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Project ID: 0304-AD-031

FY03 ARS Agreement #: NEW

Research Area: CBC

Duration of Award: 1 Year

Project Title: Uniform Fungicide Trial for Scab on Wheat in Illinois.

PROJECT 1 ABSTRACT
(1 Page Limit)

The goal of this study is to test the efficacy of fungicides and biological control agents in controlling head scab on wheat and their resulting effect on yield and quality of wheat. Conducting uniform fungicide trials will give Illinois' farmers valuable information for management of scab as well as contributing to data applicable across all the Midwestern wheat growing regions.

A soft red wheat variety that has been very susceptible to scab infection, Madison, will be planted into fields with high amounts of corn residue on the soil surface at two locations in Illinois. One field location is at the University of Illinois' Northwestern Illinois Agricultural Research and Demonstration Research Center (NWRC) near Monmouth, and the second location is at the Crop Sciences Research and Education Center (REC) near Urbana. Both locations have a history of significant scab infection that varies in incidence and severity from year to year. Irrigation is not available at the Monmouth location, and mist irrigation is available at the Urbana location. Fertility will be maintained at recommended rates of nitrogen, phosphorous, and potassium. Nitrogen application is typically split between fall and early spring applications. Plots 5 x 30 feet will be established in the spring. The experimental design will be a randomized complete block design with at least four replications. In addition to the control plot there will be at least 6 treatments compared.

Application of treatments will be at early anthesis (Feekes 10.51) with a CO² backpack sprayer. The materials will be applied at 20 gallons an acre at approximately 40 psi. At least two ratings for scab will be taken from each plot. The first will begin with the onset of disease symptoms and subsequent ratings every 5 to 7 days through the dough stages until the heads begin to mature. Plots will be rated for disease incidence and severity. In each plot, the number of infected heads will be determined from 100 heads and the number of infected florets on each head will be counted. Grain weights and grain moisture will be collected from each plot, from which yield will be calculated. Test weights will also be measured from grain samples collected from each plot. Grain samples will be sent to Michigan State University for DON mycotoxin analysis.