

Effects of Fertility Placement on Early Corn Root and Shoot Growth. (C02-kline145020-Poster)

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Abstract:

The majority of P and K fertilizer applications to corn are broadcast on the soil surface. Beneficial responses to banded placement (generally at depths of 10 to 15 cm) of P and K in corn have occasionally been observed, but there has been relatively little attention given to the effects of banding on corn root characteristics, or on the merits of very deep (30 cm) banding. We evaluated root and shoot responses to band placement depths (15 versus 30 cm) of P and K together, as well to 15 cm deep bands of P alone versus K alone, relative to surface broadcast and zero control applications. Whole root and shoot samples were obtained at the V4 growth stage. In addition, both in-row and between-row root cores were taken from multiple depths at the V10 growth stage. All root samples were scanned and then analyzed using WIN Rhizo software. We will present our preliminary results of how fertilizer placement influenced various attributes of root morphology and associated shoot response.

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