Corn yield and N dynamics as affected by the use of rye as a Winter Cover Crop. (C03-crandall082946-Poster)

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Abstract:

The use of rye (Secale cereale L.) as a winter cover crop (WCC) in a conventional maize (Zea mays L.) and soybean ((Glycine max. (L.) Merrill) rotation in Illinois can have profound effects on the N dynamics of the cropping system. Our objectives in this study were to determine the effects of rye kill date and N application timing on soil N availability to corn and corn N status throughout the growing season, as well as, on corn yield. The study was a split plot arrangement in a randomized complete block design with 4 replications. Rye was drilled in the fall after soybeans. Treatments included three spring kill dates and six N application strategies. Soil samples were taken at planting and the V6 and R1 stages of corn development. Corn plant samples were taken at V6 and R1 and yield determined. Samples were dried and ground for total N and C determination. Corn yield and N status of the soil and plant environment throughout the growing season will be presented and discussed.

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