

Brush strategy benefits land, cattle, wildlife



Gilly Riojas, former ranch general manager for the East Foundation, surveys results from a 2019 aerial spraying on the San Antonio Viejo Ranch near Hebbronville, Texas.

Managers for the East Foundation ranches love their South Texas native rangelands. But they also have once-cultivated pastures overtaken by mesquite thickets. So, they figured out a way to help both and get the most from an improvement budget.

The foundation, created in 2007 by the longtime-ranching East family, promotes land stewardship through ranching, science and education. Headquartered in San Antonio, the foundation's 217,000 acres across six South Texas ranches serve as a working lab.

For the most part, Chief Operating Officer Todd Snelgrove and his managers operate the ranches under the same constraints as other commercial enterprises. But they do have unusual access to scientists and technicians focused on the same lands.

By 2015, the management team concluded it was time to do something about the mesquite invasion. The team started on the Santa Rosa Ranch near Kingsville.

"Parts of the Santa Rosa had the reputation of not producing much more than feral hogs, fire ants and nilgai antelope," Snelgrove says.

THE PLAN

The managers determined they could take a strategic approach to brush control that would benefit all the foundation ranchlands.

They would target pastures that in the 1970s and 1980s had been dozed or grubbed — often in strips — and reseeded with introduced grasses, such as bermudagrass and buffelgrass.

Since that mechanical work, regrowth mesquite and other woody brush had reinvaded. But these pastures still had remnants of the highly productive tame grasses. The managers reasoned they could reduce the brush and release more grass production than grew on native range.

They could use that production to increase stocking and, more important, provide a drought reserve. By improving these lands, they could decrease grazing pressure on the native rangelands.

“Like much of South Texas, about 20% of the total East Foundation acreage had been manipulated at some point and put into introduced grasses,” Snelgrove says. “In many places, they picked the best soils.”

Those tame grasses have a quicker response to rainfall, says Gilly Riojas, who until recently served as ranch general manager for the foundation.

They called Benny Martinez, the Range & Pasture Specialist for Corteva Agriscience in South Texas, to work through a plan with them.

From 2015 through 2018, the managers aerially sprayed every year on the Santa Rosa. They used Sendero® herbicide at 28 ounces per acre. The herbicide controls mesquite but leaves most nontarget plants valuable for wildlife habitat.

“Over a three-year period, we’ve done 10,000 acres and it’s averaging about 80% kill (of mesquite),” Snelgrove says.

The difference in potential forage production is huge. At 85% mesquite canopy cover, forage production was around 20 to 30 pounds per acre, Riojas says. The pasture should produce 2,500 pounds per acre. Realizing that potential could offer an increase in stocking of 10% to 15%.

A PLAN ENHANCED

In 2019, the managers turned to a similar pasture on the San Antonio Viejo Ranch near Hebbronville. To better target the application and help with application timing, they enrolled in the new LandVisor™ advanced brush management from Corteva Agriscience.

The digital and imagery technology identifies soil types, key plant species, mesquite density and other factors. It estimates current and potential grass production to identify where spraying will offer the best return.

The managers had identified a rectangular block to spray. Within that block, LandVisor showed some areas where, because of mesquite density or soil quality, spraying wouldn’t yield much response.

“So, we carved out those areas (not to spray) and reallocated those resources elsewhere,” Snelgrove says. “LandVisor validated some things we knew and showed us that big red blob in the middle is where we’re going to have our most impact.”

“We could do this analysis in other ways, but it would take three or four months. We can do this in 15 minutes.”

MORE GRAZING, BETTER HABITAT

The foundation sprayed 1,000 acres on the San Antonio Viejo Ranch in 2019. In May, before the application, grass production averaged 1,144 pounds per acre. In October 2020, about 17 months later, grass production averaged 5,359 pounds per acre.

For wildlife, introduced grasses don’t offer the habitat quality of natives, Snelgrove says. “But a mesquite monoculture is not good habitat for much of anything,” he adds.

By opening the thicket, creating more of a mix of plants and leaving untreated mottes for edge, habitat is improved, he contends. Forb production went from 14 pounds per acre pretreatment to 53 pounds per acre post-treatment.

“If we flipped the script from 70% mesquite and 30% open to 70% open and 30% mesquite, we’d be extremely happy,” Snelgrove says. It’s looking that way now.

“Grazable acres in a 1,000-acre pasture went from about 150 acres to now maybe 700,” Riojas says.

The foundation has plans to treat more acres, again using LandVisor to plan and time the application. It fits well with foundation objectives.

“We’re looking at regrowth mesquite at a landscape scale and developing introduced grass pastures we already have in order to better manage native rangeland for game species and birds,” Snelgrove says. “This land is incredibly productive if you take care of it. And get a little rain.”