

# Grazing Toolbox

Utilize these tips to improve grazing distribution.

by *Troy Smith*

If you ask managers of grazing operations what their biggest challenges are, grazing distribution is likely to rank near the top of their lists. Greater utilization of available forage is accomplished when cattle graze all areas of pasture. Over time, it promotes better range and pasture health, it's better for the cattle, and managers see better returns from their grazing resources.

But achieving optimum grazing distribution can be a mighty difficult task, particularly in big, rough country. The folks who manage cattle over relatively level or rolling terrain often have distribution problems, too, but they generally are more easily overcome. It's just harder when cattle graze pastures of several hundred or even thousands of acres, with deep canyons, steep slopes and high, rocky ridges.

It's a major hindrance, but topography that's mostly vertical is only one obstacle to effective grazing distribution. Another is water. Limited watering sites may discourage cattle from grazing all parts of a pasture. Even a novice grazer soon learns that cattle tend to graze some distance from a water source until they are thirsty, and then they return to water. Often, they will linger near the watering site to chew their cud and socialize. When hungry again, they start

grazing near the water and work outward. This behavior can result in overgrazing of forage within the average distance cattle travel from the water source, while forage beyond that distance may be grazed very little.

Variation in forage quality within a pasture also hinders grazing distribution. Since cattle graze selectively, they prefer certain plant species to others. They also prefer young, lush forage to that which has reached a more mature stage of growth. So cattle may repeatedly graze areas where forage is most palatable and shun other areas where the forage continues to mature and become even less palatable. With effective grazing distribution, more plant species at various stages of maturity are grazed and pressure is relaxed on potentially overgrazed areas.

Offering both water and higher-quality forage, riparian areas are particularly attractive to cattle. Corridors along rivers and streams often offer shade or protection from the wind, so cattle are more apt to overgraze low-lying areas near waterways and spend less time grazing the higher slopes and ridges.

Generations of ranchers have used various management tools to increase grazing

distribution. Placement of fences can limit access to areas susceptible to overgrazing and encourage cattle to graze other areas. Development of additional watering sites

is another tool, as is strategic placement of salt and mineral to lure cattle to higher elevations and remote areas. Many western ranchers routinely herd cattle away from riparian areas and other favored spots and move them to underutilized parts of the pasture.

All can help keep cattle scattered and grazing pastures more evenly, but each of these practices has its limitations. Range researcher Derek Bailey urges managers to consider others — not necessarily as alternatives, but as tools to be used in concert. Raised on a mountain ranch in Colorado, Bailey currently is an associate professor at New Mexico State University and director of its Chihuahuan Desert Range Research Center. For most of his career, including nine years at Montana State University, Bailey has studied grazing behavior and methods for managing grazing distribution.

## Grazing factors

Some managers do nothing to improve grazing distribution, Bailey laments. In such cases, he says, one-third or more of their total forage may not be grazed at all. That's costly whether the cattle

**“You implement a plan, keep tweaking the plan and make it work.”**

— *Steve Leonard*

CONTINUED ON PAGE 194

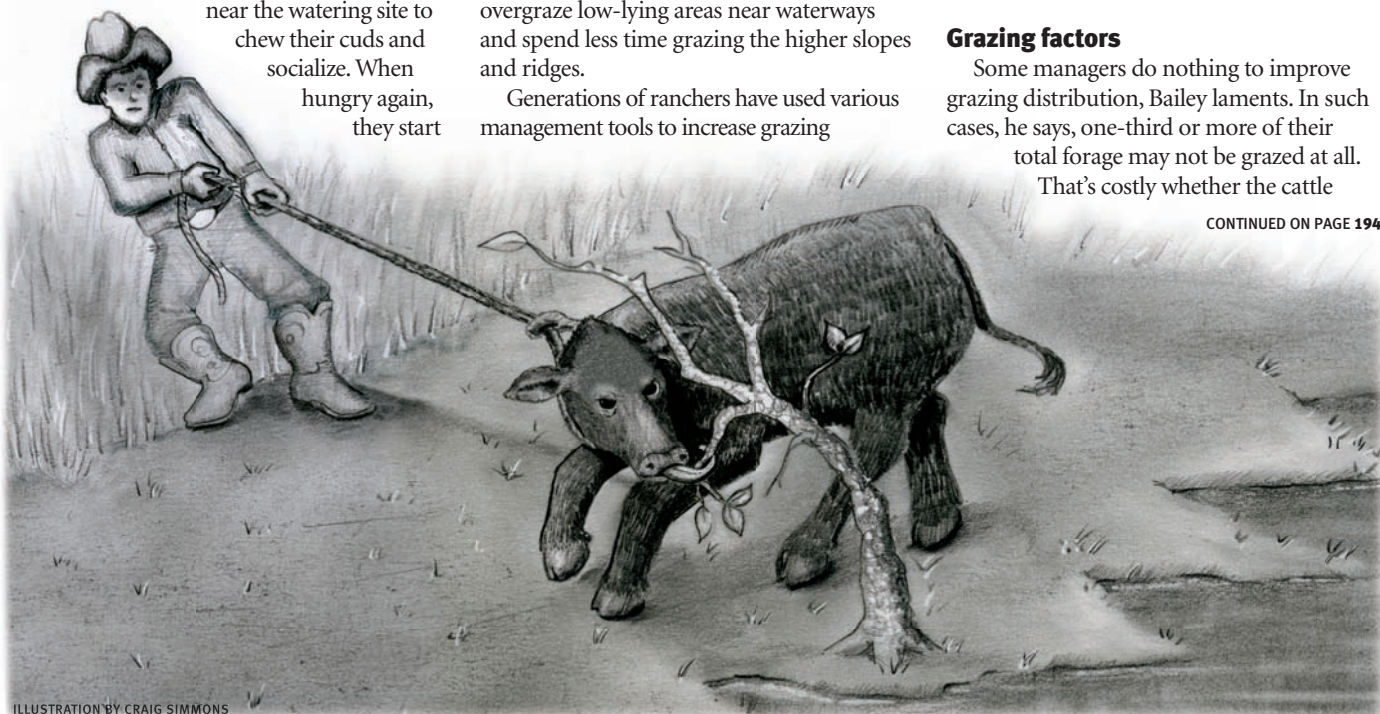


ILLUSTRATION BY CRAIG SIMMONS

## Grazing Toolbox CONTINUED FROM PAGE 193

are grazing on deeded or rented pastures, including leased public lands grazing allotments. One way or another, the cattle owner is paying for forage that goes uneaten.

In his research, Bailey has tracked grazing behavior patterns of cattle wearing collars fitted with global positioning system (GPS) receivers. Results suggest genetic selection can have an effect on how cattle make use of grazing land with rough terrain and varying elevation. Observed differences between cattle of different breeds suggest animals representing breeds developed in mountainous terrain may be more willing to travel over steep slopes and to higher elevations. But there also appear to be significant differences among cattle within the same breed.

“Some cows are hill-climbers that venture higher and farther from water,” Bailey explains. “Others are bottom-dwellers who prefer to stay on gentle slopes and close to water. But there seems to be no significant difference in their performance.”

He has seen differences in grazing behavior among daughters of different sires of the same breed. So, herd grazing patterns may be influenced by sire selection and by saving, as replacements, daughters of cows that exhibit desirable grazing behavior. While genetic programming appears to be a significant factor, Bailey says grazing behavior is influenced by early learning, too. That’s another good reason to keep heifers born to cows that are willing to work the high country and hard-to-get-to corners of the pasture.

According to Bailey, animal age and status also affect grazing distribution. Prone to prowl their environment, yearlings typically utilize extensive pastures and variable terrain

more evenly than cow-calf pairs. However, brood cows often improve with experience. As long as they are sound, older cows may spend less time in riparian areas and use rough terrain more evenly than very young cows. And dry cows usually do a better job than cows nursing calves.

These differences may afford managers the opportunity to improve grazing distribution by sorting cattle to fit the terrain in certain pastures. On some outfits, the tendency for dry cows to work the country better might be another reason to consider weaning calves early. This is particularly true in areas where drought persists and forage is limited.

### Salt and mineral

Bailey has studied the use of salt and mineral to attract animals to underutilized areas. It is effective to an extent, he says, but not always.

“Salt placement works best when the moisture content of forage is high. Lush forage stimulates a greater craving for salt,” Bailey offers. “In late summer, fall and winter, when forage is mature and dry, protein supplement is more persuasive.”

Bailey has compared various supplemental protein sources used to attract cattle to ungrazed areas. Range cubes, or “cake,” may work for cattle accustomed to coming to a delivery vehicle. All too often, however, those areas are not readily accessible by pickup truck. Additionally, cattle usually consume their ration of cake rather quickly and may leave the area without spending much time grazing.

Bailey’s research suggests low-moisture, molasses-based blocks or tubs can be more effective and convenient. This protein source often works better in less accessible areas, and self-fed blocks offer more than a one-time feeding of supplement. Cattle return for

additional helpings and spend more time at a supplement site.

“Studies show cattle will readily come to range cake, but they spend only about an hour before leaving the area,” Bailey explains. “With low-moisture blocks, cattle spend an average of five hours per day within 100 meters of the site. It becomes a social point, similar to a water source. Cattle will eat supplement at night and even bed down nearby.”

Typically, forage utilization is improved within 600 meters (m) of the supplement site, even when located at high elevations and far from water. Research indicates that utilization within a 600-m radius of a placement site can be improved by about 15% [based on dry matter (DM) weight of forage.] When the supply of blocks or tubs needs replenishing, a new supplement site can be located in an adjacent area.

Baiting cattle may not be successful unless cattle are familiar with the supplement being used, Bailey warns. Initially, all or part of the herd may have to be herded to the supplement site. Cattle usually find the supplement thereafter, as long as subsequent placement sites are within 600 m of the previous site.

### Proven practice

While herding is one of the oldest methods of managing grazing distribution, it is time-consuming and can be labor-intensive. Some producers claim the effort and time are wasted, because animals soon return to favorite grazing areas. According to Bailey, preliminary research suggests a synergistic effect results from using strategic supplementation in combination with herding. The paired practices appear to be particularly effective when there is a need to relieve grazing pressure in riparian areas.

North Central Montana rancher Don Ross found that to be true on his operation near Chinook. Located on the north slope of the Bearpaw Mountains, Ross’s range reaches from rolling foothills of 2,700 feet (ft.) to steep mountain pastures at 5,700 ft. of elevation. Ross’s place was one of seven Montana and New Mexico ranches where Bailey has conducted research. Now, Ross is sold on the supplement-herding combination.

“We’d had poor forage utilization, because the cattle didn’t spend enough time grazing the roughest, steepest country, especially at higher elevations,” Ross says. “We herded cattle and put salt in the remote areas, but didn’t get enough response until we used the (low-moisture protein supplement) tubs.”

“We saw a big improvement in grazing distribution, using the tubs and herding,” Ross adds. “But once the cattle were used to the supplement, we didn’t have to herd them as much. They go looking for it. It’s been cost-effective for us. Cattle graze more of the



PHOTOS BY MICKY WILSON

► Greater utilization of available forage is accomplished when cattle graze all areas of a pasture rather than overgrazing near water sources and other gathering spots.

forage and utilize it better, so it's helped us hold our numbers together. We've avoided drastic herd reductions during the long drought we've had."

While strategic protein supplementation can be an effective attractant, promoting better grazing distribution, it also boosts nutrition. Adding protein to the diet enhances rumen function — the microbial activity needed to utilize more-mature, low-quality forages. Cattle graze pastures more evenly and consume a wider variety of plant species. Forage intake and utilization improve, along with animal performance.

### Different ranches, different tools

Formerly a range management specialist with the Bureau of Land Management (BLM), Steve Leonard has returned to his ranching roots and operates Cowdance Range and Riparian Consulting Service out of Midvale, Idaho. He helps grazing land managers develop comprehensive plans for managing their particular grazing resources.

Too often, Leonard says, producers jump into one strategy or another that they've heard about. If it doesn't work as expected, they go back to their old ways and become reluctant to try anything different in the future. So before changing anything, Leonard advises producers to assess their resources,

both physical and economic. They need to know where they are, decide where they want to be, set objectives, and consider the tools that can help them get there.

"The most successful managers use multiple tools," Leonard explains. "But different ranch operations require different combinations. Every operation's landscape is different, with different amounts of upland compared to riparian area and different ranges of elevation and climate. You have to take it all into consideration. You can't manage for one part of the operation without affecting the others."

According to Leonard, grazing distribution is nearly always improved through development of watering sites, strategic supplementation and low-stress herding. Varying the season of pasture use from year to year and pasture rotation systems also help, but these practices usually work best together, integrated within a plan designed to fit the individual operation.

"But it takes commitment on the part of the manager and crew," Leonard adds. "You implement a plan, keep tweaking the plan and make it work."

▲



► Prone to prowl their environment, yearlings typically utilize extensive pastures and variable terrain more evenly than cow-calf pairs.