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SIMPLE STRATEGIES FOR PROFITABLE FORAGE PRODUCTION

Jonathan O.C. Kubesch, Graduate Research Assistant
Renata L.G. Nave, Assistant Professor
Gary E. Bates, Professor
Department of Plant Sciences

Efficient forage production is key for a cattle operation to be profitable. Feed is the most expensive input for livestock. Since the cheapest way to feed cattle is through grazing, a goal of every cattle producer should be to reduce the amount of hay and stored feed used each year and graze as many days as practical. Here are a few simple management practices that can improve forage production and decrease the amount of hay that needs to be produced.

1. FERTILIZE PASTURES ACCORDING TO SOIL TEST RESULTS

Forage plants need nutrients to grow at the optimum rate. There is no way to know how much nitrogen, phosphorous and potassium a field requires without a soil test. A soil test will also measure the soil's pH and the need for lime. Proper soil fertility is critical for improving the production and persistence of a pasture. The first step in reducing weed pressure and increasing the grass and clover content of a field is to correct any soil fertility issues.

Take a soil test once every two to three years to track a field's fertility status. In the years between the soil tests, apply fertilizer based on the most recent soil test results.

2. ADD LEGUMES TO GRASS PASTURES

Legumes, such as red and white clover, provide many benefits to pastures:

- **Provide nitrogen to grass plants.** Legumes can fix atmospheric nitrogen and make it available for grasses in a pasture. Research has shown that having a stand of red and white clover in a tall fescue pasture can provide about 60 pounds of nitrogen, eliminating the need for spring nitrogen fertilization and reducing fertilizer costs.
- **Increase the forage quality of a pasture.** Legumes are higher in protein and energy than most grasses. Adding these to a grass pasture will increase the protein and energy content of the forage available to livestock.
- **Help reduce fescue toxicosis.** The endophyte in "Kentucky 31" tall fescue produces alkaloids that reduce cattle weight gain, feed intake and reproduction. Adding clovers to a KY 31 tall fescue pasture will reduce the impact of this endophyte.

Recommendations for planting clover: broadcast 2 pounds of white clover and 4 pounds of red clover per acre the last two weeks of February.

3. STOCKPILE TALL FESCUE IN FALL TO LENGTHEN GRAZING SEASON

An easy way to lengthen the grazing season is to stockpile tall fescue in the fall. Allow a few fields to grow in September and October. Saving them to graze in November, December and January will significantly reduce the amount of hay needed during the winter. Stockpiling tall fescue is recommended due to its ability to persist into winter without significant loss in quantity or quality.

Producers often apply up to 60 pounds of nitrogen per acre to tall fescue in fall to increase the amount of growth from stockpiling. If applying nitrogen, be sure to delay fertilization until adequate soil moisture is available for plants to utilize the nitrogen. Using a urease inhibitor when applying urea in the fall will reduce nitrogen loss due to volatilization.

4. MINIMIZE HAY STORAGE LOSSES

Hay production and feeding are some of the most expensive operations on a cattle farm. Even though there are practices to reduce the amount of hay needed, it is difficult to eliminate the need for hay. If producing hay, it should be stored to minimize the amount of spoilage during storage. Storing round bales of hay outside on the ground can result in 30-40 percent of the hay rotting, rather than being consumed by an animal. Hay should be stored in a barn if possible. If barn space is not available, then store hay in a pyramid stack under a tarp. **You wouldn't throw away every third bale that comes out of a baler when it is being produced. If you store hay uncovered, you are doing essentially the same thing.**

5. EFFECTIVELY CONTROL WEEDS

Weeds can reduce both the yield and quality of pastures. Although a perfectly weed-free pasture is not necessarily the goal, there are times that weed pressure becomes great enough that a herbicide may be needed to eliminate weeds and promote forage growth.

It is important to understand that, just as with forage crops, there are both cool- and warm-season weeds. **Cool-season weeds** tend to germinate or begin to grow in fall (September to November), grow vegetatively during winter, and then bloom in spring (April to May). **Warm-season weeds,** on the other hand, will germinate or begin to grow in spring (May and June), grow vegetatively, and then begin to bloom in mid-summer into fall. Since broadleaf weeds are usually most sensitive to herbicides when they are vegetatively growing, it is important to understand this difference in order to effectively control weeds.

Cool-season weeds such as buttercup, musk thistle and buckhorn plantain should be sprayed during December through March, while warm-season weeds such as horsenettle, spiny pigweed and ironweed should be sprayed in June and July. For more information on specific herbicides or weed identification, contact your local Extension office or check PB 1580 Weed Control Manual for Tennessee.

6. USE GOOD GRAZING MANAGEMENT

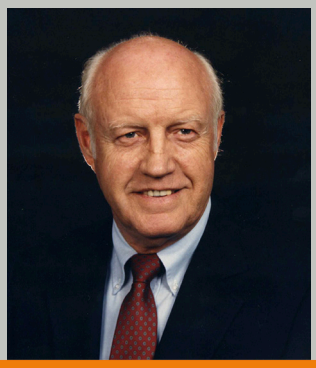
If you have gone to the effort of producing high-quality pasture, it is important to utilize it as efficiently as possible. Often when cattle have access to large pastures they tend to graze more in areas close to water or shade, wasting forage that is further away. The result is inefficient pasture use at best, and possibly stand loss in the areas that are overgrazed.

The best way to improve the grazing management on a farm is to reduce pasture size, forcing the animals to graze in a smaller area. This will increase the percentage of the forage utilized and decrease waste. Once the smaller pasture or paddock is grazed, the animals can be moved to a new field, which allows the grazed field to regrow for a later grazing.

Developing a rotational grazing system on a farm does not mean that pastures need to be subdivided into numerous small paddocks. It may be as simple as dividing one large field in half or into thirds. Any sort of pasture division that minimizes the amount of forage waste and overgrazing will provide a benefit. The technology available for temporary, electric fencing provides plenty of opportunity to improve the grazing management on a farm.

CONCLUSION

Pasture can be the most affordable way to feed livestock. Producers need to actively manage soil fertility and improve pastures with legumes to increase the productive potential of this cheap forage supply. Stockpiling and proper hay storage stretch this forage further, especially in crucial periods of the production year. Controlling weeds and managing grazing extends the lifespan of these pastures as well as improves utilization by livestock. Forage production can be profitable by employing simple management and following these best practices.



PROFESSOR JOE BURNS

Funding for this publication was provided by the **Joe and Faye Burns Memorial Endowment**. Professor Joe Burns spent his career educating forage producers in Tennessee and across the Southeast. He was a nationally renowned forage specialist with University of Tennessee Extension and served in that role for 37 years before retiring in 1992. During his career, he was honored as the Tennessee Man of the Year in agriculture by Progressive Farmer magazine and was awarded both the Merit Award and the Distinguished Grasslander Award from the American Forage and Grassland Council. Burns was well-known not only for his knowledge but also for his kind and encouraging attitude. He was a role model and mentor for many faculty at UT and producers across the state.

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SP 820 3/20 20-0130