

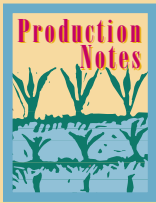


GRAIN SORGHUM, like wheat, responds to starter P on acid (pH 4.6), high P soils. Plants on the right received 35 lb P₂O₅/A banded in direct seed contact. Banded P helps lower Al toxicity in the vicinity of the seedling.

calcium carbonate (ECC)/A rate had been applied.

A companion study recorded large differences in the performance of grain sorghum hybrids under these acid soil conditions. **BC**

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Fescue Needs Phosphorus

Fertilizing with phosphorus (P) in early March can significantly boost tall fescue production and reduce chances of grass tetany, a paralyzing disease of cattle.

University of Missouri research shows 25 lb/A of P applied during the first week in March increases tall fescue production by more than 1,000 lb/A at the first cutting in mid May.

Also, the forage is higher in quality in terms of more magnesium (Mg), calcium (Ca) and P for grazing animals. In other words, the fescue is no longer tetany-prone.

About two-thirds of Missouri forage acres have problems with low-P soils. Based on soil test data, more than 60 percent of these pastures need P fertilization in order to increase hay yield by 1,000 lb/A. With tall fescue hay worth \$40/ton, this effort is worth more than \$140 million to producers in the state in terms of fescue yields, plus the reduction in grass

tetany disease.

The complex set of problems associated with grass tetany usually boils down to low Mg and Ca in the diet of cows in the late winter and early spring. Laboratory research revealed that the P concentration around the roots was a major factor in controlling the uptake of Mg and Ca into grass plants. Further work in the greenhouse showed uptake of these two important nutrients and their movement from roots to leaves was dependent on the P nutrition of the plant.

Field studies showed that the addition of 25 lb/A of P resulted in significant increases in Mg and Ca concentrations of tall fescue leaf blades in late March and throughout April. **BC**

Source: Dr. Dale Blevins, Professor of Agronomy, College of Agriculture, Food and Natural Resources, University of Missouri, Columbia. This research was supported in part by PPI and the Foundation for Agronomic Research (FAR).