

Managing Broomsedge in Pastures

by **LAURA SKILLMAN**

Broomsedge can be a problem in Kentucky pastures, but proper fertilization and good management can reduce its presence.

Broomsedge, also called broomgrass or

sagegrass, is a perennial warm-season grass native to Kentucky and found throughout the East. It is relatively unpalatable to livestock. Two recent test demonstrations conducted in west Kentucky by Monroe Rasnake, an agronomist with the

University of Kentucky (UK) College of Agriculture, looked at ways of reducing this undesirable weed in pastures.

Pastures play a key role in livestock production, with forages accounting for more than half the cost of cattle

production and providing most of the nutrition. Providing good-quality forages can have an impact on a producer's income.

Lack of soil nutrients allows broomsedge to grow in pastures, but what nutrient is lacking is often debated, Rasnake says.

Some people believe broomsedge is the result of low soil pH, while others have blamed low phosphorus (P) levels, he says. A review of forage field soil tests through UK soil test labs from 1999 through 2001 showed 54% of cases to have pH levels below the recommended level of 6.4.

Another school of thought is that low phosphorus is the culprit. Lab data also shows that 53% of forage fields in Kentucky have medium to low phosphorus, and 28% are low to very low. Low potash levels also are a possible contributing factor since almost two-thirds of Kentucky's forage soil tests show medium to low levels of potassium (K).

Odds are good that any pasture picked at random will be below recommended levels of pH, phosphorus and potassium, Rasnake says.

Poor management can also play a role in allowing broomsedge to gain a foothold in pastures. Overgrazing and not maintaining legumes in pastures give weeds the chance to take advantage of any opening or weakness in a forage stand, and, once established, the weeds are difficult to remove.

Successful remedies

In a test demonstration in Crittenden County, a field of tall fescue without legumes was selected. The field was infested with broomsedge but showed good levels of fertility based on soil testing. The field was renovated with red clover and evaluated during a two-year period. During the test period, the field was not grazed, but it was used for hay production. At the end of two years, broomsedge was significantly reduced.

A second test used a Marshall County field with a good stand of tall fescue that was heavily infested with broomsedge. It was low in fertility and had very few legumes. This field was divided with one section receiving nutrients in the form of poultry litter and lime while another section received commercial fertilizer and lime. Other treatments included a combination poultry litter, commercial fertilizer and lime and poultry litter alone. A third section was used as a check plot and received no nutrients.

The treatments were applied in the fall, and ladino clover was seeded into parts of the test plots the following spring. The stands of forage and broomsedge were evaluated one year after treatments had been applied, Rasnake says.





Broomsedge can be a problem in pastures, but proper fertilization and good management can reduce its presence. [PHOTOS BY ROBERT H. MOHLENBROCK, USDA-NRCS PLANTS DATABASE]



Lack of soil nutrients, low pH and poor management allow broomsedge to grow in pastures.

“All the treatments resulted in significantly less broomsedge and improved tall fescue vigor as compared to the check treatment,” he says. “The combination treatment consisting of poultry litter, fertilizer and lime showed the best results, but there was not much difference between the poultry litter plus lime, and fertilizer plus lime treatments.”

Good stands of clover were present in all treated areas that were seeded, but there were no apparent differences in broomsedge stands between the clover and no clover areas within the treatments. The clover had only been established for one growing season and may have more impact in subsequent years, Rasnake says.

The results show that broomsedge competition in tall fescue pastures can be reduced with proper fertilization, including the use of poultry litter, he says. It should also result in improved forage productivity and quality, especially when legumes are added.

“Good forage management, including rotational grazing, is needed to maintain vigor of forage plants and help them compete with weeds,” Rasnake says.



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