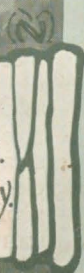


Shallow Water Country of Northwest Texas



Published by
Passenger Dept.
Panhandle & Santa Fe Ry.
Amarillo, Texas

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SHALLOW WATER COUNTRY

THE SHALLOW WATER COUNTRY OF NORTHWEST TEXAS

Irrigation by pumping from the shallow underground water supply in Northwest Texas, is a fully demonstrated fact, and is being practiced with profit by hundreds of successful farmers. Probably the success of profitable irrigation by pumping in the "Shallow Water Country of Northwest Texas," is in nothing illustrated with such force, as in the constantly increasing number of its wells, and tracts being developed. Interest in irrigation by pumping, as a supplement to the natural rainfall of the country, has grown steadily since 1910, when D. L. McDonald sunk the first well on his farm three miles southeast of Hereford. Responsive to the pump, this initial well spouted clear, chemically pure water at the rate of more than one thousand gallons per minute. Application of the water to the soil sustained even the wildest hopes entertained for the venture, in the form of crops of surpassing volume and quality. From this one well as a starting point in Deaf Smith county, investigation led to discovery and discovery to development and development to profits through irrigation by pumping in Hale, Floyd, Bailey, Swisher, Lubbock, Lamb and other counties.

AREA, SOIL AND TOPOGRAPHY

It is now generally conceded by all authorities that the area in the "Shallow Water Country of Northwest Texas" wherein irrigation by pumping is profitable, covers somewhat more than two million acres. This land lying in Deaf Smith, Parmer, Bailey, Castro, Lamb, Hockley, Randall, Swisher, Hale, Lubbock, Brisco and Floyd counties shows a range of richly productive soil varying from clay loam and chocolate loam to sandy loam, and is from three to five feet in depth. This soil adapts itself to irrigation readily, and is far less subject to hurtful surface "crusting," than many of the older districts where lands are irrigated. The uniform texture of the soil, renders application of water highly satisfactory, and within a short time an almost exact knowledge as to volume required for a given area, may be gained. The topography or "lay" of the land is such as to lend itself to the application of irrigating water, practically without expense, as there are decidedly few tracts upon which the process of "leveling" is necessary in preparation for laying-out irrigation ditches. Generally speaking the "fall," "slope," or "grade" ranges from six to ten feet per mile.

VOLUME OF WATER AND HOW AVAILABLE

Extensive, critical and impartial tests have demonstrated that the volume of water lying at depths sufficiently shallow to render irrigation by pumping profitable, equals one third the total depths of the strata of coarse sand and gravel in which it is contained. These deductions are based not on theory but are

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determined by actual tests: None of the wells so far developed, have been sunk sufficiently deep to pass entirely through the water-bearing strata, but all of them prove the absolute correctness of the foregoing statement. Thus, in wells penetrating one hundred and fifty feet into the water-bearing formations, the solid body of water would equal fifty feet, and those penetrating the strata to a depth of two hundred feet, show the equal of unmixed water volume of sixty-six and two-thirds feet deep. It will be seen from this, that the more than two million acres of land embraced in the present "proven districts," there is a solid body of water, which if removed from other substances, will measure from fifty to sixty-six and two-thirds feet. Added measurements of solid water underlying these lands, is dependent wholly upon greater depths of wells, as no drilling has passed to the limit of the water-bearing substances, in the districts. Scientific investigators are united in their expressed belief that this underground sea of pure, crystal water will be found upon more exhaustive investigation, to extend far beyond the confines of the twelve counties mentioned herein. While this is true, it has been determined to adhere closely to only proven and demonstrated facts, in all statements contained in this publication, and for that reason the area already indicated, will mark the confines considered. Based upon measurements taken from the hundreds of wells now being operated throughout the various districts, it is found that the average depth to water approximates fifty feet. Some localities find the supply closer to the surface than fifty feet, while others strike it a trifle deeper, but giving an average depth of water location, approximating fifty feet. Average temperature of this water is sixty-one degrees Fahrenheit as it comes from the wells, and is therefore just right for running direct onto the lands, without exposure for "warming up" to prevent "chill" to crops. Greatest demands laid upon the wells during driest seasons, when the natural rainfall was almost entirely absent, demonstrated the fact that the underground supply is not dependent in any measure upon moisture or lack of it, on the surface overlying it. The wells under hardest pumping, continuing day and night, retained their normal levels throughout. High power engines attaching pumps of ample capacity, have developed for hours together a volume of 3,500 gallons of water per minute without any suggestion of abnormal "draw down." It is considered by authorities, that this most severe test indicates unmistakably that the supply is entirely stable and enduring. Wells, according to the machinery engaged for lifting water, deliver from 600 to 3,500 gallons per minute, the power and pump, and not the supply, being the determining factor.

Beyond the fact that engines and pumps, or motors and pumps are necessary to the process of rendering this water supply available in the production of

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astonishingly rich yields from the long list of adapted crops on this wonderfully fertile soil, little of a specifically detailed nature, can be said. The size of well, the capacity of engine or motor and pump, being determined entirely by the area to be irrigated, and this latter feature of water required per acre, will vary according to the crop being produced, as some plants requiring more moisture and application oftener, than others. From facts hereintofore given, it may be readily determined that any desired volume of water is available to the lands, depending on the lifting power of machinery used. The greatest worth of irrigation by pumping within all of this territory, is found through its use as a supplement to the natural rainfall, as in some seasons practically no water need be artificially applied to the land, to insure vast harvests from this soil whose powers of production, under correct moisture conditions, are unsurpassed in the United States. Handled as a means to "crop insurance" through which to supplement the natural precipitation, there will be many seasons when cost of the irrigating process may be reduced to an absolute and inconsiderable minimum. Numerous and unbiased comparisons have been made through which it is shown that irrigation by pumping as practiced in the "Shallow Water Country of Northwest Texas," is superior to irrigation by gravity. First, it has been found that the cost, from year to year, all things considered, is less; and second, that the pumping process gives to every irrigating farmer, an absolute option on the water at any time day or night, he may desire to apply it, without infringing upon the rights or privileges of his neighbor. The advantage to be gained through these features will be readily appreciated by many irrigationists in other localities, where dependence is upon a gravity source, as community and individual rights often conflict, especially is this true where erratic weather conditions have direct and unfavorable influences on the volume of water available.

RAINFALL AND CLIMATE

United States Weather Bureau records, kept during the past thirty-five years, show an average rainfall over the area considered in this booklet, of twenty-two inches annually. Another feature most favorable to crop production is that the major part of this rain comes within the "growing" months of May, June, July and August, a fact sustained by the governmental records. Soil experts after thorough investigations, have given out the statement that the land of Northwest Texas has moisture retaining quality in highest degree, which is a characteristic adding materially to the value and efficiency of a comparatively limited rainfall. No one phase connected with the Northwest Texas country, has attracted more favorable comment, than its climatic conditions. In summer, the atmosphere is never oppressively hot, and there is always

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sufficient wind-movement to assure comfort, both day and night. Rains are quickly over, and there are no seasons of continued dampness and incident gloom—bright, crispy, sunshiny days are the rule, and not the exception thereto. This state of affairs renders Northwest Texas an ideal "harvesting-season" country, showing reason for the great popularity of its vast hay and forage tonnages, with feeders in other communities. Average summer temperature for the "Shallow Water Country of Northwest Texas" is seventy-six degrees, while the average of its winter temperature is thirty-eight degrees. Mildness and the absence of disagreeable dampness in winter, render outdoor life thoroughly enjoyable. These conditions are ideal for livestock, as the animals are frequently carried through, in fine flesh until late winter, without shelter or other feed than the natural grasses.

POPULATION AND DEVELOPMENTS

Population within the "Shallow Water Country of Northwest Texas" is constantly increasing, by an influx of energetic, virile and determined citizens, segregating themselves from the congested centers in other states, and seeking locations under conditions more advantageous. Mediocrity is a characteristic seldom seen here, for the dare-spirit of the Southwest, that accomplishes things, demonstrates the fact that only the hardier and more courageous are the ones that leave the "home nest" to seek self-betterment amid the untried; though to them inviting environs. This citizenry is cosmopolitan, being made up of people from every section of the country, but is strikingly free from racial admixtures. Under the influences of this new and progressive citizenship, schools, churches, fraternal organizations, mail service, telephone lines, elegant highways and social activities, have developed as if by magic, along with attractive farm and urban homes, broadly productive fields, profitable gardens and beautiful door-yards. Schools are of a very high order, having direct affiliation with colleges and universities throughout the country; churches represent practically every denomination, with able leadership; all fraternal organizations have a footing here, and many of them have lodge homes; daily city and rural free delivery of mail, establish and maintain a contact with all outside points; telephones, rural and city, are in general use; highways of the best class, connect the various communities; social affiliations are unsurpassed, and activities are varied; while the farm and home conditions are most inviting.

TRANSPORTATION AND MARKETS

The "Shallow Water Country of Northwest Texas" could not have better facilities for transportation than those available through its proximity to the Santa Fe Lines. The Santa Fe Railway through its various branches and mainline connections, traverses eleven

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of the twelve counties named as included in the "proven" shallow water territory, and most efficiently serves many others next adjoining these. Numerous daily trains in both freight and passenger divisions of the traffic, render transportation here, equal in all things, to such facilities found in the older and more thickly populated states. The recently completed Lubbock-Texico Cutoff places Bailey, Lamb, Hockley and Lubbock counties, directly on the Gulf to California mainline, and contact is thereby established with not only all Texas but New Mexico and Arizona as well as Pacific coast points. The southern track of the main trans-continental line from Chicago and Kansas City to the Pacific coast traverses Randall, Deaf Smith, Castro and Parmer counties, while the line joining these two trunk lines, extends from Lubbock to, and through Hale and Swisher counties, connecting with the Chicago-Kansas City to Coast mainline in Randall county. A branch road of the Santa Fe also extends out of Hale into Floyd county, with both freight and passenger schedules for adequate service. By means of this superior transportation scheme, the "Shallow Water Country of Northwest Texas," is brought into direct touch with the markets not only of the Panhandle and Plains Country and the state of Texas as a whole, but also with those of great northern, southern, eastern and western districts of the country. Already the livestock and farm products of this vast, new and rapidly developing territory are finding a growing demand in the widely separated markets of the country. Fast daily freight schedules are alike efficient and popular as a means of quickly transporting livestock and grain, hay and forage to the different marketing centers. There is a steady and vital move among the farmers, to market their forage and hay crops through feeding them to livestock, and shipping out in the form of beef, mutton, pork, cream, eggs and poultry meats, instead of selling the products direct from the farm, in their original state. In this manner, there is a great concentration with reference to space required for shipping, as well as a mighty increase in prices and profits, while the residue from the animals is left on the land. Through the extraordinary transportation facilities furnished by the Santa Fe, markets at comparatively remote distances are brought within easy reach of the producer in the "Shallow Water Country of Northwest Texas."

CROPS ADAPTED TO COUNTRY

Alfalfa, kafir, milo maize, feterita, sorghum, corn, Sudan grass, wheat, oats, barley, rye, millet, emmer, speltz, cotton, peanuts, sugar beets, sweet potatoes, tomatoes, peas, beans, pumpkins, squashes, beets, turnips, cantaloupes, watermelons and practically every other known vegetable yield abundantly here. All of the orchard trees do exceptionally well, and grapes in this locality have produced on a scale equally

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good both as to quantity and quality, as in the far famed grape producing sections of the United States.

ALFALFA, SUDAN GRASS AND MILLET

Alfalfa is unquestionably, the leading crop grown in the "Shallow Water Country of Northwest Texas." This is true for many reasons: Its immediate value at harvest time, as a "cash crop"; its worth as a feed for all classes of livestock, based on its proteinous content: its uniform success as a pasture for hogs, especially; its power to remove free nitrogen from the air, and store it in the soil. These are but some of the reasons, why alfalfa, which adapts itself so readily and gives such a luxuriant growth in the "Shallow Water Country of Northwest Texas," has been assigned to the place of honor, in considering the value of haying crops. High germinating test of seed through a complete "stand" even on sod land, is considered evidence indisputable that this is a natural alfalfa country. The plants put on vigorous growth from the very first, and five cuttings per year, with a yield of from five to seven tons per acre, is not considered abnormal in any way. Investigation among the irrigationists specializing in the production of alfalfa, leads to the determination that where the full number of irrigations are applied to the crop each year, the total cost covering every phase of expense, approximates \$5 per ton to deliver the baled hay at the shipping point. It is further shown that the gross returns from the crop vary from \$10 to \$18 per ton, in view of which fact, no interested party need be uninformed as to profits derived from his irrigated alfalfa. Of course, during those seasons when the natural rainfall is so ordered as to meet the requirements of the crop from time to time, the expense incident to production will be lowered, and the net profits correspondingly increased. The \$5 per ton estimate is based on the calculation of full and liberal irrigations whenever needed, and even when natural precipitation is most indifferent in its visitations. Another source of revenue, and one certainly worthy of a prominent place in considering the value of alfalfa, as a highly desirable crop for irrigated farms, is the seed production. Under irrigation in the "Shallow Water Country of Northwest Texas," an acre of land may be depended upon to produce from eight to eleven bushels of seed, for which a standard price of \$8 per bushel is considered normal. Ordinarily the production of a seed crop will require as much time as that given to the production and handling of two crops of hay, and may be safely estimated on that basis. From the foregoing statement as to costs of production, selling prices, etc., with \$1 per bushel added for threshing the seed, expense and profits are readily determined. Alfalfa, when fed to livestock on the farm where grown, will be found to yield far greater profits than when sold for cash at the time of harvesting, and shipped out of the country. Beef animals, dairy cows, sheep, hogs,

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horses and mules, are known to be excellent avenues through which to reduce the nutritious alfalfa to a more highly profitable form.

Sudan grass, while a comparatively new crop, has a distinctive value for hay, and properly handled under irrigation, in the "Shallow Water Country of Northwest Texas," will produce from four to five cuttings per year and an aggregate tonnage of from nine to twelve tons per acre. While the feeding value of Sudan grass is inferior to alfalfa, it is superior to millet, and its great volume entitles it to favorable consideration. As a pasture crop for all classes of livestock, Sudan grass is destined to increase in popularity with the passage of the seasons. This crop, according to method of handling, will produce a seed crop and two cuttings of hay annually. From fourteen hundred to two thousand pounds of seed may be produced per acre from the one crop.

Millet under irrigation in the "Shallow Water Country of Northwest Texas" is usually handled as a "follow up" for wheat or other small grain crops, and where so handled will produce three tons per acre. It is also used with good effect as an initial crop for sod lands, having a tendency to overcome the turf of the native grasses and to break up the root masses present in such new soil.

KAFIR, MILO MAIZE AND FETERITA

Kafir, milo maize and feterita, usually called the "kafirs" or "grain-sorghums," are recognized as crops of vast importance in the "Shallow Water Country of Northwest Texas," and produce surprisingly heavy tonnages, both forage and grain of an excellent quality, when handled under irrigation. So hardy and vigorous are these crops, that it is seldom when more than one thorough irrigation is required to secure maximum yields of fodder and grain. Grain and fodder of these crops compare favorably with Indian corn in feeding value, and the yield is considerably in favor of the "kafirs." Kafir, while producing a fodder of a rather superior order, compared with milo maize and feterita, shows a lighter seed production than either of the others, and ranges from sixty to eighty bushels per acre. Milo maize has a stalk and fodder not so good as kafir, but exceeds that crop in the showing of seed, the range being from eighty to one hundred and ten bushels per acre. Feterita fodder is about equal in feeding value with milo maize, and the seed production does not vary radically. On account of the short period required for the growth and maturity of feterita, it has a value as a "follow up" crop after wheat or other small grain. These grains are finding an ever widening market, extending to all points of the United States and are becoming a factor in the exports of this country. The manufacture of food products from these grains, is also adding to the profits connected with producing them.

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These crops also have a great value for silage, as well as feeding the grain to hogs and other livestock.

WHEAT AND OATS

Wheat, standing alone as a cereal in its class, is one of the highly successful and profitable crops under irrigation in the "Shallow Water Country of Northwest Texas," and produces from forty-five to sixty-five bushels per acre. Spring varieties are favorites for handling under irrigation, but the hard winter wheats have proven satisfactory, and both kinds possess good milling qualities. The annual surplus millions of bushels of wheat not used for milling in Texas, find an outlet through transportation along the Santa Fe Railway and export shipping from Galveston, this item alone, being one of vast importance to the farmers of all this country. The wheat of Northwest Texas has established for itself an enviable standard, both in domestic and foreign markets.

Oats grow readily and produce abundantly in all this section, when rightly handled. This crop finds an inclusion in practically all irrigated farm schemes, and large yields have been recorded.

COTTON

Cotton, like other crops, has responded with increased production to the judicious application of irrigating water, and yields in excess of one bale per acre, are by no means unusual. This is another of the crops requiring but limited application of irrigation water, supplemental to the natural rainfall, to assure best results. Cotton growing in this portion of the state is of comparative recent date, but it has been produced for a sufficient period to make for itself a place among the staple and dependable crops. Added interest is found in connection with the growing of this crop in the "Shallow Water Country of Northwest Texas," by the proximity of the celebrated Postex Mills, at Post, Texas. This magnificent mill, declared by experts to be the most perfect in its appointments and equipment in the world, belongs to the estate of the late C. W. Post, and cost approximately \$1,000,000. Cotton of notably strong fiber, picked from the fertile fields of Northwest Texas, finds its way by continuous process, through the Postex mills, from raw material into finished hemstitched, carefully ironed, folded, labelled and packaged sheets, of unsurpassed quality. This mill enterprise is an index of the character of the industries and of the people of Northwest Texas, a country of possibilities and accomplishments.

SUGAR BEETS

Sugar beets have not been produced on a commercial scale in the "Shallow Water Country of Northwest Texas," but they have been "tried out," and analysis shows that the sugar-content of the crop was from 15 to 18 per cent. The crop yielded from 14 to 18 tons per

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acre of commercial stock. The soil and water were proven to be entirely well suited to this crop, and when conditions are favorable to the establishment of factories, there is every reason to believe that this crop will be grown quite extensively throughout this section.

BEEF PRODUCTION

The "Shallow Water Country of Northwest Texas" is unsurpassed for the production of beef. This is due to a combination of conditions. The climate is uniformly mild, enabling the producer of beef to "range" his animals in the open during the entire year, winter and summer without shelter, except possibly during an occasional brief period of unfavorable weather, when cheap, open sheds furnish all protection necessary. This was the natural country of the American buffalo, and after that the range cattle of the early period, and these in turn were followed by the good "grades" and thoroughbreds of the present. The climatic conditions are just as gracious to the improved animals as it was to their predecessors, a fact that absolutely assures maximum profits on the investment. While in other countries where beef is produced, a most appreciable percentage of the feed stuff goes to create body heat to counteract the cold of winter, here practically all of this nutrition finds its way into the accumulation of weight. Bright, balmy days dominate the weather chart in all this section, so that the beef animal continues in the open, to lay on profit producing flesh. Then, there comes this additional condition, to aid and make secure the producer, in his venture: No country in the world produces alfalfa and other hay crops, together with the "grain-fodder" crops, better than here. A natural livestock country, with an adaptability to livestock feeds in highest degree. Producing alfalfa hay, kafir, milo maize, feterita in enormous tonnages, cottonseed products are also available from the crops grown right in this section, to give just the balance needed in rounding out the finishing of high class beef, within the shortest time. Silage of a superior quality, as well as in immense quantity per acre, is produced from kafir, milo maize and feterita, aiding with the finishing of beef at a cost as low as in any other section of the United States. As an illustration of the statements contained in the foregoing, the following showing results secured by C. O. Keiser, of Canyon, Texas, on one hundred and thirty-one head of calves from fourteen to sixteen months old at time of sale:

Twenty six of best weighed 965 pounds each, and were sold on the Kansas City market at 9 cents a pound, or \$86.85 per head.

Ninety five remaining and weighing 877 pounds each, were sold on the Kansas City market at 8.85 cents a pound, or \$75.41 per head.

These calves were sold just seven months after they were weaned, and an accurate account of all expenses,

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ABUNDANCE OF WATER FOR ALL CROPS

shows that the cost per pound of flesh gained was $4\frac{1}{4}$ cents. Kafir and milo maize silage, grain and fodder, in addition to a limited quantity of alfalfa and cottonseed cake, all produced here, rounded out the ration of these richly profit-bearing young animals.

Traversing every part of the "Shallow Water Country of Northwest Texas" as it does in such a thorough way, coupled with its surpassingly convenient schedules, the Santa Fe Railway, brings the markets of Fort Worth, Houston and Galveston on the south, Chicago, Kansas City, Oklahoma City and Denver on the north and east and other points on the west, at the very doors of the producers of beef in this section. Fast through special freight service is available to every point at which it is desirable to market beef cattle and other products, so that the raw material may be transformed into cash in a surprisingly short time, the animals reaching destination in best condition. Everything connected with the breeding, growing and finishing of beef animals, down to the highly specialized transportation system, renders this favored section, a sure producer of profits through this channel.

DAIRY FARMING

As in many other irrigation districts, dairy farming is quite profitable in the "Shallow Water Country of Northwest Texas." In view of the prevailing conditions, described largely in connection with the foregoing mention of beef production, dairy farming is destined to become one of the leading industries within this territory. Silage, alfalfa, kafir, milo maize, feterita grain and fodder, combine to give a cheap and thor-

oughly balanced ration of richness and high qualities of production, through the dairy animal. It would probably not be possible to find marketing conditions better on any commodity than on dairy products, in view of the fact that the state of Texas has never given sufficient attention to the business to supply her own demands, having a steady and enormous import of butter, cream and even milk, from other states. As to facilities for handling an increased cream production, it may be said that there are creamery plants now in operation at Amarillo and Plainview, Texas and in the nearby cities of Clovis, Roswell and Albuquerque, New Mexico.

PORK PRODUCTION

Pork production, like the growing and finishing of beef animals, and dairy farming, is another branch of farm enterprise for which all conditions are highly favorable, and from which profits are quick and sure. Already this industry has a strong hold in the "Shallow Water Country of Northwest Texas," where the "grain-sorghums" including kafir, milo maize, feterita grains coupled with alfalfa pastures, furnish an unsurpassed feed, very cheaply. Coupled with ideal climatic conditions, by reason of which housing is unnecessary, the net income is not only certain, but also liberal. The absence of hog diseases in the territory is another source of gratification and saving, as well.

POULTRY

Increasing demands for all classes of poultry, including chickens, turkeys, ducks and geese, render their

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SHOWING, "LAY" OF LAND AND CROPS IN SHALLOW WATER DISTRICT

production in the "Shallow Water Country of Northwest Texas," highly desirable and profitable. This venture is not a new one, and each succeeding year witnesses a steady increase of the different farm fowls mentioned. All conditions including climate, freedom from diseases, insects and other harmful influences, as well as the plentiful and cheap though superior feed found in kafir, milo maize and feterita grain, alfalfa, wheat and other green pasture, blend to give greatest profits from poultry production throughout all this country. Not only poultry meats, but eggs are in constant demand, at good prices. It is probable that the fluctuation in prices on these commodities within all this section of Texas and adjoining territory in other states, is less than in the major portion of poultry sections.

FINISHING MUTTON

Another great source of profit in livestock feeding in the "Shallow Water Country of Northwest Texas," comes through the finishing of mutton from sheep available from the non-irrigated ranges in adjoining territory, both of Northwest Texas and Eastern New Mexico. It is here that the sheep feeder and the sheep raiser can easily get together, the distances between them in the majority of cases, is not sufficiently great to require shipping. This is a great advantage over many of the other mutton finishing districts, in which it is not only necessary to ship the sheep in, but also the grain portion of the ration needed, both from comparatively long distances. In this irrigated territory of Northwest Texas, the sheep can be driven from

the ranges, to the feeding and finishing lots of the farmer without any intermediate haul, to be finished on bountiful yields of alfalfa, combined with fodder and seed of his kafir, milo maize and feterita. If silage is desired to combine with the fattening ration, large quantities can be easily produced on a limited acreage. It is doubtful if any section within the United States offers superior advantages for this class of livestock feeding.

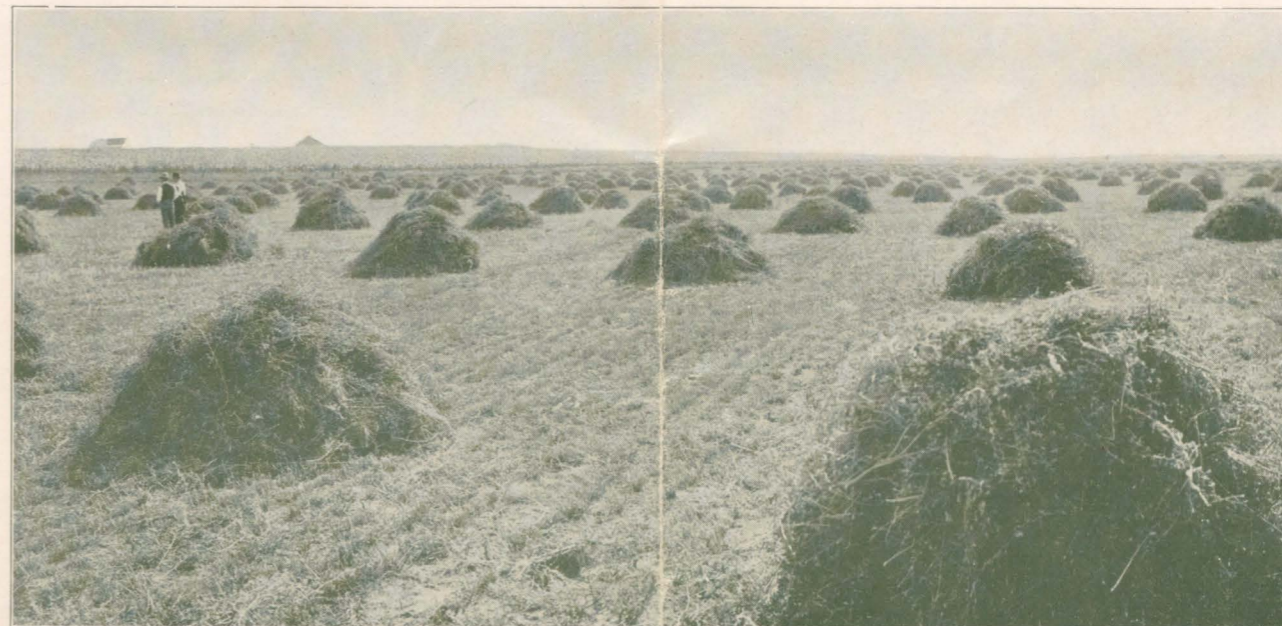
SILAGE FEEDING

Silage as an adjunct to the general livestock ration, has become quite popular within the "Shallow Water Country of Northwest Texas," and at no point has its use failed to fully justify every intelligent claim made for it. So true and well demonstrated is this fact, that hundreds of new silos are being installed annually throughout Northwest Texas. Silage combined with the fodder and grain of the "kafirs" and alfalfa and other hay, is giving almost surprisingly good results in connection with all livestock enterprises of this territory. Critical feeders state that their profits in many instances, have been practically doubled through the judicious and liberal introduction of silage in to their ration scheme.

SANTA FE'S AGRICULTURAL DEPARTMENT

Through its Agricultural Department, headed by H. M. Bainer, as agricultural demonstrator, at Amarillo, material assistance is given the farmers throughout the "Shallow Water Country of Northwest Texas." Mr. Bainer has studied at first hand, prevailing conditions of the section, and through this means gained accurate

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ALFALFA PRODUCED UNDER IRRIGATION IN NORTHWEST TEXAS

and dependable information relative to adapted crops, their planting, cultivation and harvesting, as well as marketing, and gladly gives this to all farmers within the territory. As has no other one man within all this territory, Mr. Bainer has specialized on all the vital and important features of farm success in Northwest Texas. Based upon tests, the major part of them under his own hands and personal supervision, Mr. Bainer gives out only statements of unquestioned dependability. He spends a great deal of time personally, in the districts, and in addition has a number of assistants available for detailed assignments for the benefit of the farmers. The Agricultural Department of the Santa Fe is recognized as a most potential force, connected with the flattering farm successes in this territory, and is available to the needs of all engaged in any of the allied agricultural enterprises. Lighter and heavier questions, calculated to perplex or "bother" the farmer, may be referred to the department, with assurance that they will receive alike prompt and reliable replies. This service is without any cost whatever, to the farmers whether they have recently arrived, or are "old-timers." This free information and assistance will deal as directly with irrigation development, as with the crops themselves. Expert advice on the elevation and application of water, according to the needs of the various crops, is always available through this department.

CLASSIFICATION INTO DISTRICTS

For convenience, and out of deference to community understanding as to terms, a more minute description

will be found in the following paragraphs, of the various subdivisions of the "Shallow Water Country of Northwest Texas." It is only out of consideration of these conditions, that the subdivisions are referred to as districts, and not that preference is shown herein to either one or the other of the cities, towns or locations, giving rise to a name in connection with any particular district.

HEREFORD

The Hereford District, so called by reason of the original development of irrigation by pumping next adjoining the county seat of Deaf Smith, and extending later into Castro and Parmer counties, defines the extreme northern point in the present "proven territory." The wide areas of land within this district are ideally constituted with reference to topography, or "lay," "slope," "grade" or "fall," as well as to fertility and productiveness, depth and texture of the soil. Irrigation water has been, and is being developed in various portions of this district, and is applied with profitable results to practically all of the rather long list of crops mentioned in another part of this publication. Here, as elsewhere in the "Shallow Water Country of Northwest Texas," alfalfa is the chief crop grown under irrigation by reason of its ready adaptability as a cash, a hay or pasture proposition. The "grain-sorghums" are also important items of the farm schemes of this district, while wheat, oats and the other small grain and haying crops do quite well and show abundant yields under irrigation. Fruits, berries, vegetables and grapes, along with the cantaloupe and

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BEEF CATTLE

watermelon, make a fine showing. Cotton is probably the only crop mentioned in the entire list, that would not show maximum results under approved cultural methods, within the Hereford district, and even this Southern staple has given satisfactory yields, under demonstration. In this district, like each of the others indicated herein, volume of water is determined by size of well and power of pumping machinery used. Complete adaptability to all of the livestock enterprises mentioned in this booklet, is shown in this subdivision of Northwest Texas, and they have justified by actual test, every claim made for them. Transportation and marketing facilities mentioned apply to the Hereford district, it being traversed by the Chicago-Kansas City to Coast mainline of the Santa Fe Railway. Hereford, the metropolis of the district bearing its name, is an enterprising and modern little city, embodying the numerous facilities, public and private, attaching to, and demanded by modern urban civilization. Other towns in the district include: Dawn, Joel, Summerfield and Friona, composed of, and surrounded by live, energetic and prosperous farmers, and having within their confines such facilities and improvements as would naturally be expected in communities of similar size, elsewhere within the United States.

PLAINVIEW

The Plainview District takes its name from the capital of Hale, and is composed of parts of Floyd, and Brisco counties, and is more thickly dotted with irrigation wells than either of the other subdivisions of the "Shallow Water Country of Northwest Texas,"

representing a wider area than any other within the territory. The Plainview, like other districts named, is within the "test-proven" class, and profits are being reaped, according to the area planted to them, from all of the crops mentioned in the "adapted" list, and a number of others, besides. Beginning with alfalfa at the head of the farm-crop-family, it may be said that maximum yields are being, and have been produced from all of them, within this district. Highly specialized cantaloupe, melon, vegetable and fruit culture, have demonstrated the value of these items as revenue bearers, under irrigation conditions. Vegetables and fruits, covering a wide range and formerly believed to lack in adaptability to conditions prevailing in Northwest Texas, have amply refuted these impressions, through yields of such volume and quality, that not a suggestion of question could remain. Prize-taking products in the various classifications, exhibited in connection with a number of exposition enterprises both in and out of Texas, have awakened a comment far-reaching and favorable. Hogs ranging on alfalfa and finished with the "kafir" grains, have demonstrated their worth many times, and have occupied space in the public prints of Texas as "topping the Fort Worth" and even out of state markets. Purebred porkers, quickly grown and heavily proportioned, take their place, rather importantly towards the top of the class, as money makers. Their value as transformers of alfalfa pasture and "grain-sorghum" seed into cash, is claiming attention of irrigation farmers throughout the district. Baby beef, dairy farming, poultry production and marketing have not been overlooked

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HOGS AND ALFALFA

in this portion of the vast irrigation territory of Northwest Texas. Transportation facilities, and through them direct and intimate touch with markets, is furnished by the Plainview Branch of the Santa Fe and the Floydada Branch of the same railway, touching on the north the Chicago-Kansas City to Coast mainline at Canyon, and on the south, the Gulf to Coast mainline at Lubbock, Plainview, the most important city within the district, has all necessities and luxuries demanded by a highly civilized people. Other important, enterprising and progressive urban communities are: Floydada, Lockney, Hale Center, Abernathy, Aiken and Silverton.

BLACK WATER VALLEY

The Black Water Valley District, confining itself to portions of Bailey and Lamb counties, certainly cannot be accused of taking its name from any color or other undesirable characteristic of its irrigation waters, for these are as sparkling, crystal, pure and abundant as those found at other points in the "Shallow Water Country of Northwest Texas." The distinguishing characteristic of the Black Water district, if such it has, is found in the shallowest water so far developed within the territory, the supply being struck at a depth of from eight to ten feet, in more than one instance. No exception is made from the long list of crops grown in other portions of the irrigation area, as applied to the Black Water Valley. Tonnages of alfalfa, even from first-year crops have attained to maximum records, as given in the different localities, while the other hay and forage-grain as well as small grain crops, have fully

sustained the reputation of the district as equal in fertility and production, to anything shown elsewhere. Livestock enterprises handled on an intensive and scientific basis, have been very successful and satisfactory, with the result that every such venture has been rich in returns, and has encouraged an expansion of operations in this line. Hogs and poultry are being given more consideration, along with the production of alfalfa and grain, and each departure from the strict crop producing routine, has demonstrated the worth of its inclusion under the irrigated farm scheme. In this district a small canning enterprise has been started as a means through which to preserve and market the superior tomato and sweet potato crops. Soil, deep, rich and productive within the Black Water as well as other districts, is a trifle more sandy and lends itself easily to highly intensive cultivation, and that without unfavorable and troublesome features. Demonstrations on celery, spinach, rhubarb, egg plant, salsify, parsley and numerous of the other more tender and exacting vegetable growths, have left no doubt of their adaptability, neither that there is profit in their production. Transportation is furnished in this district by the Gulf to Coast mainline of the Santa Fe, upon which double daily freight service is maintained. The towns in the Black Water district are Muleshoe, Janes and Olton.

TULIA

The Tulia District, unlike a number of the others mentioned as fractional parts of the "Shallow Water Country of Northwest Texas" is confined entirely to

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TURKEY RAISING IS A PROFITABLE INDUSTRY IN THIS SECTION OF TEXAS

portions of Swisher county, instead of extending into different sections of adjoining counties. While the Tulia district is among the newest within the "proven" territory, its wells have in all things sustained the general reputation of the section, both as to quality and quantity of the water, and the soil characteristics are uniform. Fertility and productiveness have been demonstrated beyond doubt through the growing of a wide range of crops, embracing all mentioned items with maximum yields, with the single exception of cotton, and even this has given results demonstrating profits. Beef production is by no means new within the Tulia district, and this is being supplemented with dairying, hog raising and poultry growing and marketing. In each and all of these lines there is a distinct activity, and the products are in ready demand at attractive prices. The more staple crops and enterprises have dominated production in the Tulia district, but the inclusion of the smaller items grown generally in all of the widely diversified irrigation farm schemes will come later. There cannot be a question but that the Tulia district offers opportunities of production equal with each of the others mentioned within this publication. These fuller inclusions will be made with the more general occupancy of developed irrigation tracts. Every demonstration so far conducted has brought to fruition visions of success entertained by enthusiastic farmers within that particular subdivision. Silos are a prominent feature of this district, and the feeding of silage to livestock in connection with the forages and grains, is a source of added revenue at a rapidly advancing ratio. Hogs are grown within this

district and their production is augmented by the prevailing, favorable, climatic conditions and other features so conducive to rapid growth and development, all over Northwest Texas. Transportation from, and into this portion of the "Shallow Water Country of Northwest Texas," is had through the Plainview Branch of the Santa Fe Railway with daily double freight schedules, leading north to the Chicago-Kansas City to Coast mainline at Canyon, and south to the Gulf to Coast mainline at Lubbock. Tulia, the county seat of Swisher county is the metropolis of the district and is attractive, progressive and homelike, the other towns being Kress and Happy, both live and enterprising.

LUBBOCK

The Lubbock District lies wholly within Lubbock county, and has fewer irrigation wells than any other subdivision of the "Shallow Water Country of Northwest Texas," which fact is due to inattention of artificially applied water, and good and profitable crop production, with the natural rainfall and scientific methods, rather than any inability to develop and apply the irrigation waters with a showing of net gains. Not only has the tendency to confine farm operations to development of paying crops without irrigation been shown in Lubbock county, but likewise in adjoining territory, in which there is every reason to believe that water lies sufficiently near the surface to render irrigating by pumping profitable. Every item listed in the number of adapted crops, and numerous others in addition, produce abundantly within the

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WHEAT GROWN IN NORTHERN TEXAS

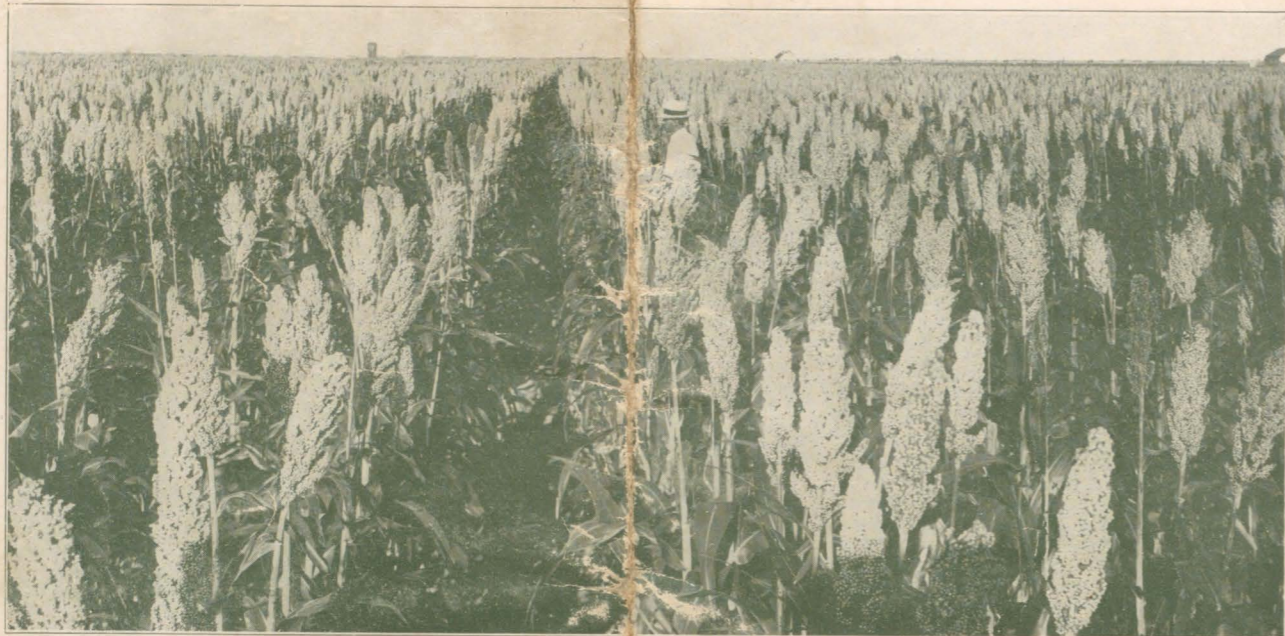
Lubbock district. Fruits and vegetables have shown their especial fitness for the district now under consideration. Prize-taking specimens have been grown, covering a wide range. Grapes have attracted a great deal of attention, their flavor being of the best, and the yield almost surprisingly heavy even on young vines. Sudan grass, the new and thrifty member of the sorghum family, that is so rapidly forging its way to the front, has attracted much attention in the Lubbock district, and in addition has brought to its growers profits on a most liberal scale. Alfalfa too, has asserted its "kingship" in the Lubbock district, and every known desirable characteristic of the soil demanded by this crop is present and available. Hogs grazed upon alfalfa pastures and finished on kafir, milo maize and feterita grain, have demanded maximum prices from critical buyers in this and other states, bringing cash returns at a rate that dispels all doubt as to the success of this branch of the livestock enterprise in connection with the irrigated farm. This county has specialized its cotton production, and has gathered yields of almost two bales per acre. Under normal seasons, with reference to prices received for cotton, a single year's crop would go a long way towards paying for the land upon which it was grown. Beef cattle is another of the prolific sources of profitable investment within this district. Dairy farming is rapidly coming into its own. Lubbock is the chief city of the district bearing its name, being attractive, progressive, appealing and splendidly appointed, and is the junction point between the Plainview Branch and the Gulf to Coast Santa Fe mainline. Its other town

is Slaton, a clean, progressive and inviting place, the division point of the Gulf to Coast line of the Santa Fe.

LITTLEFIELD

The Littlefield District embracing portions of Lamb and Hockley counties, differs in no material fact from others of the subdivisions, except in the number of wells and extent of area. It is just as fertile, productive and level, with an adaptability as wide as that found throughout this Northwest Texas territory. Its transition from a vast cattle range to intensified farming, under a superior system of irrigation by pumping is but recent, and therefore the demonstrational production to this date, does not embrace quite so many crops as have been tried out in some of the other districts. Immense yields of kafir, milo maize, feterita, broom corn, Indian corn, alfalfa, millet and other grain and hay crops, coupled with a line of vegetables and melons were shown from first-year sod land, through the application of water by pumping. These demonstrations prove that the Littlefield district is possessed of every desirable quality necessary to production of crops, shown by the other sections. Opening of this district to any class of farming is so recent, that as yet there are no really thickly settled neighborhoods, but school, church and other facilities have been provided, and every venture connected with agriculture through the application of the irrigating waters, has been rich in returns. Samples of the products from this new district have awakened the admiration of irrigation experts, and the incoming seasons will witness the subjugation of vast additional areas, for crops of

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1914 CROP OF IRRIGATED KAFIR, ESTIMATED YIELD, 80 BUSHELS PER ACRE

the various sorts. Cattle breeding, raising and marketing, in connection with the grain and forage crops, will doubtless continue as in the past, to claim a goodly share of attention. Hogs have responded readily to the crops and conditions of the district, and the income from these, shows a rather flattering net profit. It seems entirely safe to conclude that the porker will have a general inclusion in every diversified, irrigated plan of the Littlefield farmer. No portion of the Northwest Texas territory gives better returns from poultry, and the hen is taking her rightful and legitimate place along with the cow and the hog. Market gardening presents in the Littlefield district, every promise and inducement given in connection with any of the other points to which reference is made in this folder. Market garden experts testing this soil, declare that it is great. Littlefield is the principal town within the district by its name and is directly on the Santa Fe Gulf to Coast mainline, and is thus assured of exceptional facilities for transportation of products.

LAND VALUES

Values of the lands included in the foregoing descriptions, vary far more in price, than in quality and adaptability to profitable production. Prices of land within the "Shallow Water Country of Northwest Texas," are determined largely by their proximity to the railroad, and the improvements or lack of same thereon. Lands within easy reach of the railroad,

unimproved, though subject to profitable irrigation by pumping, range in price from \$25 to \$60 per acre, governed as heretofore indicated. Subjected to the same enhancing or depressing influences of determination, improved lands, with well and equipment and some farm buildings, may be bought at from \$50 to \$100 per acre. It is probably fair to say that in some instances, unimproved land subject to irrigation by pumping with profit, may be bought for somewhat less than the above figures, and also that an occasional tract may be found for which a higher price would be demanded. The same character of comparative statement might also apply with truth to the improved tracts: An occasional lower or higher price, but the average range is what it is desired to present in these statements.

DEVELOPING AND SELLING AGENCIES

It seems only fair at this time to say that there are reliable developing and selling agencies interested in each of these districts of the "Shallow Water Country of Northwest Texas." Representatives of these concerns may be found at the principal cities and towns within their respective jurisdictions. Some of these agencies have gone to much expense to develop and demonstrate the productive powers of the soil, and have given careful attention to such questions as adaptabilities of, and possibilities from well directed irrigation and cultural methods.

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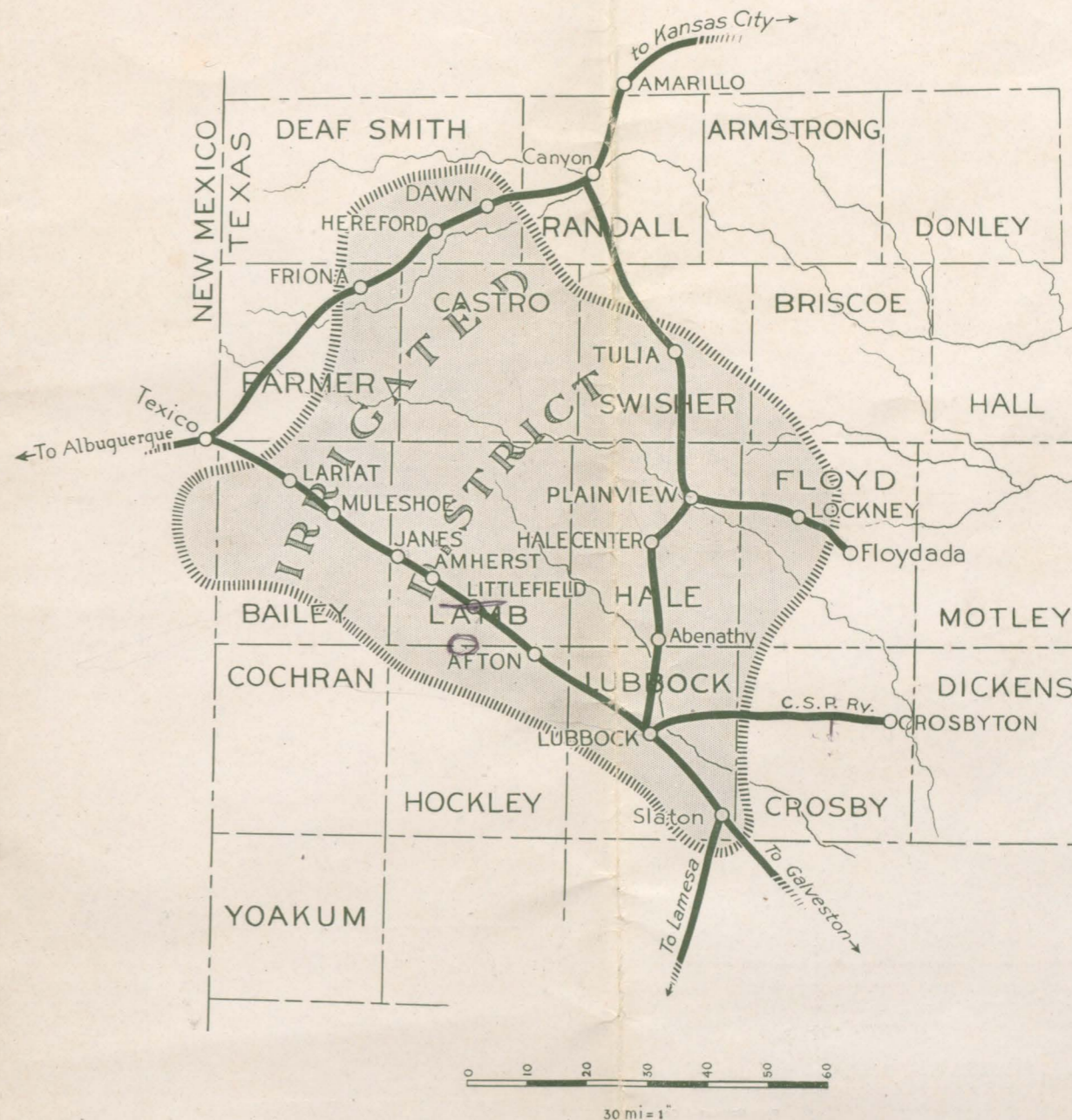
HOW TO GET THERE

Ask for information about how best to go and see the newly developed irrigation project in Northwest Texas. I will be glad to quote cost of tickets—time

of trains and tell you how best to see all the country in the least time.

C. L. Seagraves, General Colonization Agent
1115 Railway Exchange, Chicago, Ill.

MAP OF THE SHALLOW WATER DISTRICT





Shallow Water Country of Northwest Texas



If you are not certain just where you wish to locate, I will be glad to offer you every facility of this department to secure information about any section of the Southwest served by the Santa Fe.

C. L. SEAGRAVES, Gen'l Colonization Agent
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Published by
Passenger Dept.
Panhandle & Santa Fe Ry.
Amarillo, Texas

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