THE DIGESTIVE TRACT

Keys to grazing management

by Dan Shike, University of Illinois

There is no question that the winter of 2018-2019 will be one to remember for many, if not most, cattle producers. More than likely, you have either experienced extreme cold, substantial snowfall, historic rain events, or significant mud — and the lucky ones got to experience all of these! Hopefully, as spring approaches, warmer temperatures, sunshine and some wind will help dry things out and heal the damage.

A good management plan includes planning for emergency situations — like a long, cold, wet winter. Having extra feed on hand and designated sacrifice areas go a long way toward getting though a hard winter. Nevertheless, if you had a plan or not, this winter likely took a toll on your operation.

As spring is right around the corner, the prospects of turning cows out to pasture certainly brings some much-anticipated relief! There is nothing quite like the sight of cows grazing on green grass. The thought of putting out that last bale of hay or parking the tractor and feed wagon is something to which many of you have been looking forward.

This transition to grazing definitely marks a change in labor requirements, but it does not necessarily mark a change in management. Grazing management is an essential part of a successful cow-calf operation. Grazing management affects cow performance and reproduction and ultimately has an effect on what your needs will be next winter. Managers who maximize grazing days often are the ones who have more profitable operations.

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There are several keys to grazing management. A few I would like to discuss are the value of adding a legume, utilization of rotational grazing, and matching forage availability and quality with cattle requirements.

Adding a legume

Grazing management begins with soil and fertility management. Proper management depends on forage type, soil type and environmental conditions.

Cool-season grasses are prominent across the north-central United States. These grasses can yield large amounts of high-quality forage during spring and early summer. High yield of cool-season grasses depends on abundant plant-available nitrogen (N). Application of N fertilizer increases production of Kentucky bluegrass, smooth bromegrass and orchard grass.

The addition of legumes to cool-season pastures is an

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alternative to N fertilization. The addition of legumes in cool-season grass pastures can increase the productivity and quality of pastures, particularly during late summer. Legumes improve forage yield and crude protein (CP) concentrations.

Research has reported improved performance of heifers grazing grass-legume pastures, as well as fertilizer N replacement values of kura clover as high as 325 kilograms (kg) N per hectare (ha) in smooth bromegrass and as high as 269 kg N per ha in orchard grass.

Several legumes have been evaluated, and effectiveness varies upon region. White clover is typically more persistent than red clover. However, red clover has higher yields and is more easily established the first year.

Frost-seeding can be a very effective strategy for establishing clover in existing pastures.

Rotational grazing

Utilizing rotational grazing management increases the carrying capacity of your pastures and can improve the quality and diversity of your pasture.

When continuous grazing management is utilized, cattle overgraze some species and locations of the pasture and let others go to waste. When rotational grazing is properly implemented, grazing distribution is improved. The key to successful rotational grazing is allowing for an adequate rest and regrowth period. The appropriate amount of grazing time and rest period will vary by forage species and time of the year. There are additional needs for fence, water and labor for a rotational management system; however, these investments are well worth it.

Match the need

Another key to successful grazing management is matching forage quantity and quality with the requirements of the cattle. I have had several questions and discussions in the past few months regarding calving season and how best to decide what season is the best fit.

Ultimately, most producers determine their calving season based on aligning the peak forage availability with peak nutritional requirements. Thus, the majority of beef producers have spring-calving herds so as to take advantage of spring pasture growth when nutrient demands of the dam are at their peak.

Rebreeding considerations

The motivation for not aligning these usually stems from avoiding challenging weather and environments around calving time and minimizing the potential for heat stress at time of breeding.

Because nutrition and reproduction are closely tied together, it is important to consider the nutritional status of cows as rebreeding approaches. For spring-calving cows, breeding often coincides with lush, highly palatable, immature pasture. These immature forages usually contain a high N content and fewer carbohydrates. Due to the imbalance of N and carbohydrates and the high-moisture contents of the forage, cows often enter a negative energy balance.

Several supplementation strategies have been considered to alleviate the effects of the reduced energy balance due to grazing lush pasture. These strategies have ranged from transitioning cows from winter feeding rations to pasture, offering a dry, low-protein, high-energy supplement, to offering supplemental hay while grazing.

As strange as it might look to have an old poor-quality bale of hay sitting out in the middle of a lush, green pasture, you would be amazed that sometimes that is exactly what the cows need — and they know it.

At the University of Illinois, we have evaluated supplementing dry corn while cows are grazing lush, immature pasture. Corn is a dry, highly palatable, high-energy, low-protein supplement that complements lush, immature forage quite well. As no spring is the same, it should be no surprise that our results have been variable. But, we have seen favorable improvements in artificial insemination (AI) conception rates in cows that were supplemented through the breeding season.

As you look forward to green grass, do not forget that the pasture and cows still need to be managed. Managing soil fertility though the addition of legumes, rotational grazing, and matching forage availability and quality to cows' requirements are a few of the grazing management strategies to keep in mind as spring approaches.

Editor's note: "The Digestive Tract" is a regular column in the *Angus Beef Bulletin* focused on nutrition for the beef cattle life cycle. Dan Shike is associate professor in animal sciences at the University of Illinois.