

Manage Pastures for Peak Performance

Tips for assessing, improving your forage base.

by Taylor Edwards, intern

A key part of a successful operation and grazing system is properly managing the pastures and supplementing animals when necessary.

High-quality forages are a main component of the grazing cattle diet, says Beth Doran, extension beef specialist at Iowa State University. Supporting these forages ensures pastures are being used as effectively as possible.

Many things contribute to forage quality, she adds. Producers can monitor plant species, management practices and environment to support forage quality and the dry-matter intake of their animals to ensure peak performance.

Soil health

“A lot of growers I work with have had the pastures they use for a long time,” says Leah Ten Napel, Iowa State extension field agronomist. “Hopefully they have a good background on what nutrients and forages they have in that piece.”

For producers on a new piece of land or those aiming to improve pasture management, a right-minded first management step is to conduct soil samples, Ten Napel says. Knowing what nutrients are in the soil will give insight on what fertilization methods should be used to reach that optimum level of nutrients.

Ten Napel suggests contacting the local extension office or soil-testing lab before testing to ensure the proper sampling procedure. Find a state-by-state listing of soil-testing labs at <https://bit.ly/soil-test-labs>.

Each soil sample should represent no more than 20 acres, so plan to take samples accordingly, Ten Napel advises. Ideally a sample is done every year or two for each pasture.

Doran says it is best to avoid areas where cattle gather, which can be higher in nutrient content because of the level of excrement present.

When receiving soil test results, Ten Napel says the key things to look at are phosphorus (P), potassium (K) and sulfur (S). These are essential elements needed for forage production that are supplied from the soil and/or fertilizer application.

A well-nourished pasture is going to sustain growth best and increase overall health, so paying attention to these nutrients will ensure best pasture health, Ten Napel says.

Forage quality

After addressing soil quality, Ten Napel says, evaluate the forages available to cattle in the pasture and analyze management practices in place to help them flourish.

“Most of our pastures are very established,” says Ten Napel. “But if they’re getting some bare areas, they could look into interseeding some forages.”

When deciding what to interseed, Ten Napel advises producers to consider the nutritional values of forages to select one that best supports cattle in their production stage and that will establish well.

Says Doran: “In Iowa one of our common grasses is brome. It’s out there, that’s what’s in our ditches, so you’ll see a lot of our pastures are based on brome.”

If managed to maintain a vegetative state, brome will support cattle. However, you must allow enough acres for grazing and handle it correctly, says Doran.

Like with soil, producers can conduct a forage analysis, measuring nutritional value to assess quality. This may help reduce supplemental feed needs, says Ten Napel. The species and variety of plants in the pasture are the main factors determining forage quality. Environmental conditions can also affect forage quality and growth.

Ten Napel says calling a certified sampler prior to collecting will allow a better understanding of the specific procedure.

There are a few things to keep in mind when collecting a forage sample, Ten Napel says. Take a sample when forages are at the desirable grazing height; collect each pasture separately; and take different species, varieties and management into consideration when sampling.

Weed control

Producers should also maintain diligence with weed control. Ten Napel says the best way to manage weeds is to keep a healthy stand of your grasses and forages.

“When we get some really run-down areas, really disturbed areas, that’s where our weeds start to pop up,” says Ten Napel.

Producers often turn first to chemical controls, which work great, but only if you know what is growing in your pasture, she says. Many chemical options kill broadleaf plants. If you want to include broadleaf species in your grazing mix, spraying may not be an option.

She suggests a more biological, and less conventional, method of weed control: co-grazing. Not everyone desires to use this method. However, sheep and goats will eat the weeds, leaving the forages cattle favor.

Interseeding is another option, Ten Napel says. If done during the off-season, the forage population can improve for the next grazing season.

Doran says maintaining those forages is important for the animals, but it also helps ensure a healthy, green pasture.

Supplementing a grazing herd

If pastures are not properly maintained and forage quality is lacking, Doran says, supplementation is an option for those animals to stay in good health.

“Supplementation is typically done because the animals are not getting either the quality or the quantity of nutrients that they need,” says Doran.

Look for signs an animal may need supplementation, she advises. Losing body condition, a calf not growing and gaining weight, forage growing slowly, and the forage reaching the stop-grazing height indicate supplementation may be needed.

While body condition and slow growth are more obvious, forage characteristics may be less obvious. If forages are growing slowly, the cow cannot get a good bite size and won’t get the necessary nutrients and energy, Doran says. When forages reach the stop-grazing height, animals should move through the rotation much faster than intended, which allows less time for pastures to recover.

There are many ways to go about supplementation for your animals. Doran suggests using something with high fiber

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and lower starch if cattle need additional energy.

Distillers' grains and wet corn gluten feed are options, says Doran. "The other thing you might look at is soybean hulls. They're high in fiber and give you some energy."

If additional protein is needed, Doran

says, bypass proteins like oilseed meals and corn-based products can be ideal.

Supplementing vitamins and minerals is more straightforward, but just as important. Doran advises choosing the method that works best for your management and feeding styles.

If forage quality is low, there may be a need to provide phosphorus and vitamins A and E, says Doran. Phosphorus is involved in the energy transfer process. Vitamin A is important for immune function and supports adequate food intake, and vitamin E serves as an antioxidant while also supporting muscle health.

To avoid grass tetany, magnesium is commonly provided in the spring and fall when forages are growing rapidly or have been heavily fertilized. Doran mentions it also plays a role in many nerve, skeletal and gastrointestinal functions.

To ensure maximum efficiency from both the animals and the land, we must practice good stewardship and manage the land well, Doran says. Making smart decisions can help lower input costs and keep your animals on grass longer. **ABB**



Editor's note: Taylor Edwards, an ag communications student at Auburn University, is the 2023 *Angus Beef Bulletin* summer intern.

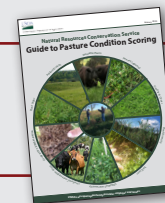
Score your pasture

The National Resources Conservation Service (NRCS) offers *The Guide to Pasture Condition Scoring* as a resource to farmers, ranchers and others. It details a pasture condition scoring (PCS) system involving the visual evaluation of 10 indicators:

- ▶ **Desirable plants.** Species well-adapted to the site that may be grazed first and close to the ground in poorly managed systems.
- ▶ **Percent legume.** The average amount of legume present in a forage stand during the growing season.
- ▶ **Live or dormant plant cover.** How well our plant solar panel is working. The higher the leaf area, the higher the photosynthetic activity.
- ▶ **Plant diversity.** Increasing diversity can help moderate negative changes. Having multiple dominant desirable forage species in a pasture offers some "insurance."
- ▶ **Plant residue (and litter) as soil cover.** Soil cover is important to slow evaporation, maintain and stabilize ideal soil temperatures, be a carbon and food source for soil life, deter erosion and help with water infiltration.
- ▶ **Grazing utilization and severity.** The proper amount and frequency of grazing is critical in maintaining productive pastures. Close and frequent grazing causes loss of vigor, reduces density of desired species and yield, can promote erosion, and affect bite size and intake.
- ▶ **Livestock concentration areas.** Places in pastures where livestock return frequently and linger near feeding areas,

Digital EXTRAs

Access the Guide to Pasture Condition Scoring



gates, water, mineral or salt, or shade.

- ▶ **Soil compaction and soil regenerative features.** The diminished pore space between soil aggregates that hold air and water. Compaction reduces a pasture's ability to infiltrate water by minimizing pore space and increasing bulk density of the soils, negatively affecting hydrologic function, nutrient cycling and the energy flow throughout the pasture ecosystem.
- ▶ **Plant vigor.** Plant's robustness in comparison to others of the same species, relative to the size and age of the plant within the environment where it is growing.
- ▶ **Erosion.** Involves the detachment, transport and redistribution of soil particles by forces of water, wind or gravity.

On the PCS scoresheet, each indicator or factor has five possible ratings, ranging from lowest (poorest) condition (1) to highest (best) condition (5).

Leah Ten Napel, Iowa State extension field agronomist, suggests taking the time to learn how to properly conduct PCS to increase the health and profitability of your pastures.