Managing Alternative Nitrogen Sources in Early and Mid-maturity Crop Varieties. (A08-morgan154542-Oral)

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Abstract:

Alternative nitrogen sources, such as legume cover crops and poultry liter, provide producers with opportunities to simultaneously decrease nitrogen fertilizer costs and soil erosion and increase soil quality. The availability of Roundup Ready crops provides an additional tool for managing cover crops and optimizing nitrogen contributions by cover crops under no-till conditions. The main plot treatments in this experiment were the nitrogen sources. Winter cover crops, including common vetch, crimson clover, and wheat, were planted in the fall of 2001 and were desiccated two weeks prior to planting corn, cotton, and soybean in the spring. Poultry litter was applied as a nitrogen source treatment at the rate of 67 kg per ha in late winter. As a grower standard, a winter fallow treatment received nitrogen fertilizer at crop planting. Sub-plots consisted of four corn, soybean, and cotton varieties, all Roundup Ready. Early maturing corn and soybean varieties were selected to allow for early fall establishment of winter cover crops in 2002 and to maximize cover crop biomass in the fall. Covercrop nitrogen contributions and crop yields and quality will be measured and reported.

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