

THE DIGESTIVE TRACT

Manage pastures and grazing

by Dan Shike, University of Illinois



After a long hard winter, cow-calf producers anxiously await the spring green-up of pastures. For the

vast majority of cow-calf producers, pasture provides the base nutrition for the herd.

Managing pastureland is key to maximizing grazing days and minimizing days cows need to be supplemented or fed harvested or purchased feedstuffs. Approaches to grazing management vary greatly across the country due to regional variation in soil types, forage species, environment, labor availability, infrastructure and preferred grazing techniques.

Grazing management should focus on balancing cattle needs with

forage availability, promoting rapid pasture regrowth, and facilitating long-term pasture persistence. Managers should develop a grazing plan to ensure goals are met.

Meet requirements

The first step of the plan is understanding cattle requirements and establishing cattle performance metrics.

Calving dates affect how cow requirements match forage availability. For operations grazing a cool-season forage base, calving cows in the spring allows peak requirements of the cow herd to align with the greatest forage quality and availability.

If operators are also backgrounding calves or developing replacement heifers, targeted

growth requirements of these classes of cattle need to be considered.

Once you have established the classes and requirements of cattle that will be grazing, you can determine which grazing practices could be used to meet those needs. The grazing practice used and forage base will ultimately determine the carrying capacity of your pastureland.

The carrying capacity of pasture is the stocking rate that is sustainable over time. Stocking rate affects individual animal performance and influences the total output of the land area. Low stocking rates result in increased animal performance and decreased output per area of land. Increased



stocking rates (to a point) increase output per area of land, but decrease

individual animal performance.

Continuous grazing management is the practice of grazing a set number of cattle in a pasture for the entire grazing season. The number of cattle a pasture can support in a continuous-grazing management scheme is determined by forage yield during the poorest time of the grazing season.

The advantages of this system are reduced infrastructure (only perimeter fence, single water source, etc.) and reduced labor (not rotating cows). The disadvantages of this system are that production per acre

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is low, spring forage is wasted and cattle selectively graze, which leads to areas of low productivity and lack of forage species diversity.

Grazing methods that allow for times of rest and forage regrowth can improve carrying capacity of pastures. The optimal time to graze a forage is in the vegetative stage. As cool-season forages mature and lignify, the quality declines. When cattle are continuously grazing a pasture, cows will regraze the lush regrowth in some areas and trample and avoid areas where forage has matured to reproductive stage.

Rotate pastures

By dividing a pasture into paddocks and rotating cows through the paddocks, cows have less incentive and opportunity to selectively graze. Increased utilization of forage and uniformity of grazing help promote good forage stands. When cattle are rotated out of a paddock, the paddock then has an opportunity to

rest and regrow. This system allows for greater utilization and increased forage growth. Ultimately, a rotational grazing system allows increased carrying capacity and results in more pounds of cattle production per acre of pasture.

There are a variety of approaches to rotational grazing. The number of paddocks used determines what percent of the time a paddock will be rested. For example, in a two-paddock system, a paddock will be grazed 50% of the time and rested 50% of the time. With a four-paddock system, a paddock is grazed 25% of the time and rested 75% of the time.

The number of days you graze each paddock and the number of paddocks utilized will determine the number of rest days. If we have a four-paddock system and graze each paddock for seven days, each paddock will be rested for 21 days before it is grazed again.

The ideal number of days of rest is dependent on forage species.

Some species only need seven to 15 days. Others, such as tall fescue, ideally need closer to 30 days.

As you add more paddocks to the system, you increase the percent of rest time and increase the forage utilization. Ultra-high stock density grazing systems, or “mob grazing” systems, take advantage of this principle. In these systems, very high stock densities of cattle are utilized, and cattle are moved much more frequently (daily or even twice daily).

Obviously, these systems require more fencing, water and labor. Additionally, producers wishing to use these systems need to have access to a sacrifice area to utilize when excessive rainfall occurs. If you have several hundred cows in an acre and it rains a couple inches, you will have a swamp.

Transitioning from a continuous grazing system to a rotational grazing system can be daunting at first. I recommend establishing the rotational grazing system over a few years. Initially, you may just have

three or four paddocks. You can subdivide in subsequent years so you have six to eight paddocks or more.

Assuming you have good perimeter fence, interior divide fences can often be single-wire. There are many excellent fencing options out there for establishing rotational grazing systems.

Water is often one of the limitations to establishing a rotational system. Ideally, cattle do not have to travel more than 800 feet to a water source to maximize grazing distribution.

It is well-established that the key to profitable cow-calf production is minimizing feed costs. The best way to do that is to maximize grazing efficiency. Rotational grazing management systems are an excellent opportunity to improve pasture productivity and increase operation profit. ■

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.