# What Are the Best P and K Placement Options for Corn? (A09-kovar150728-Oral)

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## Abstract:

Placement of phosphorus (P) and potassium (K) fertilizers is an important management tool for efficient corn production. The purpose of this presentation is to discuss the effect of P and K fertilizer placement on both the soil supply of P and K and corn root growth. When P and K fertilizers are applied to part of the soil volume in the surface layer, such as with a band application, the fertilizer contacts less soil, less P and K are tied up or fixed by the soil, and relatively more of the nutrients remain in readily available form. Fertilizing a smaller volume of soil, however, results in fewer roots being fed. Phosphorus and K uptake by the plant will decrease, unless higher P and K availability in the fertilized soil volume increases uptake sufficiently to compensate for fewer roots coming into contact with fertilized soil. An increase in P availability, due to placement, tends to stimulate root growth in the fertilized volume of soil, whereas an increase in K availability does not have the same effect. Basic knowledge of these processes will ensure that P and K applications are effective and profitable, and that the environmental impact of nutrient use is minimized.

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