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Project Title: Integrated Management Studies to Improve Overall Management of FHB and DON in Wisconsin.

PROJECT 1 ABSTRACT

(1 Page Limit)

To improve management of Fusarium head blight (FHB) in Wisconsin, we will participate in the integrated management trials for wheat for 2010, as well as conduct field research studies that examine the effect of crop rotation and fungicide timing on the development of FHB and DON. Our overall goal for this project is to improve management recommendations for reducing the risk of FHB and DON. As such, we have established at our Lancaster ARS (Lancaster, WI) trials that are a part of the coordinated project. In this trial, a split-plot arrangement will be established in which fungicide will be blocked at the whole plot level and wheat variety (resistance) will be at the split plot level. We have a new trial for our second field study in that while we still have rotations as defined previously, we are focusing our management on FHB by uniformly spraying all plots at Feekes 8-9, and then examining the effects of fungicide application at Feekes 10.5.1 on the risk of FHB. Data collection will include an initial disease assessment made prior to fungicide application, a measure of FHB incidence and severity (at Feekes 11.2 or soft dough), will be made following the proposed methods (20 heads at five arbitrarily selected sites in the plot), as will a measure of the foliar disease levels on the flag leaf. Plots will be harvested to determine yield, from which a subsample of grain will be obtained to estimate the percentage of Fusarium-damaged kernels. Grain samples will also be sent to one of the USWBSI-funded DON testing laboratories for DON analysis. Furthermore, weather data will be obtained using a HOBO U30/GSM Remote Monitoring System. We will monitor weather variables, including temperature, relative humidity, rainfall, wind speed and direction, and leaf wetness at 30 minute intervals beginning at Feekes GS 7 (stem elongation). Summaries for each year will be written and provided to Pierce Paul (Coordinated Project Coordinator) and will also be present at Extension meetings in Wisconsin and summarized in Extension documents including the Wisconsin Crop Manager. A summary will also be made available at <http://coolbean.info> and <http://www.uwex.edu/ces/croppathology>, the current websites used by both PI's for wheat information and also through "The Soy Report" (<http://thesoyreport.blogspot.com>). Both PI's have a history of providing information to a diverse audience including growers, chemical reps, county extension faculty, consultants, and others in the wheat and barley industry, including those affiliated with USWBSI.