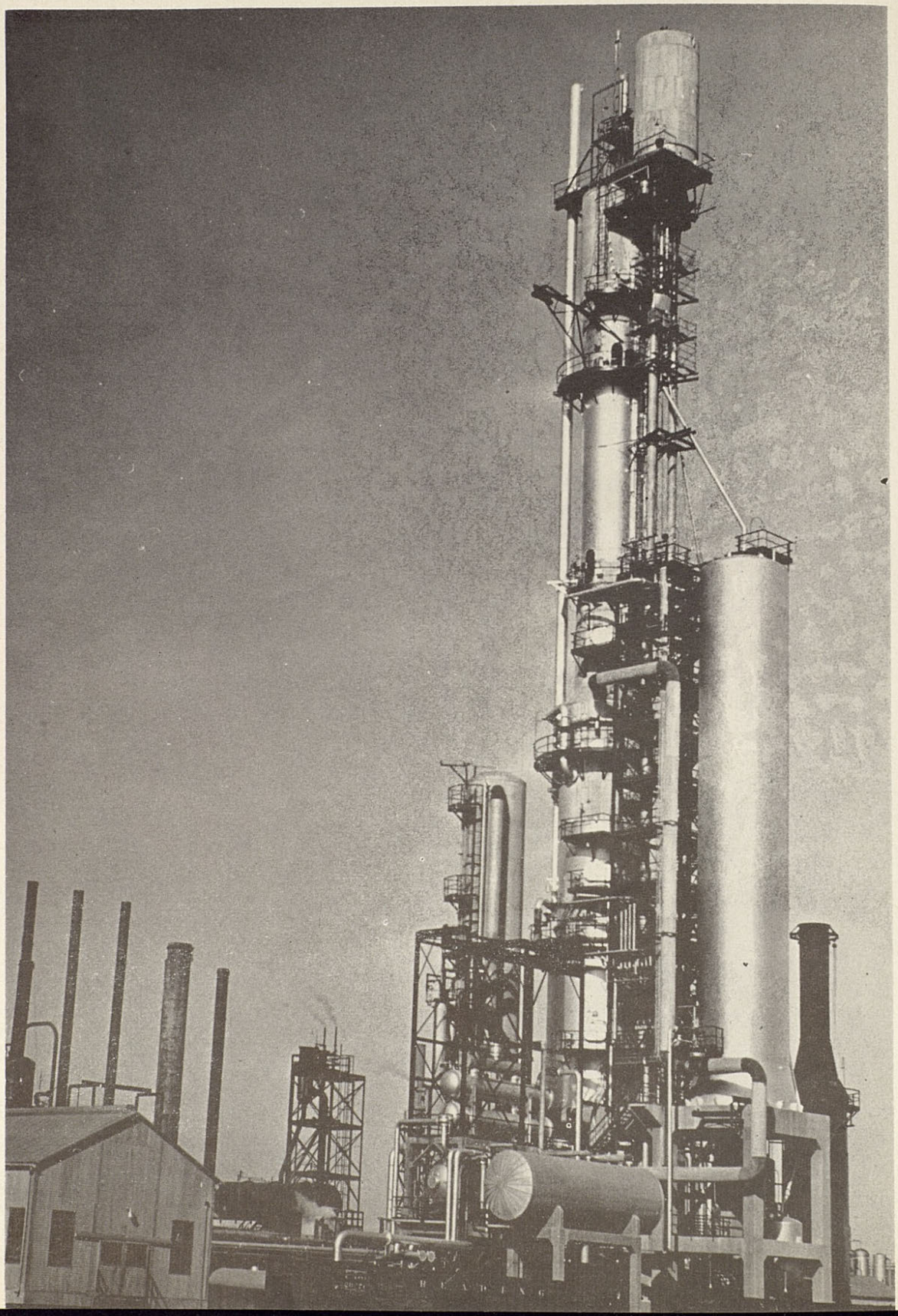
The SHAMROCK

JUNE — 1951



The SHAMROCK

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In This Issue

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The photograph of the Oldham County Courthouse was used through the courtesy of Roy Laing, Amarillo, Texas. The two photographs on page 12 were provided by W. C. Johnson, Soil Conservation Service. Other photographs in this issue are Shamrock Oil and Gas Corporation photos.

Shamrock's new "Cat Cracker" produces hi-octane blending components for new performance tested Shamrock gasolines

VEGA, TEXAS

This small community, county seat of Oldham County and successor to the famous old cattle town of Tascosa, lies in the heart of a vast region of big farms and ranches

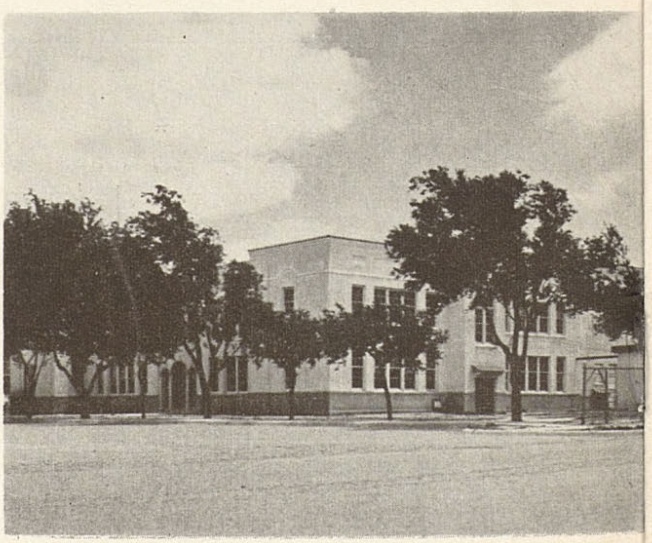
The proud little prairie town of Vega, 35 miles west of Amarillo, lies in the center of a vast domain of farms and ranches in the extreme western part of the Texas Panhandle. Successor to the almost legendary old cattle town of Tascosa as county seat of Oldham County, Vega, is principal trading center in the county and is the main shipping center for a large number of the historic ranches in the area.

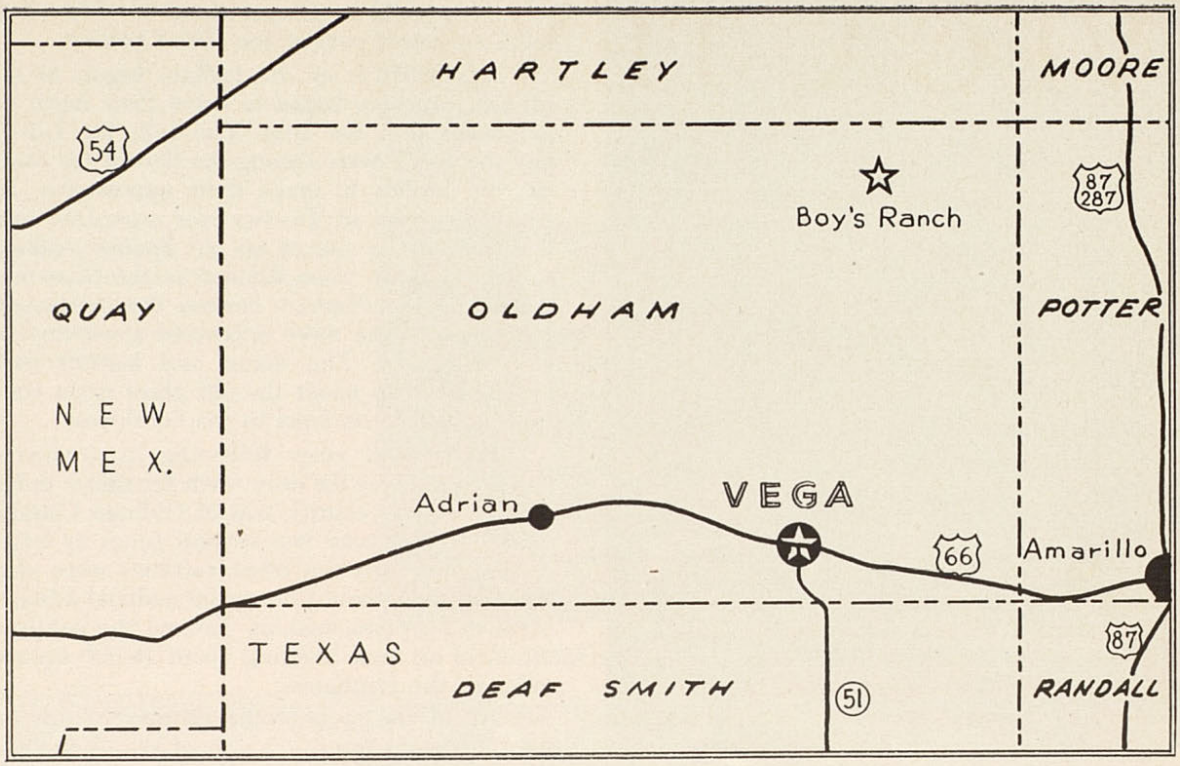
Although Vega boasts a population of scarcely 600 folks, its small size is no handicap to its record of solid community achievements nor does this small size inhibit the civic pride of its citizens. Vega is a town where unemployment is practically non-existent and where almost every business building and residence is occupied and has the general appearance of prosperity. The community supports a modern school system which ranks high among public educational institutions in the state. Four well-supported churches, a number of active civic clubs, 4-H clubs, boy scout troops and other progressive organizations attest further to the healthy community spirit of Vega.

As the center of a prosperous agricultural region, Vega bases its economy primarily on farming. Its business enterprises include four grain elevators, three grocery stores, clothing stores, a department store, several household appliance dealers, petroleum jobbers and dealers, complete banking service, dry cleaners, beauty parlors, automobile dealers, cafes, hotels, and many others. Its retail and wholesale establishments provide citizens of Vega and its large farm and ranch trade area with merchandise and services comparable to those found anywhere.

Vega's trade territory consists of Oldham County and portions of neighboring Deaf Smith County to the south. The southern part of this area is made up mostly of large farms while the northern part consists primarily of ranches, particularly in that region on each side of the Canadian River which snakes its way from west to east through the northern part of Oldham County. In Oldham County alone there are 152 farms and ranches comprising a total area of

Modern public school building at Vega



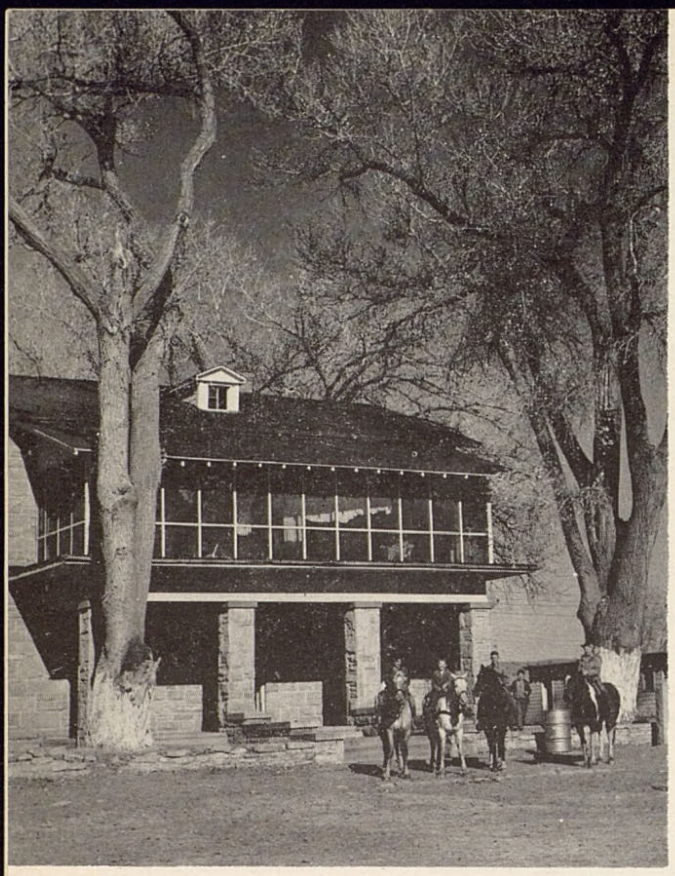


859,588 acres—an average acreage of more than 5,600 acres for each farm or ranch. Of the total area, 122,005 acres are under cultivation while the remainder is utilized as grazing land.

Farming activities in the Vega area consist almost entirely of the production of wheat and grain sorghums. The area is, of course, too far north for the growing of cotton and the climate is too dry for the successful production of legumes or garden-type crops without irrigation. Although a small amount of irrigation farming has been undertaken, most Oldham County farmers have concentrated on the development of dry land operations. Realizing that the greatest handicap in their agriculturel activities is a limited and irregular supply of moisture, these dry land farmers have learned by necessity many tricks and devices for utilizing to the best possible advantage the available moisture and for preventing the erosion of their fields by wind and sudden downpours of rain. Most of these farmers utilize terraces to pre-vent hard rains from washing their soil. By alternating wheat and grain sorghum crops, they keep a "cover" crop of some kind on their fields most of the time to prevent wind erosion. Even on fields which are left fallow between crops, they have learned to utilize modern power machinery in such a way as to minimize the danger of soil blowing.

While Oldham County farmers have been producing record wheat and feed crops for several years, most of them believe that even though the threat of drought is always serious, the damage resulting from a prolonged dry period would be much less than in the disastrous 'thirties. These modern farmers believe that improved varieties of wheat, modern farm machinery, and a better knowledge of good conservation practices make them better able to combat drought damage than farmers of 20 or 30 years ago.

The vast ranches in the vicinity of Vega ship large numbers of grass-fat cattle to eastern markets each year. These big ranches include the fabulous old Matador Ranch, the Mansfield and Green ranches, the familiar L-S brand, and several other outfits widely known throughout the West. Although farming activities have increased in importance in the past few years,



Tascosa is now the site of famous Boys Ranch. Boys above are pictured in front of old Tascosa Courthouse.

ranching has long been the number one economic enterprise in Oldham County. The broad prairies, once the grazing land of vast herds of buffalo, lured the first settlers into the area nearly 75 years ago. Many of the great ranches which these early cattlemen established are still operating.

Vega and Oldham County citizens are particularly proud of the history and traditions of their community. Old ruins, arrowheads, and other relics of a forgotten past indicate that settlement of the area began back in prehistoric times when Pueblo Indians built their villages along the Canadian River. Later, when Spanish explorers began to make their way into the northern frontiers of their once great southwestern empire, they found vast herds of buffalo roaming the grass-covered plains. For many years after the first explorations of the Spanish, buffalo hunters from all parts of New Mexico and Texas visited the area each year to kill and butcher the magnificent wild cattle of the prairies. Permanent settlement was restricted to a few Spanish villages along the Canadian until the latter part of the 19th Century.

About 1875, as the buffalo began to diminish, ranchers began to drive their herds of longhorns into the area. The L-S, the L-I-T, and the X-I-T were among the first of the famous old brands to make their appearance. In 1880, the town of Tascosa was organized and laid out on the site of an old Spanish village called *Atascosa.* Soon known as the "Cowboy Capital of the Plains," Tascosa was for many years one of the most important cowtowns in the Panhandle. The stories and legends that have grown up about the old ghost town continue to add to its fame in the Southwest.

For several years following its organization Tascosa was the only town for many miles around. It was county seat of Oldham County which at that time was several times as large as it is now. Sixteen other counties were also attached to Oldham County for judicial administrative purposes, making Tascosa the political center of an area covering about 16,000 square miles in the Panhandle.

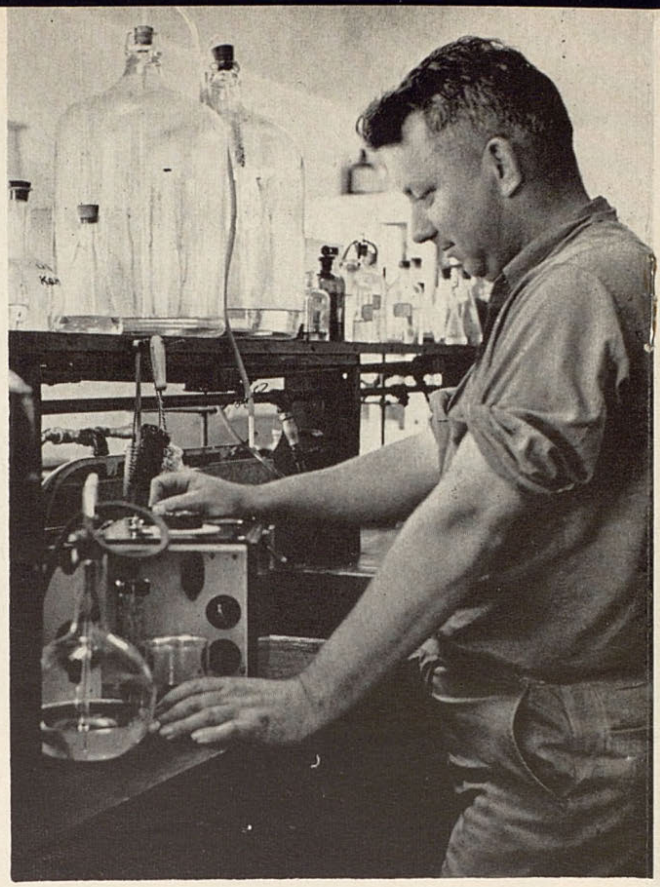
About the turn of the century, a few of the settlers on the south side of the Canadian, hopeful of railroad service into their area, felt that a marketing center was needed in the southern part of the county. In order to meet this need, the town of Vega was laid out in 1903 by A. M. Miller and Howard Trigg. Remembering his first impression of the townsite, Miller named the new town Vega, which means "grassy plot." A post office was established and the growing population, irked at the necessity of crossing the treacherous Canadian River in order to conduct official business at Tascosa, began to press for the establishment of the county seat at Vega. Following an election shortly after the town was settled, this was accomplished and the present court house was built in 1915.

After the removal of the county seat to Vega and the construction of the railroad into that community, the importance of Tascosa as a cattle center and a shipping point began to diminish rapidly and the historic old town was eventually abandoned. In recent years, it has again achieved considerable prominence with the establishment of nationally famous Boys' Ranch on the old Tascosa town site. Vega, however, has now become the commercial and political center of Oldham County.

Branding time on the old Matador Ranch near Vega. Scenes like this are still common on the vast cattle ranges of the Texas Panhandle.

Oldham County Courthouse at Vega.

1,600-Acre Laboratory



W. C. Johnson, soil scientist, is pictured above in the modern laboratory at the Amarillo Experimental Station.

In a laboratory consisting of approximately two and one-half square miles of Panhandle farm land, highly trained technicians are performing scientifically controlled experiments designed to aid southwest farmers in producing more and better meat and bread for the family dinner table.

This big laboratory is the Amarillo experimental and demonstration farm a few miles west of Amarillo, Texas, on U. S. Highway 66. The 1,616-acre farm is operated jointly by the Soil Conservation Service and the U. S. Department of Agriculture and the Texas Agricultural Experiment Station. Like any research laboratory, its purpose is to uncover new knowledge. But, unlike most laboratories, the knowledge which it seeks has to do with grass and crops and soil and cattle. Its test tubes and crucibles are the small strips and squares of green, gold, and brown fields where test crops are grown under all kinds of conditions.

The big experimental farm is under the direction of Dr. Charles J. Whitfield, who has headed its activities continuously since it was put into operation in 1937. Other personnel at the farm include C. E. Van Doren, a specialist in soil conservation; Norris P. Swanson, the farm's expert on irrigation; Kenneth Porter, whose primary responsibility is wheat and small grain breeding and sorghum adaptation studies; and W. C. Johnson, who, along with Van Doren, makes special studies of soils and how they can best be utilized. Until recently, Roger Hamilton, a specialist in weed control, was also employed by the experimental farm. He resigned a short time ago, however, to take a position with a private chemical firm.

The location of the Amarillo experimental farm was selected because of the nature of the soil and climate in that vicinity. The tight clay loam present on nearly all of the farm is similar to the soil found throughout a large part of the Southwest. The comparatively dry climate, punctuated at irregular intervals with torrential

rains, is also fairly typical of prevailing weather conditions over a wide area of the Great Plains.

The staff at the experimental farm endeavors to solve problems encountered by farmers primarily in the production of wheat, grain sorghums, and grass—the principal crops of the high plains country. Problems involving the best kind of wheat to grow in a specific area, the amount of irrigation water needed for certain crops and the best time to apply that water, methods of tillage for the prevention of wind erosion, year round cattle grazing—these and many other problems make up the routine work of the experimental farm.

The information resulting from studies made at the Amarillo station is compared with and checked against that resulting from similar studies made at other stations. Most experiments require several years of careful study and analyses, together with continuous comparisons and cross-checks with work being done at other stations, before any recommendations are released to farmers for commercial application.

The painstaking and careful methods employed at the farm are well illustrated by the work of Kenneth Porter in the breeding and testing of wheat and small grains. The problem here is to find new varieties superior to those already on the market. The system used by Porter in selecting suitable varieties of wheat for the high plains area requires several years of growing, selecting, and eliminating. New varieties are obtained by crossing one variety with another and selecting from their progeny. Seed wheat obtained from these crosses is planted in small head hills, each hill a few inches square and each representing a different vairiety of wheat. This year Porter is experimenting with approximately 6,000 new varieties. Of these, perhaps 1,000 will be saved for further testing. Next years and each of the next five or six succeeding years, a few more of these varieties will be discarded for one

Cattle raised on irrigated pasture at Amarillo experimental farm.

Kenneth Porter, small grain specialist at experimental farm, shows wheat test sample to Jim Bailey and Leonard Nussbaum, visiting Jaycees from Amarillo.

reason or another. At the end of a complete testing period, Porter may have developed a half-dozen new varieties of wheat from the original 6,000 which are superior, at least in this area, to varieties already in commercial use. Or he may find that none of these varieties meet the sandard of quality required.

The wheat varieties which do survive this rigid process of selection and elimination will also be tested in a similar manner at other stations. In the past 10 years, many thousands of wheat varieties have been developed, tested, and rejected in this way. But, during the same period, several new and superior varieties have been found. It has been estimated that perhaps two-thirds of the wheat varieties now in common use have been distributed to farmers since 1940 through experimental work of this kind.

The goal ofthe wheat breeding program at the experimental farm is to find new strains which will resist drought, rust, insect invasion, winter killing and other growing hazards better than present varieties and which will also make high-quality flour. In carrying out his experiments, Porter makes studies of wheat grown on both irrigated and dry land. Similar studies of other small grains such as barley and oats are also conducted at the Amarillo station.

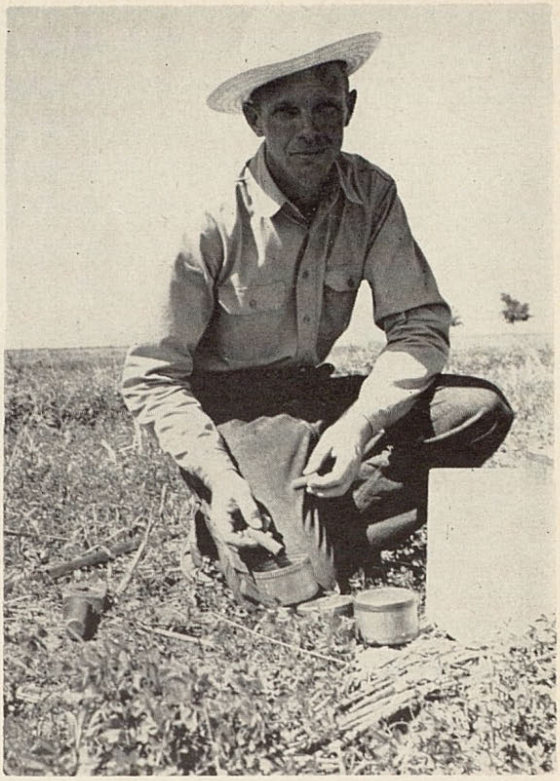
Another phase of the work at the Amarillo experimental farm consists of irrigation studies under the direction of Norris Swanson. The general purpose of these studies is to determine the mose effective irrigation methods and rates of application for various crops grown in the high plains area. The source of most of the water available for irrigation in this area comes

from water-bearing sands beneath the ground. Although the supply appears to be adequate for many years, there is a limit to how long it will last. It is important, therefore, that this water be used with maximum efficiency. In conducting his experiments, Swanson tries to determine as much as possible the correct amount of water needed for each crop. Not only is it uneconomical for the farmer to use more water than he needs, it is also wasteful of the supply.

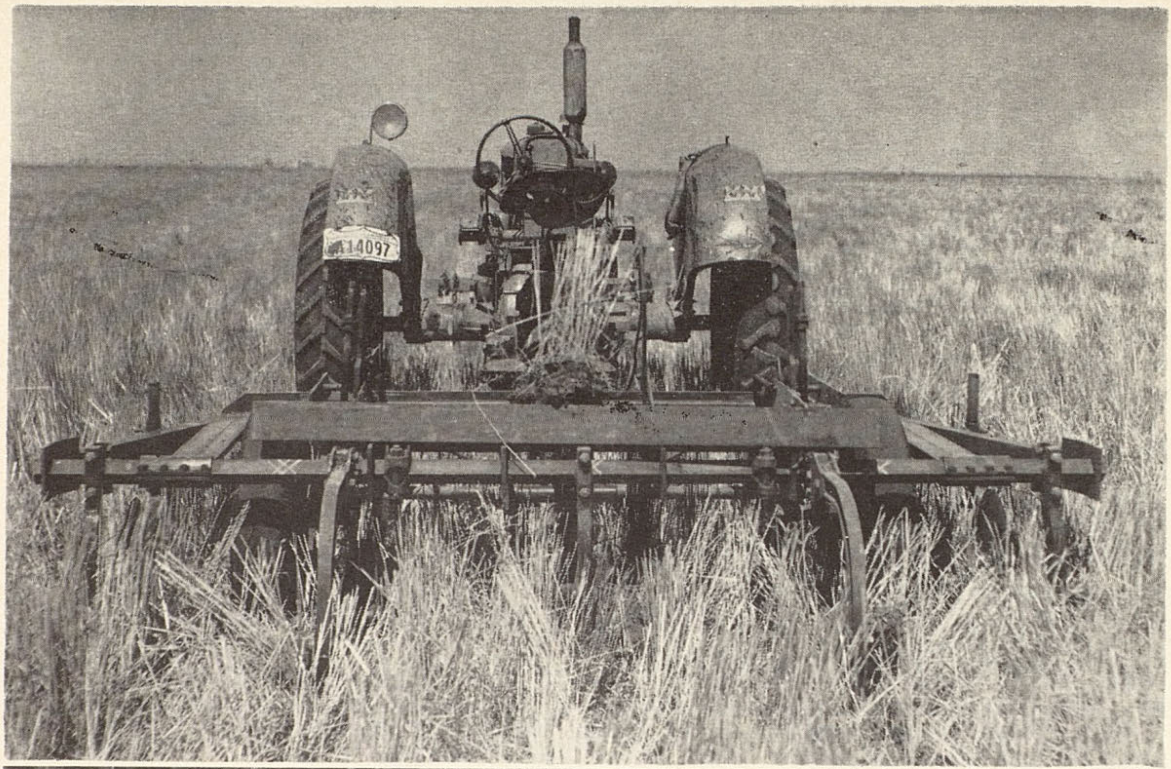
In an effort to find the correct amount of water needed and the rate of application of that water, Swanson carries out experiments with test plots of wheat, sorghum, several kind of legumes, and pasture grasses.

C. E. Van Doren and W. C. Johnson are concerned primarily with soil conservation and soil studies at the experimental farm. Conservation studies include methods of terracing, long-range crop rotation, and stubble-mulch farming.

From a conservation standpoint, terracing practices are considered important even on



Norris Swanson, irrigation expert at the Amarillo station, is pictured below and right, collecting moisture samples of soil from depths varying from a few inches to several feet beneath the surface.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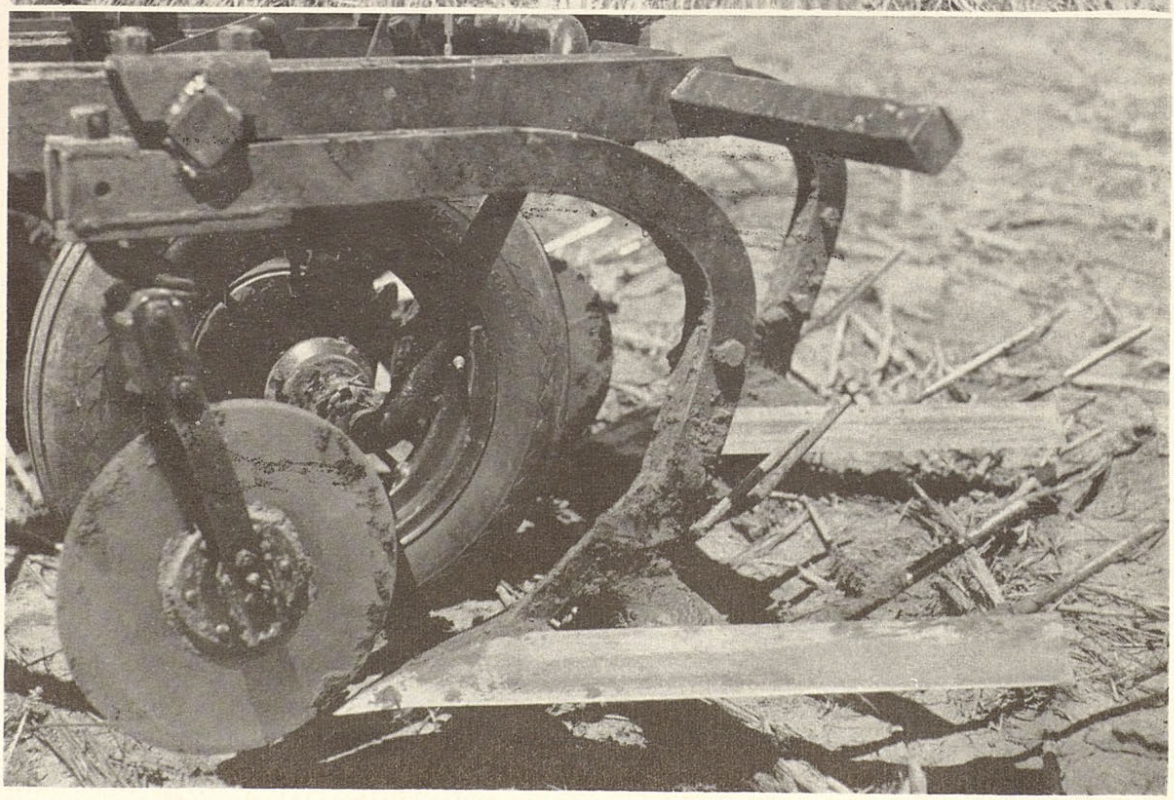


Top picture shows typical machine used in stubble-mulch farming. The machine shown here was built at the Amarillo Experiment Station. Lower picture shows the big 30-inch sweep of a Dempster stubble-mulch machine. These sweeps cut roots beneath the surface, leaving stubble and residue on top. ←

comparatively level fields. From experiments conducted at the experimental farm, it has been found that terracing effectively reduces erosion damage caused by the sudden downpours common in many parts of the Southwest during late spring and early summer.

The results of rotation programs involving wheat, sorghums, and fallow periods are carefully checked with results of successive plantings of wheat and successive plantings of sorghums. Studies are also being made in which test plots will be kept in grass for one phase of the rotation cycle. The length of time in which grass is kept on the land will vary from six to nine years on different test plots. At the end of the complete long-range program, Van Doren and Johnson expect to learn much about the value of incorporating a grass period in a crop rotation system. Similar investigations are also being carried on with legumes.

In the past few years, a great deal has been learned about the value of stubble-much farming in dry climates. Often called "trashy" farming, stubble-mulch farming involves a system of tillage in which specially designed plows sweep cut stubble and weed roots beneath the surface, leaviing straw and other plant residue on the field. Over a period of years, experiments at the station have shown that such farming methods help prevent wind erosion, help to conserve water by slowing runoff, and in general tend to increase crop yields.

Other soil experiments which Van Doren and Johnson are conducting include studies to determine more effective ways of speeding up the soil's ability to absorb water from rainfall and analyses of the effects of different crops and combinations of crops in conserving the valuable organic material in the soil.

Although Dr. Whitfield supervises the en-

These cattle were raised as part of a year-round grazing program.

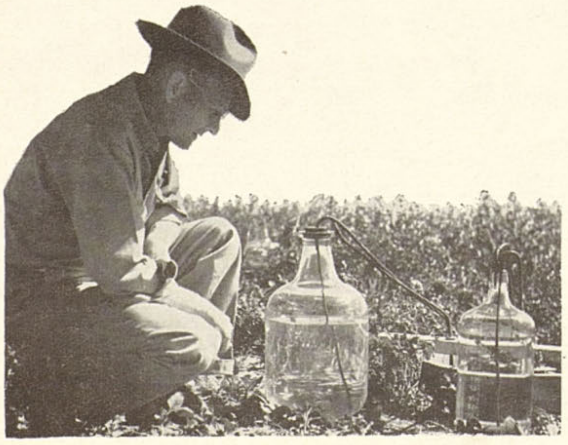
tire experimental farm operation, his special project is that of developing efficient year-round grazing programs. About two-thirds of the total acreage of the farm consists of pasture land. This grazing area includes both native pastures and pastures in which the grasses have been seeded. The purpose of the grazing experiments is to work out a grazing program which will provide green forage for cattle at all seasons of the year. A typical program begins with wheat pasture during the winter; a cool season grass such as crested wheatgrass, western wheatgrass, or Canadian wildrye in the spring; native blue grama and buffalograss along with sudan grass and lake weeds in the summer; then back to crested wheatgrass, western wheatgrass, or Canadian wildrye in the fall. Following a program such as this, beef cattle raised on the experimental farm have shown substantially better than average gains during years when moisture conditions were favorable.

A more recent addition to the experiment station's activities is the weed control program which has been under the immediate supervision of Roger Hamilton. The purpose of this program is to study methods of eliminating or controlling such weeds as bindweed, Johnson grass, and blueweed. Weed control methods used on the farm include intensive cultivation, competitive crops, and the use of a number of chemical weed killers. While the weed control program is still comparatively new, Hamilton believes considerable progress has been made, particularly in bindweed control.

Getting useful information to the farmer and rancher is a part of the station's well-ordered operation. Periodic reports and summaries are prepared by staffs of the Extension Service and Regional Soil Conservation Service office and others study the information and pass it on to field men assisting farmers and ranchers.

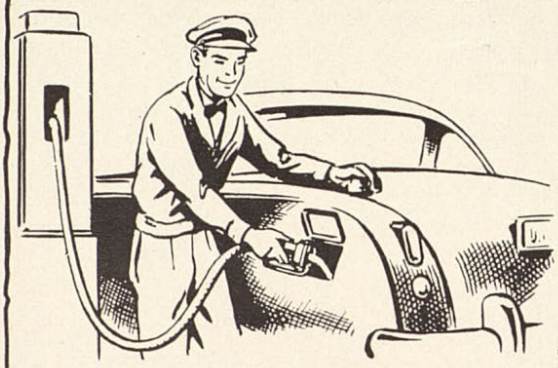
The results of any single experiment at the Amarillo experiment farm are ordinarily slow to appear and far from spectacular. The sum of all the knowledge gained from these experiments, however, has contributed substantially to the progress and success of agriculture in the Panhandle of Texas and adjacent areas of the Great Plains. Largely because of the work done at the Amarillo station as well as at similar farms, farmers today plant improved seed wheat that makes crops more certain than ten years ago. They have learned from such studies as those performed at the Amarillo farm how to till their land for more effective prevention of wind and water erosion. Experimental work in irrigation methods on the High Plains has made it possible for farmers engaged in this kind of agriculture to make more effective use of available water supplies. Grazing programs have added to the knowledge of efficient beef cattle production. These and other benefits already apparent show conclusively that the work being done at the Amarillo experiment farm means better farming in the Southwest.

Cover Story

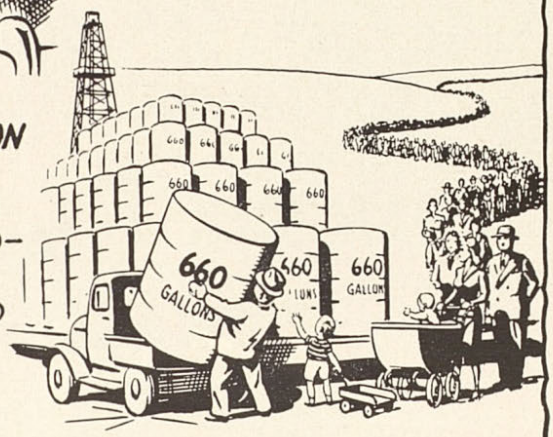


C. E. Van Doren, conservation specialist at the Amarillo Experimental and Demonstration Farm, is pictured on the front cover performing soil infiltration tests. Purpose of these tests is to determine the rate at which the soil is able to absorb moisture from the surface. Because limited and irregular supply of water is one of the greatest problem of farming in the Southwest, much of the work at the experimental farm is concerned with improving methods of utilizing available moisture. Terrace systems are designed to keep rain water from running off fields too rapidly. Stubble-mulch farming also aids in holding moisture in the fields. Experimental farm personnel are also experimenting with the effect of various legumes in increasing ability of the soil to absorb surface moisture.

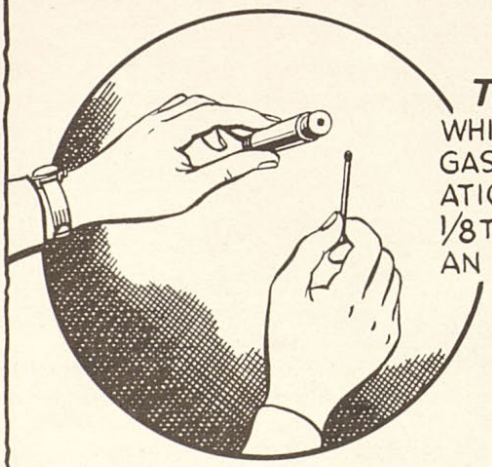
DID YOU KNOW—



THAT THE OIL INDUSTRY PRODUCED MORE THAN A ***BILLION BARRELS*** OF GASOLINE IN 1950—AN AVERAGE OF 800 GALLONS FOR EVERY CAR, TRUCK, BUS AND GASOLINE-POWERED TRACTOR IN THE COUNTRY?



THAT PER CAPITA CONSUMPTION OF ALL PETROLEUM PRODUCTS JUMPED FROM 597 GALLONS IN 1949 TO 660 GALLONS IN 1950—AN INCREASE OF 63 GALLONS FOR EVERY MAN, WOMAN AND CHILD IN THE COUNTRY ?



THAT SOME OF THE CHOKES, WHICH CONTROL THE FLOW OF OIL AND GAS FROM WELLS IN MODERN CONSERVATION PRACTICES, ARE AS SMALL AS 1/8TH OF AN INCH—NO THICKER THAN AN ORDINARY MATCH ?

THAT THE AVERAGE MOTORIST PAYS 50 CENTS IN DIRECT TAXES EVERY TIME HE ORDERS TWO DOLLARS WORTH OF GASOLINE ?

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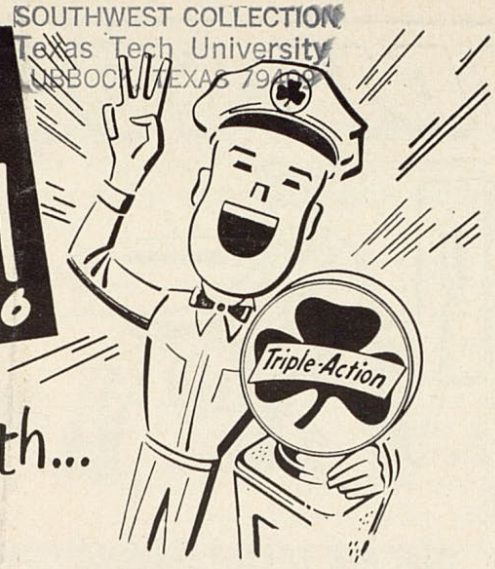

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