	0	0	0	0
Corn.....	0-15 30-50	0-15	0-30	0	0-25	0-15	0	0	0	0	0	0
Onions.....	0-30 100-200	0-15	0-10	0 100-250	0	0	0	0	0	0	0	0
Other crops.....	0-15 750-1200	0-5	0-10	0 100-125	0	0	0	0	0	0	0	0
Hay.....	0-25	0	0	0	0-10	0	0	0	0	0	0	0
Pasture.....	0-1250	1100-1900	1200-1900	1800-3500	2000-3800	3000-4000	.....	.....	.....	.....	.....	.....
Live stock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses.....	5-12 20-40	4-10	6-10 20-40	4-8 20-30	6-15	10-20	10-40	15-25	8-12	.....	15-30 40-60	20-40 50-90
Cows.....	0-20	30-75	100-175	8-20 30-40	100-175	250-350	100-200	200-400	200-300	350-425	500-900	800-1600
Cows milked.....	0-6	1-4	0-5	0-15	0-6	4-8	0-10	0-5	0	0-4	0-5	0-3
Other cattle.....	0-15	30-50	50-175	0-20	50-100	200-450	50-100	200-300	200-250	325-575	450-700	750-1350
Sows.....	0-2	0-1	0	0	0-2	0-1	0	0	0	0	0	0
Other hogs.....	0-5	0-4	0	0	0-10	0-10	0	0	0	0	0	0
Poultry.....	0-100	0-75	0-50	0	0-50	0-50	0-100	0	0-50	0	0-50	0-30

*Ranches of different sizes represent the following percentages of all ranches: 1000-2000 acres, 5 per cent; 2000-4000 acres, 4 per cent; 4500-6000 acres, 2 per cent; 6000-10000, one per cent; 10000 acres and over 4 per cent.

Table 14.—Typical farming systems in the irrigated sections, Rio Grande plain (area 8) (Dimmit and Webb Counties).

Item	Typical 20-40-acre farms*					Typical 40-60-acre farms*					Typical 80-acre farms*				
	No. Cotton or Onions	20-30 Acres Cotton	32-40 Acres Cotton	1-5 Acres Onions	6-12 Acres Onions	No. Cotton	25-40 Acres Cotton	45-60 Acres Cotton	3-6 Acres Onions	10-15 Acres Onions	0-10 Acres Cotton	50-75 Acres Cotton	2-10 Acres Onions	11-20 Acres Onions	25-40 Acres Onions
Relative frequency of type.....	% 20	% 19	% 22	% 11	% 11	% 11	% 23	% 29	% 11	% 13	% 15	% 28	% 12	% 24	% 12
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cotton.....	0	20-30	32-40	0-10 10-20	0-5 15-20	0	25-40	45-60	0-5 10-20	0	0-10	50-75	0-20	0	0
Sorghum.....	0-5 10-20	0-5	0-5	0-10	0-15	0-10	0-10	0-5	0-5	0-10	0-10 40-60	0-10	0-15	5-20	0-20
Corn.....	0-10 20-25	0-10	0-5	0-5	0-10	0-5	0-10	0-10	0-10	0-10	0-10	0-20	5-10	0-15	0-15
Onions.....	0	0	0	1-5	6-12	0	0	0	3-6	10-15	0	0	2-10	11-20	25-40
Other crops.....	1-5 10-20	0-10	0	1-10 15-30	0-10	2-10	0-2	0	3-9 10-15	0	0-10 15-40	0	0-15	0-10 15-40	15-25 35-50
Hay.....						0-10	0	0	0-10	0	0-20	0	0	0-10	0-5
Pasture.....	0-25	0-5	0-2	0-5	0-10	0-20	0-10	0	0-30	0-30	20-60	10-40	10-50	0-50	0-20
Livestock Systems:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules.....	2-4	2-6	2-4	2-4	2-4	2-4	2-4	3-6	2-5	2-6	3-7	4-8	4-8	4-8	4-6
Cows.....	0-5	0-4	0-3	0-3	0-3	0-4	0-2	0-4	1-3	0-5	0-3	0-6	0-6	0-6	0-3
Cows milked.....	0-2	0-3	0-3	0-3	0-3	0-2	0-2	0-4	1-2	0-2	0-3	0-4	0-6	0-4	0-2
Other cattle.....	0-4	0-3	0-3	0-3	0-3	0-2	0-1	0-2	0-3	0-10	0-3	0-5	0-6	0-8	0-2
Sows.....	0-2	0	0	0-1	0-1	0	0	0	0-2	0-1	0-1	0	0-1	0-1	0
Other hogs.....	0-3	0-1	0	0-5	0-4	0	0	0	0-2	0-5	0-5	0	0	0-4	0
Chickens.....	0-25	0-25	0-25	15-50	15-50	0-50	0-50	0-25	25-50	0-50	15-50	0-40	0-40	25-100	25-50

*Farms of different sizes represent the following percentages of all farms; 20-40-acre farms, 16 per cent; 40 to 60-acre farms, 14 per cent; 80-acre farms, 13 per cent; 120-acre farms, 6 per cent; 160-acre farms, 6 per cent; 200-acre farms, 5 per cent; 300-acre farms, 5 per cent; 500-1000 acres, 5 per cent.

Item	Typical 120-acre farms*			Typical 160-acre farms*				Typical 200-acre farms*				Typical 500-1000-acre farms*			
	75-100 Acres Cotton	10-20 Acres Onions	30-40 Acres Onions	90-100 Acres Cotton	120-140 Acres Cotton	5-10 Acres Onions	15-30 Acres Onions	40-70 Acres Cotton	130-160 Acres Cotton	15-25 Acres Cotton	45-75 Acres Onions	20-40 Acres Cotton	100-150 Acres Cotton	15-30 Acres Onions	50-70 Acres Onions
Relative frequency of type.....	% 16	% 40	% 12	% 18	% 10	% 10	% 13	% 13	% 13	% 19	% 22	% 14	% 11	% 14	% 14
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cotton.....	75-100	0 25-50	0-10	90-100	120-140	0	0	40-70	130-160	0-10	0	20-40	100-150	0 35-90	0-80
Sorghum.....	0-10	0-20	10	0-5 40-50	0-15	5-10	0-10	0-20	0-20	0-20	0-20	0-10	0-20	0-20	0-15
Corn.....	0-20	0-15	0-15	0-20	10-30	0-20	0-30	0-30	0-20	5-10	0-10	0-20	10-20	0-30	0-30
Onions.....	0	10-20	30-40	0	0	5-10	15-30	0	0	15-25	45-75	0	0	15-30	50-70
Other crops.....	0-3	3-8 15-30	10-20	0-5	0-3	0-10	2-10 15-20	0-5	0	0-15 75-100	15-30 100-125	0-15	0-25	0-5 60-100	0 40-70
Hay.....	0	0-15	0	0	0-10	0-5	0-5	0-15	0	5-25	0-50			0-10	0 40-50
Pasture.....	0-10	0-100	25-50	15-60	0-20	50-100	60-110	75-150	0-70	50-75	10-80	460-700	400-475	325-600	400-700
Livestock Systems:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules.....	4-8	4-10	4-10	4-6	4-8	3-5	4-7	2-5	8-10	6-8	6-10	4-10	5-10	4-10	10-20
Cows.....	0-5	0-5 15-30	2-5	0-5	0-2	0-7	3-10	0-3	0-2	0-15	0-2	2-5 25	0-3	0-10	3-13
Cows milked.....	0-5	0-5	1-2	0-3	0-2	0-6	1-4	0-3	0-2	0-7	0-2	0-3	0-3	0-3	1-10
Other cattle.....	0-2	0-5 15-30	0-6	0-6	0-1	0-4	1-5	0-15	0	0-15	0-1	2-6 18	0-3	0-7	2-20
Sows.....	0-1	0-3	0-1	0-1	0-1	0	0-2	0-1	0-1	0-2	0-1	0-3	0	0-2	0-10
Other hogs.....	0-5	0-15	0-4	0-5	0-10	0-2	0-5	0-10	0-5	0-4	0-10	0-30	0	0-10	0-30
Chickens.....	0-30	20-75	25-50	0-50	0-50	25-50	50-100	0-50	0-50	40-80	0-50	0-50	0-150	30-60	50-150

Table 15.—Typical farming systems in north central grazing area (area 12) (Shackelford County).

Item	Typical 100-acre farms*			Typical 160-acre farms*				Typical 240-acre farms*			Typical 320-acre farms*			
	No Cotton	10-20 Acres Cotton	30-45 Acres Cotton	No Cotton	25-35 Acres Cotton	40-60 Acres Cotton	70-90 Acres Cotton	No Cotton	20-30 Acres Cotton	50-70 Acres Cotton	No Cotton	20-30 Acres Cotton	50-75 Acres Cotton	100-150 Acres Cotton
Relative frequency of type.....	% 30	% 23	% 21	% 21	% 20	% 21	% 18	% 35	% 31	% 20	% 20	% 20	% 31	% 20
Cropping System:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cotton.....	0	10-20	30-45	0	25-35	40-60	70-90	0	20-30	50-70	0	20-30	50-75	100-150
Grain sorghum.....	0-20	0-30	0-20	0-20	0-30	0-25 30-60	20-40	0-20	10-40	20-40	0-30	5-30	0-40	20-30 70-120
Oats and barley.....	0-10 25-50	0-35	0	10-25 30-50	0-25	0-30	0-15	0-25 40-60	10-50	0-40	0-25 50-100	0-50	0-55	0-20
Wheat.....	0-30 50-80	0-25	0	0-30 50-100	0-30	0-30	0	0-50	0-40	0-20	0-50	0-50	0-40	0
Pasture.....	0-60	0-40	35-55	50-100	40-100	40-90	20-60	100-200	90-175	70-125	120-250	160-250	125-200	50-175
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses.....	2-6	2-6	2-6	4-8	3-6	4-8	4-8	2-6	4-6	4-6	2-6	4-7	4-9	7-12
Cows.....	0-6	1-5	1-5	2-10	0-5	1-6	1-6	0-8	1-7	0-6	0-7 10-25	0-3 10-20	1-7 10-20	4-10
Cows milked.....	0-6	1-5	1-4	2-7	0-5	0-5	1-5	0-5	1-4	0-5	0-5	0-5	1-7	3-8
Other cattle.....	0-6	0-4	1-4	0-7	0-5	0-6	0-5	0-8	1-8	0-4	0-4	1-3 10-25	1-7 10-25	2-5
Sows.....	0-1	0-1	0	0-1	0-2	0	0	0	0-1	0	0	0	0-1	0-1
Poultry.....	0-100	25-75	25-75	50-150	50-150	50-100	50-100	50-100	50-100	50-75	25-75	50-100	50-125	100-250
Per cent having tractors.....								33	10	0	25	25	0	10

*Farms of different sizes represent the following percentages of all farms: 100-acre farms, 16 per cent; 160-acre farms, 43 per cent; 240-acre farms, 9 per cent; 320-acre farms, 13 per cent.

Table 16.—Typical ranches in areas 4 and 12 (Throckmorton and Shackelford Counties).

Item	0-100 cattle*			101-200 cattle*				201-300 cattle*				301-400 cattle*		
	2-8 Sec.	2-4 Sec.	2-6 Sec.	2-6 Sec.	2-6 Sec.	2-12 Sec.	2-6 Sec.	3-6 Sec.	2-10 Sec.	2-8 Sec.	3-8 Sec.	3-8 Sec.	3-10 Sec.	3-20 Sec.
	0-10 Cows	30-45 Cows	50-80 Cows	0-10 Cows	50-75 Cows	80-100 Cows	100-150 Cows	45-90 Cows	100-125 Cows	130-170 Cows	200-250 Cows	110-165 Cows	180-225 Cows	250-300 Cows
Relative frequency of type.....	% 40	% 24	% 20	% 10	% 30	% 36	% 16	% 14	% 24	% 33	% 18	% 30	% 32	% 25
Cropping systems:	Acres 0-50	Acres 0-100	Acres 0-75	Acres	Acres 0-40	Acres	Acres	Acres	Acres	Acres 0-40	Acres	Acres 0-30	Acres	Acres
Cotton.....	100-200	200-400	100-150	0	75-125	0-75	0-50	0-50	0-75	150-300	0	100-150	0-50	0-25
Grain sorghum.....	0-25 50-100	0-50 75-125	0-25	0-20	0-50	0-75	0-50	0-30	0-50	0-50	0-50	0-50	0-50	0-50
Oats and barley.....	0-50 100-150	0-60 100-150	0-50 150-200	0-50 100-200	0-50 75-150	0-75 100-150	0-50 75-125	0-75 100-150	0-75 100-150	0-50 100-200	0-25 100-300	0-50 100-250	0-50 100-200	0-20 200-300
Wheat.....	0-50 100-200	0-75 100-250	0-50 100-125	0-40 50-90	0-50	0-50	0-60	0-40	0-25	0-80	0-50	0-75 125-300	0-50 100-250	0-100
Livestock:	No. 2-10	No. 5-10	No. 5-10	No.	No. 4-10	No. 4-10	No. 2-12	No.	No. 5-10	No. 4-15	No.	No. 5-15	No. 5-20	No.
Horses.....	15-25	15-30	15-30	4-10	15-30	15-25	15-30	5-15	20-30	20-25	6-15	25-40	30-40	10-30
Cows.....	0-10	30-45	50-80	0-10	50-75	80-100	100-150	45-90	100-125	130-170	200-250	110-165	180-225	250-300
Other cattle.....	0-15 40-80	5-15 20-50	5-15 20-50	100-175	40-60 80-125	15-50 60-100	10-50	125-225	100-150	75-125	0-15 50-80	150-200	100-150	15-25 80-125
Sows.....	0	0-4	0-1	0	0-1	0-5	0-2	0-1	0-1	0-4	0-1	0-3	0	0
Poultry.....	0-50 100-150	25-100	25-100	0-50	0-75	100-150	25-100	0-100	0-100	0-75	0-100	0-50 150-300	50-100	0-100

*Ranches of different sizes represent the following percentages of all ranches: 0-100 cattle, 29 per cent; 101-200 cattle, 24 per cent; 201-300 cattle, 14 per cent; 301-400 cattle, 9 per cent; 401-600 cattle, 9 per cent; 601-800 cattle, 5 per cent; 801-1000 cattle, 4 per cent; 1001-1500 cattle, 4 per cent; 2000 and over cattle, 3 per cent.

Table 16—(Continued)—Typical ranches in areas 4 and 12 (Throckmorton and Shackelford Counties).

Item	401-600 cattle*			601-800 cattle*		801-1000 cattle*		1001-1500 cattle*			2000 cattle & over*	
	10-15 Sec.	7-15 Sec.	4-15 Sec.	12-25 Sec.	10-25 Sec.	6-20 Sec.	6-24 Sec.	6-22 Sec.	10-50 Sec.	20-30 Sec.	50-90 Sec.	125-300 Sec.
	5-50 Cows	125-200 Cows	250-300 Cows	150-300 Cows	350-500 Cows	150-300 Cows	400-500 Cows	No Cows	300-500 Cows	600-1000 Cows	1500-2500 Cows	3500-4000 Cows
Relative frequency of type.....	% 20	% 17	% 60	% 33	% 50	% 40	% 55	% 33	% 40	% 25	% 60	% 30
Cropping Systems:	Acre	Acre	Acre 0-50	Acre	Acre	Acre	Acre 0-75	Acre	Acre	Acre	Acre	Acre
Cotton.....	0-50	100-200	100-300	0-30	0-40	0-50	125-300	0	0-50	0	0	0
Grain sorghum.....	0-50	0-100	0-50	0-100	0-100	0-100	0-75 100-200	0-75	0-30 100-125	0-30	0-50 100-150	0-100
Oats and barley.....	0-75	0-100	0-50 125-175	0-60 100-200	0-60	0-100	0-75 125-150	0-100	0	0-75	0-50	0-100
Wheat.....	0	0-100	0-100	0-50	0	0-50 100-175	0-50	0-50	0	0-75	0-50	0
Livestock:	No.	No.	No.	No	No.	No.	No.	No.	No.	No.	No.	No.
Horses.....	6-14	20-30	10-30	12-40	10-40	10-25	20-40	10-25	15-30	20-35	30-90	20-40 125-400
Cows.....	5-50	125-200	250-300	150-300	350-500	150-300	400-500	0	300-500	600-1000	1500-2500	3500-4000
Other cattle.....	400-550	300-400	100-250	300-450	200-400	500-800	300-600	1000-1100	600-1000	500-650	1000-2000	3500-6000
Sows.....	0	0-1	0	0	0-1	0	0-3	0-1	0-1	0-3	0-5	0-5
Poultry.....	25-50	25-75	0-100	0-150	25-100	0-100	25-100	0-50	0-50	50-150	50-150	25-50

Table 17.—Typical farming systems in the West Cross Timbers farming area (area 13) (Eastland County).

Item	Typical 80-acre farms*			Typical 120-acre farms*			Typical 160-acre farms*			Typical 240-acre farms*		Typical 320-acre farms*	
	15-25 Acres Cotton	30-40 Acres Cotton	45-60 Acres Cotton	15-25 Acres Cotton	30-40 Acres Cotton	50-75 Acres Cotton	10-25 Acres Cotton	35-50 Acres Cotton	55-75 Acres Cotton	40-60 Acres Cotton	65-80 Acres Cotton	35-40 Acres Cotton	60-80 Acres Cotton
	% 30	% 36	% 17	% 25	% 30	% 30	% 22	% 35	% 32	% 33	% 47	% 42	% 42
Relative frequency of type													
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cotton.....	15-25	30-40	45-60	15-25	30-40	50-75	10-25	35-50	55-75	50-60	65-80	35-40	60-80
Corn.....	0-20	0-15	5-15	5-15	5-20	5-15	5-15	0-15	5-25	10-20	5-20	10-20	15-20
Sorghum.....	0-15	0-15	0-7	0-15	0-15	0-20	0-10	0-30	5-20	10-25	5-15	10-20	0-30
Hay.....	0-7	0-10	0-5	0-5	0-5	0-10	0-2	0-15	0-7	0-10	2-10	0-10	0-10
Other crops.....	0-1	0-3	0-2	0-2	0-1	0-1	0-3	0-1	1-2	1-5	0-1	0-1	0-1
Oats and barley.....	0-10						0-15						
Peanuts.....	0-15	0-9	0-5	0-10	0	0	0-10	0					
Pasture and other.....	20-50	0-40	0-25	60-90	40-80	10-50	80-140	40-100	25-80	125-150	125-150	225-250	180-225
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses and mules.....	2-4	2-5	2-6	2-4	2-4	2-5	2-5	2-6	2-6	4-6	4-8	2-6	3-6
Cows.....	1-7	1-5	0-3	1-4	1-4	1-4	2-4	1-6	1-5	2-10	3-9	2-4	4-10
Cows milked.....	1-5	1-4	0-3	1-3	1-3	1-4	2-3	1-5	1-5	2-10	2-4	1-4	3-4
Other cattle.....	1-3	0-5	0-2	1-5	0-2	0-3	0-4	1-10	0-6	2-8	2-10	1-6	3-8
Sows.....	0	0-1	0	0-1	0-1	0	0	0	0-1	0	0	0	0
Other hogs.....	0-5	0-4	0	0-10	0-3	0-5	0-3	0-5	0-5	0-5	0-5	0	0-3
Poultry.....	25-100	25-75	25-75	25-75	25-100	50-100	25-75	25-50	50-100	50-100	50-100	50	50-100

*Farms of different sizes represent the following percentages of all farms: 80-acre farms, 26 per cent; 120-acre farms, 16 per cent; 160-acre farms, 22 per cent; 240-acre farms, 6 per cent; 320-acre farms, 3 per cent.

Table 18.—Typical farms on the Grand Prairie (area 14a) (Coryell and Hamilton Counties) (special tabulations, 1925 census).

Item	Typical 80-acre farms*			Typical 120-acre farms*		Typical 160-acre farms*				Typical 200-acre farms*			Typical 320-acre farms*	
	15-25 Acres Cotton	30-40 Acres Cotton	45-65 Acres Cotton	30-40 Acres Cotton	41-60 Acres Cotton	20-30 Acres Cotton	35-50 Acres Cotton	55-75 Acres Cotton	80-100 Acres Cotton	35-45 Acres Cotton	50-70 Acres Cotton	80-100 Acres Cotton	20-40 Acres Cotton	50-70 Acres Cotton
Relative frequency of type	% 22	% 41	% 29	% 30	% 30	% 18	% 25	% 25	% 20	% 25	% 31	% 21	% 35	% 41
Cropping Systems:	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cotton	15-25	30-40	45-65	30-40	41-60	20-30	35-50	55-75	80-100	35-45	50-70	80-100	20-40	50-70
Corn	0-25	10-15	10-30	10-20	10-20	10-20	10-25	5-20	10-20	10-30	10-25	10-30	10-25	0-30
Oats and barley	0-30	0-15 25-50	0-20	0-30	5-30	0-25	0-20	10-50	0-40	15-50	0-30	20-50	20-50	0 20-50
Pasture	0-35	0-25	0-20	30-80	10-60	85-105	60-100	30-70	10-40	100-130	75-110	40-75	200-240	170-250
Livestock:	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Horses	2-6	3-6	3-6	3-6	3-6	3-6	4-7	4-7	4-7	4-7	4-8	4-8	3-5	4-6
Cows	1-5	1-5	0-4	0-5	1-5	1-6	1-5	1-5	1-6	2-10	0-10	4-10	1-5 15-35	4-10
Cows milked	1-3	1-4	0-3	0-4	1-4	1-3	1-4	1-4	1-4	1-5	0-5	1-6	1-3	2-4
Other cattle	0-3	0-4	0-3	0-4	0-6	2-6	0-3	0-4	0-4	0-6	1-8	3-8	1-15	1-10
Sows	0	0	0	0	0	0	0	0-1	0-1	0	0	0	0	0
Other hogs	0-3	0-4	0-7	0-8	0-6	0-5	0-10	0-5	0-10	0-7	0-4	0-7	0-1	0-3
Poultry	25-50	25-50	0-50	25-75	25-100	25-75	50-100	25-75	25-75	25-75	25-50	25-50	50-150	25-75

*Farms of different sizes represent the following percentages of all farms: 80-acre farms, 15 per cent; 120-acre farms, 15 per cent; 160-acre farms, 15 per cent; 200-acre farms, 10 per cent; 320-acre farms, 5 per cent.