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(1 Page Limit)

To improve management of Fusarium head blight and DON, integrated management studies will be conducted in Wisconsin during 2009 and 2010. These studies will include participating in the proposed coordinated project as well as conducting field research studies that examine the effect of crop rotation and fungicide timing on the development of FHB and DON. The first field research trial will be established at the Lancaster Agricultural Research Station (Lancaster, WI). This location is the southwestern portion of Wisconsin and was the location that in 2008 had the highest levels of FHB based on multiple field trials. 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. In the second trial, the effect of rotation and fungicide timing will be studied to determine the best management practice for improving wheat disease management. In this trial, rotation (Continuous wheat, Corn-soybean-wheat, Soybean-Corn_{grain}-Wheat, Soybean-Corn_{silage}-wheat) will be examined along with wheat variety (Kaskaskia and P 25R78, probably the two most commonly grown varieties in the state), and fungicide application timing from Feekes 9 through Feekes 10.5.1. 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). The summarized information will be made available using <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>). Overall, these results will target a diverse audience including growers, chemical reps, county extension faculty, consultants, and others in the wheat and barley industry.