

# Phosphorus Nutrition in Tall Fescue: From Stockpiling to Seed Production

William Edward McClain II

Dr. Dale Blevins Advisor

## Abstract

Tall fescue (*Festuca arundinacea*) is the most important forage for beef production in the Midwest. Stockpiling tall fescue allows producers to extend the grazing season and reduce winter-feeding costs. In Missouri, forages are the main source of macronutrients for cow-calf operations and there are times during the stockpiling period when the requirements of grazing livestock are greater than the forage alone can provide. The nature of tall fescue results in low leaf macronutrient concentrations below those required by lactating beef cows during late winter and producers should take this into account when utilizing stockpiled tall fescue, especially when beef cattle are grazing pastures on soils with low plant-available phosphorus (P) levels. Leaf concentrations of P, magnesium (Mg) and calcium (Ca) were higher with P fertilization than those of the untreated controls. The leaf concentrations of phloem mobile macronutrients declined from October to February. The decreases in leaf concentration of mobile elements like P, Mg, nitrogen (N), and potassium (K) may be the result of nutrient remobilization from leaves to roots during late fall and early winter as a strategy to provide support for next spring's growth.