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## A Century Later, Sonora Station Still Ranchers' Research Station

By Colleen Schreiber

SONORA — The Texas A&M Agricultural Research Station, known to most old-timers as the Ranch Station or Substation 14, celebrates 100 years of service to the ranching industry this year. It has long been considered the stockmen's experimental station, and rightly so. It was their hard work, money and diligence that made the dream a reality.

In January 1915, 100 ranchmen assembled in Del Rio to draw up a petition to procure funding from the state legislature for establishment of an experimental station that would specifically address problems of sheep and goat producers. Dr. B. Youngblood, then director of the Texas Agricultural Experiment Station, and his assistant, J.M. Jones, were recognized for their leadership role in steering the ranchmen through the appropriate channels. Four men were appointed at the meeting to present their petition in Austin at the state capitol, B.B. Halbert, R. E. Taylor, J.B. Murrah, and Virge A. Brown.

In 1937, in an issue of the *Southwestern Sheep and Goat Raiser* magazine, Youngblood talked about how these men presented their case to the legislature. Taylor was asked, "Who sent you down here, and who paid your way?"

Taylor responded that no man on earth was big enough to send him anywhere, that he paid his own way to Austin, that he helped elect state senators and representatives to look after his interests, and he and the others were there to tell them what the interests of the ranch people were.

Specifically, they wanted a sheep and goat station, and "we are not going home until we get it," Youngblood told the lawmakers.

With these earnest statements made, the legislature appropriated \$10,000 for the establishment of the world's first government agriculture station primarily to study the problems of sheep and goats. A committee was also formed to petition ranchers for their support. The response was overwhelming, and another \$10,000 was added to the fund.

Youngblood and a committee of ranchers traveled more than 3000 miles over the Edwards Plateau looking for the perfect site for the ranch station. The 3462-acre Cusenbury Ranch, located in Sutton and

Edwards counties, was deemed the perfect site. When the ranch was acquired, approximately 67 acres were under cultivation and the remaining land was native pasture. Along with the land, the station retained for experimental work approximately 100 Hereford cows, 750 Rambouillet sheep and 350 Angora goats.

Ranchmen brought the researchers questions of all sorts, from diseases and overgrazing to questions about wool and mohair quality, and they expected answers. Youngblood had assured them that the research conducted on the station would indeed help answer their questions. In the 1937 magazine article, Youngblood admitted his nervousness over pledging to solve the disease problem.

“I was in pretty hot water with this issue, and was very relieved when in 1932, the station came out with the soremouth vaccine.”

The first field day was held the same year the station was established. Youngblood, who was ramrodding the field day from College Station, was influenced by Sonora rancher Sam McKnight. He reminded Youngblood that young people would be the future industry leaders, and therefore should be encouraged to take some interest in the affairs of the station. McKnight told him the way to get them involved was to let them have some fun.

“Let them swim in your water holes, give them a barbecue and let them have a dance, in which event they will listen more readily to your scientific findings and give the station the support it deserves,” McKnight said.

Youngblood was concerned about what the state legislature would think if they were to build a dance hall on a state experimental ranch, but again McKnight came up with the solution.

“You can build a sheep shed, can't you?”

The old dance hall still stands on the Sonora station, and though they no longer have the big dances, the sheep shed/dance hall got plenty of use in its days.

Youngblood reported that some 5000 people attended the initial roundup. He said it was not just sheep and goat people, but cattlemen from the Gulf Coast, the Panhandle, Kansas, New Mexico and Arizona who visited the Sonora station.

During those early-day field days the ranchers and their families came in the wagons and set up camp out among the clumps of liveoak trees. It was generally a several-day affair. On Sunday evening, ranchers would gather around visiting with old friends and talk about the weather, condition of the range, politics, and the business outlook. On Monday morning they gathered to hear a few scientific papers. In the afternoon came a variety of diversions, from

a barbecue to men judging sheep and goats and women their cakes and pastries. That evening was usually the big dance.

Explanations vary as to the specific reason the ranch station was established, but most involve poisonous plants. Several noxious weeds made ranching in the Edwards Plateau a difficult task. Bighead was a severe problem at the time, and ranchers turned to Substation 14 to solve it.

In a 1990 *Livestock Weekly* article, commemorating the 75th anniversary of the station, Dr. Leo Merrill, one of former superintendents of the station, told his own story about how the problem of 'bighead' was solved. According to Merrill, the researchers had several sheep and goats on test, feeding them every kind of plant available on the station, thinking a toxic plant substance was causing the disease. One of the feed trials included sacahuista grass.

"One evening some fool left the gates open and the animals got out," Merrill said. "The next day the animals that had been on the sacahuista diet all showed signs of bighead."

It was only because of that "screw-up", leaving a gate open and letting the animals out of their pen, that the researchers learned the animals consuming sacahuista had to be exposed to sunlight to develop the condition.

In 1931, about the time the bighead question was answered, researchers on the Sonora station made another historic discovery for the ranching industry. Drs. Boughton and Hardy, the in-house veterinarians, developed a vaccine for the prevention of soremouth that is still in use today. It sold, in those days, for a half-cent per dose, approximately the cost of preparation. Since then more than 100 million doses have been sold.

The vaccine was also originally effective for goats. However, it has been less effective on a more virulent strain found in the Boer goat. Thus research is underway to develop a more effective vaccine for the Boer goat.

Drs. Hardy and Boughton were also good animal diagnosticians. During its earliest days, the station was used as a vet clinic of sorts, as producers often would bring their stock to the station for diagnosis. One rancher, Hal H. Hamilton of Del Rio, reportedly said that a phone call to a Corpus Christi veterinarian cost him \$15 and did no good. However, when Hamilton called Boughton and Hardy at the station, they readily drove 350 miles in their own car, spent two days and three nights in a careful study of his trouble, and accepted no compensation.

In the 1950s, the Sonora station developed a mixture that proved

successful in the control of the common stomach worm in sheep and goats.

By far the greatest parasite concern of early-day ranchers, however, was the screwworm. Although Substation 14 cannot take credit for the development of the sterile fly, the initial work of resident entomologist O.G. Babcock benefitted the ranch community. Screwworm and blowfly trapping was carried on for four years under his supervision. Several different fly baits were tested, and in the process Babcock found that the greatest drawback in trapping was shallow bait pans, hence a switch to deep pans. The entomologist worked closely with the researchers in Kerrville who ultimately pioneered the screwworm eradication program.

Animal health advances were not the only noteworthy accomplishments of the early-day Sonora team. Animal breeding and genetics research conducted there has improved the quality of livestock and the products they produce. Dr. J.L. Lush, an internationally known animal breeder, began his research career on the station, evaluating the benefits of crossbreeding. The work would later lead to honors for Lush as the father of population genetics.

Dr. V.L. Corey, the first range botanist at Substation 14, had a title that suited him well. His studies of the fundamental value of the range plants in the area were important to the development of proper grazing practices. Merrill said that Corey followed the cattle, sheep and goats of the station with field glasses and recorded everything they ate. From his work, scientists derived the utilization percentages of grass, forbs and browse for the various classes of livestock.

Merrill's own four-pasture grazing system brought widespread recognition to the station beginning in the 1950s. His research evaluating the effects of stocking rates, the complementary effects of different species of livestock, and the value of grazing systems produced useful information for many ranchers. People from all over the world came to the ranch station to see the system in use.

The well-known Rambouillet ram performance test was initiated in 1949 at the request of several far-sighted sheep breeders, and the support of a small group of producers has kept the program going all these years, even after tremendous changes in the industry. Wallace Dameron, superintendent on the station in 1928, was largely responsible for the initial development of the test. Dr. Maurice Shelton became involved in the test in 1952 and took over supervision in 1965.

In the early years of the test, the producers were required to do much of the work involved in the test themselves. Once a month they met at the station to weigh the rams. They also took their own core samples for fleece analysis.

Early on, many of the finewool sheep in West Texas were slow growing, wooly-faced, wrinkled, and produced short staple, heavy shrinking wool. Over the years the breed has overcome all of those issues, the ram performance test is given much of the credit. The first sale in conjunction with the test was held in 1976.

Though the station's Angora billy goat test hasn't been around nearly as long as the ram test, it too has been credited with helping ranchers make tremendous improvements in animal performance and mohair production.

Today the performance testing programs are run by Dr. Dan Waldron. The economically important traits that are measured on these test animals, Waldron says, enable breeders to better predict the performance of the next generation. The annual test reports contain a variety of data enabling producers to select for the traits that are important in their program.

Waldron attributes the benefits of the performance tests not only to improved animal performance and fleece characteristics but also to the education of breeders and their customers who buy breeding stock. Over the years, he notes, these test animals have attracted interest from buyers all over the country. In 2015, test rams went to operations in Utah, Wyoming and Idaho, and a few years back semen from goats purchased on the billy test was shipped to Tajikistan in central Asia in an effort to improve fleece quality.

"I admire the breeders who have been leaders in adopting performance testing," Waldron says. "It is because of them that this information is available for all breeders to see and to use."

More recently, a good deal of the goat research done at the Sonora station has focused on increasing cedar consumption through genetic selection. 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.

In 1950 all of the cedar was hand cleared on the station. By the 1970s the regrowth was having a big impact on the productivity of the land. Dr. Charles "Butch" Taylor, who became superintendent of the Sonora station in 1983, understood that new solutions were needed. He saw fire as a potential answer, and shortly after becoming the head of the station he initiated an intensive prescribed fire research program.

His research work was groundbreaking. It led to the development and acceptance of a summer fire prescription for the management of cedar. Taylor has also played a major role in changing the fire culture on the Edwards Plateau. More and more landowners are beginning to utilize fire, as they have learned that it is one of the most cost-effective tools available for managing brush and maintaining a viable

and productive rangeland ecosystem.

Taylor was also instrumental in developing the concept of the landowner-led prescribed burn association, which has enabled fire to be applied on large acreages in a safe and effective manner. Today there are 10 regional burning associations across the state that encompass some 119 counties.

Just as the ranchmen a century ago, the ranchmen operating on the Edwards Plateau still today largely see the Sonora station as “their” station. The two-way communication, ranchers to researchers and researchers back to ranchers, is alive and well. Though perhaps a bit biased, these ranchmen say the Sonora station is the best at disseminating useful information that they can apply in some form or fashion in their respective operations.

Bob Buchholz, who ranches primarily in Schleicher and Crockett counties, says the benefits he’s gleaned from the Sonora station are numerous.

“There are so many things that I do on a daily basis that probably come from research done at that station, and some of it I may not even be aware of,” Buchholz says.

It is because of the work done at the station that Buchholz is such a big advocate of prescribed fire. He is a founding member of the Edwards Plateau Prescribed Burning Association.

“Taking the mystery out of a burn and the nuts and bolts of what I need to do to conduct a safe and effective fire, that alone has had a huge impact on my operation,” he says.

He uses fire primarily for the suppression of cedar, which he likens to a cancer.

“All the rest, turning the old matter that is tied up in the logs and brush and old grass back into ash that then is a good fertilizer for the grass, really comes free,” says Buchholz. “After a fire, plants that I haven’t seen in years germinate.”

Another management tool that comes from the Sonora station and has been particularly beneficial to Buchholz is the soremouth vaccine. He’s hopeful that the work to make a better vaccine for the more virulent strain found in Boer goats will continue.

Buchholz also remembers attending a meat goat seminar in Laredo years ago, and it was a presentation from Butch Taylor that stuck with him. From that one presentation, he was able to substantially improve his kid crop simply by waiting until September, October and the first week in November to turn the billies in.

“People think I’m a liar, but it’s not unusual to get a 150 to 170

percent kid crop,” says Buchholz.

He also kids out in smaller groups; he’s not sure if that information came from Sonora or perhaps from his father-in-law, but either way, these two things together have had a tremendous impact on his operation.

Back in the heyday of finewool Rambouillet sheep and Angora goats, the research done to produce more pounds and finer wool and mohair was invaluable.

“Every time I’ve gone to a field day at Sonora, I come away with something I can use nearly every time,” Buchholz says.

He acknowledges that the role of the Sonora station has changed and will continue to change as land fragmentation continues at a rapid pace.

“These ranches are going to continue to be cut up, so the more the station can do to educate these new landowners on how to take care of the land — the better it will be for me. Without this station here on the Edwards Plateau to help in that training, we’d be heading for a train wreck.”

Sutton County rancher Bob Brockman echoes much the same.

“There isn’t enough time in the day to relay how much the Sonora Station has helped my operation,” says Brockman. “It’s not so much the station but the people who have worked there and still work there. Talk about people who know what they’re doing.”

The sharing of ideas alone is invaluable. The field days, he says, reenergize him.

“I may not apply everything they talk about, but I can usually take little bits and pieces and adapt it to my operation.”

Though he now runs hair sheep and meat goats, the Brockman Ranch participated in the performance tests for many years, and like Buchholz, he is a founding member of the EPPBA.

“I could spend well over \$200 an acre to clear my land (he has his own equipment), even more with big cedar,” says Brockman. “With fire I can do it for \$10 to \$20 an acre.”

Fire is natural, he reminds, and he likes the fact that he can manage the landscape to achieve a mosaic pattern of vegetation and brush. Mechanical treatments are not only much more expensive, but they also cause great soil disturbance, so he chooses instead to use goats and fire on a five to 10-year cycle to keep the cedar beat back.

With the burn association, Brockman says, considerably more fire

is being used on the landscape. He alone has some 100 fires under his belt, and he just recently completed the necessary training to become a certified prescribed burn manager.

Brockman says that not only have EPPBA members' knowledge of fire increased tremendously, so too has their ability to fight fire with fire. More important, they're sharing that knowledge with area volunteer fire departments and even, to a degree, with the Texas Forest Service.

"Our VFD would never have thought about fighting fire with fire," Brockman says. "They now know how to set up on a road, burn in a black line and burn into a headfire, and in that way they can put that fire to bed. It's more palatable than charging right out through the rocks and the brush."

Going forward, Brockman has high hopes that the Sonora Station will continue to play a role in educating landowners, particularly the new landowners, on ways to address daily challenges. Three challenges are utmost in Brockman's mind — land fragmentation, brush encroachment and predators — and all three are directly tied together.

"These new landowners are buying this land primarily for wildlife," Brockman points out. "Many of these landowners do not understand the impact that predators have on fawn crops, for example. If we lose the ability to raise livestock and then we lose the ability to have a hunting income, this ranch is virtually worthless."

These new landowners, he says, also need to understand that with no brush management the Edwards Plateau will be nothing but a cedar thicket. The answer, Brockman insists, is fire, sheep and goats.

"The sheep and goats are the best at managing the weeds, and the goats are so valuable when it comes to keeping the brush down; they're as valuable as a dozer or a prescribed fire."

He's also hopeful that the Sonora station will continue to play an educational role in wildfire suppression training and in the art of prescribed fire.

On April 23, the ranch community will gather for a field day to celebrate and honor their station, its history and its accomplishments.

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