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FY06 ARS Agreement #: New

Research Area: CBCC

Duration of Award: 1 Year

Project Title: Integrating Strategies to Mitigate Fusarium Head Blight and DON in Winter Wheat.

PROJECT 1 ABSTRACT

(1 Page Limit)

This project is part of a multi-state cooperative integrated management effort on Fusarium head blight (FHB) of wheat caused primarily by *Fusarium graminearum*. The overall goal of the project is to use an integrated approach to more effectively manage FHB and deoxynivalenol (DON). The specific objectives are to 1) demonstrate that integrated management is the most effective and economical means of reducing losses caused by FHB/DON, 2) decrease the risk of development of FHB epidemics and thus reduce losses caused by FHB/DON, and 3) increase grower adoption of integrated strategies. To accomplish the first and second objectives, we will plant three locally adapted winter wheat cultivars following soybean. One of these cultivars, '2137,' is susceptible to FHB and one, 'Harry,' is moderately resistant. The third cultivar, 'Jagalene,' is high yielding and very popular locally and has a moderately susceptible reaction to FHB. At the beginning of anthesis, two fungicide treatments (spray with Prosaro and non-sprayed control) will be applied to each cultivar. Plots will be visually rated for FHB severity at the soft-dough stage. At harvest, yield data, test weight, and percentage of visually scabby kernels will be recorded, and samples will be analyzed for DON content. We will record environmental data using an automated weather station. These data will be furnished to the epidemiology/disease forecasting group for use in developing FHB/DON prediction models to be used as part of an integrated approach to managing FHB/DON. We will accomplish the third objective by disseminating project results through electronic and print media and presentations at field days. This project is relevant to the goals of the US Wheat and Barley Scab Initiative which under the Chemical, Biological and Cultural Control (CBCC) research area specifies uniform tests, integrated disease management, and deliverables as some of the FY07 research priorities with specific reference to evaluation of methods and strategies for disease management and development of multi-state deliverables that describe the effects of control practices and technologies.