OVERTON

AGRICULTURAL RESEARCH AND EDUCATION IN NORTHEAST TEXAS

THE TEXAS AGRICULTURAL EXPERIMENT STATION

Foreword

East Texas has been the scene of important contributions. When we look back in history, 1902 emerged as a year when the Texas Agricultural Experiment Station began local research on specific problems facing East Texas farmers and ranchers. Within a year a companion movement, the Texas Agricultural Extension Service, was born at Terrell. These developments meant that for the first time in East Texas, public-supported agricultural research would do for the farmer what he could not do or did not have time to do for himself. As a result, the developments at Troup and Terrell brought new dimensions by accelerating the pace of agriculture and a better way of life. This monograph presents that story from its beginnings in 1902 to the modern, dynamic research of 1979.

Prior to 1902, agriculture had been significant in East Texas. Agriculture was the basis for civilization and dominated all aspects of society. Moreover, this region had a proud heritage of being a breadbasket that fed Civil War soldiers. By the turn of the century, when the Experiment Station and Extension Service entered the picture, an East Texas farm averaged a mere 94 acres with products available for consumers amounting to $405 per farm. Agriculture contributed $41,772,686, and that was big money in a rural economy.

Approximately 75 years later, noteworthy changes had resulted in this area of Texas. An East Texas farm now averaged 246 acres, and the market value of farm produce per farm increased many times. Agriculture contributed almost one billion dollars to the East Texas economy. But there were other benefits, including more efficient agriculture and a better quality of food — food needed for industrial workers and the expanding urban populace.

The Texas Agricultural Experiment Station and the Texas Agricultural Extension Service, both part of the Texas A&M University System, helped improve the socioeconomic conditions in East Texas. These organizations worked with farmers and were important to agriculture and to society.

Discover in the following pages the major contribution for cotton, truck farming, soil conservation (an event of nationwide significance), and the cattle kingdom. Find out who were the pioneers in agricultural education and scientific research. Note the powerful administrative responses that consolidated and coordinated research and education at the Texas Agricultural Research and Extension Center at Overton. Remember, too, the assistance of perceptive East Texans who provided aid to this vital movement that lives today.

There was another important element. Uncommon people lived in one of Texas' oldest agricultural regions. They were unafraid of land that had been plowed for generations, heavy rains followed by seasons of drouth, or energy and labor crises. With a strong sense of mission, agriculturalists from Texas A&M served the farmers and the people who depended upon agriculture. They introduced better varieties of crops and cultural practices to the land. These determined men and women would be the farmer's assistant in realizing agricultural potential and would be sensitive to the concerns of the consumer. In tackling problems that could be solved nowhere else, the Texas A&M University Agricultural Research and Extension Center at Overton had a unique role in the destiny of East Texas.

Before scientific agriculture came to East Texas, hardy men and women had already migrated to this area. These pioneers, successors to the Tejas Indians, from whom the State received its name, had come to the region in search of a better life. Most sought to fulfill their dreams through agriculture. But it became obvious that agriculture's importance justified concerted programs of scientific research and education.

Thus, state-supported agricultural science began at Troup in 1902, later to expand throughout East Texas. In the years that followed, agricultural scientists provided positive assistance to a Northeast Texas region that began at the Louisiana-Texas line, ran south to Newton County, west to Montgomery County, and then in a jagged pattern northward on the western borders of Walker, Madison, Freestone, Henderson, Van Zandt, Rains, Hopkins, Delta, and Lamar Counties up to the Oklahoma border. As the process unfolded from tiny operations at Troup to the multi-force, modern Texas A&M University Agricultural Research and Extension Center at Overton, the scientific era became a reality by the late 1960's. Importantly, the Overton Center drew upon its East Texas heritage to meet the challenges of the current age.

At the beginning of the 20th Century, East Texas farmers were still feeling the effects of the Civil War, limited credit, and limited markets. Small partially wooded farms, and the need to make a cash crop and a feed crop every year to survive, left little time or land for fallow, crop rotation, or soil conservation practices. East Texans were aware of the areas agricultural problems and many were trying to do something about them.

Desiring an agricultural research substation east of the 97 ½ meridian, the Texas A&M Board met in Fort Worth and listened to representatives from 25 different locations present 30-minute explanations of why the Board should approve a station for their county. The field narrowed to Henderson County, Lindale, and Troup, with Troup represented by D. H. S. Beamer, D. W. Shaw, J. W. Melton and later D. P. Jarvis and William D. Pace. These men persuaded the Texas A&M Board to choose Troup, which claimed to have soil typical of the East Texas fruit and truck growing section, and was located in a rural area, at the junction of the main line and Tyler branch of the International and Great Northern Railroad. Thus, the State of Texas assumed responsibility for doing for the East Texas farmer what he could not do for himself — unravel the mysteries of East

Texas agriculture. Created with the Troup Station were the procedures which would be followed in establishing other permanent centers for research.

Before the Station officially existed, Texas A&M officials defined its mission and authorized clearing the land of 5,000 stumps. Scientists, principally E. P. Stiles and Edward Green, then directed the planting of orchards and the construction of a 26-x24-foot barn, a seven-room, two-story house, and a nine-room laboratory which could accommodate public meetings. Later improvements consisted of a four-room tenant house, an implement shed, and a broad-based program of variety and fertilizer tests.

In these pioneer conditions, East Texas farmers needed reliable information. Coming to the heart of the matter, the July 23, 1904 *Farm and Ranch* observed:

> It is right that the public should know just what is being done, and it is also fair that the people should understand that this is an experiment station and that many results are bound to be negative. Such results are a benefit to the people because published failures will guard them against similar mistakes. People cannot afford to make unnecessary mistakes on high-priced lands and this is the main mission of the experiment stations .... consequently when one visits these stations, he can be benefited by seeing what will do, as well as what will not do.

This meant that during the first 12 years, the Troup Station focused its attention with variety tests not only on the "cash crops" for commercial production but also on the improvement of home gardens. By 1914, however, lack of funds forced the Troup Station to specialize on crops having commercial production potentialities.

In the meantime, events unfolded in Nacogdoches. The year 1909 was the greatest year of expansion in Texas Agricultural Experiment Station (TAES) history, with *nine* new substations officially started. As part of this trend, the Texas A&M Board, President Robert Teague Milner (formerly of Henderson), and TAES Director Henry H. Harrington signed a contract with the United States Department of Agriculture's (USDA) Bureau of Plant Industry to support tobacco experiments, which had begun locally in 1903. The research was delayed, and not until December 1911 were land and equipment purchased for a permanent-type, regionally based station at Nacogdoches which administratively existed as a cooperative TAES-USDA station until September 1913. Thereafter, the Nacogdoches Station cut its affiliation with the federal government.

Designed for specific rather than broad purposes, the small Station existed on 82 acres, 2½ miles north of Nacogdoches. While Superintendent George T. McNess proclaimed a broad scope, clearly the intent of the new Station was to try growing tobacco on the East Texas redland. As time permitted, McNess investigated grasses, legumes, and sorghums. Unknown at that time, the key to the future lay in grass and forage research which assisted the expansion of beef production to East Texas.

From 1914 until 1931, scientists McNess and H. T. "Shorty" Morris became increasingly involved with crop rotation as tobacco studies declined in importance. The scientists now investigated green manure crops to build up soil fertility, rates and application of fertilizer, and the development of horticultural and agronomic crops.

Meanwhile at Troup, Superintendent W. S. Hotchkiss, and later Paul R. Johnson, became recognized for solving pressing problems with fruit, vegetable, truck, and general crop-farming in Northeast Texas. Their fertilizer studies

A. B. Conner and W. S. Hotchkiss (seated); Paul R. Johnson, second from left, second row, and Elbert "Dad" Gentry, eighth from left, second row. (Courtesy, Mrs. Paul R. Johnson.)

Office building at Troup, August 9, 1916. (Courtesy, Texas A&M University Archives.)

increased production and tomato quality. Also, two years before B. S. Shamburger shipped the first carload of Tyler roses to out-of-state markets, Hotchkiss had joined with the USDA in cooperative rose-breeding experiments. Other contributions included cotton varietal tests and the adaptation of the sweet potato to East Texas soils.

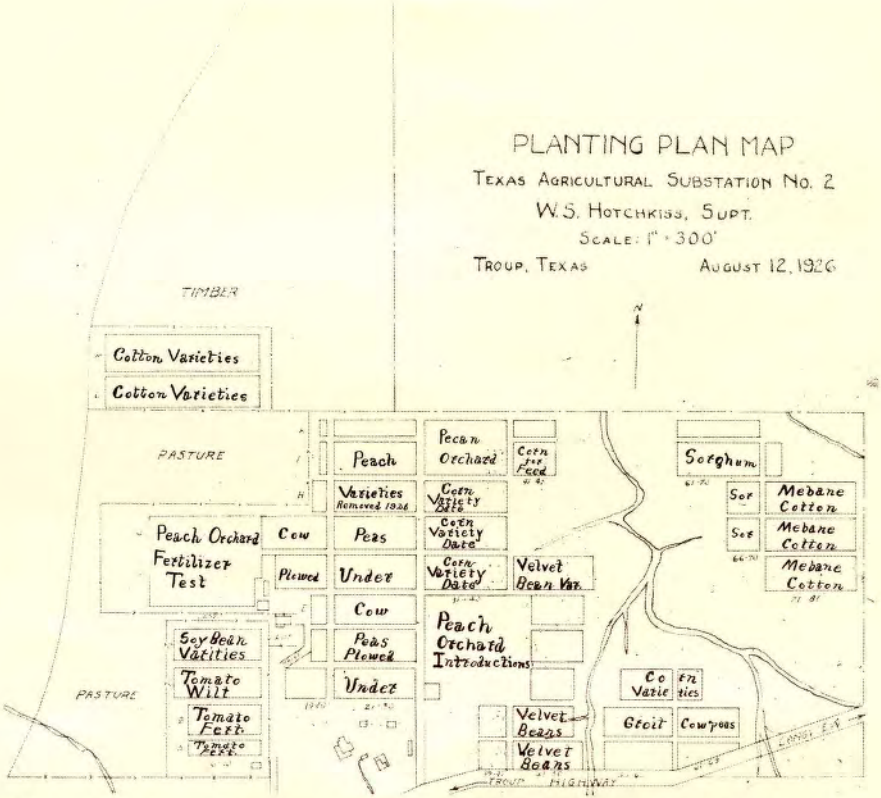
Throughout his dynamic career, Hotchkiss maintained a lively interest in horticulture, even though the problems seemed overwhelming. Deeply influenced by the famous Texas horticulturist and viticulturist, Thomas Volney Munson, Hotchkiss experimented with grapes. When East Texas farmers created a peach boom, Hotchkiss improved the Elberta and evaluated 134 peach varieties. He sought, without notable success, to find varieties resistant to the dread peach disease, San Jose Scale.

Important for East Texas farmers also were a number of other significant scientific events. With the completion of a cooperative USDA soil survey, cotton, corn, tomato, and forage studies began after 1915.

Of all crops in which both Troup and Nacogdoches had a vital interest, the chief was the cash crop cotton. In 1900, East Texas farmers planted 1,679,173 acres of cotton which had expanded to 2,956,531 acres by 1930, with cotton playing a significant role in the East Texas economy. McNess and Morris were part of an important statewide cotton program directed by David Killough at College Station. Killough and his associates responded to the cotton kingdom's westward expansion by developing cotton varieties for dryland agriculture; however, in contrast to West Texas, the scientific approach based on cotton testing in East Texas was influenced by powerful historical forces.

As part of the old Southern cotton region, East Texas had its cotton breeding roots in private businesses existing before the experiment stations were estab-

Texas Agricultural Experiment Station at Nacogdoches, 1911. (Courtesy, Texas A&M University Archives.)



Planting plan map of the Texas Agricultural Substation No. 2, Troup, 1926.

lished. Prominent sources of cottonseed included Ferguson Seed Farms of Sherman, Rowden Brothers of Wills Point, and Truitt Seed Company of Ennis. Even in the private sector of research, the TAES was influential. For example, A. M. Ferguson of Ferguson Seed Farms, and brother of the colorful Texas governor, James "Pa" Ferguson, had been assistant horticulturist of the TAES in 1900. Understanding this relationship between East Texas cotton and private business, the experiment stations chose primarily to analyze cotton varieties and protect farmers through an important state seed certification program.

At Nacogdoches, McNess and Morris discovered that the three most productive varieties were Half and Half, Lightning Express, and Acala. For hilly and poor land regions, Half and Half possessed the highest percentage of lint but was undesirable because of its short staple and low quality. A long-staple cotton, Lightning Express, ranked first in money value per acre, but its small bolls made it rough on the hands of most pickers. McNess and Morris discovered the best variety was Acala which combined high production, medium size bolls, early maturity, and ease of picking in days before widespread mechanical harvesting.

At the station at Troup, while neither Hotchkiss nor Johnson specialized in cotton breeding, the different soils, agricultural conditions, and farmer expectations necessitated testing 205 cotton varieties over a 16-year period. Farmers were warned against specializing in a market of short-staple cotton like that existing at Henderson, classified by the TAES Division of Farm and Ranch Economics as a typical local East Texas cotton market. Suggesting long-staple cotton production, Hotchkiss and Johnson recommended the cotton varieties New Boykin, Kasch, Mebane, and Lankart. These would mean more money over the long-run for northern East Texas.

Significantly, the scientific standards for East Texas cotton production resulted from long years of investigation at Nacogdoches and Troup, and were created during the early stages of the 20th century's great production era. Additional studies kept the farmer up-to-date. Now cotton farmers could either plant long-staple varieties with higher qualities and fewer penalties at the marketplace or remain with higher production within a restrictive short-staple market. While short-staple battled long-staple in the East Texas markets, the scientific scene shifted to increased cotton production by crop fertilization.

Since the establishment of the TAES in 1888, scientific field experiments had determined the most practical and modern production methods in widely diverse Texas. As early as 1895, the TAES reported on different fertilizers and soil requirements.

TAES chemist Henry Harrington was among the first to realize that various crops and soils needed specifically designed fertilizers. Instituting a broad program to determine those requirements, he sought the cooperation of various substations. For example, from 1902, to 1911, the East Texas stations conducted experiments with fertilizers for sweet and Irish potatoes, watermelons, and strawberries. The results showed that the gray, sandy soils contained serious deficiencies in phosphoric acid and nitrogen, and a slight need for potash. Determination of fertilizer requirements, use of crop rotation, and cultivation of legumes resulted in plants growing larger. This and the arrival of the tractor-mounted cultivator and planter during the 1920's meant changing cultivation practices and continuing research involving the most effective fertilizers.

The 1930's period witnessed a scientific revolution at Nacogdoches. Im-

East Texas barns such as G. R. Wright's barn located seven miles from Troup, December 1913, had to provide on farm storage for all crops and protection for work animals.

Recently constructed barns in 1913 may have been like T. J. York's.

proved seed varieties, low-cost commercial fertilizers, pesticides, tractor power, electricity, expansion of TAES scientific laboratories, and hybrid corn highlighted this age of farm technology. Paul Mangelsdorf, the premier corn breeder of the Texas Agricultural Experiment Station, came to Nacogdoches and with Morris began corn adaptation studies. Their results produced sweet yellow corn varieties having higher nutritional value than the white corn farmers commonly grew. But there were other demands for agricultural scientists and increased cooperation with the federal government.

After President Franklin D. Roosevelt declared war on poverty in 1933, the local Civil Works Administration contributed 120 man-days of labor in clearing land, repairing buildings, and changing the creek channel running through the Nacogdoches Station. Two years later, Morris served as an advisor to the Nacogdoches Chamber of Commerce and secured another federal project which expanded forestry studies, including a black Civilian Conservation Corps unit and a 28,000-acre soil erosion service demonstration unit for the Carisso Creek watershed area.

With changing research goals at Troup, the Nacogdoches Station intensified horticultural research. During the 1930's, the Nacogdoches Station research showed the best berry varieties for the early, mid-season, and late maturing market. Genetic improvements were made, many evolving from the past work of the late Helge Ness and later counterparts, Sid Yarnell and Homer Blackhurst. After hundreds of field trials which involved high production, firmness, and disease resistance studies, these scientists produced the Lawton x Nessberry cross, the famous Brazos berry of 1959.

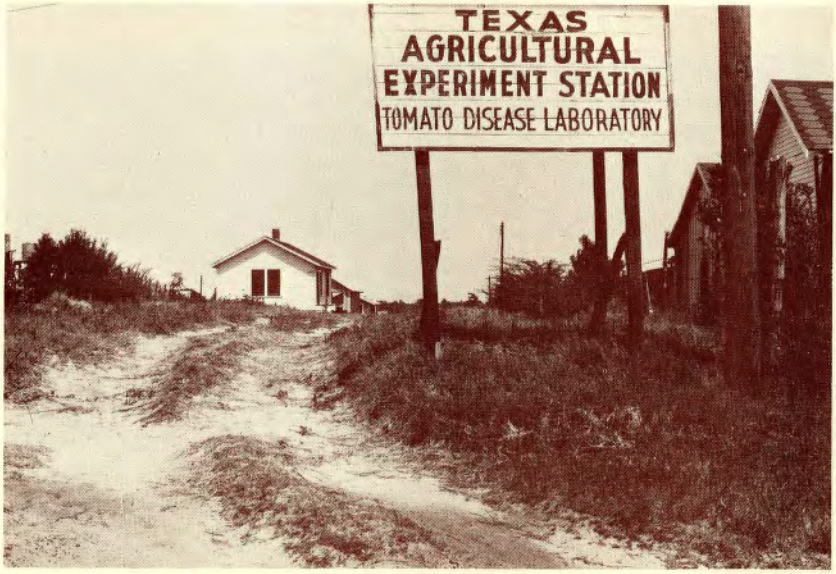
More important than berry research in terms of Morris' own contributions was peach research. Statewide peach production during the 1930's and 1940's advanced Texas nationally from twelfth to fifth place at a time when commercial production shifted from East Texas to the west near Stephenville, Stonewall, and Montague. For the East Texas producer, Morris secured varieties for the home orchard, small plantings of several acres supplying roadside stands, and a few large plantings for shipping fruit to distant markets. By 1946, the scientist had carefully analyzed 226 varieties, providing growers with performance test results and important market factors of size, color, and flavor. In 1948, Morris went to Tyler where his studies contributed to markets for fresh peaches, the expanding frozen food industry, and the manufacture of peach ice cream. During the next 12 years, the Nacogdoches Station conducted research and varietal tests of forages, legumes, watermelons, peas, corn, and peanuts, plus performance tests of broilers.

Another feature of East Texas was tomato production. By the 1930's, enthusiastic tomato growers convinced the Texas Legislature to appropriate $2,500 per year to study tomato diseases at Jacksonville, the hub of the state's tomato production.

L. B. Loring began experimentation on August 6, 1934, under the watchful eye of TAES legendary plant pathologist, Dr. Jacob Taubenhaus. Their plans called for studying the most important tomato diseases, but Loring soon left, presumably after setting out 15,100 tomato plants. Finally, in November 1935, Dr. Paul A. Young arrived to find a thriving field of Johnsongrass, about $50 worth of equipment, and a very small budget.

From 1935 until 1963, Young studied methods of disease control in to-

East Texas Pasture Investigations Laboratory at Lufkin, circa 1940's.



Texas Agricultural Experiment Station Tomato Disease Laboratory at Jacksonville.

matoes. Crop dusting for disease control proved an exciting adventure but too expensive for the low-income East Texas truck farmer. Crop rotations over a 5- to 10-year period proved to be the best alternative means of controlling the dreaded southern blight. But the tomato plant had other diseases. When epidemics of fusarium wilt wiped the area's popular Gulf States tomato off the market, Young persuaded farmers to plant Marglobe, Rutgers, and Homestead varieties.

Variety tests convinced Young that tomato genetics must be applied to East Texas production. After 20 years, he released the Pinkdeal tomato, the first variety with strong resistance to fruit cracking. Following this breakthrough, Young developed the Hotset variety, the first heat-resistant variety. But even while the scientists improved the quality, competition from other growing areas squeezed out the profitability for the East Texas tomato grower. With Young's retirement in 1965, East Texas tomato studies faded in the priorities of scientific investigation.

The success of East Texas agriculture lay not with tomatoes or truck farming. However, it is debatable whether the greater TAES contribution was associated with soil conservation or with the growth of the East Texas beef cattle industry.

The beginnings of the East Texas Pasture Investigation Station near Lufkin came from local residents Tom Russell and Sam Peavy, soon joined by E. L. Kurth, Jasper Peavy, and newly elected State Senator John Redditt. They visited with Morris at Nacogdoches regarding the problems of pastures on cut-over timber lands. These discussions encouraged Redditt to sponsor a bill in the Texas Legislature establishing the Laboratory, and then TAES officials sent Morris with County Agent O. C. LaGrone to scout Angelina, Polk, Tyler, and Trinity counties. They selected 204 acres near Hudson in Angelina County, and J. T. Vantine was assigned to the laboratory. In the words of Professor John Riggs, "The East Texas Pasture Investigations Laboratory was carved out of the woods."

When the TAES took possession of the property, the land looked like a typical run-down East Texas homestead. A natural growth of pine covered most of

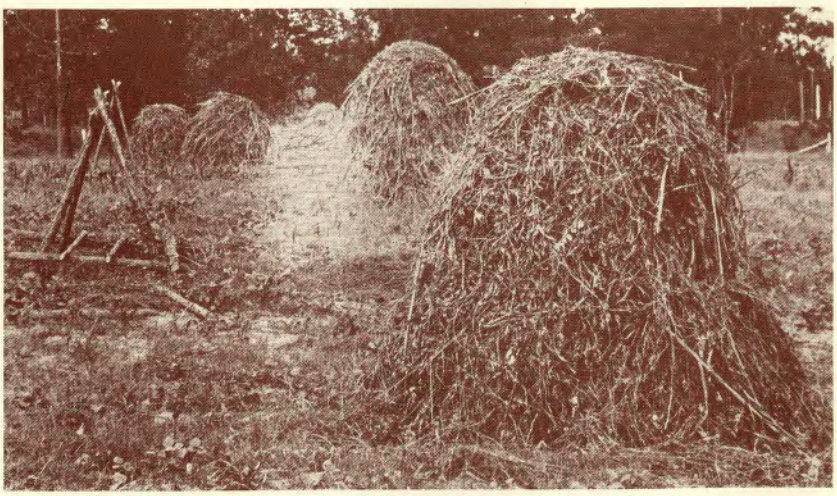
Shipment of F_1 heifers from Rocker B Ranch.

the farm, with the remainder of the unfenced property consisting principally of brush and briars. The farm met two requirements: the land was near a major East Texas town, and the property was cheap.

The Station was dedicated in November 1933 with a barbecue sponsored by the Lufkin Chamber of Commerce. After TAES Director A. B. Conner had proclaimed the new dawning of science in the Big Thicket, featured speaker U. S. Representative Martin Dies, hardly in keeping with the spirit of the occasion, delivered a two-hour speech on the Roosevelt administration's inflation policies.

The next year, Keith Crouch succeeded Vantine at Lufkin and began to attack commonly recognized problems in East Texas beef cattle production. At that time, no one knew why average East Texas cattle were of inferior quality, small size, and lacking in proper development. After unsuccessful production results with locally grown stock, 29 top-quality Herefords were purchased, and later inoculated against tick fever by College Station veterinarian Hubert Schmidt. By the late 1930's, they had conducted extensive pasture investigations, accompanied by field days which revealed to farmers better grasses by fertilizing with phosphorus.

During the 1940's, a second major breakthrough came when Lufkin scientists discovered that crossing Brahman cattle with Herefords, and later with Angus, would produce a better beef animal for the East Texas environment. Building on past results of improved grassing methods for pastures and tick fever control, the stage was set. Then came the Brahman-Hereford F_1 cross, and the Lufkin Laboratory emerged as a center for crisscross breeding and management programs for replacement heifers. While the Lufkin Laboratory had many significant achievements — improved hay production, determination of winter feed requirements for mother cows, internal parasite control — perhaps no other contribution to East Texas agriculture has been greater than the Lufkin adaptation of the F_1.



Cowpea-sorghum hay being cured in August 1912. Note the frame on the left constructed of untreated logs.

Until the Lufkin Laboratory became part of the Overton Center, Crouch and his associates sought ways to increase income from pasturelands and systems of effective beef cattle production.

At times, the Texas Agricultural Experiment Station created temporary laboratories to meet important immediate problems; the Poultry Disease Investigations Laboratory at Center was such a laboratory. This experiment played a major role, after opening in 1954, in expanding the Texas broiler industry from the Gonzales area to East Texas. Scientists such as Robert J. Clifford diagnosed disease conditions in individual flocks, stood watch against anticipated epidemics of poultry diseases, and conducted bacteriological and virological studies in all types of poultry. Through these efforts, it became possible for East Texas broiler and egg producers to abandon small traditional henhouse operations and expand into large units of over 3,000 hens. After about 20 years of research, the Laboratory's programs were incorporated into other TAES facilities, notably at College Station.

The selection of Paul R. Johnson as superintendent of the Troup Station in 1928 projected a new direction in East Texas scientific research and led to the consolidation of research facilities at Tyler. At this time, the federal government wanted to establish a station on soil representative of the Texas-Arkansas-Louisiana sandy lands. The Forty-first Texas Legislature appropriated $17,500 to purchase land in Smith County and maintain a cooperative soil erosion station there. W. T. Carter of the TAES made soil surveys and in 1931, state and federal officials agreed on a 455-acre tract at Swan, about 10 miles north of Tyler and 5 miles south of Lindale. Relocation would permit coordination of TAES and federal research and provide better soil for scientific studies.

During the transition period from 1928 to 1933, the principal projects at Troup had rebirth at Tyler, accompanied by the building of new facilities. As for the cooperative federal-state activities, the federal research began in 1930, intensified with the appointment of Johnson as joint superintendent for the USDA—TAES in 1938, and continued until its close on June 30, 1946.

Soil conservation research corresponded with the gradual evolution of East Texas agriculture from row crops to cattle. The monthly rainfall damaged unprotected rows of open-faced land, and few East Texas farmers could provide adequate tractor power or other farm machinery to plant cover crops or to build terraces. Thus, a team of federal-state scientists led by J. B. Pope, assisted by James C. Archer, P. R. Johnson, A. G. McCall, and F. G. Bell, addressed themselves to the two major East Texas soil conservation problems: retiring from cultivation as many fields as possible having a slope of over 10 percent and terracing remaining fields. From 1931 to 1940, they measured surface runoff and soil losses in plots often 6 feet wide with varying lengths from 36 to 145 feet. From these carefully conducted studies, Pope and his associates learned the true nature of soil and water losses and their relationship to other significant factors such as vegetative cover, rotations with summer and winter cover crops, and spacing of crops. In conjunction with these investigations, they started a grass introductions nursery which included the African parent of today's Coastal Bermuda grass.

After a decade, scientists could verify the value of permanent cover crops or forest for seriously eroded lands. They urged farmers to break their habit of burning fields, pointing out that it did little good if rains came later to wash the unprotected soil into the creek.

During the late 1930's and early 1940's, other agricultural priorities caused Tyler scientists to subordinate grass and pasture research. However, the research resumed by 1947.

Research involved not only the Tyler scientists — P. R. Johnson, dairy specialist Shannon Carpenter, and agricultural economist Bob Stone — but personnel from Texas A&M's Agronomy and Soil and Crop Sciences Departments. The first of these was Professor E. B. Reynolds, who had been the TAES chief agronomist for forage production. Reynolds' work was carried forward by Ethan Holt, who became a world-renowned expert in forages.

By 1961, the Tyler Station scientists and their consultants had tested approximately 150 grasses and legumes for pasture purposes. A dairy investigations laboratory at Mount Pleasant under the leadership of Mark Buckingham and Carpenter, in cooperation with the Texas Agricultural Extension Service, came to similar conclusions after testing different grasses on farms of neighboring dairymen. This research included the personal preferences of individual ranchers as East Texas pastures already displayed a prominence of common Bermuda, Dallis, and Vasey grasses. White, crimson, and hop clovers brought new life to land that had been worn out from decades of row crop cultivation. With better grasses came increased productivity from the soil, inviting the beef cattle industry to move eastward. The lure would be irresistible. This research extended the length of the East Texas grazing season by 40 percent, nearly quadrupled milk production per acre, and made 2 acres of improved pastures more valuable than 5 unimproved acres.

Although East Texans originally desired information concerning dairy cattle, when the cattle industry moved east, beef cattle replaced dairy cattle in prominence. Before 1920, Texas produced relatively little milk except for local consumption, but with advanced scientific technology, evaporated milk and cheese production dramatically increased. During the 1920's and 1930's, the Jersey was the popular breed in East Texas, and in 1936, Paul Johnson established a dairy research herd. Artificial insemination studies began in 1949; the next year Director of Extension G. G. "Hoot" Gibson persuaded Oak Farms dairy husbandryman Shannon Carpenter to join the Tyler staff as a joint Experiment Station researcher and Extension dairy specialist. Thereafter, Carpenter contributed an impressive list of dairy herd management studies — some said to save the East Texas dairymen over $300,000. The dairy herd, now including Holsteins as well as Jerseys, also insured a steady stream of income from milk sales that supported other agricultural research. During the dairy cattle decline, the TAES sold the herd in February 1967.

As long as cotton and corn remained important in the East Texas agricultural picture as commercial cash crops, the Tyler Station kept farmers up to date on the best corn varieties. Sometimes a wide range of choices — Surcropper, Red June, Ferguson's Yellow Dent — confused farmers, but in reality, no single variety was best. In cotton, the 1930's studies followed similar patterns, with Half and Half again receiving high marks.

The spirit of expanding agricultural science, characteristic of Nacogdoches and Tyler, spread not only to the Dairy Investigations Laboratory at Mount Pleasant but to the Sweet Potato Investigations Laboratory at Gilmer. Yam production centered in the sandy soils of Upshur County. More an expansion of the TAES Division of Horticulture than of the Tyler Station, the Laboratory began

variety testing and cultivation experiments as early as 1939 led by R. E. Wright, formerly of the Louisiana Agricultural Experiment Station.

Wright returned to Louisiana, but his work continued through the efforts of Ralph Michael, John F. Roseborough, A. A. Buffington, A. A. Dunlap, and others. Michael and Lester Alley were the "on-the-scene" leaders in variety testing to improve color and flavor, in mechanical harvesting experiments to reduce hand labor, and in using dehydrated sweet potatoes for livestock and fish feed. Experiments in storing and shipping sweet potatoes were applied by Gerber

Stopping erosion was a big factor in the Tyler Station's soil conservation research. These test strips show unprotected soil and soil protected by cover crops.

Cover crops were important in row-crop agriculture. Here scientists test corn with and without an oat cover crop. (courtesy, Texas Agricultural Experiment Station.)

Persian clover looking from east to west along test strips of seedling treatments.

Turning under a hairy vetch cover crop to improve the soil.

Products Company. The Texas Sweet Potato Association, Safeway Stores, John Deere, and Howard Manufacturing Company donated equipment and cooperated with the Gilmer Laboratory. But most of all, the audience remained the small East Texas farmer, and field days coincided with the Gilmer Yamboree until the Laboratory moved to College Station in 1958.

For the native East Texan, cowpeas were an important part of the diet. Of course, peas came in various shapes, sizes, and varieties: purple hulls, crowders, cream, and the legendary blackeye, made famous in East Texas folklore and tradition by the people of Athens, the "Blackeyed Pea Capital of Texas."

To genetically improve the cowpea, P. R. Johnson decided to test 36 varieties. When Johnson started his research, few scientists outside the South valued this high protein crop, grown in the Midwest for livestock feed. But in the South and especially East Texas, the pea required relatively little cultivation on the sandy hills and was a "common man's crop." In 1948, Johnson solved many problems with the introduction of the Texas Cream 12 Southern Pea, which 30 years later remained one of the most important canned products in East Texas.

The Tyler Station lacked the facilities to do everything that needed to be accomplished for East Texas. Some agricultural problems faded from importance, were researched by private industry, and then public-supported research resumed in a modified fashion. A significant example was the rose.

Scientific research for East Texas rose production originated from the growers, particularly Louis Shamburger, P. E. Mackey, Sr., and A. F. Watkins. These leaders, in transforming the Texas rose industry from a local market to state and national importance, began testing rootstocks.

But growers could not control a rose disease called "die-back," later shown to be a physiological condition. In 1929, the Texas Legislature appropriated a special sum of $600 for horticultural research; the sum was too little. This situation remained until 1935 when the TAES hired a young horticulturist, John C. "Jack" Ratsek. He immediately planted 122 varieties at Tyler along with 28 species of roses at the Main Station. The breeding work at Tyler dealt with possible rootstocks and that at College Station was cytological. These joint activities in studying the various varieties, their hybrids, genetic composition, cultural adaptation, and fertilizer requirements produced major achievements. Death in 1942 cut short Ratsek's very promising career, but Rodney Shelton continued varietal testing and adaptation.

Two years after Ratsek came to Tyler, plant pathologist Eldon W. Lyle arrived from Cornell to do full-time research with diseases of roses under field conditions. The results of a broad rose research program were combined in an important TAES circular (90), *Rose Growing for the Home Gardener,* which today in a revised version enables East Texas in the spring and fall to blossom with roses of yellow, crimson, orange, and even two-tones.

Expecting to do research on rust disease and the control of red spider mites, Lyle found an entirely different problem in East Texas. Black spot disease raged in epidemic proportions throughout the region's rose industry. Premature defoliation in field-grown roses resulted in weak bushes, low grade market stock, and poor growth or survival of plants following transplant. After three years, Lyle succeeded in controlling black spot disease with commercially produced dust

Research scientists and Extension agents cooperated to bring the latest research results to the farmer. In 1927, Paul R. Johnson, who became superintendent of the Tyler station, discusses his latest research with county agent Elbert Gentry.

East Texas researcher's tested established and new cultural practices such as tillage depth, timing, and implements.

fungicides, which in turn lessened the seriousness of die-back, the original concern of the grower.

Just as Lyle's work had become established and recognized, the rose bush industry drastically declined during World War II. The war cut off traditional supplies of rose oil for perfume-making, and the Tyler station sought to supply the market. Lyle and Johnson rigged up a steam extractor, spread lard over trays in a cabinet, added the roses, and extracted the oil from the lard. Although their procedure was successful, the very low yield of oil made it too costly for commercial production. Extraction experiments were extended into other areas in the search for oils having commercial value, including honeysuckle, horsemint, and sweet goldenrod. About that point in scientific investigations, the war ended, the Atlantic Ocean reopened to commerce, and the American perfume manufacturers and the TAES lost interest. That part of rose research would be permanently abandoned, but Donald Paterson would resume the attack on rose diseases.

Up to this point, little has been said about the Texas Agricultural Extension Service (TAEX). Yet, these men and women deserve special recognition for their initiative and efforts in conducting educational programs and disseminating research results to the East Texas farmer and homemaker.

As might be expected, the land-grant colleges through their agricultural experiment stations and the USDA had created new and useful information, but they experienced great difficulty in getting this information to the people and into use. A recognized need existed to set up a system of general demonstration teaching throughout the country.

To this end, the Smith-Lever Act created the Cooperative Extension Service in 1914, and in January 1915 the Texas Legislature followed suit by creating a state agricultural extension service. The Extension Service was then assigned by the legislature to Texas A&M for administration.

This followed the prevailing trend by which the agricultural extension service of each state land-grant university operated under the terms included in a Memorandum of Understanding between the land-grant university and the USDA. In this way, the agricultural extension service became the official education arm for the land-grant university in each state and the USDA by conducting off-campus educational programs in agriculture, home economics, and related subjects. It also could bring the full resources of the university and the USDA to focus on problems under consideration in the field. And with joint funding, the extension service brought together three levels of government — federal, state, and county — to benefit people.

Actually, the idea for the extension service had its birth some 12 years earlier in 1903 in Texas. That year, Dr. Seaman A. Knapp (who is recognized as the father of Cooperative Extension) of the USDA was invited to control the cotton boll weevils on the Walter C. Porter farm near Terrell in Kaufman County, Texas.

Then 70 years old, Knapp and his long illustrious career as a Methodist minister, former president of Iowa State, and an active advocate of federal support for state agricultural experiment stations, intrigued Terrell businessmen. Of particular significance to area farmers was Knapp's work on rice and cotton cultivation in neighboring Louisiana and an invasion of boll weevils from Mexico. They wondered if he could apply his ideas to Texas and provide them some relief from the "ornery pest." Local citizens donated $1,000 to guard against potential losses to any farmer who would offer his land for tests. Knapp came to Terrell,

Walter C. Porter agreed to follow Knapp's advice, and the demonstration experiment was underway. To the surprise of many, Porter profited from the demonstration. Its success gave the USDA's Bureau of Plant Industry confidence to establish in 1904 the Farmer's Cooperative Extension and place Knapp in charge. The Porter demonstration also led to the appointment of the first Texas extension agent. By 1909, 13,471 demonstration farms, 34,176 cooperating farmers, and 367 traveling agents were actively involved.

But how did this expansion come about? Requests soon came for agents to be employed on a county basis. The Tyler Commercial Club added their support by soliciting a capable person to work exclusively in Smith County. After consulting with Knapp, on November 12, 1906, the club secured the appointment of W. C. Stallings, recognized in Smith County as an educated and successful farmer, and offered him a small salary and expense account to fight the boll weevil and improve cotton. Interest in Stallings' activities mounted. Then in the fall of 1907, Stallings went to Washington, D. C., and there, at the first meeting of district agents, received approval to work in Smith County and supervise work in Cherokee County.

During his 3-year tenure, Stallings expanded service into Angelina County

Appreciation was extended to J. C. Ratsek, horticulturist, Texas A&M College, for inspiration and experimental data.

and enlisted 500 farmers into his important work. At least 350 farmers started using modern methods as a direct result of the efforts and teachings of this first Texas county agent. During this time, corn yields increased from 30 to 60 bushels per acre. Cotton yields increased more than 50 percent. Clearly, Stallings pioneered in an educational venture which spread rapidly through the Nation as the Cooperative Extension Service.

Stallings' success stimulated Extension activities in other directions. Although demonstration was first conducted at the adult level, youth clubs quickly followed with the organization of the first Boys Corn Club in 1908 by Tom Marks, county agent in Jack County, Texas; and for girls, clubs were started in 1912 in Milam County under the guidance of Edna Trigg, the first county home demonstration agent in Texas.

In this economic atmosphere, the first extension educational programs found approval in East Texas. Early efforts focused on making the farm and home a more comfortable as well as profitable place to live. Educational programs were addressed to the application of scientific principles: the use of fertilizer to increase production, improved crop varieties, better animal husbandry methods, and terracing the eroding land. County agents worked shoulder to shoulder with farmers. Interest in extension activities among land owners grew as improvements were realized.

Extension agents geared programs to make the family farm self-sustaining. Entire communities gathered for day-long canning demonstrations. From extension agents, farm families learned methods of preparing and storing food, like meat, vegetables, and fruit, before the advent of refrigeration. County and home demonstration people showed East Texans how to make more comfortable mattresses and colorful quilts and suggested that quilting and home sewing could supplement income. Home improvement such as furniture refinishing and decorating were also important educational programs. As might be expected, most home demonstration agents conducted their work through community home demonstration clubs. As interest grew in later years, it became necessary to train volunteer leaders to assist in conducting these educational programs.

The concerns of county and home demonstration agents included the effects of rural electrification, labor supplies, higher production costs, growth of commercial farming, and technological advances on the lives of their farming constituency. To meet the farmer's needs, agents conducted seminars and distributed literature. Those like John Moosberg of Shelby County, whose efforts contributed to the creation of the Poultry Investigations Laboratory at Center, supplied the knowledge and initiative leading to needed improvements. County agents showed the East Texas farmer *how* to *apply* agricultural science and determine for himself the best scientific principles for long-term and short-term goals.

An early example of the success of this framework occurred when Extension agents endeavored to eradicate the cattle fever tick from Texas. Educational programs, demonstrations, and other methods were used to inform livestock producers. Farmers dug dipping vats in almost every East Texas community and drove their cattle to swim through solutions killing the ticks. This program was so successful that by 1943 cattle tick fever no longer appeared on East Texas ranches.

Rural life in East Texas improved with the advent of electricity and the

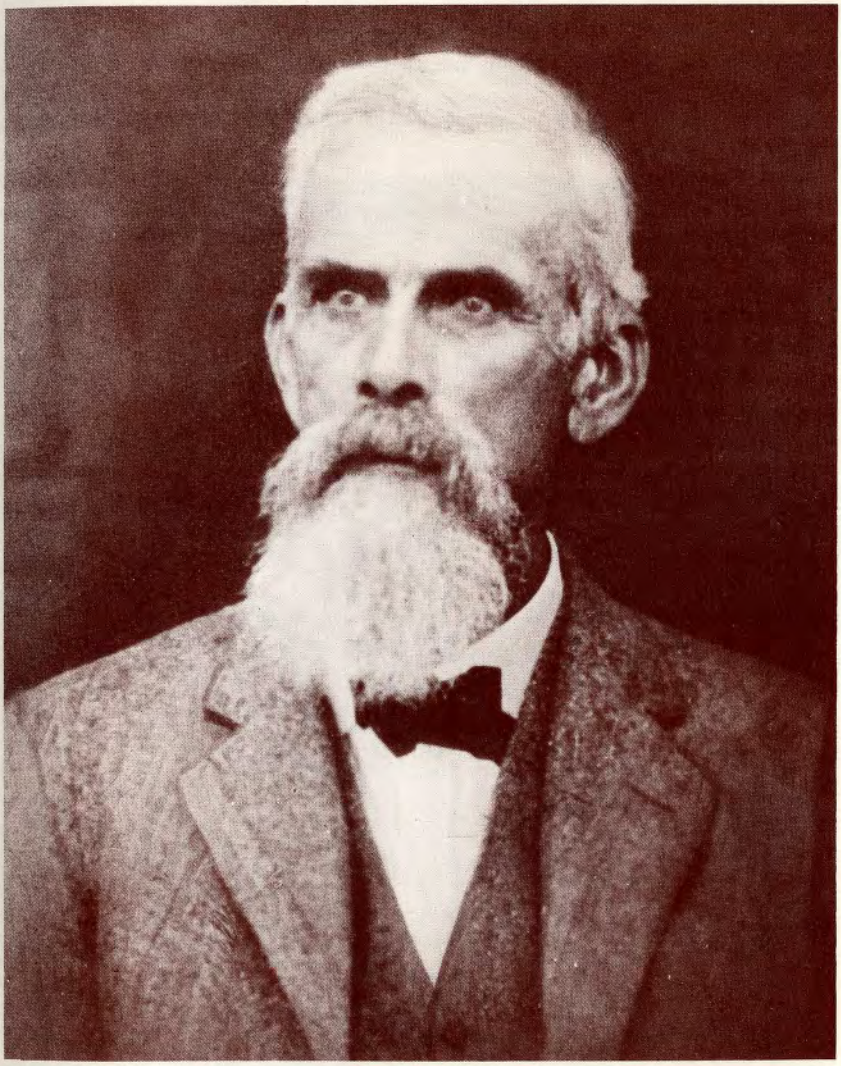
telephone. Party-line telephones spread news rapidly through programs of the Rural Electrification Administration and the Rural Telephone Administration. Here again, county agents traveled to hold educational meetings and, consequently, with the formation of cooperatives made these services available to families living in remote areas.

Extension programs were flexible to meet the changing needs of local citizens. For example, the Farm and Home Development program initiated in 1954 involved entire families working with special agents to develop long-range plans. With this guidance, they kept complete records which accurately measured farm and home accomplishments. These programs were the forerunner of farm management programs which began in the early 1960's.

Learning from past experience, extension agents applied different concepts in different circumstances. In 1962 the extension organization battled to eliminate the screwworm as a major pest of the livestock industry. Organizational

Seaman A. Knapp, founder of the Agricultural Extension Service. (Courtesy, Texas A&M University Archives.)

procedures had expanded since the time of the cattle tick fever epidemic. The Texas Agricultural Extension Service had allies like the livestock industry, the Texas Animal Health Commission, the Southwest Animal Health Research Foundation, and the USDA. Extension committees were formed in every county of the state. Millions of dollars were raised to support a screwworm laboratory at Mission, Texas, and the local East Texas county agent's office became the central point of collecting and mailing larva samples to the lab for identification. Farmers and ranchers crusaded with badges proclaiming "Stamp out a screwworm." And within recent memory, the outbreak of Venezuelan Equine Encephalomyelitis



W. C. Stallings of Smith County. First county agent in the United States. (Courtesy, Texas A&M University Archives.)

required the efforts of county extension agents working with local veterinarians to vaccinate all horses in the state to control the disease. These massive undertakings were all made to protect Texas agriculture.

The Build East Texas Program (BET), created in 1963, typified another important mission. The East Texas Chamber of Commerce was composed of area leaders who shared TAEX goals. BET proposed to involve producers and agribusinessmen in advancing the economy of East Texas by using the newest technology to increase production, developing better marketing systems, soliciting agribusiness, beautifying the region's natural resources, strengthening local leadership, and expanding the recreational potential of the area. As a result, BET promoted the economic growth of more than 19 million acres and served the interests of more than a million people.

Beginning in 1965, in conjunction with BET, agents conducted intensive grazing demonstrations in several locations throughout the area. One of the first and most widely publicized occurred on the Oakhurst Farm in Smith County. Thirty cows (15 Herefords and 15 F_1's) on 30 acres demonstrated intensive grazing techniques and the advantages of F_1 crossbred cows. Other demonstrations on the Bill Clements ranch in Gregg County and the Hoyt Burkhalter farm in Houston County showed similar results. Later demonstrations which brought science to the farm occurred on the Jay Dossett and Walter Judge ranches in Wood County, the Floyd Green ranch in Rains County, the Richard Vaughan farm in Jasper County, and the Lawrence ranch in Cherokee County.

The East Texas Pecan Demonstration at the Thurmond Gibson farm in Anderson County renewed interest in pecan production by showing that proper management could transform an old pecan orchard into a profitable enterprise.

Agricultural extension agents and scientists were assisted in crisis situations and in daily routine by secretaries typified by Mima Curry. She and her counterparts were the accountants and keepers of the records, though, like the scientists and agents, their roles were constantly changing. Often overlooked in importance, these secretaries were nevertheless essential to the administration of agricultural science and education.

During the Eisenhower administration in the 1950's, a nationwide system of super interstate highways connecting state capitals and major cities entered the planning stage with a blueprint linking Dallas and Shreveport. Engineers proposed a route across Experiment Station property in Smith County, and TAES Director R. D. Lewis and Superintendent Paul Johnson were unsuccessful in their attempts to save the Station. Johnson started investigating the Tyler area for suitable land that could be purchased with available funds.

Even before these developments were formalized, local civic and agricultural leaders had already decided that the Tyler Station had become obsolete. In their opinion, the Station lacked the resources and manpower that East Texas agriculture needed for future growth. Developing their own ideas as early as 1947, these leaders formalized public support for agricultural research by organizing the Heart of East Texas Agricultural Council in Tyler, led by C. R. Heaton, a former Smith County Extension agent and horticulturist. As director of the Council, Heaton promptly hired Sam Whitlow as associate director and received the support of his friend Henry M. Bell, Sr., president of the Citizens National Bank of Tyler. Composed of 86 outstanding businessmen, bankers, and area farmers, the Council created an operating fund of $15,000 to promote

agriculture and shortened their name to East Texas Agricultural Council. Broadening their base of public support, the Council formed the East Texas Farm and Ranch Club with A. R. "Bob" Murdoch, a former army historian and agricultural specialist in Chamber of Commerce activities, as executive director.

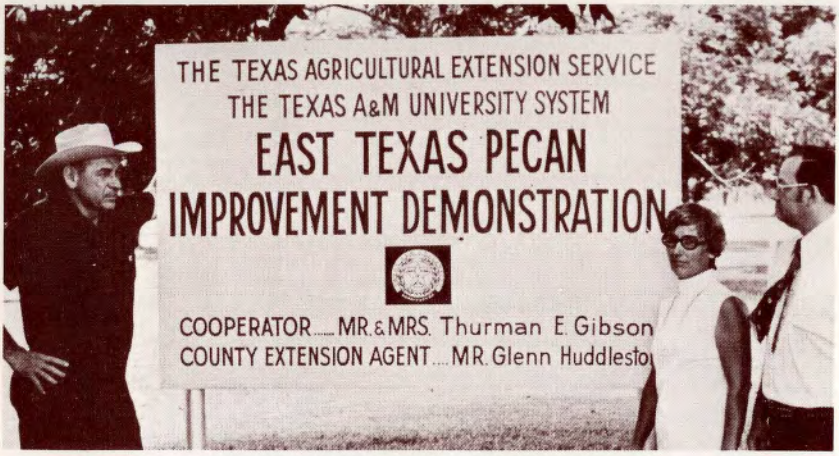
On November 7, 1961, Murdoch and agricultural and livestock leaders met at Tyler's Blackstone Hotel hoping for support from Texas A&M University. Welcoming this opportunity to get reliable, grassroots ideas concerning the future, President J. Earl Rudder of Texas A&M University and Dean of Agriculture, Raleigh E. Patterson, listened carefully as 35 agricultural leaders expressed their concerns. E. O. Doggett cited the need for an expanded program of beef cattle management and advocated one large experiment station for all of East Texas. Significant suggestions for improvement were voiced by Martin Thedford, Milton Vanderpool, Pete Davis, T. N. Winn, Henry Norman, Joe Milton Winston, Hardy Ward, Seth Ford, Floyd Sanders, Joe Bailey, Paul Brush, Donald Pool, Lenis Wells, and A. S. Genecov. They decided the top research priorities should be the rising cost of agricultural production, new varieties, dairy management practices, and improvement of existing coastal bermudagrass, vegetables, and fruit.

Rudder and Patterson responded to the concerns of the agricultural leaders and agreed to one large consolidated center for East Texas. To achieve closer cooperation, the group established an advisory committee to the TAES to develop research projects and support them until completion.

In these cooperative proceedings between Texas A&M officials and East Texans, old friends crossed paths. For example, in 1961, A. G. Morton, Jr., a Kilgore attorney and leader in East Texas feedlot enterprises, was elected to the Kilgore College Board of Trustees. Morton's friendship with Rudder dated back to the 1930's. Patterson's close friend was V. A. (Bill) Clements, Jr., of Longview, a successful rancher and businessman. Clements typified a progressive East Texas agriculturist from a well-respected family and, as a member of the East Texas Chamber of Commerce, was behind the Build East Texas program. Patterson wanted consolidation of research facilities, and Clements agreed to support the move for a new experiment station with broad-based research.

Clements knew that the McMillan Foundation had made a grant of $90,000 along with a lease of 308 acres for a Kilgore College demonstration farm and teaching facility. He called Morton, wanting Kilgore College's support in approaching the McMillan Foundation. While Kilgore College would take a neutral position, on its Board of Trustees was Donald Leverett, who also served as a member of the Board of Trustees for the McMillan Foundation. In the summer of 1964, Clements, accompanied by Morton and Dean R. C. Watson of Kilgore College, went to Overton to meet with three trustees of the foundation. Clements made known his wishes to John L. Pope, president of the McMillan Foundation, Leverett, and Ralph Ward, managing trustee of the McMillan Foundation. As a result of this meeting, many of the early leaders give Clements the credit for planting the idea for an agricultural research and extension center in Overton.

Who were these men who listened to requests for their support in expanding agricultural research? A world traveler, Leverett was a supporter of higher education, and his Texas ancestry included commanders of Rusk County troops in the Civil War. Ralph Ward was the dedicated administrator of the McMillan Foundation. John Pope was a successful banker and businessman in Overton and Tyler, and the confidant of the late Bruce McMillan, Sr. Pope, Leverett, Ward and



Demonstration programs have shown the importance of applied agricultural science in increasing yields. Mr. and Mrs. Thurman E. Gibson and county agent Glenn Huddleston were part of such a program. (Courtesy, Texas Agricultural Extension Service.)

other members of the McMillan Board — Ralph B. Shank of Dallas and Reginald H. Feild of Shreveport — were all old friends who shared a philanthropic interest in many East Texas civic, religious, and educational causes. They saw the McMillan Foundation as an important trust.

On October 15, 1951, Dr. and Mrs. Bruce McMillan, Sr., created the Bruce McMillan, Jr. Foundation in memory of their only son who had died the previous July. Mary Moore McMillan was the daughter of a wealthy East Texas farmer and oil man. In the aftermath of Bruce Jr.'s death, Mary McMillan and her husband resolved to provide opportunities for others and established the foundation for religious, charitable, literary, scientific, and educational purposes. In 1954, Mary McMillan died and 6 years later was followed by her husband.

In the later years of his life, Bruce, Sr., would call John Pope after Sunday dinner, and the two would ride over the pastures at the McMillan Ranch. The doctor loved agriculture and took particular delight in grasses. His attachment to the land moved McMillan to conclude that the foundation should aid the advancement of agricultural science, improve soil and timber conservation, and maintain and operate experimental farms or stations for agricultural purposes on Foundation lands. Now, in 1964, the opportunity had arrived, and John Pope remembered. As president of the Foundation, he invited Texas A&M University officials to present their ideas.

By July, the McMillan Foundation and Texas A&M University were holding conferences. The Foundation wanted an agricultural research and extension center located at Overton. Texas A&M University wanted to consolidate its research locations in East Texas and move the headquarters for both Extension Districts 5 and 9 to the new Center. Rudder took charge of initial negotiations and Dean Patterson and Assistant Dean E. M. Trew pursued the matter in subsequent contacts. Led by H. O. Kunkel of the Texas Agricultural Experiment Station and

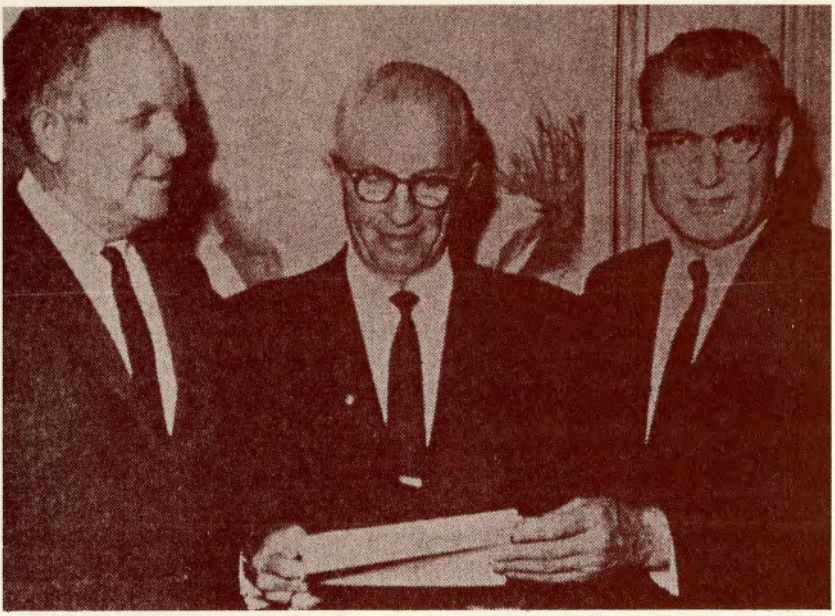
Daniel Pfannstiel of the Texas Agricultural Extension Service, with specific assistance from O. D. Butler of the Texas A&M University Department of Animal Science, Morris Bloodworth of the Department of Soil and Crop Sciences, and Price Hobgood of the Department of Agricultural Engineering, an impressive delegation of Texas A&M University experts went frequently to Overton. They narrowed the potential sites to a location across the road from the Kilgore college Demonstration Farm and a coastal bermudagrass field on the McMillan Ranch north of Overton.

On January 18, 1965, the McMillan Foundation Board and Texas A&M University officials, represented by Pope and Patterson, announced plans to develop an East Texas Research-Extension Center. Texas A&M would lease 1,221 acres on the ranch from the Foundation for 25 years, with options of renewal for two additional 25-year periods and would construct an office and laboratory building, known as the Moore-McMillan Building. For this purpose, the Foundation deeded 22 acres with 150 Herefords to the University in addition to creating a grant of $300,000 to construct needed facilities.

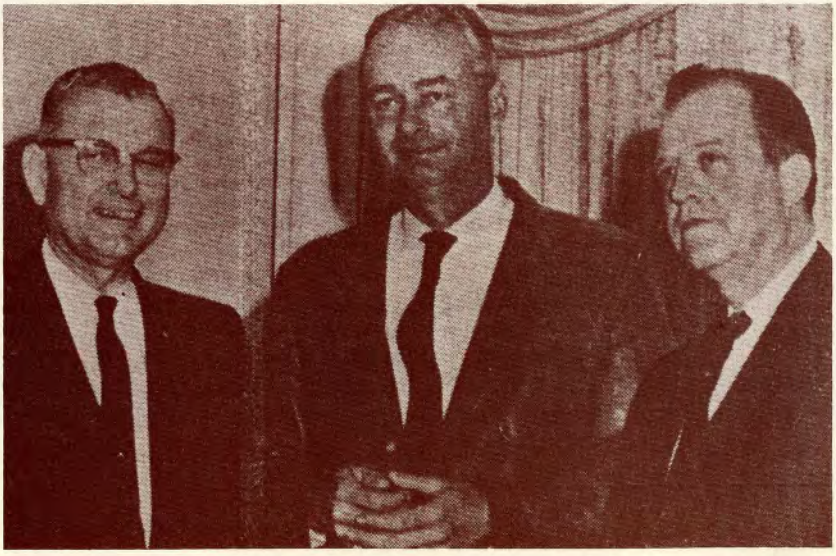
However, the site required additional land. At this point, J. T. Montgomery, friend of the Moore-McMillan families and owner of adjacent property, offered his help. Montgomery's own life had been touched by tragedy. His eldest son, James Glenn, Eagle Scout and honor student, had died suddenly while attending Texas A&M University. After discussions with his family, Montgomery and his wife gave Texas A&M University about 4½ acres as a memorial to their son.

With the way open for excellent research and extension facilities, both the Experiment Station and the Extension Service began staffing the Overton Center. The addition of the new Center and staff to the town of 2,000 stimulated a

Texas A&M President Earl Rudder discusses future center at Overton with Bob Murdoch, Executive Director of East Texas Agricultural Council, Tyler. (Courtesy A. R. "Bob" Murdoch.)



Texas A&M University President Earl Rudder (left) and Dean of Agriculture R. E. Patterson (right) attended an agricultural meeting at Tyler on November 7, 1961. Milton Vanderpool (center) presided at the meeting held by the East Texas Agricultural Council. (Courtesy, Tyler Morning Telegraph, *1961.)*



John L. Pope, Overton banker and president of the Bruce McMillan, Jr. Foundation, and R. E. Patterson, Texas A&M dean of agriculture, jointly announced creation of the research and extension center at Overton. (Courtesy, Longview Morning Journal, *1965.)*

Bruce McMillan, Sr., Bruce, Jr., and Mary Moore McMillan. (Courtesy, McMillan Foundation, Overton.)

$450,000 building boom. The TAES' John "Al" Lancaster transferred from Mount Pleasant to start agronomic research with grasses and hired J. D. Riddle, the McMillan ranch senior foreman. Ralph Ward offered the TAES the use of McMillan's offices while the buildings and laboratory were being constructed on the ranch. Secretary Mima Curry came from the Tyler Station. Meanwhile, the McMillan Foundation continued its generous support by donating equipment and creating additional grants for research and buildings.

With the retirement of Dean and Director R. E. Patterson in 1967, it fell to TAES' Acting Director H. O. Kunkel and TAEX Director John E. Hutchison to set the general plans for the building of the Center and to implement the initial staffing plans. Bill J. Ott, then agronomy professor at Panhandle A&M College and coordinator for research with the Oklahoma Agricultural Experiment Station, became Overton's resident director. Ott arrived at Overton February 1, 1967. Soon after his arrival, Ott invited Myron McCartor, animal nutritionist, and Richard Duble, forage physiologist, to come to Overton.

Ott believed that research at the Overton Center could get closer to the original idea of land-grant colleges by discovering better regional farming methods. Results would be quickly disseminated to area residents through the Extension Service. Foremost in Ott's mind was better utilization of forages by livestock, which meant developing and testing grasses and legumes that would provide higher nutritional content for cattle. A second priority for Ott was horticulture, with variety tests and new crop introductions. Possible future research efforts included forestry, investigations of insect-borne plant diseases, wildlife, recreation, and irrigation.

At the same time, the Extension Service was preparing to move to Overton. District agents for agriculture and home economics looked forward to closer cooperation with researchers. The Extension Service assigned additional specialists to Overton, a move which broadened and strengthened county programs.

Prior to the establishment of the Center at Overton, county agents reported to district agents for District 5 at Mount Pleasant and for District 9 at Nacogdoches. Tommy Hollmig and Margaret Bracher, district extension agents, and Wayne Taylor, area farm management specialist, made up the District 9 headquarters staff. District Agents R. S. Loftis and Mary Cothran, and area farm management specialist James Long, comprised the District 5 headquarters staff and were the first extension members to join the Overton Center. Shannon Carpenter, holding a joint position with the Experiment Station and Extension Service, transferred from Tyler to the new Center. Ruben Sanders, program specialist, and George Alston, area agronomist, were added as new specialists. Overton became the only Research and Extension Center in the State serving as headquarters for two extension districts.

Within a few months, Hollmig transferred to District 12 and was succeeded by William H. Lehmberg as district agent for District 9. Margaret Bracher soon retired, and in her place Ann Sonner supervised home economics activities in District 9. She would later be followed by Jo Etta York, former Gregg county agent, Mary Kaye Merwin, former area 4-H specialist, and Shirley Neel, former Nacogdoches county agent. After the death of R. S. Loftis, L. M. Vaughan, veteran Brazoria county extension agent, transferred to the Overton Center as district agent for District 5 and coordinator of the Build East Texas program.

The stage was set for dedication of the new facilities on September 20, 1967.

Secretary of State John Hill, the MacMillan Foundation officials, the East Texas Chamber of Commerce, and President Earl Rudder pledged to serve the best interests of East Texas. Later a tour was conducted through the six new laboratories, allowing the crowd to inspect equipment and to participate in question-and-answer sessions with the scientists. Refreshment tents were set up on the lawn, rounding out a day of festivities which all attending would remember.

Within a surprisingly short time, Overton scientists had much to show area farmers. Research focused on solutions to important problems demanding immediate attention: forage production and utilization, small grains, winter grazing, heifer replacements, beef cattle performance, feeder steer production, improved forage varieties, horticulture, and soils. At the same time, Extension programs emphasized efficiency of production, marketing and utilization, management, leadership development and community improvement, family living, conservation of soils, water conservation and recreation, and public affairs.

Within 3 years, the Center became a showplace with its broadened scope of agricultural science in theory and practice. For example, Richard Duble exhibited his evaluations of six species of summer forages; John Matocha explained the rates at which plants used nitrogen in East Texas soils; Myron McCartor's studies with feeder and slaughter production confirmed that East Texas ranchers should market calves as feeders rather than at traditional lighter weights. Visitors saw winter grasses increasing farm income and maximizing production on pastures.

During late 1970 and into 1971, farmers, farm editors, and even scientists themselves were impressed by the scientific response to the challenges of East Texas agriculture. Heretofore, the image of the outlying laboratories seemed unattractive, provincial, and second-rate. Now, the modern facilities and well-staffed research programs were the front line of dynamic scientific discovery and progress.

Additional Extension educational programs and personnel accompanied the new wave of scientific success. Bob Fowler began resource development activities, Dwight Hall was named Extension area landscape horticulturist, Leon Smith became the area plant pathologist, and Fred Thornberry was appointed area poultry specialist. Others to follow were D. W. Fate, forestry specialist; Jack Coster, entomologist; Randall Grooms, livestock specialist; Charles Stayton, wood products specialist; Herbert Brevard, communications specialist; and Joe Lock, fisheries specialist.

But East Texans saw immediate reaction beyond the official charge of the Center. Dwight Hall created landscape designs for the Rusk City Library, Diboll High School, and Hopkins County Memorial Hospital. Fred Thornberry published a monthly newsletter giving the latest research results to poultrymen. Sanders worked with the Office of Economic Opportunity in programs for low income families. Leon Smith began pathological studies and operated a free plant disease diagnostic laboratory. From College Station came Earl Knebel, head of Texas A&M's Agricultural Education Department, to teach graduate courses at the Center.

Some of the specialists who retired or transferred to other positions were replaced with new staff such as John Fowler as area poultry specialist; Kenneth Lewis as entomologist (to be followed by James Robinson); Vernon Woodbury in community resource development; and at the retirement of Shannon Carpenter, Dwight Vines as area dairy specialist. Kenneth Smith became area agronomist;

Prominent East Texas agriculturists visit the Overton Center. Left to right, (front) Bill Ott, resident director of research; William H. Lemberg, district agent; Ralph Ward, McMillan Foundation; V. A. "Bill" Clements, rancher and businessman; "Bill" Utsey, overton businessman; (back) "Rip" Loftis, district agent; John Pope, McMillan Foundation; Fred Pool, East Texas Chamber of Commerce; and Herb Knauth, Overton Chamber of Commerce.

In 1967, when the Center was dedicated, the following people supervised the Center's activities: standing, William H. Lemberg, district agent, Extension District 9; Bill J. Ott, superintendent — TAES; Mary Cothran and R. S. Loftis, district agents, Extension District 5 and Mrs. Margaret Bracher, district agent, Extension District 5. (Courtesy Overton Press, *September 21, 1967.)*

George Philley, plant pathologist; James Chandler, area forestry specialist. David Creech, later of Stephen F. Austin State University, joined the Center as the first Extension area horticulturist. Mary Kaye Merwin began as the first area 4-H and youth specialist for East Texas and later served as district home economics agent for District 9. Charles Gardner succeeded Merwin as area 4-H and youth specialist.

From its beginning in corn clubs, the 4-H Club program continued to expand. Early project areas included only livestock and crops for boys and clothing and cooking for girls, but Extension agents eventually made more than 50 different subject areas and 100 different projects available to youngsters. By 1978, more than 12,000 East Texas boys and girls were annually enrolled in 4-H Club activities.

Even though the life of the Overton Center, the modern era of East Texas agricultural science, has been extremely brief, research accomplishments have been significant. At the time of the Center's opening, the number one factor limiting agricultural production was declining soil fertility. It remained for the scientists to continually stress the soil's importance and devise methods leading to plant and livestock management systems for East Texas.

Beef and dairy cattle achievements continued to be realized. Shannon Carpenter demonstrated that East Texas dairymen could overcome the acute shortage of good dairy replacement heifers for one-half the purchase cost, a dividend from research estimated at $5.2 to $6 million a year. The cattle management programs were exciting early successes for the new Center. Extension result demonstrations, tours, and educational meetings showed producers the advantages of utilizing research and demonstration results to improve cattle production. Supported by the research of Bill J. Ott, M. Myron McCartor, Richard L. Duble and his associates, the acreage of winter pastures in East Texas expanded from 70,000 acres in 1968 to 300,000 in 1971. In only 3 short years, producers were given the option of producing a feeder animal ready for the feedlot.

In 1971, John Lipe arrived and renewed varietal testing on peaches and berries, orchard fertilization, weed control, fruit thinning, and harvesting and marketing practices. The mechanical berry harvester promised a new era for East Texas farmers. Station scientists also envisioned increased production for truck crops.

At about this time, economist-management specialists Wayne Taylor and James Long began preparing annual costs and return budgets for most of the economically important agricultural enterprises in East Texas. Each year these budgets were updated and distributed to producers through the local county agent's office. Another important segment of the area economists' efforts included estate planning seminars, and tax management and farm accounting meetings in practically every county in East Texas.

Randall Grooms, Extension livestock specialist, emphasized beef cattle management, including pregnancy determination, herd sire selection, and nutrition. Through Extension efforts, the establishment of local and area feeder pig sale associations in Athens, Centerville, and Carthage increased swine production and created a market of top quality feeder pigs.

In the early 1970's, D. W. Fate, Extension area forestry specialist, added Christmas tree production to his program of timber management and marketing.

The adaptation of coastal bermudagrass is an important asset to East Texas ranching. Bill Ott checks growth rate and stem size of the grass. (Courtesy, TAMU Agricultural Research and Extension Center at Overton.)

In demonstration plots on the Kilgore College Farm near Overton, Fate tested several species for adaptability and market acceptance. Thereafter, demonstrations sprang up throughout Districts 5 and 9, with the genetically improved Virginia pine becoming the top contender in commercial Christmas tree production for East Texas. Farmers planted approximately 600,000 Christmas tree seedlings in 1978. Because of this continued interest, James Chandler evaluated additional species and production practices.

When Joe Lock joined the Texas Agricultural Extension Service in 1971 as area fisheries specialist, more than 200,000 ponds had been built in East Texas for watering livestock, soil and water conservation, and for recreation. Most ponds were not managed for fish production and contained less than 50 pounds of fish per surface acre.

Lock developed techniques for producing fish in artificial tanks at the Extension Aquaculture facility near the Overton Center. This facility, in cooperation with J. T. and Jack Montgomery, demonstrated that 500 pounds of catfish could be produced in 8-foot diameter tanks in the summer and 250 pounds of rainbow trout during the winter. Most fish producers in East Texas have applied this information to their holding and production facilities.

Through Extension educational programs and demonstrations, fish production increased to more than 1,000 pounds per surface acre of water in the demonstration ponds. Providing 16,000 farmers with additional income and recreation, a positive trend continued when, in addition to increased property values, fish production increased to more than 2,000,000 pounds in 1978. Accompanying this development, through various educational techniques pond owners learned pond renovation, stocking, fertilization, supplementary feeding,

and water quality management. To help meet the need for stocker fish, advisory assistance in hatchery management resulted in the production and sale of three million catfish fingerlings, several million Florida Bass, and other fish for a value of approximately one million dollars in 1978.

Another important Extension achievement concerned all phases of broiler production: processing, marketing, and use of by-products. Under the guidance of Fred Thornberry, the Texas Broiler Symposium began annual meetings sponsored by the Shelby County Poultry Subcommittee and industry leaders from Nacogdoches, Shelby, and San Augustine Counties. Environmental education programs, such as the "Beat the Heat" campaign, resulted in practically all of the more than 1,500 poultry producers realizing solutions to humidity and temperature problems during summer heat waves.

A 1970-71 broiler litter feeding demonstration in Shelby County gave some indication of the economic potential and practicality of recycling broiler litter through cattle. This procedure gained widespread acceptance in the broiler producing area for wintering mother cows, heifers, and stocker cattle on a ration containing up to 60 percent broiler litter.

Extension agents-home economists increased East Texans' awareness in areas of family living, home economics, and family stability. Working through trained aides, the Intensified Farm Planning Program developed small-scale farm and ranch methods for the farmer who had only a few acres. The Expanded Nutrition Program taught low income families proper nutrition and food preparation.

Overton's third annual field day attracted hundreds of East Texans interested in information from Extension specialists and from research results. For example, F. M. "Monte" Rouquette's research showed that traditional hay meadows cost too much and that wise management of cattle grazing would be more economical. Robert Shank discussed potentials of barley and ryegrass for winter forages. McCartor's studies in early weaning of calves attracted considerable attention and discussion; at the last stop on the tour, Donald Paterson and John Lipe discussed horticultural and sweet potato research. The latter won for Paterson the coveted L. M. Ware Research Award of the American Society for Horticultural Science.

Change came not only in Texas agriculture but in the administration of the Experiment Station at Overton as well. In 1975, Bill Ott accepted a position as resident director of research at the Lubbock Center. Looking back on the Center's impressive beginning, Ott saw progrms which added 300 to 400 pounds of weight to a calf during the course of one winter.

Certainly five important landmarks in scientific research had been reached by 1975. These high points were the further development and utilization of cool-season pastures and their integrations into the production of feeder and slaughter cattle; developmental research in systems management of warm-season forages for cow-calf operations; discovery of sulfur as a major plant nutrient deficiency in East Texas soils and development of soils treatment for correcting the problem; development of caging techniques for the production of high quality, fresh-market tomatoes by protecting young plants from wind, abrasion, and hail damage; and development of better methods for the economical reproduction of replacement dairy heifers.

Despite threatening rain, 500 people turned out for Overton's 1976 field day. TAES Director Jarvis Miller announced the new resident director for the

Center. A native of Kingston, Oklahoma, with degrees from Oklahoma State and Purdue, the new resident director had leadership in beef-forage research at Purdue University and at the Feldun Agricultural Center and Southern Indiana Agricultural Research Center. With a diversity of agricultural experience, Purdue's professor of animal nutrition, William H. Smith, accepted the opportunity.

Greater efficiency in beef cattle production dominated the agricultural research spotlight during the next few years. For example, Ron Randel's research improved the conception and calves-weaned percentages. Through the cooperative efforts of scientists, county extension agents, and the Sartwelle Brahman Ranch in Sealy, beef production increased in East Texas.

Because of rapidly inflating feed costs, Overton scientists and specialists sought greater cattle gains through a wide variety of experiments and result demonstrations. Extension specialists Wayne Taylor, James Long, Ken Smith, and Randall Grooms kept ranchers informed of the latest principles of grazing rotations compatible with inconsistent weather conditions. Taylor and Long's break-even budgets provided a guide for ranchers in making plans for their stocker calves and winter pastures. Meanwhile, experiments determined the practicality of various feed additives to improve the efficiency of the cattle's digestive systems or the production of meat having lower cholesterol levels for

Stocking East Texas tanks and lakes with fish provides recreation and additional income for farmers. These are part of Extension activities led by Joe Lock. (Courtesy, TAMU Agricultural Research and Extension Center at Overton.)

human consumption. While it is not yet possible to gauge the historical importance of these efforts, a steady stream of impressive delegations from Northeast Texas and Oklahoma have been attracted to the Overton Center by those findings.

Besides improved cattle production, the Center continued to contribute in other areas. Varietal testing of wheat and oats was an important achievement of Lloyd Nelson and others. Following John Matocha's transfer to the Corpus Christi Station, Terry Keisling took over soil research. Don Paterson attacked the sweet potato weevil problem through genetics studies, and Lipe and Mack Fuqua continued to seek and evaluate better disease-resistant varieties of vegetables for East Texas.

In 1977, the Overton Center received additional support with a grant from the McMillan Foundation. Texas A&M added to the grant and awarded a contract for a badly needed auditorium, new laboratories, and office space. These actions insured the continuation of scientific and educational progress in the best available facilities. In this way, the Center's agricultural research and education kept pace with the ever-changing Northeast Texas agriculture.

For the future, the Overton Center proposes to follow in its past patterns. Through soil-forage-animal integrated systems, scientists hope to identify high yielding forages and efficiently producing animals. Through variety selection and cultural improvement for mechanical harvesting, they hope to restore the sagging blackberry industry and to continue improvement of sweet potatoes, onions, and watermelons. Other needs which demand attention but require more funds and adequate personnel are forestry research, legume adaptation, and expansion of current beef production. Even though beef production has been significantly improved, the low production efficiency of East Texas cattle still needs to be raised.

As it prepares for the 1980's, the Overton Center stands on a solid foundation of scientific achievement and education. Experiment Station Research and Extension educational programs have been flexible in order to facilitate the advancement of East Texas agriculture. Through the efforts of early scientists and county agents, agriculture has remained one of the leading economic factors of East Texas. And although these men and women did not conquer every problem which confronted agriculturists and homemakers, by compounding their knowledge, they guided East Texas agriculture into the modern era.

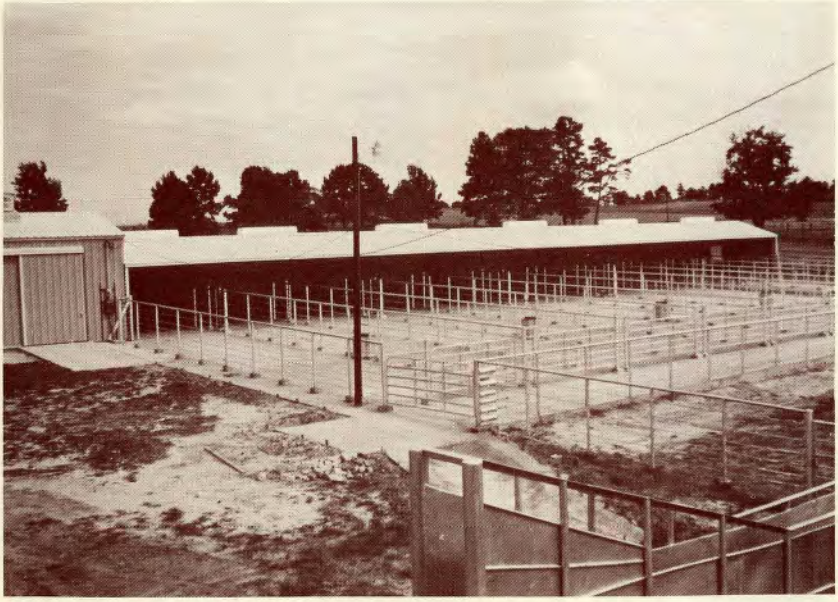
The achievements of research and educational programs and the future of the producer and consumer of East Texas agricultural products are the results of private and public cooperation. Texas A&M, in accomplishing its historic mission to agriculture as the state land-grant university, contributed to the best interests of East Texas and to all of Texas. If agricultural science remains properly funded, the concerns of the future will have solutions; if not, agricultural progress will halt. The public sector (including state and county governments, producers, and local trustees) supported the early Troup, Nacogdoches, Lufkin, and Tyler stations and Extension educational programs. The McMillan Foundation envisioned a resurgent East Texas and desired to guarantee the bounty of the land for future generations. Appropriately, the Texas A&M University Agricultural Research and Extension Center strengthened a vital element of the region's economy: agriculture.

Monte Roquette explains the value of various forages for cattle. (Courtesy F. M. Roquette, Jr.)

H. O. Kunkel, director of the Texas Agricultural Experiment Station, and Jack K. Williams, president of Texas A&M University, visit Overton in 1971.

Field days provide East Texas farmers and ranchers an opportunity to learn the latest research results.

One of the earliest needs at the center was for a satisfactory cattle handling facility. Designed by Myron McCartor with pipe from the Fair Oil Company of Tyler, the corral was built in 1968. A modification of this corral was built by J. L. Eaton on his ranch near Henderson.



In order to have facilities for controlled nutrition experiments, Myron McCartor developed a combination experimental feeding and ration mixing facility. Construction was completed in the summer of 1972.

Texas Agricultural Extension Service staff at the TAMU Agricultural Research and Extension Center at Overton in 1980: (left to right) Janis Choate, L. M. Vaughan, George Philley, James Chandler, Herb Brevard, Charles Gardner, Terry Menges, Danny Hooge, Charles Stayton, Randall Grooms, Wayne Taylor, James Robinson, Shirley Neel, Billy Percival, Dwight Hall. Not shown are Joe Lock, James Long, and Charles Alton.

Texas Agricultural Experiment Station Staff at the TAMU Agricultural Research and Extension Center at Overton — 1980: (left to right, front row) Mack Fuqua, F. M. Rouquette, Jr., John Lipe, (back row) Ron Randel, Don Paterson, Lloyd Nelson, and W. H. Smith.

This publication is based on extensive historical research of the period from 1901 to 1978; however, the high costs of publishing prevented inclusion of 95 footnotes. Correspondence and records preserved at the Texas Agricultural Experiment Station's Agricultural History Office, the Texas A&M Archives, and the Texas A&M Agricultural Research and Extension Center at Overton have been carefully examined, as were the Texas A&M Board of Directors' minutes. I am indebted to the McMillan Foundation for making its records available to me for scholarly investigation.

Oral history supplemented and enlivened accounts found in these valuable archival records. The staff of the Agricultural History Office of the Texas Agricultural Experiment Station conducted and processed interesting recollections from Paul R. Johnson, Zack Taylor, A. G. Morton, J. T. Montgomery, John Pope, Eldon Lyle, Shannon Carpenter, and the staff of the Overton Center.

Secondary sources, commonly known as books, bulletins, and articles, were invaluable in compiling the history of East Texas agricultural science. These included all TAES bulletins and TAES annual reports (1901-1978) pertaining to East Texas development; farm periodicals, particularly the *Texas Farm and Ranch* and *Texas Agricultural Progress*; and East Texas newspapers such as *The Overton Press, Kilgore News Herald,* and *Tyler Morning Telegraph.*

I would also like to thank the Texas Agricultural Extension Service, especially Herb Brevard and Jim O. Jones, for furnishing some of the materials used in the history of Extension activities; Eldon Lyle for furnishing a copy of the *History of the Texas Rose-Growing Industry*; and to P. A. Young for unpublished reports of activities at Jacksonville, 1935-1963.

This publication was funded by the Bruce McMillan Foundation. I would like to extend special thanks to William H. Smith, Ellen Kotrla, June McLaren, Denise Bailey, Elizabeth Hoffman, and the Department of Agricultural Communications.

College Station, Texas — Irvin M. May, Jr.

The Texas A&M University Research and Extension Center at Overton, 1981.