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NEWS RELEASE

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Forecasting System Helps Farmers Assess Scab Risk

Farmers in wheat production areas susceptible to Fusarium head blight (FHB, scab) are encouraged to use a multi-state forecasting system that can help assess disease risk and evaluate management options.

The forecasting system estimates the risk of a scab epidemic with greater than 10% severity using weather variables observed seven days prior to flowering. Wheat is most susceptible to scab during the flowering growth stage. Weather during the pre-flowering time period influences reproduction of the fungus that causes head scab in wheat.

To customize the forecasting system to their own fields, farmers will need to identify whether they are growing spring wheat or winter wheat. They will also need to estimate the date of flowering, when anthers are exposed on about 50% of the heads.

Erick DeWolf is a plant pathologist at Penn State University involved with development of the forecasting system. He indicates that accuracy of the pre-flowering forecast is near 80 percent, based on information used to develop and test the models. However, DeWolf stresses that if weather becomes favorable for disease during the flowering or grain filling stages of growth, the model may underestimate the amount of disease. Farmers are encouraged to consider weather forecasts when using the disease prediction system.

The forecasting system can be found on the web site of the National Fusarium Head Blight Prediction Center, online at www.wheatscab.psu.edu. Links by state can also be found on the web site of the U.S. Wheat and Barley Scab Initiative, <http://www.scabusa.org>. Under Grower and Industry Tools, click on 'FHB Forecasting Models.'

FHB or scab is regarded as one of the most serious grain diseases, which can result in wheat unsuitable for milling and barley unfit for malting. The forecasting system is a project of the USWBSI, funded by the USDA Agricultural Research Service. The USWBSI is a national research effort whose goal is to develop effective control measures that minimize the threat of scab to the producers, processors, and consumers of wheat and barley.

Last year, the USWBSI hosted an international symposium attended by several hundred crop scientists throughout the world, highlighting global research efforts to address scab. Research proceedings for this international symposium can be found online at www.scabusa.org. Click on the 'Forums' link, then '2004.'

"The resulting discussion and proceedings from this conference indicate that considerable progress is being made in mapping and identifying molecular markers for FHB resistance," notes Kay Simmons, USDA-ARS National Program Leader for Grain Crops. "Much progress is being made in identifying molecular processes involved in host-plant interaction with the pathogen, enabling scientists to develop new strategies to block disease infection."

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Editors: Contact Sue Canty, USWBSI Network & Facilitation Office, scabusa@scabusa.org ph 517-355-0271 ext. 183, for a digital illustration of the FHB Forecasting System to accompany this story.