

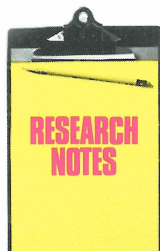


Summary

Corn takes up nutrients in a well defined pattern. Nitrogen and K are accumulated synchronously during vegetative growth. Net accumulation of K ceases at or near tasseling. Maximum rates of P accumulation occur about 3 days after

those of N during the vegetative period. A close relationship exists between N and P uptake during reproductive growth and grain fill. Both N and P accumulation rates peak once during vegetative growth and a second time during grain fill. Soil fertility must be managed to satisfy both peak demands to realize full yield potential. ■

Missouri



Phosphate Interaction with Uptake and Leaf Concentration of Magnesium, Calcium and Potassium in Winter Wheat Seedlings

LOW tissue concentrations of magnesium (Mg) and calcium (Ca) in cool-season grasses in late fall and early spring are primary causes of grass tetany and wheat pasture poisoning in grazing cattle. The objective of this study was to determine the interaction between phosphate and leaf concentrations of Mg, Ca and

potassium (K) in winter wheat.

Seedlings were grown hydroponically or in perlite with nutrient solution concentrations similar to those found in a typical midwestern Alfisol. As solution phosphorus (P) was increased, Mg and Ca concentrations in the leaf increased while K decreased. The $K/(Ca + Mg)$ ratios were lowered from 1.8 to 1.0 in one greenhouse study; from 1.7 to 1.2 in another. ■

Source: T. M. Reinbott and D. G. Blevins. 1991. *Agron. J.* 83:1043-1046.