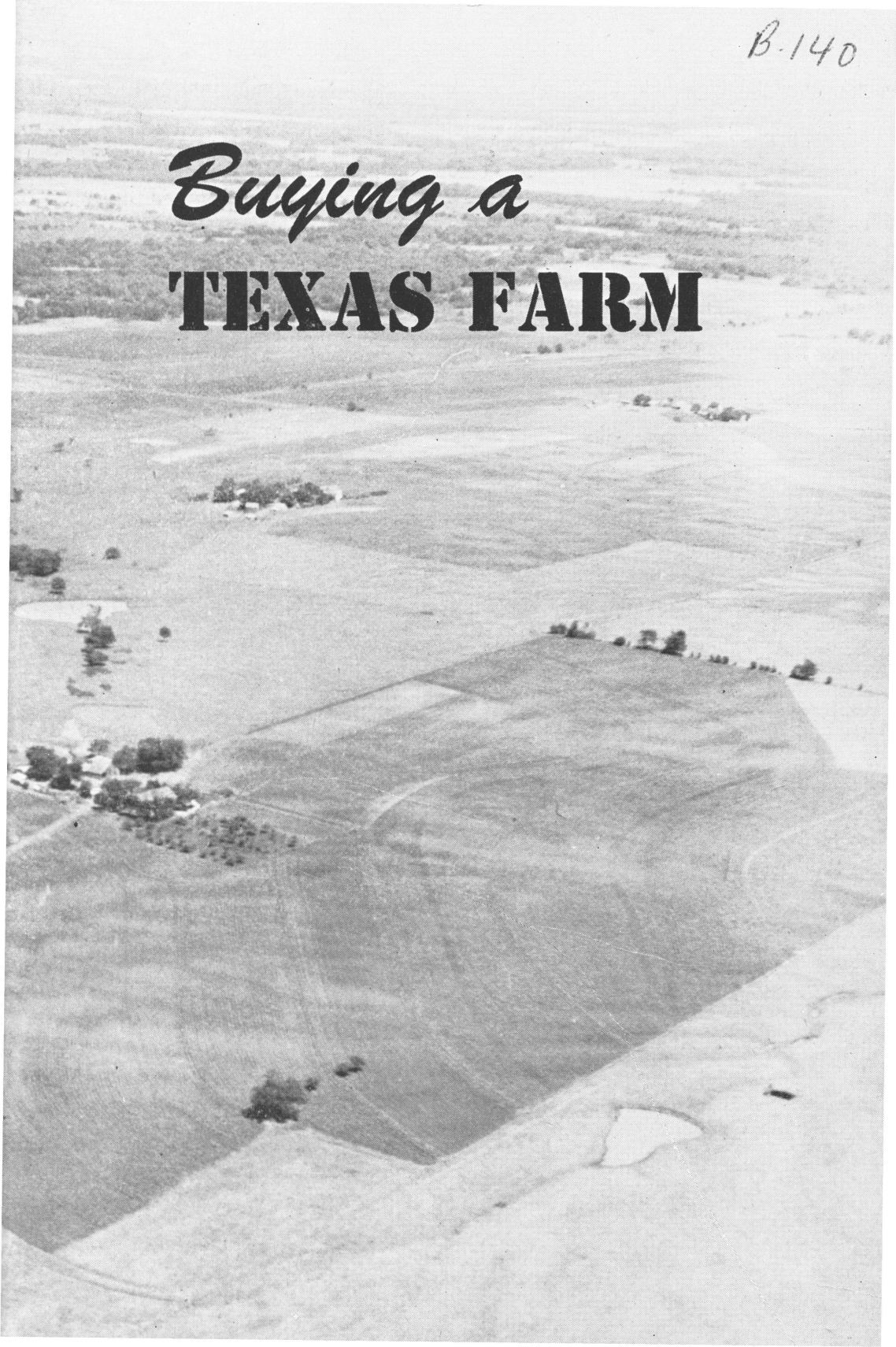


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Buying a
TEXAS FARM



THE COVER

The farm shown on the cover was selected because it illustrates several factors which are discussed in this bulletin.

The farm is situated on a paved state highway about five miles from a town of 5,000 population which is the farm family's shopping center. A market is found in the town for produce and the farm crops. A suitable market for livestock is situated within 100 miles accessible by truck or rail. The farm is served by R. E. A., rural mail route, and a milk route.

Good land use is illustrated by contoured farming on the cropland. Land which is subject to erosion due to steep slopes is devoted to pasture and is grazed by livestock. Several farm ponds aid in soil conservation and supplement the livestock water supply.

The orchard and garden provide an important part of the home food supply. Good poultry houses facilitate production of meat and eggs for home use on this farm.



FOREWORD

Large numbers of requests for information from prospective farm purchasers in Texas are being received by staff members of the School of Agriculture, the Extension Service, and the Experiment Station of the A. & M. College of Texas. Because of the increased number of farm purchases arising from higher incomes, this publication has been prepared to point out some of the principles and problems connected with the purchase of a farm or ranch.

The wide range of soil types, topography and climatic conditions in Texas gives rise to an unusually large variety in types-of-farming areas. This diversity of conditions complicates the problems involved in purchasing a farm or ranch and necessitates great care in the selection of a farm, and increases the importance of studying successful farm operation.

While it is impossible to cover all of the questions connected with buying a farm in a brief discussion, it is hoped that this bulletin will lead to a more careful inquiry on the part of prospective purchasers. More information on soils and farming practices can be obtained from any county agricultural agent or by addressing a letter of inquiry to the Extension Service, College Station, Texas.

Buying a **TEXAS FARM**

H. E. Hampton and Joe L. Matthews¹

SO YOU WANT TO BUY A FARM?

Buying a home, whether it is in town or in a rural area, is one of the few really important events in our lives. If the home is to be a farm, also, the problem of choosing is made more difficult by the fact that the earning power of the farm, as well as the home value, must be considered. As most of you who buy farms will depend upon the products of the land for your living, you cannot put too much effort into obtaining and studying information in connection with each farm you contemplate buying. Above all, don't buy hurriedly.

Information can be obtained in a number of ways. There are reliable, successful farmers in every community who can give you information on soils, crop and livestock production, and natural hazards. County extension agents are familiar with conditions in their counties and can give you much valuable counsel. Many county officials, such as tax collectors or county surveyors, over a period of years have gathered a knowledge of land and farming in the fulfillment of their duties. Bankers and many merchants are dealing in land and often are familiar with the earning capacities of farms in their trade territories. The production records kept in the offices of the Agricultural Adjustment Agency are useful. You should talk to not one, but all of these people. Most of them will be glad to help.

Now what information should be gathered? Many farms have been bought without the buyer's considering all of the factors involved. Shortly after World War I, a farmer in the Blackland Section paid \$125 an acre for a farm and did not find out until too late that most of the land was underlaid by chalk at a depth of one or two feet. The land was droughty and average yields were low. This man apparently had never considered the depth of the soil. Naturally he lost the farm a short time later and, consequently, years of hard work.

This bulletin is written primarily for the purpose of calling attention to some of the things you must think about when buying a farm. It is intended mainly for the prospective

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farm operator whose land must provide for family living expenses, farm operation expenses, taxes, maintenance of buildings, land equipment, and livestock, and for payments on the mortgage and other indebtedness. The situation is somewhat different for those who have outside incomes and want a farm simply for a country home or a place for week-end relaxation. These people are concerned with the home value and can tap other incomes if need be. The man whose whole source of income is from the farm is more concerned with the producing power of the land over a long term of years; consequently, he must put more thought and study into the problem.

CONSIDER PRICE AND VALUE

First, you must recognize the difference between "price" and "value". Price is a changing thing. It rises and falls with economic conditions, which in turn determine the relative proportion of buyers and sellers. When incomes are advancing, there are more buyers than sellers, and as a result land increases in price. During periods of depressions, people wishing to sell their property are in the majority, and land prices decline. Price is a thing that can be known, because the price of any article is set when two people get together on a trade.

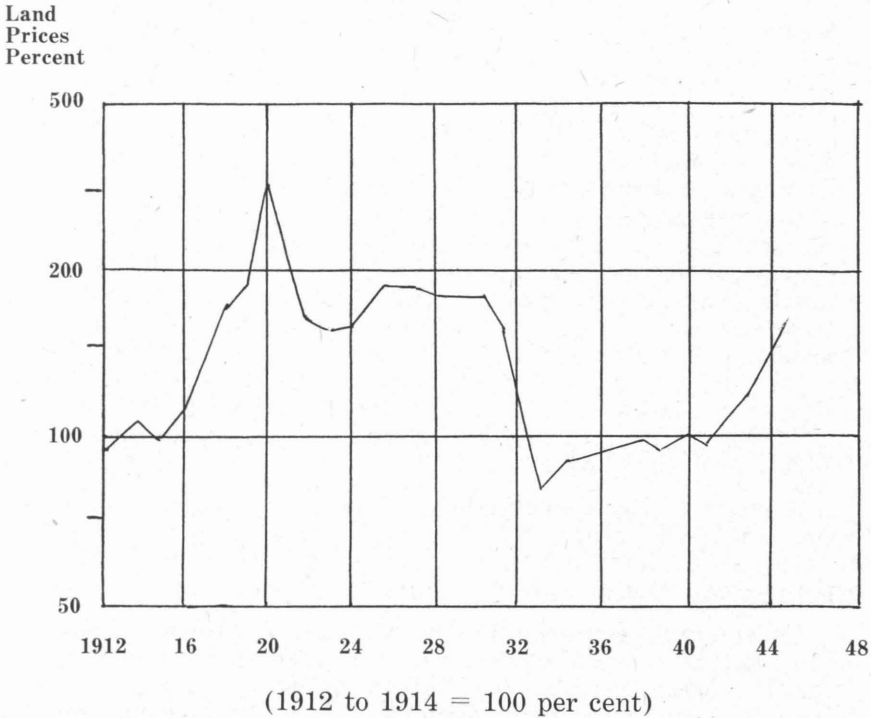
Value is something else. It is the true worth of a thing, and changes little over a period of time. The value of land may decrease with erosion or declining soil fertility; or in the hands of a capable manager, land values may increase somewhat. The value of a farm must be based primarily on the earning power of the land. The true value of a property cannot be known. We can only estimate it. The frequently termed "income value" of a farm is actually an estimate of the true value.

Usually the best time to buy a farm is during a period when land is relatively low in price, but when an increase in the market value of farm products is anticipated in the near future. Conditions are less favorable when land prices already have advanced because of higher prices for farm products. We are now in such a period.

CAN WE JUDGE THE FUTURE BY THE PAST?

All records of the past show that prices of farm products rise during war and fall after the war is over. The price of

Fig. 1. FARM LAND VALUES IN THE SOUTHWEST
(Including Texas)



farm land fluctuates similarly. Based on what has happened before, we can expect a period of depression not many years after the war is won. Efforts to control consumer production and unemployment after the war, however, may maintain prices at a higher level than those prevailing during the recent depression years.

It is most often advisable to base the purchase of a farm on prices which are considered "normal". The prices that prevailed during the 1909-1914 period, which are likewise about the average prices received in the 1932-1940 period, are taken as "normal". These prices for most of our Texas commodities are given in the following table:

TABLE I

Product	1910-1914 prices (adjusted to Texas)	1944 prices (approximate average)
Cotton, per lb. _____	\$ 0.12	\$ 0.20
Corn, per bushel _____	0.65	1.10
Wheat, per bushel _____	0.80	1.45
Grain Sorghum, per ton _____	8.00	20.00
Oats, per bushel _____	0.35	0.70
Rice, per bag _____	3.00	7.00
Sorghum or Prairie hay, per ton _____	10.00	22.00
Alfalfa Hay _____	16.00	30.00
Calves, good, per head _____	25.00	50.00
Calves, inferior, per head _____	15.00	40.00
Hogs, per lb. _____	0.06	0.12
Lambs, per head _____	3.50	7.00
Wool, per lb. _____	0.22	0.36
Eggs, per dozen _____	0.18	0.40
Butterfat _____	0.30	0.60
Whole milk, per cwt. _____	1.60	3.20

A study of the above table will show why prices of farm lands are much higher than those of a few years ago. The 1944 prices of farm products probably will decrease shortly after the end of the war.

Considerable emphasis has been placed on probable commodity prices of the future, because it takes dollars to pay debts. If mortgage debts could be paid by delivering so many bales of cotton to the mortgager each year, price would not be such an important factor. Actually the borrower is required to sell the cotton and pay a certain amount of money on the mortgage. Under the conditions existing from 1909-1914 approximately twelve bales of cotton were needed to pay taxes and insurance and to retire the debt on a farm carrying a \$5000 loan. Based on the prices existing in 1930-34, eighteen bales were required, and on the basis of 1944 prices only eight bales of cotton were needed. These figures indicate that a middle course is most prudent. The man who buys a farm at a price comparable to a long-time value has the best chance of retiring the indebtedness from the farm income.

SHALL I BUY NOW, OR WAIT UNTIL LAND PRICES GO DOWN?

Many men are of the opinion that it is better to wait until the price of farm land declines, others argue that it is

good judgment to get possession of a farm now, during the present period of high returns, although the farm must be bought at a premium price. If a high price is paid, it is undoubtedly good business to make a cash payment large enough to take care of the difference between the purchase price and the long-time value, so that the mortgage will not exceed the amount calculated to be a safe debt in average years.

BUYING A FARM FOR A PLACE TO LIVE AND TO MAKE A LIVING

Farms are purchased for several purposes. Some are bought as investments, or for speculation. In some cases, they serve as hobbies or places of recreation. Some people want farms on which to live, although their income is not derived from farming.

A farm that is purchased as both a home and a business should:

- (1) Be large enough to produce sufficient income for living expenses and operation costs;
- (2) Have soils of sufficient fertility to produce profitable crops;
- (3) Be land adapted to the desired type of farming;
- (4) Include improvements adequate for the needs of the family, and the type of farming, and in keeping with the production of the farm;
- (5) Be adapted to the production of a large portion of the family food supply;
- (6) Offer suitable markets for the products of the farm;
- (7) Provide desirable social and educational surroundings.

CONSIDER WHERE TO BUY

There are many soils and climatic regions in Texas, giving rise to many type-of-farming areas. There is no "best" area in which to buy a farm. Your choice will depend upon personal preference and upon the type of farming you wish to follow. Some folks like East Texas; others would live nowhere but in West Texas.

In general, you will be most satisfied and do best in a community with which you are familiar. If you buy a farm in your own locality, you are more likely to operate the farm successfully because you are already familiar with soil and cropping practices. There is also some satisfaction in living among friends.

In any community your success depends first upon your choice of a farm. In any region there are good farms and poor farms. The making of a good living and the paying of debts are directly associated with the productivity of the land. Secondly, your success will depend upon your knowledge and common sense in connection with the management of soils, crops, livestock, and other farm enterprises. Few men are farming as well as they can, although many are farming as well as they know how.

DON'T TRY TO BE A PIONEER

The pioneer spirit is strong in American tradition, and many people dream of making a home in the wilderness. Hardships that are a part of settling new lands are no fewer now than in the early days. Hazards may be greater because the natural resources which could be utilized in settling land in the past largely have been exploited, and often have disappeared entirely. Many areas of virgin forest existed which provided building materials. Game, fish, and wild fruit were a source of food. Despite these natural advantages it took a hardy soul to survive.

The most desirable lands long since have been settled. There remains now only land which is less desirable, usually land on which settlement has failed. The history of most land which today remains in its natural state is a story of repeated attempts at settlements which failed miserably.

Remember that the community facilities such as highways, schools, churches, mail service, transportation, communication, government and other advantages which we take as a matter of course cannot be provided for one, or even several farms. Such things have been provided in established communities one at a time over a period of many years. No agricultural community could provide and pay for the services people want and demand even over the span of a generation. It would be almost hopeless to attempt such a program in a short period of time even if the land were free.

A new farmer has the best chance to succeed in an established agricultural community. There he will find those

facilities which make a desirable place to live and other farm families to aid in making adjustments to the community life pattern.

THE KIND OF LAND IS IMPORTANT

Next to the weather, perhaps the most changeable thing in Texas is her soils. Because the nature and properties of soils vary so radically even in limited areas, a thorough study of the soils on each farm you contemplate buying is essential. Some land is naturally fertile and with good management will remain so indefinitely. On the other hand, there are many poor soils, which, because of the chemical and physical nature, can be built up only at prohibitive cost. Other soils, however, although naturally infertile, will respond profitably to fertilizers and other improvement practices.

Soils differ in many ways. The fertility level, depth, durability, adaptability to crops, response to fertilizers, ease of cultivation, and drainage are factors that must be considered. All of these are revealed to us to a surprising degree if we learn to read soil character. The color of a soil is the most evident of its characteristics. In general, dark-colored soils are most fertile. This is because dark colors are associated with highly decomposed organic matter or humus. Dark red or brown soils often contain more organic matter and are more productive than dark gray or nearly black soils. Light-colored soils are rarely high in natural fertility.

However, the color of the surface soil alone is not a sufficient measure of productivity. To be able to make good yields, a soil must be permeable to roots and water. Some plants are naturally shallow-rooted, while others tend to send roots deep into the soil. The physical condition of the soil, however, should never limit the penetration of even the deepest-rooted plants. Furthermore, shallow soils are more subject to erosion and are less responsive to fertilizers and soil-building practices. Soils that are characterized by sandy or medium-textured layers to a depth of several feet rarely restrict root and water penetration. In fact, soils that are composed of a high percentage of coarse sand grains all the way down usually drain too freely. They may not hold sufficient moisture for high yields and in addition, fertilizers may leach out before they are utilized by the crop. Many soils are naturally shallow due to a hard, cemented rock layer a few inches below the surface. In other areas, a tough, impermeable clay underlays a thin surface soil.

Although it is rather easy to tell a cemented layer or bed of rock, it is more difficult to detect a tight clay subsoil layer. We cannot go by texture alone because certain types of clay layers allow the entrance of roots and water. An impervious clay usually can be detected by close observation. A gray color, especially blue-gray, is an indication of a tight condition, although some shallow soils have more or less red, yellow or brown mixed with the gray color of the subsoil. The absence of roots in the subsoil layer is further evidence of an impermeable condition. With some practice, one can learn to judge the physical condition of a clay by rubbing a piece of it gently between the thumb and fingers. The sample must be in its natural condition and not altered by a plow, a spade or a soil auger. If the clay tends to break apart or crumble, even when fairly wet, a desirable physical condition is indicated. If it tends to form a ball and not break apart, a poor condition is indicated.

Examine the physical condition of the surface soils on the farm. Clay soils are, of course, more difficult to work than sandy soils, but even clay soils may vary in the ease of cultivation. Some clay soils are in poor condition as a result of having been plowed when too wet. Sandy soils are often "packy" due to lack of organic matter or in some cases to alkali salts. A poor physical condition is difficult to correct, and farms having such soils should be avoided. Soils that are mellow and crumbly without being extremely loose and gritty are usually most productive.

Most soils in Texas are highly erodible. Heavy rainfall often results in severe washing. You can guard against erosion by buying a farm which has fairly level fields. Avoid buying a farm that is already badly eroded or is subject to severe erosion. Often a farm is undesirable because it has received an excessive amount of runoff from adjoining land. In such cases, erosion control may be impracticable. Ordinary erosion can be controlled successfully by proper soil conservation practices. Erosion control alone is seldom sufficient for increasing or even maintaining soil productivity. A farming system that is planned to utilize erosion-control measures, and commercial fertilizers where beneficial, available manures, and green manuring and cover crops, will prove most profitable over a period of years.

In general, it is best to buy good land. Although productive land costs more than unproductive land, the difference in price is nearly always justified by the higher returns.

Soils that respond to fertilizers and other improvement practices can be farmed profitably if carefully and intelligently managed.

THINK ABOUT HOW LARGE A FARM TO BUY

The acreage, including cultivated land and pasture, should be enough to carry on a farming business of sufficient volume to meet the costs of providing for the family, paying the expenses of operation, taking care of the costs of insurance and taxes, and meeting the expenses of keeping up the land and improvements and the installments on the mortgage debt. The actual acreage needed will depend upon the type of farming, and the productivity of the soil, and to some extent, upon the region in which the farm is located.

Because of the uncertainty of farm labor supplies, the size of the farm unit should be governed largely by the number in the family. Family-size farms usually are the most economically operated, and in the long-run are safest, particularly for those lacking experience in the operation of large farm businesses. Considerable attention should be given to the choice of crops and livestock enterprises so that the family labor may be most efficiently used throughout the year. It is pleasant to be able to spend a good part of the year fishing or visiting friends, but such activities do not add to the farm income.

THE COMMUNITY IS IMPORTANT

You will want to be happy in the community in which you live. In the selection of a farm, particular attention should be given to the surroundings and conveniences available in the neighborhood. Perhaps the most thorough way to consider the choice of a community is for you to answer the following questions:

(1) What kind of schools does it have? How many grades are offered? Are there enough teachers and are they qualified? What is the distance to the school? Is bus transportation provided? How many months is school conducted? Is there a branch of the county library in the community? Are there 4-H clubs for boys and girls?

(2) What churches are available? Is there a church of your preference nearby? Are church and Sunday School conducted regularly? Is there a Missionary Society or similar organization for women? Does the community appear to be alert and progressive in religious matters?

(3) Would your family adjust itself to the problem of race and nationality, and to political influences dominant in the community? Are the local people friendly, helpful, and law-abiding?

(4) What social and recreational facilities are accessible in the community? Is there a community recreational program, Parent-Teachers Association, lodge, club or other organization for satisfying the desire for social contacts and participation?

(5) Are transportation and marketing facilities adequate? Is the farm located on an "all-weather" road? What is the distance to the nearest trade center? Are permanent markets available for the products you will have for sale? What is the distance to a physician and hospital, to a veterinarian?

(6) What conveniences are available? Is there an R. E. A. or other power line adjoining the farm? Is the farm on a rural mail route? Is telephone service available? Where is the nearest fuel supply? Is the water supply convenient, certain, and safe?

CONSIDER TAXES

Although the payment of taxes is a necessary obligation, no one is expected to pay more than his share. In many cases, however, tax values are not equitably assessed. Some properties carry a higher evaluation than is justified by their worth in comparison with other near-by properties. Local indebtedness in the form of school bonds, water rights, drainage, or levee bonds may burden farms in that community with taxes out of proportion to values and incomes.

You should investigate the community tax situation and compare the assessed value of the farm you contemplate buying with similar farms in the neighborhood. Any particular irregularities should be adjusted before you buy the farm. You will do well to avoid buying in communities which are burdened with excessive school or bonded debts.

WHAT ABOUT THE IMPROVEMENTS?

You should make a careful inspection of the farm's improvements to determine their suitability, condition and construction. Some farms do not have sufficient buildings for the needs of the farm. The main dwelling may be entirely too small for your family. Storage space for grain and

hay may be inadequate or there may be insufficient protection for livestock. If you are planning to run a small dairy herd or keep a substantial flock of laying hens, you will be saved considerable expense if suitable buildings are already constructed. The cost of fencing may be an important item if the farm is inadequately fenced or if fences are in poor repair.

Many farm buildings are poorly constructed. Be sure that the improvements do not appear well-built and in good condition because of a deceiving coat of paint. Get under the house and examine the foundation for decay, termite damage, and lack of bracing. A faulty roof often can be found by checking water stains or rotted boards in the ceiling and walls. The appearance of the roof as seen from the outside should be compared with the condition as seen from the attic-side. The roof as well as the out-side walls and foundation should be well-braced.

The cost of wrecking old buildings and cleaning up usable material is usually about as much as the salvage value. It is best to place very little value on buildings that are in poor condition. Repairs cost money.

The value of the improvements should be considered in relation to the value of the land alone. Under ordinary circumstances, if the value of the improvements is greater than one-fourth to one-third the value of the land, the farm may be considered over-improved. Although we may be proud of a pretentious set of buildings and may feel that our families are entitled to such surroundings, improvements do not always add to the farm income. On the other hand, they cost money to maintain. You will show good judgment by buying a farm on which the improvements are in keeping with the farm income and community standards.

CHECK ON THE WATER SUPPLY

It is difficult to estimate the value of an ample, everlasting, and convenient supply of water. If you ever have had to haul water or draw and carry it into the house, or drive the stock several miles to water, you are not likely to overlook this important item. All classes of livestock consume large quantities of water, especially in hot weather. Regardless of the feed supply, animals will not do well without an ample supply of pure water.

Information regarding the water supply on any farm usually can be obtained from neighboring farmers. In many

parts of Texas, well water is not available at reasonable depths. Cisterns must be provided for the storage of rain water and ponds or tanks must be constructed to catch water for stock. The purity of such water is questionable, and well water is often unsafe also. To protect the health of the family it is advisable to have the purity of the water supply tested. A physician or the public health officer can tell you how to get the water tested.

Two problems in connection with water are likely to be encountered if you contemplate buying an irrigated farm. In many irrigated regions, the supply of water frequently is limited in the season when greatest quantities are needed. Furthermore, irrigation waters usually contain soluble salts. Whether or not these cause trouble depends upon the amount of salts in the water and upon soil conditions which permit or restrict drainage. Many soils have a dense clay or a cemented layer which checks water penetration, causing it to accumulate. This condition is known as a "water table". Further additions of water by irrigation cause the water to rise nearer the surface and since salts accumulate as the water evaporates, an unhealthy environment for plant growth develops.

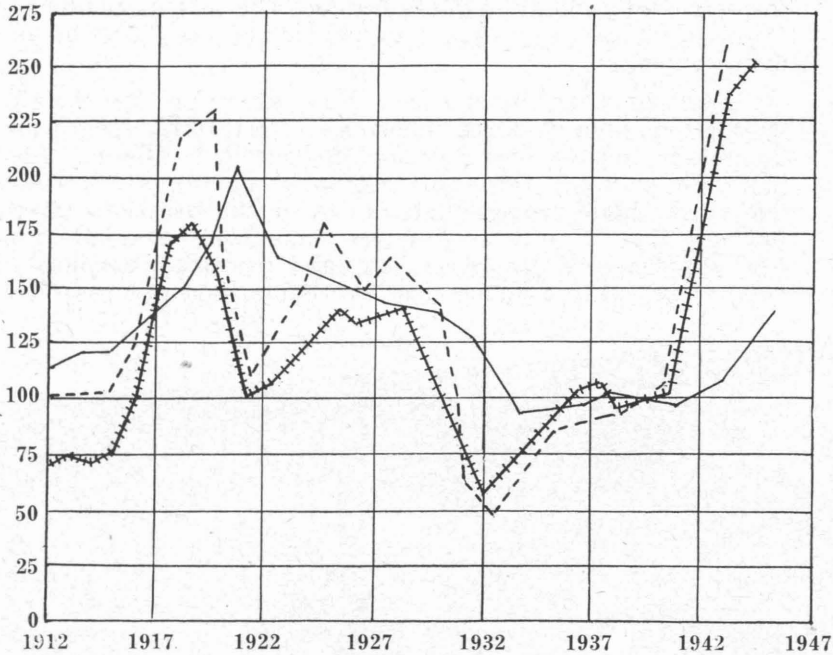
The availability and purity of irrigation waters should be thoroughly checked. Since irrigated farms cost more to buy and operate than ordinary farms, more caution should be exercised in preliminary studies prior to the actual purchase, particularly in connection with the soil conditions and water supply.

HOW TO FIGURE HOW MUCH YOU CAN PAY FOR A FARM

Suppose you have selected the farm you want; the land, the improvements, and the community meet your approval. You have talked to enough informed people to have a clear picture of the productivity of the farm, and you now are ready to calculate the earning power from both crop and livestock sources. Remember that when figuring the earning power, you must include the poor as well as the good seasons. You must consider a regular death-loss in livestock and realize that you will have occasional "bad-luck" with poultry or hogs or even with some crops. You should base estimates of probable future production on records of the past few years. Use natural yields, unaided by fertilizers or some other temporary factor of management. Figure on averages, and above all, be conservative.

Percent
of
Normal

Fig. 2. Land value, net land returns, and cash income are closely related.



Normal period 1935-39

- Land value
- - - Net land returns
- + + + + + Cash income

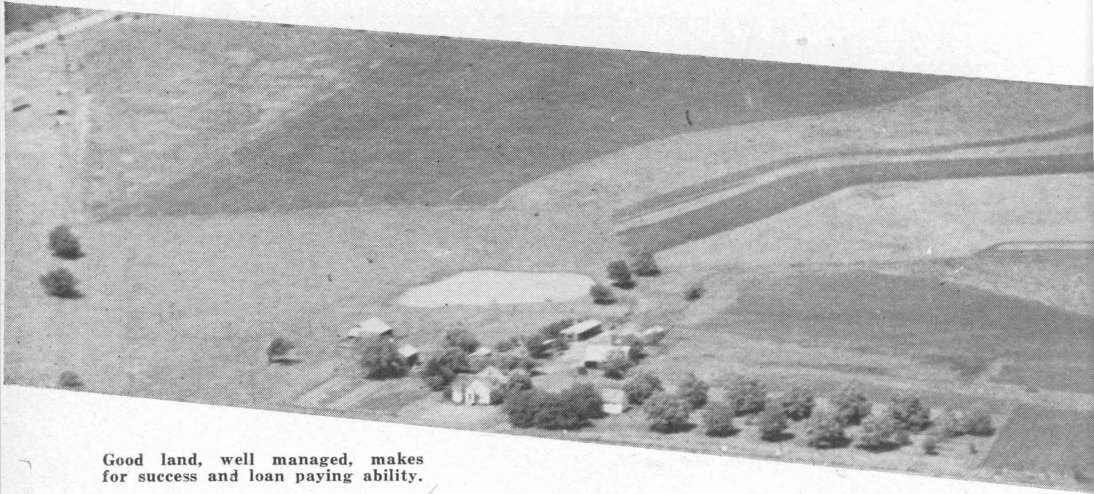
NOW TO DO SOME FIGURING

Set down the average annual acreage and the per acre yield of each crop that you will likely grow for sale. Multiply each set of these together, and then multiply by the proper "normal" price given in Table 1, on page 6.

Next, estimate the kind and number of head of livestock that the farm will support. Remember you may have some dry years, so don't over-stock. Figure how much the sale of animals will bring in, again at "normal" prices. Add to

this the income from livestock products, eggs, milk, butter, and wool. Are there any other sources of long-time, reliable income? Pecans, for example, increase the incomes of many farmers. Now, add all of these figures. The total is the money from which you can expect to pay all of the farming and living expenses.

Let's consider the expenses. First, there are the costs of production, such as hired labor, seed, fertilizers, sprays and dusts, and implement repair and replacement. There is fuel, if you are going to farm with a tractor. There may be breeding stock, herd replacements, baby chicks or poults. Most farmers find it necessary to buy some feed, especially protein supplements. There is salt, and a certain amount of veterinary expense to be met by the farmer who has live-



Good land, well managed, makes for success and loan paying ability.

stock. Taxes, insurance, and repairs on buildings must be paid.

The living expenses of the family must be estimated and added to the production costs. Subtract the total expenses from the total income. The remainder represents the average amount of money available annually to meet payments on the mortgage.

How big a loan can this amount carry? If you obtain an

amortized loan, bearing interest at 4% per year payable semi-annually, payments of about \$75 a year will pay off each \$1000 of indebtedness in 20 years. The annual payments are naturally less on longer-term loans and more on shorter-term loans, and they increase as the interest rate goes up.

YOU CAN FIGURE THIS WAY

Here's the way a farmer in the Blackland Section estimated the size of the debt he could carry. Of the 128 acres in the farm, 82 acres were good, durable land adapted to the production of cotton, corn, sorghums, hay crops, and small grains. Another 43 acres was best suited to grazing and the



remaining 3 acres were taken up by lanes, lots and yards. This man planned to keep as many milk cows and chickens as the pasture and feed crops would support. A garden, a small orchard, and a sow were to supply the family with vegetables, fruit, and pork. Only lint cotton was to be sold. The corn, oats, and hay crops were to be fed to livestock. Based on average yields and prices of 1933-1940 (prices that can be considered "normal") the income was estimated as shown below:

Crops Kind	Average Acreage	Yield Per Acre	Total Yield	"Normal" Price Per Unit	Total Value
Cotton	25	230 lbs. lint	5,750 lbs.	\$0.12	\$690.00
Corn	25	30 bushels	750 bu.	fed to livestock	
Oats	20	40 bushels	800 bu.	fed to livestock	
Sorghum hay	12	3 tons	36 tons	fed to livestock	
Pasture	43	(Pasture for 12 milk cows)			
Total from crops					\$690.00

Livestock: Item	Total Products for sale	Unit Price	Amount Received
Cattle	6 calves	\$15.00	\$ 90.00
Milk	52,000 lbs.	1.60	832.00
Eggs	1,500 doz.	.18	270.00
Total from livestock			\$1,192.00
TOTAL FARM RECEIPPTS			\$1,892.00

This farmer figured his expenses like this:

Hired labor	\$150.00
Repair of machinery, seed, poisons, twine, ginning	350.00
Livestock, replacements, supplies, baby chicks, supplementary feeds, salt, veterinary expenses, etc.	240.00
Taxes, depreciation and insurance	230.00
Total	\$970.00

This man estimated the cash necessary to meet living expenses of his family at \$450.00 a year, which deducted from the \$912.00, leaves an estimated annual balance of \$462.00 with which to pay the interest and principal on the mortgage. With annual payments of \$75 per \$1000, this balance would carry a loan of \$6500.

In other farming areas, the source of income and expenses would vary, but the method of figuring would be similar. The calculations are based, of course, on estimates. The figures cannot be taken as absolutely correct, but if they are worked out with good judgment, they will give you a clear picture of the mortgage-paying ability of the farm you contemplate buying. Certainly, it is not safe to assume a debt much greater than that calculated. We are all too likely to over-estimate income and underestimate expenses. If the amount of annual farm income available for retiring the loan is divided by some "rate of expected interest", an estimate of the long-time value is obtained. The "rate of expected interest" usually ranges from 4 to 10 per cent depending upon

the type of community, the durability of the land, and the hazards of crop and livestock production. The man in the above case used 5% because the farm was located in a desirable community and the hazards connected with production were not great. He divided \$462 by 5% which indicated that the longtime value or loan value of the farm was about \$9200.

HOW IS THE MORTGAGE DEBT THAT THE FARM WILL REPAY RELATED TO THE PRICE ASKED

Only in rare cases can a farm be purchased for a price equal to the loan that it will sustain. The spread between the two increases as land prices advance. Under so-called "normal" conditions a farmer can borrow an amount equal to about 50 per cent of the long-time value of the farm, and the long-time value of the farm will approximate the selling price of the land. These conditions prevailed generally from 1936-1941. When land prices are low, as in the period 1930-1936, the amount that can be borrowed on a farm may be more nearly equal to the selling price of that farm. At the present 1945 price levels, the amount asked for a farm may be as much as three or four times the amount of loan that the farm will repay over a period of 20-30 years.

BALANCED FARMING IS DESIRABLE

Low farm incomes may be attributed to a number of factors, but in many cases low incomes are due largely to inefficient management. A farmer who is engaged in productive work for only three to six months of each year cannot expect an income equal to that of the man who has planned farm enterprises to occupy all of his time. Numerous farm record studies have emphasized the fact that farm incomes are proportional to the amount of time the farmer spends in productive work.

Plan to work all twelve months. This can best be accomplished by choosing a combination of crops and livestock that will give you a reasonable amount of work every week in the year. Avoid peak periods, in so far as possible. If the requirements of two crops call for planting, cultivating, and harvesting at the same times, the cropping system should be rearranged. The work of producing crops is necessarily seasonal, but a wise choice of crops will permit you to handle a greater acreage with the same equipment, labor, and power.

Although the winter is an opportune time to check and repair farm equipment, few farmers follow the practice, and as a result, lose many hours of valuable time during the crop-

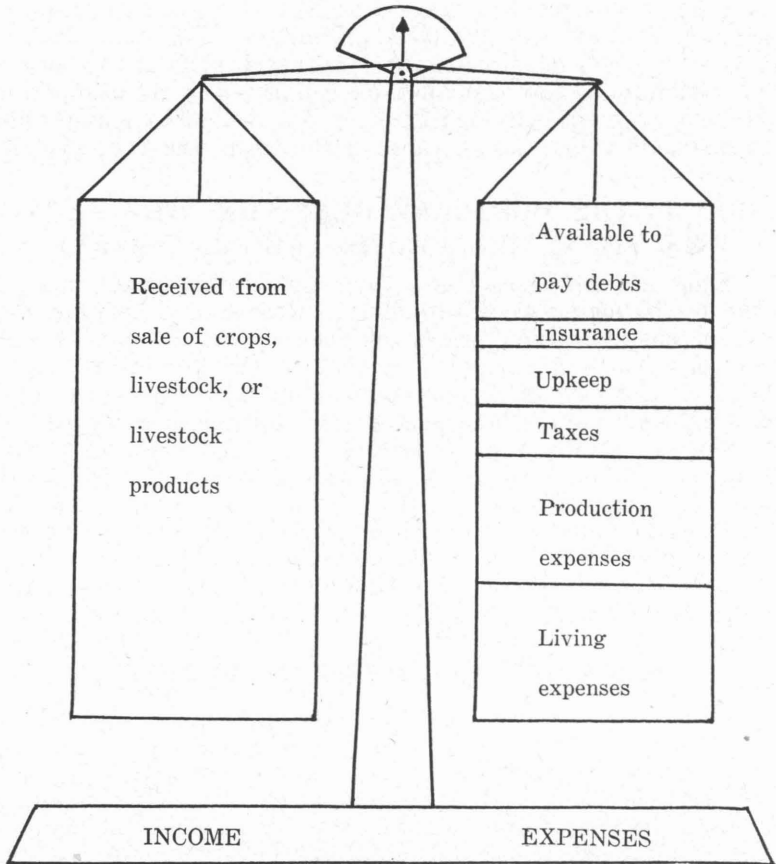


Fig. 3. The farm income must balance the expenses.

ping season. A farm shop with a forge or stove is not a bad place to spend winter days. The shop also is a good place in which to keep a supply of those equipment parts which are frequently needed for repairs.

The number of livestock should be determined by the amount of pasture and feed produced on the farm. Efficiently handled, feed crops bring better prices when marketed as livestock or livestock products. The care of livestock helps in the better utilization of labor. This is particularly true when farm plans call for the fattening of calves or lambs. Since animals usually fatten more satisfactorily during cool weather this work does not compete with the labor requirements for crops.

For completely balanced farming, soil fertility maintenance must be considered. Because of loss of soil and nutrients through erosion and crop removal, yields in Texas have declined steadily through the years. Much land formerly in cultivation has been abandoned. It is much easier to keep what we have than to regain that which we have lost.

Your cropping system should be planned to include erosion-control measures and soil-building practices best adapted to the nature and location of your land. The actual plans can be worked out with the help of your county agricultural agent. As the soils of Texas are rarely sufficiently well-supplied with nitrogen and organic matter, and since all soils, especially those of the humid portion of the state, are greatly benefited by the application of barnyard manure, your farm can be improved gradually by the systematic application of all the manure you have available. The farmers of many localities are so "sold" on the value of manure that they consider it in calculating the returns from feeding livestock. The utilization of commercial fertilizer, green manuring crops, and manure to increase crop yields, and the prevention of soil erosion are good farm-management practices. Soil fertility maintenance is an important part of a well-balanced farming system.

WHAT SHALL I GROW?

Some crops require more labor and expense than others. In general, crops that cost more to produce bring in a greater return per acre, although they are also more hazardous. Intensive crops, such as vegetable and fruit crops, are usually considered as special crops. Their production requires added labor, and higher expenses for seed, fertilizer, and poison. Good markets are also essential, and there is usually added costs to harvesting such crops. The acreage needed by the average vegetable or fruit farmer, however, will be comparatively small—ten to eighty acres.

Such crops as cotton, corn and peanuts require smaller expenditures for labor and production supplies. The acreage of these crops that can be handled by a family will vary from about forty acres in East Texas to perhaps three or four times that number in drier West Texas.

The production of the small grains—oats, wheat, and rice—can be carried on much more extensively. Because of the need for cultivation one man can handle fewer acres of row-crops, but per acre returns are relatively higher.

Cattle or sheep ranching is by far the most extensive type of farming. The average family can easily look after approximately 200 head of cattle or 1500 head of sheep. The acreage requirements vary from as low as 500 acres to perhaps 6,000 acres, depending upon soil and climatic conditions. Because of the greater land requirements for range animals, more money is needed to get started in the business.

Unless you have had considerable experience in some kind of specialized farming, your best chance of success is to follow conservative, established systems of farming. In general, you will find it hazardous to produce a single crop for market. In Texas, as well as elsewhere, the prosperous communities are usually those which produce a variety of farm products for market. A wise choice of one or two market crops and the same number of livestock enterprises most often results in good land utilization and efficient use of labor, which in turn produces a stable farm income.

Some of the important cash crops in Texas are cotton, wheat, rice, peanuts, tomatoes, melons, onions, cabbage, spinach, flax, citrus fruits, peaches, sweet potatoes, alfalfa, pecans and garlic. Such crops as corn, oats, sorghums and hay crops may be produced for market, but on most farms their utilization by livestock is more profitable. With the exception of cotton, the production of these crops is limited by marketing facilities and conditions for growth. In most localities, you should be able to grow at least two of them.

The choice of livestock and livestock products to be grown for market will depend upon markets, your desires and abilities, the amount of pasture, grain, and hay crops that can be produced, and such factors as diseases, noxious weeds, and predatory animals.

More income usually can be realized from dairy cows than from beef cattle on the family-sized farm. Of course, the former require more labor throughout the year and are therefore more confining. One important advantage of a dairy herd is the supply of manure which can be obtained. With the possible exception of those in the dry section of the state, all of our soils respond to applications of manure.

Small flocks of sheep on many Texas farms have proven profitable. Properly managed, the farm flock can be made an attractive source of income. Sheep graze largely on weeds and other types of vegetation that cattle will not utilize. Unfortunately, sheep-killing dogs often prove a source of loss, and stomach worms and other parasites are a problem.

Many farmers find chickens a profitable enterprise. On nearly every farm, two to four dozen hens can be kept at little cost; since they can pick up a large part of their feed around the premises. Larger flocks require special housing and proficient management to be profitable. The size of the flock that you maintain should be determined by your interest and experience with poultry. If you have not had previous experience, you should start with a few hens, care for them well, and slowly grow into the business on a large scale.

In some localities the production of broilers has been made a paying business. Large scale production depends upon efficient production methods and adequate marketing facilities. Some farmers, however, grow a few out-of-season broilers for a local trade and add to their income at a time when other farm work is not pressing.

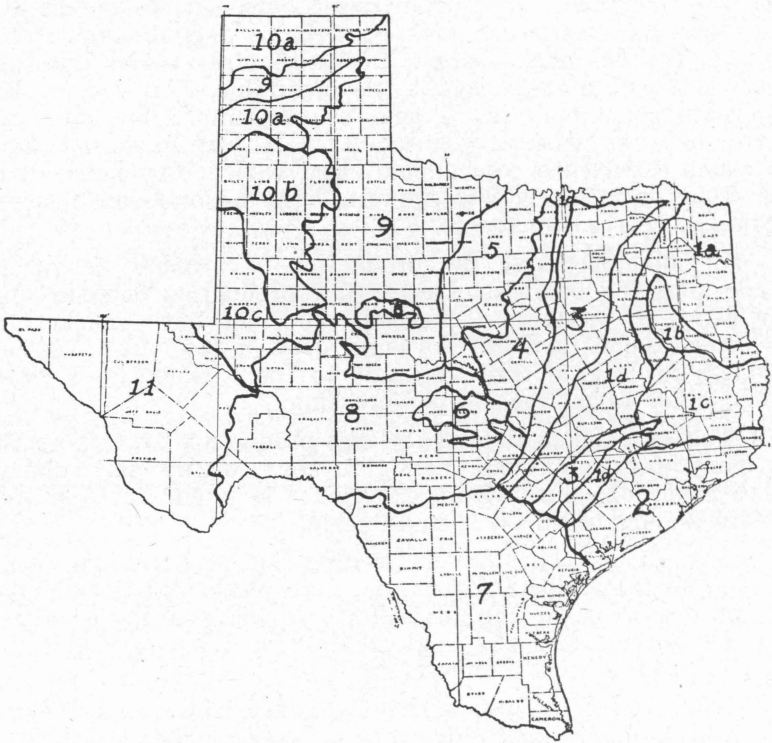
Turkey raising and turkey egg production are important in many parts of Texas. Young turkeys require particularly close attention. Here again, experience is important and the novice should begin on a small scale.

You should consider the feeding out of sufficient hogs to supply an important part of your needs for pork. You should also consider the advisability of keeping one or more brood sows to raise the hogs needed for food as well as a surplus to feed out commercially.

Commercial hog production in numerous areas of Texas offers reasonably attractive opportunities. The production of hogs on a very large scale almost invariably results in failure even with intelligent management because of the difficulty of controlling sanitation among hogs when they are concentrated in a small area. The production of commercial hogs on farms where one to one dozen brood sows are kept and the enterprise is efficiently and intelligently managed is frequently quite profitable.

Other than for your own food supplies, you should not attempt to keep too many kinds of livestock; you will find it more profitable to concentrate on not more than three kinds of farm animals. If you have sufficient pasture to carry fifty or more cows, you will probably find beef cattle most satisfactory. Beef cattle do not need a great amount of attention, and if there is plenty of range, turkey raising may be a profitable supplementary enterprise to cattle production. Many farmers find dairy cows and laying hens a good combination. Sheep are seldom profitable as the only livestock on the farm.

Fig. 4. SOILS REGIONS OF TEXAS



- | | |
|-----------------------------|--------------------------|
| 1. East Texas Timber Region | 6. Central Basin |
| 1a. Northeast Texas | 7. Rio Grande Plain |
| 1b. Redlands Area | 8. Edwards Plateau |
| 1c. Southeast Texas Area | 9. Rolling Plains |
| 1d. Post Oak Area | 10. High Plains |
| 2. Gulf Coast Prairie | 10a. Panhandle Area |
| 3. Blackland Prairies | 10b. South Plains Area |
| 4. Grand Prairie Region | 10c. Ranching Area |
| 5. West Cross Timbers | 11. Mountains and Basins |

SOIL REGIONS OF TEXAS AND THEIR RELATED MANAGEMENT PROBLEMS¹

Many of you have decided upon the area in which you want to buy a farm, but to help those who are undecided or who are unfamiliar with the soils regions and their related soil and crop management problems, the following discussion

¹Texas Agricultural Experiment Station Bulletin No. 431. 1931.

has been prepared. The areas described may be located on the map shown in figure 4.

1. East Texas Timber Region.

a. Northeast Texas—The soils of this area are chiefly sandy, are moderately to excessively permeable, and are low in natural fertility. Crops respond to green manuring, barnyard manure, and commercial fertilizers. Soil erosion should be controlled. Phosphates and applications of lime often benefit pastures. Cotton, corn, vegetables, fruits and berries are the principal crops. Timber production is recommended on soils of low productivity.

b. Redlands Area—Red-colored, moderately permeable soils predominate, but some deep, sandy soils are intermixed with the red soils. If not severely eroded, the red soils are fairly fertile, but crop yields are increased by a combination of erosion control practices, green manuring, and the use of fertilizers. Pastures may be improved by clearing, mowing, seeding and fertilizing, especially with phosphates. Cotton, corn, vegetables and fruits are the main crops. Deep sands, steep slopes, or eroded areas are best suited to timber production.

c. Southeast Texas Area—The soils are mainly sandy, low in fertility, and often poorly drained. Most of the soils have tight subsoils that restrict the penetration of roots and water. Farming is limited chiefly to valley and bottom lands. Upland areas are best suited to grazing and the production of loblolly and long-leaf pines.

d. Post-Oak Area—The soils are principally sandy, and are underlaid by tight, very slowly permeable subsoils, which make them drouthy and unproductive. Numerous areas of deep, infertile sands are found, particularly in the western part, and some prairies and bottom soils are included. Cotton, corn, sorghums and cattle are produced. Vegetable crops are grown in a few communities. The soils respond to moderate applications of commercial fertilizers, particularly when supplemented with green manuring crops and manure.

2. Gulf Coast Prairie—Soils having light to dark gray surface soils and heavy, dense subsoils predominate. Areas of timbered soils occur, and alluvial soils are found along the streams. Marshy soils are located adjacent to bodies of salt water and in some stream bottoms. Nearly all of the soils are low in fertility nutrients, especially in nitrogen and phosphorus. Drainage is retarded by the flat topography and tight subsoils. The dark-colored soils are fairly productive, particularly where drainage is adequate. In general, the produc-

tivity of the soils increase to the westward and away from the coast. The better drained soils are utilized for cotton, corn, sorghums and occasionally vegetables; the poorly-drained soils, for rice and pasture. Crop yields are increased by nitrogen and phosphate fertilizers used in conjunction with green manuring crops, manure, and improved drainage. Pastures are improved by applications of phosphates and seeding.

3. Blackland Prairies—The soils of this region are chiefly dark-gray to black, heavy clays. Principal crops are cotton, corn, and sorghums, with some small grains in northern and western parts of the region. Cotton yields are lowered by root rot, and the yields of all crops by erosion and the need of organic matter. The root rot disease restricts the growing of summer legumes for green manuring. Soils respond to conservation practices and to additions of organic matter, which, along with crop rotations, are the most effective means of combating the root rot organism and increasing crop yields.

4. Grand Prairie Region—The soils on the smooth areas of this region are dark-colored, rather deep and fertile, but brown to red soils which are shallow and often stony predominate, occupying areas of rolling topography. Cotton, small grains, sorghums and corn are grown on the more durable, cultivable lands. Soils that are rocky, extremely shallow, or subject to severe erosion are utilized for grazing. Ranching is a principal industry. The soils respond to conservation and soil-building practices.

5. West Cross Timbers—Most of the soils of this region are sandy, shallow, and are low in nutrients and organic matter. Many small prairies occur. Only a small proportion of the land is used for the production of crops, the principal ones of which are cotton, sorghums, corn, peanuts, melons and fruit. Eroded areas and rough stony lands are utilized for grazing. Cultivated soils respond to manure and green manuring crops. Commercial fertilizers increase yields when soil moisture is adequate.

6. Central Basin—Red to brown sandy soils predominate. Numerous areas of shallow, stony soils and rough stony land are found. Most of the land is used for ranching, but some crops are grown on the more fertile, durable soils.

7. Rio Grande Plain—The soils of this region may be grouped into five classes: (1) Dark-colored soils of varying textures are found mainly in the eastern part. These soils are

adapted to the growing of cotton, sorghums and vegetables by large-scale methods especially in the vicinity of Corpus Christi, and are desirable for the production of vegetables and citrus fruits under irrigation in the Lower Rio Grande Valley. (2) In the northwestern part of the region, light brown soils, which are usually shallow and stony, suitable principally for ranching, predominate. (3) Light-colored to red, chiefly sandy soils are found in large bodies, and also intermixed with the other classes of soils. These soils are low in natural fertility, but they respond well to soil-building and irrigation practices, which makes them desirable soils for the production of truck crops. Large areas, nevertheless, are utilized only for grazing. (4) The alluvial soils along the streams, especially near the Rio Grande, are important vegetable soils provided drainage is adequate. (5) The marshy soils of the region are usually too poorly drained and salty for the production of crops.

Much of the Rio Grande Plain is covered with brush, and is given to cattle ranching. The sandy soils, being deficient in nitrogen and phosphorus, produce inferior pasture plants. The principal problems of the region include the lack of organic matter and nutrients, the presence of alkali salts, and the inadequate supply of rainfall and water for irrigation. Farming on this region is distinctly hazardous.

8. Edwards Plateau—The soils of this area are predominantly shallow and stony; the topography is rough and broken. The principal industry is ranching. Numerous areas of smooth uplands and stream bottoms are farmed, but most of the land is grazed by cattle, sheep, and angora goats.

9. Rolling Plains.

The soils of this region may be divided into five classes: (1) Medium to fine textured, permeable soils are most productive and are utilized for cotton, sorghums, wheat and occasionally alfalfa. (2) Heavy, impervious clay soils, locally called "tight land", erodible and droughty, is used mainly for production of wheat or for grazing. (3) Sandy soils underlaid at less than 24 inches by impermeable clay, low in nutrients and organic matter, subject to both wind and water erosion, undesirable but utilized to some extent for the production of cotton and sorghums. (4) Deep, loose sand, very low in nutrients and organic matter, shifted readily by wind unless stabilized by shin-oak and other vegetation, of little economic value. (5) Rough broken lands utilized for ranching. Good management in this area includes soil and water conservation measures.

10. High Plains.

10a. Panhandle Area—Sandy to heavy-textured soils utilized for wheat and grazing. Many areas subject to severe wind erosion. Some rough broken land, especially along the Canadian River, suitable only for ranching. Water and soil conservations practices are important.

10b. South Plains—Sandy to medium textured soils adapted to the production of cotton, sorghums and wheat. Some irrigation where sufficient water is available. Maintenance of production depends upon efficient soil and water conservation.

10c. Ranching Area—Sandy to very sandy soils, limited rainfall, utilized for ranching.

11. Mountains and Basins.

Chiefly given to large-scale ranching; some farming where water is available for irrigation, mainly in the Pecos and the Rio Grande Valley. Farming in this region is somewhat hazardous and is highly specialized. Large investments are required.

CHECK THIS LIST BEFORE YOU DECIDE

The following list of items will help you appraise the desirable and undesirable features on each farm you inspect.

Area of Farm:

Total Acres?.....

Acres of cropland?.....

Acres in pasture?.....

Topography:

Is the land subject to erosion?.....

Overflow?.....

Soils:

Are the soils productive?.....

Well-drained?.....

Deep?.....

Are the subsoils permeable to roots and water?

Can the soils be built up?_____

Can fertilizers be used?_____

Are the soils suited to the crops you plan to
grow?_____

Water Supply:

Is there sufficient water for the household and
livestock?_____

Is the water pure?_____

Is water convenient to the house?_____

Is water piped into the house and to the lots?

Barns?_____

Pastures?_____

Improvements:

Are the buildings in keeping with the value and
needs of the farm?_____

Are repairs needed?_____

Are fences adequate and in good repair?_____

Is there an orchard?_____

Is firewood available?_____

Community:

Is the location of the farm satisfactory from the
standpoint of roads?_____

Schools?_____

Churches?_____

Neighbors?_____

Are telephones available?.....

R. F. D.?

Electric power?.....

Markets and Income:

Are there markets for the products you will have
for sale?.....

Will the income from the farm pay operation
costs, provide a living, and retire the mortgage?
.....

SOURCES OF ADDITIONAL INFORMATION

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