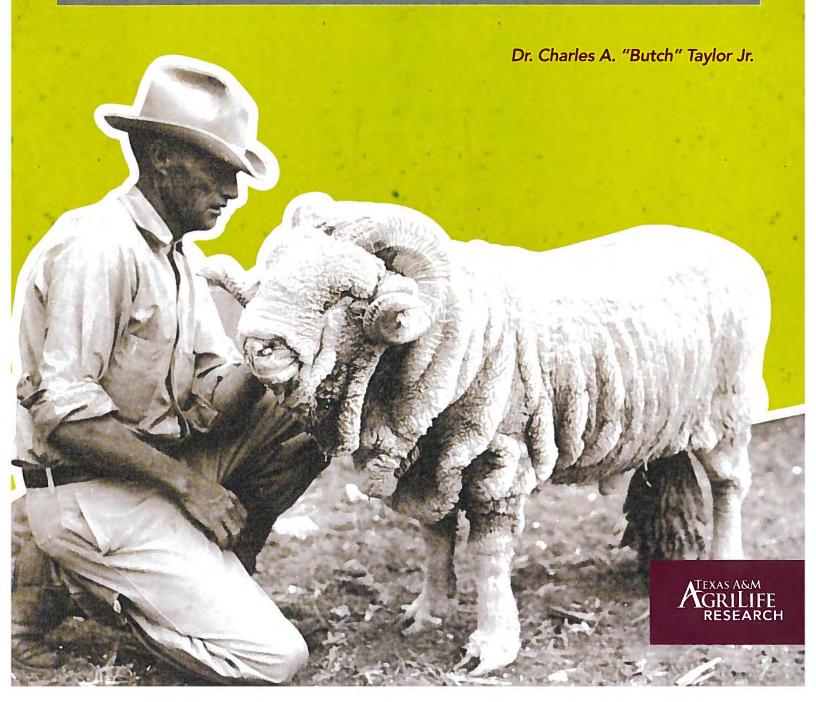
## THE ROLE OF THE RANCH EXPERIMENT STATION IN THE EDWARDS PLATEAU

100 YEARS OF THE TEXAS A&M AGRILIFE RESEARCH STATION AT SONORA

SUBSTATION OF THE TEXAS A&M AGRILIFE RESEARCH AND EXTENSION CENTER AT SAN ANGELO





Dr. Charles A. "Butch" Taylor Jr. explains the effect of prescribed fire intervals at the 2014 Neighbor Meeting Neighbor field day. (Photo by Steve Byrns)

### Acknowledgments

We are grateful to the following for their contributions in making the celebration of the 100th Anniversary of the Sonora Experiment Station possible: Lewis Allen, James Archer, Phyllis Benge, Bob Brockman, Bonnie Lou Campbell, Curry Campbell, Erika Campbell, City of Rocksprings, City of Sonora, James Crockett, Marcy Epperson, Glen Fisher, Pascual Hernandez,

Jimmy Holman, Sharon Holman, Mary Humphrey, Claire Jones, Joann Jones, Seco Mayfield, Preston Neely, Tom Payton, Jim Polonis, Joe David Ross, Elizabeth Schenkel, Terry Schenkel, Page Shirtum, Sam Silvers, Allen Stieler, Butch Taylor, John Walker, and Keith Wallace.

Cover photo:

Early example of a Rambouillet ram before the Sonora ram test started. Handler is Oscar Carpenter, Experiment Station flockmaster, 1930s.

### **CONTENTS**





Dr. Charles "Charles" Livingston (left), veterinarian, and Dr. Tyree Hardy, veterinarian and superintendent of the Sonora Experiment Station.

#### Introduction

he 100th Anniversary of the Texas A&M AgriLife Research Station at Sonora, historically called the Sonora Experiment Station, is a celebration of the farsightedness of people who pioneered this area and the triumph of technology over the challenges encountered producing food, fiber, and recreational opportunities on the Edwards Plateau. One hundred years ago, a group of ranchers believed strongly enough in the idea that science could help solve their production problems that they contributed their money to purchase this property so the Texas Agricultural Experiment Station (now Texas A&M AgriLife Research) could build a research facility to address their needs. Since then, over 30 professors and 80 graduate students have conducted research at this station. Initially the focus was on livestock diseases. As solutions for some of the more devastating diseases were discovered, the researchers turned their attention to increasing animal production. Today much of the research is focused on sustainably using rangelands, even as we continue to do research on animal diseases and livestock production. Water will likely be the most important issue in the future, and studies on rangeland hydrology, begun at the station in the 1980s, provide data that will influence policy decisions.

The theme of this anniversary celebration is "The Next 100 Years, You Be Involved." By this we mean that we expect the Sonora Experiment Station to continue to make discoveries that will enhance the management and use of rangelands for another 100 years. Because we have always been customerdriven, we want you — whether you just moved here or have lived here all of your life — to let us know how this station can best serve your needs and the needs of society.

At this celebration, we will begin an endowment to ensure adequate future funding and the ability to meet the needs of an expanding and increasingly diverse customer base. I ask you to consider making a contribution to this endowment, not as a donation but as an investment in the future of a healthy and productive Edwards Plateau. Please contact Glen Fisher or Bonnie Lou Campbell, co-chairs of the endowment committee, if you would like to make a donation.

Dr. John Walker, Resident Director of Research
Texas A&M AgriLife Research and Extension Center at San Angelo

#### Setting the Stage

he early ranching period on the Edwards Plateau in south central Texas — following the elimination of the buffalo and before fencing and windmills was characterized by "open range," where livestock roamed free. After the introduction of fencing and windmills in the late 19th century, the livestock industry in the Edwards Plateau developed rapidly. These two innovations accelerated the private ownership of land, allowed ranchers to water stock over the entire plateau within fenced boundaries, and let them keep the plateau relatively predator-free. These conditions significantly increased the efficiency of ranching and set the stage for the development of a major livestock industry in the Edwards Plateau, involving cattle, sheep, and goats. The purpose of ranching, to provide food and fiber for society, changed little until the late 20th century. Since then, both technology and the rancher clientele have undergone considerable change.

Most of the early ranchers in the Edwards Plateau region were of European ancestry. They had either moved onto the plateau from humid farming areas in eastern Texas or they had come directly from European countries with mild climates and deep, productive soils. The Edwards Plateau rangeland was new to the overwhelming majority of settlers, including educators and legislators. For the first time, many were living in a semiarid environment on shallow, rocky soils. They had to contend with the complex and dynamic vegetation and climate on the Edwards Plateau without previous experience and with limited knowledge about proper rangeland management. They made many mistakes and had to unlearn centuries of ancestral farming methods.

#### The Free-Grass Period

The early occupation of the Edwards Plateau by ranchers was characterized by a lack of organized government or written laws. In the absence of such laws, the grazier developed a body of unwritten rules known as "the law of the range." It meant that no rent should be paid for grazing rights, but it did not mean free grass in terms of common property that anyone could use at will. The grass was free to the person who secured the range by getting there first. This arrangement was different from what was practiced in New England, where every citizen had the right to graze livestock on their "commons."

The method of managing sheep on free grass is related here:

Sheepmen residing in Coryell, Williamson, Hamilton or San Saba counties would start with one or more bands of sheep of 1,500 each. The flock-master would hold his flocks on the grazing lands along one of the streams to the east until after shearing time and the rains had made grass out on the Plateau start to grow. He then started out following the succulent grasses and weeds until he had meandered about and returned to the starting point or some other place where the sheep might be sheared or marketed. The length of time that this outfit could remain on the Plateau depended on the succulence and abundance of the grass.



# Following the Rivers

For most sections of Texas, livestock production was the pioneer industry. Cattle were usually brought in first, followed by sheep. For Sutton County and parts of Edwards County, however, this order was reversed, probably because there was a lack of surface water (sheep require much less water than cattle). Because this section of the plateau had no running streams, ranges along the North, Middle, and South Concho Rivers to the north, the San Saba River to the northeast, and the North and South Llano Rivers to the east and southeast were stocked first. When sheepmen began to crowd each other along these streams, especially during dry periods, the drier sections of the plateau were used as emergency feed.

## Windmills and Water Wells

ne important change in the use of these grazing lands occurred in the late 1880s with the development of windmills. The section of land on which a well was located was either leased or bought from the state. Under this arrangement, the sheep were divided into bands of about 1,500 as before, and each band was placed under a herder. Sometimes one well was held in partnership among three or four sheepmen. This type of management led to severe deterioration of rangeland around the wells and the loss of many sheep due to scab, a mange-like disease caused by infestation with the sheep-scab mite.

When wells were first drilled in this area, many of the stockmen believed that cattle would not thrive on well water, probably because they had always been raised along running streams. The first wells drilled were of limited capacity due to the small pipe used.

### The Leased Range, Private Ownership, and Wolf-Proof Fences

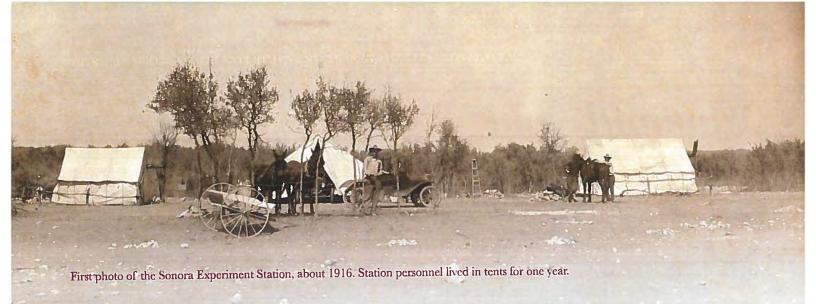
The first fences were built in Sutton County around 1889. Fencing allowed the development of the leased range. As long as the ranges were leased, ranchers used three-wire fences of temporary construction.

The period of the leased range came to a close during 1904–1906. State law allowed an individual to purchase up to eight sections of land (a section is one square mile, or 640 acres). In those days, this was not considered enough land for an adequate living. Most ranchers purchased their full quota and then encouraged their cowboys or herders to file on the remaining sections of land within their township or range.

About 1910, ranchers started building wolf-proof fences. This type of fence was constructed of woven-wire with 6-inch mesh, 42–52 inches high, attached to cedar posts, with a barbed wire on the ground (sometimes one on both sides of the posts at ground level) and two or three barbed wires above the woven wire.

Wolf-proof fences, windmills, and water storage tanks significantly increased the efficiency of ranching; however, these technologies also allowed ranchers to continuously stock pastures at heavy rates. Eventually, this heavy grazing pressure eliminated or severely reduced the better range plants, which were replaced by less palatable, and in some instances poisonous, plants. The frequency and effectiveness of fire were also reduced, and this caused a significant increase in woody plants of low palatability.





#### A Search for Answers

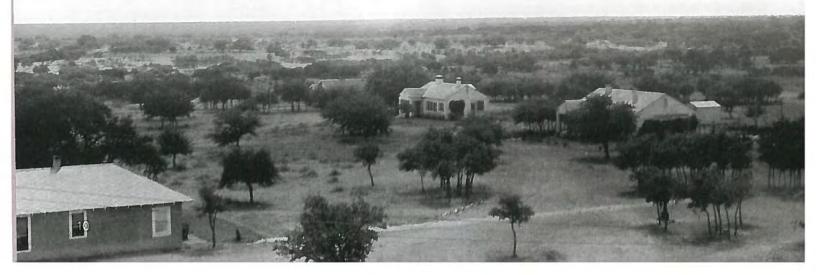
isible evidence of range deterioration was cause for concern among observant ranchers — as were poisonous plants, internal and external parasites, the quality of wool and mohair, the need for cures for unfamiliar diseases, and a desire to increase ranch production. These concerns led some progressive ranchers and the Texas Sheep and Goat Raisers Association to push for a research station located in the heart of the sheep and goat industry.

The year 1914 had been extremely dry in Sutton and Edwards Counties, and ranchers were losing goats to an unknown disease. A Sutton County rancher, B. M. Halbert, commented to his neighbor R. E. Taylor: "Wouldn't it be nice if an experiment station was located in the heart of the sheep and goat industry to study our problems and recommend ways to improve our ranching operations?" Both ranchers agreed that they should bring this matter up with their neighbors and seek support for their idea.

## Establishing the Station

The Texas Sheep and Goat Raisers Association approved the idea at their inaugural meeting on January 13, 1915, in Del Rio, and with the help of Texas A&M University and the Texas Legislature, the Texas Agricultural Experiment Station was established between Sonora and Rocksprings. Money raised by landowners and citizens of Edwards and Sutton Counties matched state appropriations to purchase the land for the station. Originally known to ranchers as the Ranch Experiment Station and to Texas A&M University as Substation No. 14, the research station was established in 1916 on land purchased from D. B. Cusenbary. Substation 14 was located in the heart of the greatest sheep- and Angora goat–producing section of the country to study diseases, breeding, and management of these animals under range conditions.

Panoramic view of the station taken from atop the silo (which still stands), early 1930s.



#### The Research Record

esearch at the Sonora Experiment Station earned international esteem among scientists and educators, and it also established an excellent reputation among ranchers for making useful information available. The initial impetus for establishing the station was to determine the cause and cure for bighead, a swelling of the head due to photosensitization that was found to occur when livestock consumed the fruit and flowers of the sacahuista plant (this was the mysterious disease plaguing goats in the dry year of 1914). Research demonstrated that proper stocking rate was the key to reducing death losses from consuming this plant.

During the station's first 22 years, many other important discoveries were made that supported and improved efficiency of livestock production on the Edwards Plateau. These included studies on other poisonous plants; diet selection by cattle, sheep, and goats; nutrition and supplementation; animal breeding; wool and mohair production; and animal diseases. During these early years, a vaccine for soremouth was developed that is still in use today. Over 100 million doses have been sold. One area rancher said that all the money invested in the station should be considered well spent even if the soremouth vaccine were its only discovery.

During the next two decades, from 1940 to 1959, research continued on livestock production and rangeland conservation, while expanding to include wildlife research, particularly as it related to livestock and white-tailed deer interactions. In 1948, the Rambouillet Central Performance Test was begun to evaluate rams in a common environment. This test is still conducted, and we believe that it is the longest-running central performance test in the world.



Ranchers Roundup talks, early 1940s.



Family outing during Ranchers Roundup, early 1940s.

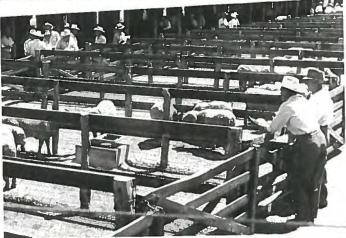
Harvesting spineless prickly pear for livestock feed, 1920s.



Other livestock research was primarily on Rambouillet sheep to improve identification of genetically superior animals. Station Superintendent Dr. Leo Merrill developed the Merrill three-herd-four-pasture deferred-rotation grazing system during this time. This system was shown to improve range condition, and today it is one of the most widely used grazing systems in Texas. Multi-species grazing of cattle, sheep, and goats was investigated and shown to provide more uniform use of forage.

The drought of record (1950–1957) occurred during this interval, and research was conducted to determine the effect of drought on plant mortality. (This long-term record allowed for comparison of the 1950s drought to the drought of 2011, the driest single year on record. These findings were published in 2014.)





Ram Performance Test field day, early 1960s.

The first rangeland watershed research was begun during the 1960–1979 time frame. Research on grazing management and diet selection continued, including the effect of grazing management on livestock losses caused by toxic plants. Flushing range ewes to increase lamb production was studied, and breeding research included the calculation of heritability of production traits of sheep. Researchers compared fine-wool ram performance on pasture and in feedlots; this has been a topic of recent renewed interest because of the cost of feed.

From 1980 to 1999, research concentrated on sustainable rangeland production systems, including the effects of grazing management on livestock, wildlife, and watershed production. During this period and shortly before, short-duration grazing was being promoted as a method to double the stocking rate on rangelands, and ranchers wanted an unbiased assessment of the effect of intensive rotational grazing compared to the conventional grazing-management practices. Results showed that stocking rate has a greater effect on ecosystem response than grazing systems. High stocking rates resulted in a loss of

mid-grasses, an increase in runoff, and a reduction in livestock nutrient intake, as well as subsequent lower individual animal performance. Runoff was shown to be related to the amount of organic matter cover. This relationship has been used to model the effect of management on hydrologic processes of rangelands.

Toward the end of this period, the adverse effect of juniper encroachment on rangelands became increasingly obvious, and research on the use of prescribed fire and goats to control juniper began in earnest. This effort included the establishment of the Edwards Plateau Prescribed Burn Association in 1997.

From 2000 to 2016, the main thrust of research at the Sonora Experiment Station was on controlling juniper through a combination of prescribed fire and goat browsing. This research has resulted in new prescriptions for high-intensity fires that can be used to restore juniper woodlands to grassland savannas. The prescribed burn associations (PBAs) that began at the station are important for ensuring safe prescribed burns as well



Dr. Butch Taylor conducts a prescribed burn. (Photo by Dr. John Walker)

as promoting the use of prescribed fire. Today, there are more than 50 PBAs, extending from South Texas to Nebraska. The importance of PBAs for restoring degraded rangelands has been recognized with numerous awards, including the Texas Environmental Excellence Award in 2002 and the Lone Star Land Stewardship Award in 2010.

Goat browsing is an important biological control for juniper, and it enhances the effect of prescribed fire. To that end, much research has been conducted to increase goat preference for juniper by selectively breeding goats to consume more



Feeding the crowds during a Ranchers Roundup field day, early 1940s.

juniper and through strategic supplementation to increase its consumption. The station now has a line of goats with the genetic potential to consume about 10 percentage units more juniper than when selection began in 2005.

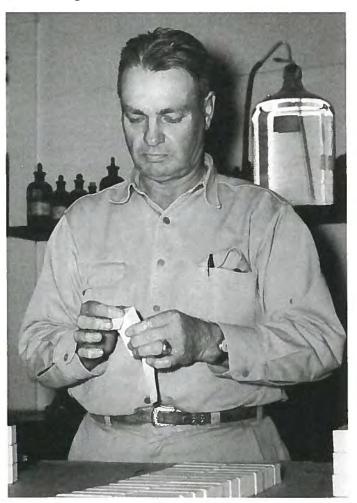
The vaccine for soremouth that was developed at the station has been used to successfully control this disease for decades, but it has lost some of its effectiveness, particularly in Boer goats. Research is being conducted to identify the viral strains responsible for these new outbreaks and develop an effective vaccine.



Selectively bred meat goats browse on juniper.

Throughout the 100-year history of the Sonora Experiment Station, research focus has changed to address the needs of ranchers while continuing some of the long-term programs, such as central performance tests and production of soremouth vaccine. The station has been a vital contributor to the ecological, economic, and social well-being of the Edwards Plateau. Many of its strongest supporters are grandchildren of the pioneers who saw the need for the station, lobbied the legislature for its creation, and made the financial contribution required for its establishment. These same supporters also recognize the demographic shift that is taking place in much of rural Texas — perhaps more so on the Edwards Plateau than in other regions of the state. This recognition has resulted in outreach by the longtime beneficiaries of the station in activities such as the Neighbor Meeting Neighbor field day held in 2014.

As the station begins its second century of service to this region, the state, and the world, we welcome your involvement and help to make this second century better than the first. Considering all that has already been accomplished, this is no small challenge.



Dr. Tyree Hardy packaging soremouth vaccine, 1950s.



Carol Ann Adamsor Terry Brooks Erika Campbell Fred Campbell Oscar Carpenter Randy Dusek Justin Eppersor Jesus Flores Nick Garza John Hruska Miguel Ibarra Jim Kimbrel Robert Langford Benito Magana Juan Mendoza Valie Mendoza Jim Menzies Robert Moen Robbie Morris Hoot Nix Colin Rosser Ismael Sanchez Don Spiller Joe Stewart



Weighing rams on the Ram Performance Test, 1956. Left to right: Dr. Tyree Hardy, Dr. Maurice Shelton, and "Hoot" Nix.



Current hydrology field day at the Sonora Station, with rainfall simulators in operation. (*Photo by Dr. John Walker*)

#### Sonora Experiment Station Researchers, 1918 to Present

| RESEARCHER              | TENURE       | SPECIALTY        |
|-------------------------|--------------|------------------|
| I. B. Boughton          | 1918–1925    | Animal Health    |
| J. L. Lush              | 1920–1925    | Animal Husbandry |
| O. G. Babcock           | 1920-1930    | Animal Health    |
| H. Schmidt              | 1920-1930    | Animal Health    |
| B. L. Warwick           | 1920–1930    | Animal Husbandry |
| V. L. Corey             | 1930-1960    | Range Management |
| Wallace Dameron*        | 1932-1960    | Animal Husbandry |
| W. T. Hardy*            | 1932–1965    | Animal Health    |
| Fred Campbell           | 1950-1960    | Animal Husbandry |
| Leo Merrill*            | 1950-1983    | Range Management |
| Gerald Thomas           | 1952-1960    | Range Management |
| Maurice Shelton         | 1952-1985    | Animal Husbandry |
| Charlie Livingston      | 1955–1985    | Animal Health    |
| Mort Kothmann           | 1971–1985    | Range Management |
| Charles Taylor*         | 1971–2016    | Range Management |
| Patrick Reardon         | 1972–1975    | Range Management |
| Carl Menzies            | 1972–1990    | Animal Husbandry |
| Ed Huston               | 1972–1993    | Animal Husbandry |
| Richard Connor          | 1973–1977    | Range Management |
| Tom Craig               | 1973–1981    | Animal Health    |
| Darrell Ueckert         | 1974–2009    | Range Management |
| Allan W. McGinty        | 1979–2010    | Range Management |
| Millard C. Calhoun      | 1980–2003    | Animal Health    |
| Will Blackburn          | 1982–1992    | Range Management |
| Fred Smeins             | 1982–1995    | Range Management |
| Chris Lupton            | 1984–2011    | Animal Husbandry |
| Tom Thurow              | 1988-1993    | Range Management |
| Ken Risenhoover         | 1988-2004    | Range Management |
| Walter Schaht           | 1990–1995    | Range Management |
| Keith Owens             | 1990-2005    | Range Management |
| Karen Launchbaugh       | 1993–1997    | Range Management |
| Dale Rollins            | 1993-present | Range Management |
| Dan Waldron             | 1993-present | Animal Husbandry |
| Andres de la Concha     | 1995–2005    | Animal Health    |
| John Walker             | 1997-present | Range Management |
| Cody Scott              | 1998–2016    | Range Management |
| Erika Straka Campbell   | 2000–2009    | Toxicology       |
| Brad Wilcox             | 2000-present | Range Management |
| Urs Kreuter             | 2005-present | Range Management |
| Travis Whitney          | 2005-present | Animal Husbandry |
| Dirac Twidwell          | 2006–2011    | Range Management |
| Jeffrey Musser          | 2006-present | Animal Health    |
| William Rogers          | 2006-present | Range Management |
| Morgan Russell          | 2014-present | Range Management |
| *Station Superintendent |              |                  |

## Students Completing All or Part of Their Thesis and/or Dissertation Research at the Sonora Station

| STUDENT                     | DEGREE & DEPARTMENT          | YEAR      |
|-----------------------------|------------------------------|-----------|
| Nort Kothmann               | Ph.D., Ecosystem Sci. & Mgt. | 1965 TAMU |
| ohn Malechek                | Ph.D., Ecosystem Sci. & Mgt. | 1965 TAMU |
| Charles Taylor              | M.S., Ecosystem Sci. & Mgt.  | 1973 TAMU |
| Mike McCullum               | M.S., Ecosystem Sci. & Mgt.  | 1973 TAMU |
| Fred Bryant                 | Ph.D., Ecosystem Sci. & Mgt. | 1975 TAMU |
| Robert Knight               | Ph.D., Ecosystem Sci. & Mgt. | 1981 TAMU |
| Allen McGinty               | Ph.D., Ecosystem Sci. & Mgt. | 1987 TAMU |
| Charles Taylor              | Ph.D., Ecosystem Sci. & Mgt. | 1983 TAMU |
| Robert Kinucan              | Ph.D., Ecosystem Sci. & Mgt. | 1984 TAMU |
| Steve Warren                | Ph.D., Ecosystem Sci. & Mgt. | 1984 TAMU |
| Tom Thurow                  | Ph.D., Ecosystem Sci. & Mgt. | 1984 TAMU |
| Heidi Carter                | Ph.D., Ecosystem Sci. & Mgt. | 1985 TAMU |
|                             | M.S., Animal Science         | 1985 ASU  |
| Jay Hunt                    | Ph.D., Ecosystem Sci. & Mgt. | 1985 TAMU |
| Mike Ralphs<br>Steven Moore | M.S., Animal Science         | 1986 ASU  |
|                             | M.S., Ecosystem Sci. & Mgt.  | 1986 TAMU |
| Steven Riff                 | Ph.D., Ecosystem Sci. & Mgt. | 1987 TAMU |
| Joe Casco                   | Ph.D., Ecosystem Sci. & Mgt. | 1987 TAMU |
| Brian Mihlbachler           | M.S., Ecosystem Sci. & Mgt.  | 1988 TAMU |
| Kevin Bloomquist            | M.A., Ecosystem Sci. & Mgt.  | 1988 TAMU |
| Robert Moen                 | M.S., Wildlife & Fisheries   | 1988 TAMU |
| Roy Jacobson                | M.S., Ecosystem Sci. & Mgt.  | 1988 TAMU |
| Cheryl Robinson             | M.S., Ecosystem Sci. & Mgt.  | 1988 TAMU |
| Edwardo Field               | Ph.D., Wildlife & Fisheries  | 1988 TAMU |
| James Godwin                | M.S., Wildlife & Fisheries   | 1988 TAMU |
| Glenn Stout                 | M.S., Wildlife & Fisheries   | 1988 TAMU |
| Philipe Chavez-Ramirez      | Ph.D., Ecosystem Sci. & Mgt. | 1989 TAMU |
| Ann Spangler                | M.S., Ecosystem Sci. & Mgt.  | 1989 TAMU |
| Blake Caesar                | M.S., Ecosystem Sci. & Mgt.  | 1989 TAMU |
| Arnold Norman               | M.S., Wildlife & Fisheries   | 1989 TAML |
| Blake Murden                | M.S., Animal Science         | 1990 ASU  |
| Timothy Phy                 | M.S., Ecosystem Sci. & Mgt.  | 1990 TAMU |
| Richard Riddle              | Ph.D., Wildlife & Fisheries  | 1991 TAMU |
| Steve Kohlmann              | M.S., Ecosystem Sci. & Mgt.  | 1992 TAMU |
| Samuel Fuhlendorf           | M.S., Ecosystem Sci. & Mgt.  | 1992 TAMI |
| Erika Straka                | M.S., Range & Animal Science | 1993 SRSU |
| Elizabeth Scholl            | M.S., Range & Wildlife       | 1993 TTU  |
| Robert Pritz                | Ph.D., Ecosystem Sci. & Mgt. | 1993 TAMI |
| Sam Fuhlendorf              |                              | 1993 TAM  |
| Rudi Reinecke               | M.S., Ecosystem Sci. & Mgt.  | 1993 TAM  |
| Justin Hester               | M.S., Ecosystem Sci. & Mgt.  | 1994 TAMI |
| John Hendrichs              | Ph.D., Ecosystem Sci. & Mgt. | .,,,      |

ASU – Angelo State University | Baylor – Baylor University | OSU – Oklahoma State University | SRSU – Sul Ross State University TAMU – Texas A&M University | TAMU-K – Texas A&M University | TAMU-K – Texas A&M University | UI – University of Idaho

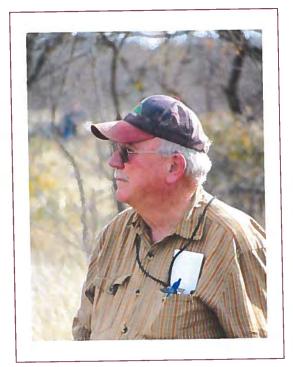
| TUDENT            | DEGREE & DEPARTMENT                      | YEAR          |
|-------------------|--|---------------|
| Christine Doucet  | Ph.D., Wildlife & Fisheries              | 1994 TAMU     |
| Erika Straka      | Ph.D., Vet. Toxicology & Pharmacology    | 1994 TAMU     |
| Blake Murden      | Ph.D., Co-chairman, Wildlife & Fisheries | 1994 TAMU     |
| Samuel Marshall   | Ph.D., Ecosystem Sci. & Mgt.             | 1995 TAMU     |
| Paul Jurena       | Ph.D., Ecosystem Sci. & Mgt.             | 1995 TAMU     |
| Ricardo Iglesias  | Ph.D., Ecosystem Sci. & Mgt.             | 1996 TAMU     |
| Forrest Armke     | M.S., Animal Science                     | 1997 ASU      |
| Eric Redeker      | M.S., Ecosystem Sci. & Mgt.              | 1998 TAMU     |
| Royce Jones       | M.S., Animal Science                     | 1998 ASU      |
| Alyson McDonald   | M.S., Ecosystem Sci. & Mgt.              | 1998 SRSU     |
| Zeno McMillan     | M.S., Animal Science                     | 1998 ASU      |
| Matthew Bisson    | M.S., Animal Science                     | 1998 ASU      |
| Chad Ellis        | M.S., Animal Science                     | 1999 ASU      |
| Hamidou Montaume  | Ph.D., Ecosystem Sci. & Mgt.             | 1999 TAMU     |
| Wayne Walker      | M.S., Biology                            | 2000 Baylor   |
| Fred Reyna        | M.S., Animal Science                     | 2001 ASU      |
| Blake Murden      | Ph.D., Wildlife & Fisheries              | 2002 TAMU     |
| Ben Taylor        | M.S., Agriculture                        | 2002 ASU      |
| Raymond Willis    | M.S., Biology                            | 2003 Tarleton |
| Colin Shackleford | M.S., Ecosystem Sci. & Mgt.              | 2003 TAMU     |
| Brent Racher      | Ph.D., Range, Wildlife, & Fisheries Mgt. | 2004 TTU      |
| Wayne Dunson      | M.S., Animal Science                     | 2004 ASU      |
| Andrea Tomas      | Ph.D., Ecosystem Sci. & Mgt.             | 2005 TAMU     |
| Nancy Nickoli     | Ph.D., Ecosystem Sci. & Mgt.             | 2005 TAMU     |
| Tim Dietz         | M.S., Animal Science                     | 2006 ASU      |
| Rachel Frost      | Ph.D., Rangeland Science                 | 2006 UI       |
| Joe Tredway       | Ph.D., Agriculture                       | 2006 TAMU-K   |
| Dirac Twidwell    | M.S., Plant and Soils Science            | 2006 OSU      |
| Brian Gidley      | M.A., Ecosystem Sci. & Mgt.              | 2007 TAMU     |
| Chad George       | M.S., Animal Science                     | 2007 ASU      |
| Colin Rosser      | M.A., Ecosystem Sci. & Mgt.              | 2007 TAMU     |
| Cory Owens        | M.S., Animal Science                     | 2007 ASU      |
| Andrea Tomas      | Ph.D., Ecosystem Sci. & Mgt.             | 2010 TAMU     |
| Laura Schnapp     | M.S., Agriculture                        | 2010 SRSU     |
| Matthew Coffman   | M.S., Animal Science                     | 2010 ASU      |
| Dirac Twidwell    | Ph.D., Ecosystem Sci. & Mgt.             | 2011 TAMU     |
| Gabbriel Sosa     | M.S., Ecosystem Sci. & Mgt.              | 2011 TAMU     |
| James Jackson     | M.S., Animal Science                     | 2011 ASU      |
| Gabbriel Sosa     | Ph.D., Ecosystem Sci. & Mgt.             | 2015 TAMU     |
| Ethan Frierson    | M.S., Animal Science                     | 2015 ASU      |

#### About the Author

Dr. Charles A. "Butch" Taylor Jr. is a Texas A&M University System Regents Professor and the superintendent of the Sonora Experiment Station. He began his career with Texas A&M AgriLife Research as a graduate student at the station in 1970 and has worked there ever since. This makes him the longest-serving employee at this location and uniquely qualified to write a history of the station.

During his career at the station, Dr. Taylor has established himself as a leading authority in Texas on rangeland resource management, especially in the areas of prescribed fire, livestock grazing management, and the use of fire and goat browsing for managing juniper and prickly pear cactus. Through his leadership, the Sonora Experiment Station has become the premier location in the Southwest where students, landowners, and land managers can see and learn how to apply the latest techniques for rangeland management.

Dr. Taylor organized the Edwards Plateau Prescribed Burn Association (EPPBA) in 1997. It was originally formed to serve just three counties. From this humble beginning, prescribed burn co-ops have increased to 50, now active from Nebraska to South Texas. The EPPBA and Dr. Taylor have been recognized with many awards, including the Texas Environmental Excellence Award and the Lone Star Land Stewardship Award. For this and a lifetime of contributions to the art and science of range management, the Society for Range Management awarded Dr. Taylor the W. R. Chapline Land Stewardship Award in 2015.



Dr. Butch Taylor

#### About the Station

oday the Sonora Experiment Station is one of the go-to places in the Southwest for applied research on sustainable ranching and the education of current and future ranchers and land managers. The strategic location of the research station provides scientists with a field laboratory to solve problems associated with managing rangelands, livestock, water, and wildlife as well as recreational enterprises associated with the ranching industry. Research on prescribed fire and goat browsing is providing prescriptions for economical and environmentally sustainable methods for the restoration of juniper-infested rangelands to healthy ecosystems. Several multiday Academy for Ranch Management Schools are held each year that provide in-depth training on prescribed fire and grazing management.

The station is a destination for many university field trips and is visited by hundreds of university students majoring in rangeland management or ranch management. Likewise, area ranchers frequently stop by to discuss and seek advice on problems ranging from animal diseases to rangeland management. The future of the Sonora Station is bright and full of anticipation for great accomplishments because we can stand on the shoulders of scientists whose discoveries helped make the Edwards Plateau the attractive place to live, work, and recreate that it is today.



Jake Thorne and Dr. Butch Taylor with the station's high-indexing ram at the 2013 Rambouillet Ram Central Performance Test. (Photo by Sleve Byrns)



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