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Project ID: 0405-PA-030

FY03 ARS Agreement #: NEW

Research Area: CBC

Duration of Award: 1 Year

Project Title: Fungicide Efficacy Evaluations for Managing Scab in Louisiana Wheat.

PROJECT 1 ABSTRACT

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Fusarium Head Blight (FHB), *Fusarium graminearum*, is a major concern for wheat producers in the United States. The disease is present in Louisiana wheat and can be severe when conditions favor disease development. Periods of high humidity during flowering are common along the Gulf Coast and can fuel epidemics. Furthermore, increased use of minimum tillage practices in corn and wheat production systems have the potential to increase the threat of this disease in the state.

The objective of this project is to evaluate fungicide efficacy and application timings for the management of FHB in Louisiana. Fungicides will be evaluated in LSU AgCenter small field plot tests conducted at multiple research stations within the state (Northeast, South, and possibly Southeast and Central Louisiana). Each location will represent a unique environment (e.g. weather and soil type). Tests will be conducted under inoculated and/or natural conditions. Studies will be inoculated by distributing *F. graminearum* colonized corn into plots prior to flowering. A misting system will be utilized to provide conditions favorable for disease development. Inoculum levels will be used in an attempt to generate epidemics with moderate disease pressure. Fungicide treatments and application timings will be consistent with other uniform fungicide tests supported by the USWBSI within the United States. Treatments will be applied using a handheld CO₂ charged spray boom. Disease incidence and severity will be assessed, as well as seed quality (scabby kernels and DON analysis), and plot yields and test weights will be recorded for each plot. Disease assessment data, grain quality measurements, and yields will be compared using appropriate statistical procedures.

The data generated for fungicide efficacy against FHB in Louisiana is limited. This project will begin to provide that information. The growing conditions in Louisiana are unique compared to other wheat-producing regions. The results from this project will demonstrate whether fungicide performance is consistent across multiple environments and identify any weakness or fit of selected fungicides and timings.

The data generated from these studies will be used to help strengthen the research priority put forth by the USWBSI Chemical and Biological Control: Collaborative efforts (Uniform Tests) to evaluate advanced fungicide and BCA treatments for effective and consistent performance against FHB of wheat (all classes) and barley across multiple environments.

The project investigators will cooperate with Dr. Gene Milus (pathologist University of Arkansas) in an effort to standardize data collection and strengthen the dataset in the Mid-South.