

# Grazing Management

*Planning for sustainability and more.*

*by Troy Smith, field editor*

It's been said graziers have an advantage. In the ongoing discussion about the sustainability of agriculture and beef production in particular, the general public may look most favorably upon production systems based on grazed forages. A lot of people like the idea of content cattle grazing verdant valleys, mountain meadows or vast prairie pastures. They want to like the overseers of such idyllic pastoral scenes.

Whether they call themselves ranchers, grass farmers or something else, National Grazing Lands Coalition Board Chair Chad Ellis thinks most graziers have good stories to tell. Ellis has heard plenty while holding positions with USDA's Natural Resource Conservation Service and the Noble Research Institute and as the current CEO of the Texas Agricultural Land Trust.

"There are so many positives associated with forage-based production systems," Ellis says. "It's clean production. Grazing operations maintain open space, and well-managed grazing improves habitat for wildlife."

Of course, few among the general public understand what it takes to manage a grazing operation or any agricultural enterprise. Ellis thinks few producers fully recognize the extent to which urban consumers are disconnected from agriculture. And he thinks the disconnect is spreading well beyond suburbia.

"Even in small towns, many people don't really understand where food and other products come from. They may not know where their water comes from, so they don't understand how management of private working lands, and especially grasslands, can affect water quality," Ellis says.

If people don't know how grasslands provide for the rainwater recharge of underground aquifers or grasslands filter runoff flowing to rivers and lakes, they probably are unaware of other eco-services provided by grasslands, such as soil conservation, carbon sequestration and climate mitigation.

Those people don't realize how sustaining healthy resources capable of providing for these services, as well as optimal livestock production requires good grazing management. Ellis agrees, but he notes how excellent grazing managers plan for more than sustainability.

"I think some (grazing managers) dislike that word. To them, managing for sustainability means they're trying to maintain the ability to just continue doing what they've been doing. They want more than that," Ellis explains. "Maybe that's why some people use the term 'regenerative' to describe management practices aimed at doing more. They plan to keep getting better."

Trevor Toland planned to improve

his land located along the east fork of the La Moine River, near Macomb, Ill. The region is known for corn and soybean production, but Toland's River Oak Ranch includes floodplain and rough uplands — land considered marginal for production of row crops.

"A lot of people would call it junk land," Toland says, acknowledging its light, erodible soils.

Twenty-five years ago, Toland established a management intensive grazing system, providing replacement heifer development for area cattlemen. Over time, the system has been developed to include 47 paddocks rotationally grazed for short periods of time, followed by long periods of rest.

"We use high stock density and rotate often, usually after one, two or three days of grazing. We never graze any paddock for more than five days, always leaving four to five inches of grass behind. And every paddock gets 40 to 50 days of rest before it's grazed again," Toland explains, noting how some regrowth is stockpiled for use after the growing season.

Reed canary grass dominates the lowlands while upland areas support a fescue-clover mix, and all respond favorably to Toland's management, without use of commercial fertilizers. Healthy forages out-compete most weedy plants, eliminating the need for herbicides.

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## *Plan but adapt*

Illinois' Trevor Toland and Texas rancher Rooter Brite agree managing a sustainable grazing operation requires a plan, but managers must also plan to be flexible.

As Toland puts it, "You plan the big picture, but you've still got to fly by the seat of your pants. You have to adjust to changing conditions; be adaptable."

Brite sees a grazing plan as a rough draft or guide that prompts a manager to think, evaluate what's happening on the land and respond appropriately.

There must be a starting place, though, and Noble Research Institute consultant Steven Smith says a grazing plan is a tool for organizing all available resources. He says a grazing plan is the starting place from which a manager can chart a course toward desired outcomes. With that in mind, a plan should include seven key elements.

### **1) Set goals.**

"Setting goals is important because they define the outcomes you're striving for," Smith explains.

It might be extending the grazing season, reducing or eliminating reliance on harvested feedstuffs and assuring adequate body condition for grazing animals while conserving soil, water and wildlife resources. People tend to focus on production-related and economic goals, but lifestyle goals should be considered, too.

### **2) Maps and/or aerial photos.**

"I love maps," Smith says. "Maps and photos of your farm or ranch allow you to view the entire property and evaluate the terrain. Soil maps can give you insight about which areas are likely to support better forage production and which areas might need different management."

Sources for maps include the USDA's Natural Resources Conservation Service (NRCS) and Web Soil Survey. Online sources for aerial maps include Google Maps and Google Earth.

### **3) Evaluation of existing infrastructure.**

When managers have maps in hand, Smith suggests they draw in all existing infrastructure, including water sources, pasture fencelines, roads and other structures.

"Knowing what you've got helps identify limiting factors and infrastructure development that could help improve utilization of the property," Smith says.

### **4) Inventory of existing forage types.**

According to Smith, production capability and time of availability

vary for different types of forage plants, whether they are native or introduced, warm season or cool season. Different forages may have to be managed differently.

### **5) Inventory of grazeable acres.**

Not all farm or ranch acreage may be producing grazeable forage, especially when brush and tree encroachment is problematic. Smith says a surprisingly large number of managers fail to account for reductions in grazeable acreage due to woody encroachment.

"And they still try to run the same number of cattle year after year, because that's how many Grandpa grazed there," he adds.

### **6) Stocking rate.**

Inventories of forages present and total grazeable acres are steps to estimating forage available for grazing, which is then used to determine stocking rate. Smith says many producers don't know how to calculate stocking rates and instead use local rules of thumb to decide how many acres are required per animal. However, NRCS and university extension personnel can help producers learn to take field measurements for estimation of pounds of forage production per acre.

"The easiest way may be the grazing stick," Smith says, referring to a yardstick-type ruler used for measuring plant height and converting measurements into estimates of pasture yield in terms of pounds of forage dry matter per acre.

An appropriate stocking rate will optimize utilization of the available forage, according to the manager's goals for cattle performance, wildlife benefit and conservation of the grazing resource.

### **7) Considerations for additional infrastructure.**

According to Smith, producers transitioning from more traditional grazing systems to systems involving multi-paddock rotations and high stocking densities often find additional infrastructure development is warranted. Many producers make use of inexpensive temporary fencing, but permanent fences and additional watering sources make economic sense when they further management goals.

Smith reminds producers the most important feature of a grazing plan is flexibility.

"It's a starting place; a way to get organized," Smith says. "But it's going to change as you go along. Every year is different. You have to be adaptable."

Toland was a five-year participant in the Illinois Pasture Project which facilitated the measuring of management impacts to soil health, including increased organic matter, increased microbial activity and cooler soil temperatures. Toland says healthier soils translate to healthier, more resilient forages, especially during drought. River Oak Ranch is sufficiently drought resistant such that a consistent stocking rate has been maintained for several years.

“We grow better and more forage, so the cattle perform better too,” Toland says, explaining how yearling heifers arrive April 1, graze without supplementation through December and go home as bred replacements.

“We try to provide the best forage possible, and the cattle do well. It’s profitable for us, and I think we’re environmentally correct,” Toland adds. “I’m proud to show what we’re doing to anybody, anytime.”

According to Texas rancher James “Rooter” Brite, his family has been trying to improve their JA Ranch since 1929.

That’s when his grandfather founded the operation, piecing together tracts of native range and failed cotton farms that the former owners had lost to bankruptcy or foreclosure. Land that had previously been cultivated was returned to grass. When Brite’s dad took over, he tried to continue improving the ranch through conservative management.

Brite favors a conservative approach too, and models that for his own son, J.K. But their management methods are different.

“I started rotational grazing in the ‘70s, and I made a lot of mistakes,” Brite admits. “Fortunately none were fatal, so I learned from them and kept going.”

Over the years, stock water development and cross-fencing transformed the ranch’s original seven pastures into the current 54 pastures, averaging about 80 acres each. The ranch runs fall-calving cows, retaining the calves as stockers sold off grass weighing 800 to 900 pounds (lb.). Managed in three or four groups, the cattle are moved frequently through planned rotations.

“When the grass is growing fast, we move faster — as frequently as every two days. And when the grass grows slows, we move slower,” Brite says. “But we always take less than half of the available forage. Then every pasture gets a long period of rest. Some will get up to 200 days of rest.”

Along with planned grazing, Brite uses prescribed fire, mechanical means and judicious herbicide application to control invasive weeds and encroaching woody species, including mesquite, cedar and greenbriar. Managing for the health of native prairie grasses provides sufficient forage for cattle to graze year-round with seasonal protein supplementation. An emergency supply of hay is kept on hand, but it’s fed only on rare occasions when the range is covered up with snow.

Brite records precipitation and utilizes range transect measurements to estimate annual forage production across the ranch. Through routine range monitoring, Brite knows production has improved from 1,500 to 2,000 lb. of dry matter per acre, when monitoring began, to the 4,000 lb. per acre produced during each of the last several years.

He recommends using transects



or some type of range and pasture monitoring method to reveal trends in forage production and relationships between weather and the health of the range.

“Monitoring lets you see the value of what you’re doing and lends confidence to your decision-making,” Brite says.

Ellis agrees, urging all cattlemen to evaluate their operation’s sustainability, suggesting they consider using the United States Roundtable for Sustainable Beef (USRSB) Self-Assessment Tool.

The Natural Resources Conservation Service can help graziers choose a method for evaluating grazing resources and soil testing will tell what’s going on within the sod.

“You establish a baseline and then measure the impacts of your management over time,” Ellis says, noting how strengths and weaknesses are revealed. “It shows how you’re becoming more sustainable and how you can get even better.” [AU](#)