

## NEAR SEED APPLICATION OF FLUID FERTILIZER FOR CORN, SOYBEAN AND SUGARBEET PRODUCTION

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### Abstract

In recent years, crop producers in Minnesota have shown increased interest in placing fertilizer near the seed at planting. The more traditional 2x2 "starter" band was not an option. Guidelines were needed for banded placement of fertilizer near the seed at the time of planting.

This study was conducted in 2004 and 2005 in fields of cooperating crop producers. Three fluid materials (10-34-0, 4-10-10, 3-18-18) were applied at two rates for corn, soybeans and sugarbeets. In 2004, the materials were applied with the seed, in a single band above the seed. In 2005, the double band placement was replaced by a band placed below the seed. Except for the situation where the fertilizer was placed in contact with the seed, there was a small distance between seed and fertilizer. Rates of fluid application varied with crop. Trials were conducted with corn grown on either a silty clay loam or a loamy fine sand. Crop emergence and yields were measured.

When applied at the lower rate, neither the fluid grade nor the placement had a significant effect on emergence of all crops. Neither emergence nor yield was affected by the higher rate of application when the soil texture was a silty clay loam. When planted on a loamy fine sand, corn emergence and yield were reduced when the 10-34-0 was applied at a rate of 10 gallons per acre regardless of placement. The 4-10-10 and 3-18-18 had no significant effect on emergence and yield when applied at the high rate to the sandy soil. The rate of 3-18-18 was adjusted so that the amount of potash would be equivalent to the rate of applied in the 4-10-10. With higher rates of N applied in the 10-34-0 it appears that special attention should be given to the amount of this nutrient applied when fertilizers are placed close to the seed at planting.

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