A Better Way to Feed Hay

*Bale grazing offers options for cutting costs and chores.*

*L* it may sound peculiar, but Neil Dennis of Wawota, Saskatchewan, Canada, starts putting out bales for winter feeding in the fall — long before the snow and winter weather sets in. He may position 600 bales in a pasture, each about 20 feet apart.

Months later, when winter arrives and cattle need to be fed supplemental hay, Dennis will move the cattle into the pasture and allow the herd access to a section of the bales that are fenced off with electric tape or polywire fence. After two to three days, when they’ve cleaned up the area, he’ll move the herd to a new fenced area with bales and so on.

Dennis points out that this is a much easier method of feeding hay than starting the cold tractor each morning — and it saves on fuel costs and time.

But the primary reason Dennis and many other beef producers are advocates of this process of bale grazing is because of what it can do for soil health and the future productivity of the pasture. Namely, nutrients from manure and urine are distributed across the pasture and the hoof action helps impact the soil — it’s a means to fertilize next year’s grass crop naturally.

**Focus on the forage**

Dennis tells that he grew up on a family livestock operation that did things conventionally: “We looked after the animals and not the land.” But difficult financial times during the 80s and 90s forced Dennis and his wife to look to alternatives to help their farm’s sustainability and profitability and their quality of life.

This led them to learn about holistic management and to take several classes that have shifted their focus on soil and forage management. Dennis says he now has the philosophy that, “The only way to heal the land is with animal impact.” Dennis explains, “Healthier sod equals healthier plants, equals healthier animals; and healthier animals and plants for food, equals healthier people.”

Whether he is utilizing mob grazing in the summer or bale grazing in the winter, Dennis says his goal is to impact the soil and then allow for ample recovery for the land. “When I leave a paddock, I want every square inch to have a footprint. Then I allow adequate recovery time for that area.”

He also notes that on his ranch he only receives an average of 12-13 inches of rainfall, but he believes “It’s not how much rain you get; it’s how much you hold in the soil.”

Through their year-round grazing management, the Dennises have transformed unproductive pastures into pastures with increased carrying capacity — as much as 300%.

**Research results**

Bart Lardner, Western Beef Development Centre research scientist at Lanigan, Saskatchewan, has been conducting bale-grazing trials and believes the process has merit. He estimates expenses at 10-20% less than feeding in feedlots.

He notes that it takes time to organize the bales for restricted feeding and it takes time to remove bale strings or nets. After that, the rest is managing consumption.

Additionally, bale grazing generates up to three times more nitrogen than the site would gain from cleaning out a feedlot.

“All the nitrogen is captured on the feed site and available for next year’s growth,” he points out. “That’s a huge deposition of nutrients a producer can manage.”

**Be willing to experiment**

Dennis acknowledges that much of what he has learned about grazing management has come through trial and error, and he encourages other cattle producers to do the same. He suggests, “Try something new on 10 acres and see what happens.”

For instance, with bale grazing you might just try it on a small pasture with a few bales for a week or a month. Then watch and see how the land recovers next summer and spring.

Or, Dennis suggests “massage grazing” to renovate pastures is also a good experiment. He says, “A deep massage isn’t as good [for the soil] as bale grazing, but it’s the next best thing.”

Massage grazing entails rolling out a bale on an acre at a time in the spring and having a large group graze that area that is fenced around it. The next day the fence is moved over and a new bale is rolled out.

The advantages of massage grazing over bale grazing are that you can cover more land in a shorter period of time, and massage grazing spreads the benefit of the manure and litter cover more uniformly across the paddock, making the regrowth more even than after bale grazing, Dennis explains. The disadvantage is that you have to start a tractor every day to roll out the bales.

Here’s how Dennis massage grazed: He treated a 10-acre crested wheat paddock over a period of 10 days using 800 yearlings. The paddock had been grazed once the year before, then stocked for spring grazing.

The massage treatment began with Dennis calculating the feed requirements and then rolling out brome-alfalfa bales on one acre. The hay was placed in strips, leaving a bale width between each strip. When that hay was cleaned up, he went back and rolled bales into the alternating strips.

“This way, you get more trampling and better spread of urine and manure because they go back and forth over the treated areas to get to the water,” he explains. “When you’re done, you want it to look like indoor-outdoor carpet with lots of manure tramped in. The forage has to be in contact with the ground so the soil microorganisms can break it down.”

He doesn’t recommend using straw bales because the animals would leave too much litter cover behind. His preference is hay bales made from any mix of forages mature enough to have some seed in the heads. The seeds shell out or pass through the digestive tract, ultimately increasing the diversity of species in the stand.

It’s best to carry this treatment first thing in the spring so that the paddock will have lots of time to recover and
The crested wheat pasture massaged in May was left to rest for 125 days and grazed again on Aug. 24. In previous years, the crested wheat paddock had yielded 20 to 25 animal days per acre (ADA) — that is, one acre had the capacity to carry 20 or 25 animals for one day. After the deep-massage treatment in the spring of 2007, the second pass in late August produced 111 ADA.

In 2008 the paddock produced 125 ADA grazing on the first pass in August. The increase in plant diversity was already apparent — 40-plus forage species were identified in the paddock that had predominately been crested wheat the year before. This benefit came from the new seed introduced from the bales as well as the hoof action of the animals, which disturbed the top layer of soil enough to promote germination of seeds lying deeper below the surface.

Dennis notes that a deep massage using a lower stock density would work — just not as quickly. He concludes that there’s no magic number that defines high stock density grazing whether the animals are grazing bales or pastures. He emphasizes that it is a matter of trial and error — grazing the plants and impacting the area and then allowing ample time for the plants to regrow and recover before being grazed again.

Editor’s Note: Neil Dennis spoke at the 11th annual Nebraska Grazing Conference this past August. The 11th annual Nebraska Grazing Conference will be Aug. 9-10, 2013, in Kearney, Neb.