



# Outside the Box

▶ by Tom Field, professor of animal science, Colorado State University

## Greater focus on grazing management

*The foundation of the beef industry has always been the ability of rumen microorganisms to convert high-cellulose feedstuffs into complex protein that can be utilized by human beings. The U.S. beef industry has carved a powerful niche in the world beef market by virtue of its ability to produce a product that is unique in flavor and quality as the result of high-concentrate feeding to our fed-cattle population.*

### Changing scenario

The increasing price of ration ingredients for the feeding sector will likely cause the industry to generally take cattle to heavier weights on forage-based diets prior to entry into the feedlot and to improve the process of sorting cattle into groups that will be more precisely managed.

Additionally, the cow-calf sector of the industry will look to find opportunities to control costs by offsetting higher-priced feeds with a greater emphasis on developing the grazing enterprise.

Range and pasture grazing systems are primarily a function of three factors:

1. quantity of forage produced;
2. forage quality; and
3. the efficiency of forage harvest.

All systems of grazing management are centered on one basic principle — controlling the frequency and severity of defoliation of individual plants. This principle needs to be carefully assessed throughout several grazing seasons, as well as during a single grazing season, to allow managers to build in as much freedom from risk as is possible.

Effective grazing systems are determined

by stocking rates, intensity and frequency of grazing, grazing of single or mixed stands of forage, and other factors that can optimize efficient beef production. Grazing systems, to be effective over the long term, need to be economically and environmentally sound.

Some of the common misconceptions relative to grazing, as noted by range scientist Pat Reece, include:

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- ▶ Rangeland plants must be grazed to assure plant health or vigor.
- ▶ Late-season grazing is more favorable to plant health than grazing early in the growing season.
- ▶ Conventional deferred rotational grazing systems provide all pastures with equal recovery opportunity.
- ▶ Stocking rates can always be increased once grazing systems are implemented.
- ▶ Overgrazing cannot damage dormant vegetation.
- ▶ Increased stocking rates are required to increase total animal production per acre.
- ▶ Continuous grazing is “bad.”
- ▶ There is one grazing strategy best-suited to all range environments.
- ▶ Production per animal is less critical than production per acre in generating maximum profits.

A review of the extensive literature on grazing management fails to yield a consensus of opinion as to the most desirable grazing system. However, the following summary points, as noted by range scientist John Valentine, are worthy of consideration:

- ▶ No grazing system eliminates the need for appropriate stocking rates and the application of sound management principles.
- ▶ Grazing systems must be developed on a site-specific basis.
- ▶ A specialized grazing system is only as good as the ability of the range manager.
- ▶ Because of changing environmental conditions, flexibility is central to the success of a grazing system.
- ▶ If a rotational grazing system is utilized, managers should be aware of the following:
  - the need and cost of fencing;
  - the cost of assuring adequate water for livestock;
  - variation in grazing capacity of different pastures;
  - the potential effects of drought on the system; and
  - potential effects on wildlife.

It is important to acquire baseline data for a range or grazing site. The information needed includes historical use and site conditions, maps, climatic and weather data, soil profiles, vegetation classification and persistence, and estimates of wildlife pressure.

Simultaneously, the management team needs to create a detailed vision for the resource that addresses issues such as the goals and objectives for financial return; relationships with the people in the community; and the performance of soil, plants, water, wildlife and livestock. It is difficult, but important, to consider the interrelationship of these objectives and how they affect one another.

Following the development of baseline data and management goals, the formation and implementation of a monitoring plan allows for the measurement of progress towards predetermined objectives. The

**Table 1: Matrix to assess land health**

	Good	Avg.	Poor
Healthy ground cover (forest, shrubs, grass, or cropland)	A lot	Some	A little
Weeds or plants that hold the soil poorly (thistle, mustardweed, etc.)	A little	Some	A lot
Bare ground	A little	Some	A lot

**Source:** Land management for small ranches in Texas; Texas Section — Society for Range Management.

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Society for Range Management suggests that you use a simple matrix to begin to assess land health (see Table 1, page 311).

If an assessment of a site puts all the answers in Column 1, then it is reasonable to classify the site as healthy. If the second column describes the site, then it is a good opportunity to consider improvements to move from average to good health without the pressure that accompanies a score that lands in the third column. When land is in

poor condition, immediate and oftentimes costly attention to the situation may be warranted.

In the end, excellent grazing management is driven by a set of clear objectives that may include improving profitability by lowering feed costs, by limiting reliance on expensive inputs such as fossil fuels, improving resource quality/health, and optimizing animal performance.



**E-MAIL:** tom.field@colostate.edu

**Editor's Note:** Tom Field is a professor at the Colorado State University (CSU) Department of Animal Sciences, where he is responsible for the seedstock cattle breeding program of the university teaching herd. He directs the Seedstock Merchandising Team and teaches Food Animal Sciences, Beef Production and Family Ranching. He is a contributor to the research efforts of the CSU Beef-Tec program. A frequent speaker at beef cattle events in the United States and internationally, Field is also a partner in his family's commercial cow-calf enterprise, which uses Angus as an important genetic component.