

Sweet Deal for Pasture Management

Encourage uniform grazing with strategically placed supplements.

Story & photos by Ed Haag

For those who are familiar with their habits, it comes as no surprise that cattle can lack common sense when it comes to grazing.

"I have seen animals chew a patch of pasture down to dirt while totally ignoring a lush piece of ground that is close at hand," says Derek Bailey, New Mexico State University (NMSU) range scientist.

Allowing this to continue is poor pasture management and, in a time when the cost of maintaining a cow is creeping to more than \$1 a day, it is financial folly to give up on quality grass just because cows choose not to voluntarily graze in that location.

"Money is being left on the table," Bailey says. "It can be a real source of frustration to a rancher."

Conventional options to correct grazing habits, such as herding and fencing, are often labor-intensive and impractical. But now, thanks to research conducted by Montana State University (MSU), Texas A&M University (TAMU) and others, there is a new, cost-effective remedy that is already improving grazing uniformity for beef producers throughout the West.

Cow psychology

The answer rests in giving the cows something they want, but at the same time requiring them to travel to a location they would normally ignore, Bailey says. As an MSU professor of range management before his move to NMSU in 2004, Bailey conducted several studies examining the effectiveness of strategic supplement (dehydrated molasses) placement on improving grazing uniformity.

"The research involved six ranches in Montana and two ranches in New Mexico," he says. "That gave us an excellent cross section to work with."

His studies showed that cow-calf pairs were more than willing to travel up high slopes to reach the 250-pound (lb.)



► Combining molasses licks and herding is an efficient range management tool.

low-moisture molasses barrels and, once there, remained long enough to graze the surrounding area.

"In areas where we placed a single supplement source, we saw an increase in range utilization from 5 percentage points to over 20 percentage points in a two-week period," he says. "The impact was over an area of 250 acres with a base herd of 160 animals."

Bailey notes that the 160 cows went through eight barrels every two weeks. His team recorded an additional 60 animal unit months (AUMs) in 14 days from the placement of one molasses block.

"That represented a one-third increase in capacity," he says, adding that beef producers have a great deal to gain from the strategy.

He cautions that the ability of the molasses stations to draw and hold cattle can vary according to the season. Bailey's use of cattle collars equipped with global positioning system (GPS) technology allowed him to track both the movement of animals and their grazing behavior. From this data he was able to ascertain that low-moisture blocks were most attractive to cattle in the fall and winter. But, even then, the area affected by the additional grazing rarely extended 600-700 yards beyond the supplement site.

His conclusion is that on the short term, a rancher may be able to increase stocking rate or increase the length of the grazing period with low-moisture blocks because cattle graze forage in underutilized areas that previously went untouched.

"Many of the producers we worked with, who have used the blocks to move cattle into undergrazed areas and are actively involved in their distribution practices, have actually been successful in getting extra time on their public land permits," Bailey says. "That is like money in their pocket."

Long term, by getting cattle to graze more uniformly, a rancher improves the forage base and the ultimate sustainability of the resource.

"You improve the vigor of the grass that is typically grazed heavily," Bailey says. "That improves the overall quality of the forage for years to come."

Molasses works in Texas

In a three-year study just completed at the TAMU Agricultural Research and Extension Center at Uvalde, researchers examined existing grazing patterns to see if an external food source could be used to alter grazing patterns.

A molasses-based liquid feed was chosen as the external food source. Bobby

Warrington, one of the study's participating research scientists, notes that limiting agents were added to the supplement to reduce each cow's daily consumption to manageable levels. "From our past experience, without that agent in the molasses, the amount of liquid consumed would be extremely high," he says.

One hundred crossbred cattle, consisting of one-third Brahman-Angus crosses, one-third Senepol-Angus crosses and one-third Tuli-Angus crosses, were divided into two 2,500-acre southern Texas pastures. One pasture received liquid molasses lick year-round. The other — the control group — received a supplement only in the winter, as was the practice in the area. The stocking rate was one cow per 50 acres.

The liquid feed was portable, so lick tanks could be placed in different areas of the pasture to see what effect they had on where the cattle grazed. The research animals' locations and grazing activities were tracked using GPS collars.

"First, we would look at a specific piece of ground and record the number of GPS positions in that area," Warrington says. "Then, we would bring in the lick tank and see how that changed."

Warrington and his fellow researchers discovered that moving the lick tank was one way to draw cattle away from preferred grazing sites and into unused forage areas. But, he adds, it wasn't the only factor at play. The wind also played a critical role in determining whether the cattle were willing to graze around the newly positioned lick tank.

"The cattle always graze into the wind," Warrington says. "If the new position didn't allow them to do that, they would usually not bother moving into the area with the lick."

Cow condition is an additional advantage to providing year-round access to liquid supplements.

"The cows that had the lick were about one body condition score (BCS) greater than the ones that didn't," Warrington says. "We were looking at 5.8 compared to 4.8."

Warrington attributes that improved score to both the availability of the supplement throughout the year and better utilization of standing grass by grazing cows. He adds that, surprisingly, the cost of seasonally supplementing the control group and providing year-round supplements to the study group were about equal.

"Typically, we would feed 20% cake for about 100 days in the winter," Warrington says. "When we compared that to leaving out the molasses all year — with the lower consumption — the cost was the same."

A practical example

For some commercial beef producers, using molasses to lure cattle into underused

areas is past the experimental stage. Vance Voldseth of Martinsdale, Mont., manages a 1,500-pair cow-calf operation with his father, David. In 2002, after five years of drought, the 7,000-acre summer grazing range, known as U.S. Department of Agriculture (USDA) Forest Service (FS) Comb Butte allotment, that they shared with two neighboring ranches was cut by 10%, dropping the number of pairs the Voldseths were allowed to graze from 228 to just more than 200.

"We were faced with another cut of 10% to 15% if things didn't improve," Vance recalls.

But, the longtime ranchers had no plans to give up without making an effort to reverse the situation. Throughout the previous 10 years, David had been improving the grazing distribution on the family's 25,000 acres by placing 250-lb. dehydrated molasses supplement blocks — better known as barrels — in areas that were less likely to be grazed. In the late fall, after the calves were weaned, the cows were put out on pasture.

"It was amazing how well they stuck around those barrels," Vance recalls. "For very little cost we were able to get much better utilization of the grass in our pastures."

Vance calculates that the Crystalyx® low-moisture molasses blocks he uses, at a cost of slightly more than \$1 per cow per month, allow him to extend his grazing period and reduce the length of time he must feed hay.

"At \$80 a ton for hay, we are looking at a hay-feeding cost of over \$30 per head per month," he says. "If you can keep them grazing even an extra month, that can amount to a substantial savings."

After explaining the strategy to Forest Service Range Conservationist Wayne Butts of Harlowton, Mont., the Voldseths and other ranchers received approval to try strategic supplement placement on the Comb Butte allotment.



► Molasses licks help focus cattle on underutilized pasture sites.



► Molasses licks help cattle graze more efficiently.

Obvious improvement

The Voldseth family had been running their livestock on the butte for more than 130 years, so there were no questions on where to place the blocks to optimize their effect on grazing. Depending on the size and location of the undergrazed areas, the Voldseths placed one to three blocks in patterns that encouraged a broader distribution of animals. Along ridges, a series of blocks were placed halfway up the slope to encourage hillside grazing.

In addition to laying out the supplement barrels, a full-time rider was employed to help the pairs with their behavior modification.

By late summer, it was evident the strategy was working. In addition to successfully enticing animals to graze in usually neglected areas, the combination of the supplement placement and pressure from the rider helped keep the cattle out of especially sensitive riparian areas. Based on these improvements, the ranchers on the Comb Butte allotment avoided any additional cuts to their cow numbers. The following year they were allowed to increase their herd sizes to pre-cut levels.

Vance estimates that the total price of the supplement program — both the cost of the molasses and the cost of the labor — was \$4 per AUM, with half going to supplement cost and the other half to labor. Even when the \$1.43 per AUM paid to the federal government for grazing rights on the allotment was added, Vance still sees the total cost as a bargain. With grazing costs running as much as \$30 per AUM on private land, he believes it is worth spending a few dollars on molasses blocks to optimize the grazing potential on their government forestry allotments.



