Starter Fertilizers for Corn on High P Soils in Pennsylvania. (S04-roth203639-Oral)

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Abstract:

Use of starter fertilizers for corn on soils testing high for P is common. Eliminating or replacing typical 1-3-1 (N-P2O5-K2O) starter fertilizer blends with N only starters may be more economical and lead to less P accumulation in the soil. In 2000 and 2001 we conducted numerous on farm tests to evaluate the yield and early growth response of corn to 10-30-10 and ammonium sulfate as a starter fertilizer. Averaged over all 22 sites in 2001, both starters had a significant effect on early growth that increased 23% over the check for the 10-30-10 and 17% for the ammonium sulfate. In 2001, averaged over all sites, the yields of the 10-30-10 starter fertilizer treatment and the ammonium sulfate were similar and averaged 3.7% higher than the check. Ammonium sulfate resulted in higher P, K and Zn uptake compared to the check even though none was supplied in the starter. Responsiveness to the starter fertilizer appeared to be related to soil test P. We concluded that on many sites eliminating starters or substituting ammonium sulfate for conventional starters could be profitable management alternatives.

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