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Pasture Fertilization
By Gene Schmitz, MU Extension Livestock Specialist

High fertilizer prices have many beef producers reconsidering their pasture fertility programs. Dr.'s Rob Kallenbach and John Lory at the University of Missouri offer the following suggestions for fertilizing pastures.

The core rules for making nitrogen (N) fertilizer pay in forage systems have not changed: (1) Fertilize when the plant has a capacity to respond, and (2) Maximize forage utilization. Fertilizer only pays if it increases the amount and/or quality of beef, milk or hay sold from your farm. High fertilizer prices favor farmers who harvest high quality hay and maximize forage utilization on pastures.

Another N option for pastures is inter-seeding a legume such as red clover, birdsfoot trefoil, or lespedeza. Legumes fix N from the atmosphere, providing the N needed for their own growth and sharing some their N with neighboring grass plants. Legumes have the capacity to fix 50 to 300 pounds of N per acre, and they transfer up to 20% of the N they fix to the surrounding grass. Therefore the potential N contribution to the grass can be significant.

Legumes need higher soil phosphorus (P) and pH levels than do most grasses. In pastures with low pH and P, legumes will germinate but fail to establish.

Do not apply N when inter-seeding legumes! Fertilizing with N increases the competitive advantage of grasses which hurts the establishment of inter-seeded legumes. Missouri research demonstrated that as little as 25 lbs./acre spring N reduced lespedeza in a mixed sward, and 100 lbs. of N/acre essentially eliminated it. Low rates of N (up to 50 lbs/acre) may be considered in August to promote fall grass growth on established mixed stands.

Options for seeding include frost seeding and no-till drilling. Optimum seed depth is ¼ inch and it is better to be too shallow than too deep. Recommended seeding rates are 6 to 10 lbs./acre for red clover, 4 to 8 lbs./acre for birdsfoot trefoil and 15 to 25 lbs./acre for lespedeza, depending on seeding method. The objective is a stand that is about 30% legumes. Minimize grass competition during establishment by keeping grass short when legumes are germinating. This can be accomplished through flash grazing or clipping in early spring.

Contact me at the Extension Center in Warsaw at (660) 438-5012 for more information. University of Missouri Extension is an equal opportunity / ADA institution.