



UNIVERSITY OF WISCONSIN AGRONOMY, SOYBEAN RESEARCH, UNIVERSITY OF WISCONSIN-EXTENSION

## Wheat Head Scab Beginning to Occur in Wisconsin

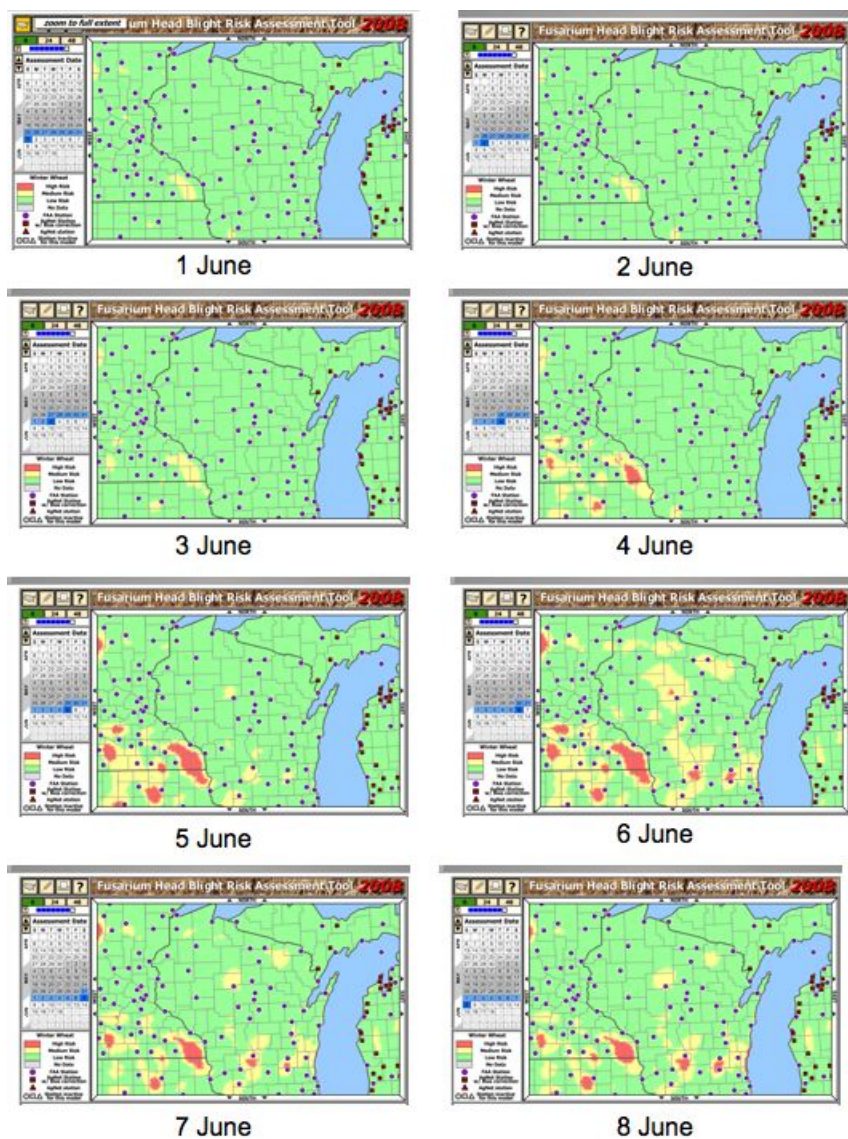
Paul Esker, Field Crops Extension Pathologist  
Shawn P Conley, State Soybean and Small Grain Specialist

Wheat head scab (synonym, wheat head blight), caused by several species of *Fusarium*, but in the U.S., mainly *Fusarium graminearum*, was noted in a routine survey of the winter wheat variety trials during the week of June 16<sup>th</sup> (Figure 1). This was not an unexpected discovery given the recent weather conditions during the flowering period. The discovery of wheat head scab also matched closely with predictions for the risk of scab using the Fusarium Head Blight Risk Assessment Tool (see 23 April 2008 Wisconsin Crop Manager for information about using the prediction tool) (Figure 2).

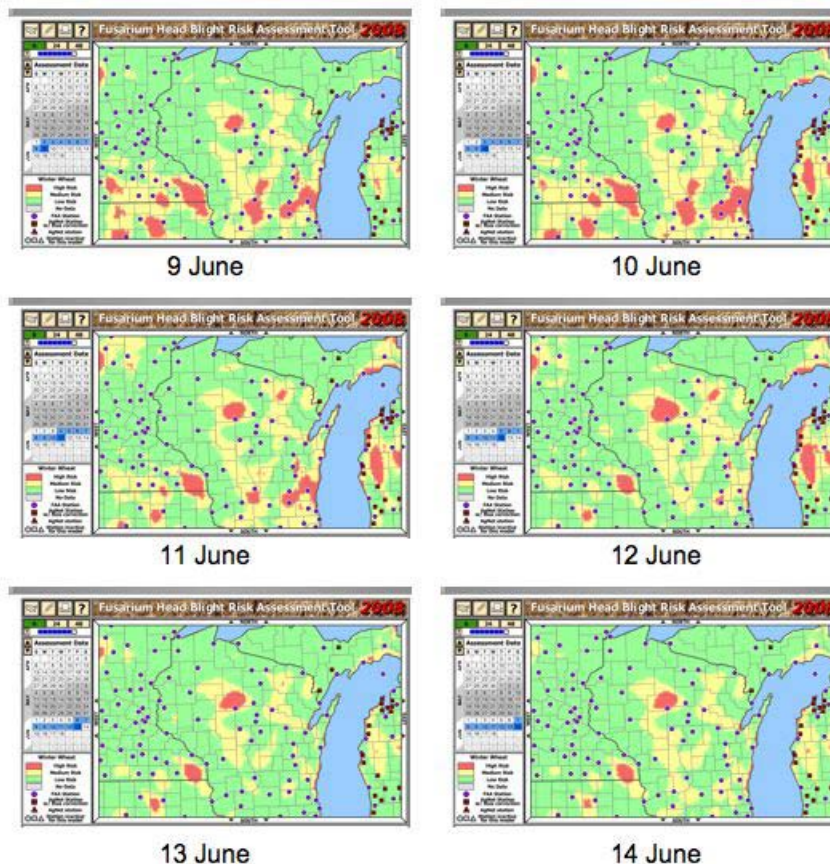
*Figure 1. Wheat head scab observed in the winter wheat variety trials at Lancaster on June 17.*



Figure 2. Wheat head scab risk maps for Wisconsin during the period June 1 to June 14, 2008. Maps were obtained from <http://www.wheatcab.psu.edu/>.







Given this discovery, we feel that this is an excellent time to recommend that wheat fields be surveyed to determine to what extent wheat head scab has occurred. In part, this is a good time to conduct a survey because the symptoms of head scab (part green head-part bleached; also, salmon-colored heads) can be easily differentiated from other damage including hail and floret abortion (see Tuesday, June 17 posting on The Soy Report (<http://thesoyreport.blogspot.com>)).

### How to Estimate the Incidence and Severity of Wheat Head Scab?

Two useful sources that are widely cited to help estimate the incidence and severity of wheat head scab include:

- 1) <http://www.ag.ndsu.edu/pubs/plantsci/smgrains/pp1095w.htm>, "A Visual Scale to Estimate the Severity of Fusarium Head Blight in Wheat".
- 2) <http://ohioline.osu.edu/ac-fact/0049.html>, "Fusarium Head Blight Severity Scale for Winter Wheat".

The North Dakota bulletin (the first webpage listed) provides images for wheat varieties that have awns, while the Ohio State bulletin provides images for awnless wheat varieties. Both provide excellent material to help estimate the incidence and severity of wheat head scab, since they are not synonymous terms. Incidence is defined as the number of wheat heads infected with scab divided by the total number of heads assessed. Severity can be defined in two ways. The first is a plot severity value, which is the average severity for all heads that were individually assessed for a severity value, including the 0 values.

The second is the average infected head severity, which is a conditional value for severity that is based on the average severity for those heads that were infected by *Fusarium* spp.

Finally, at this point in the growing season, the majority of winter wheat fields are past the labeled growth stage when fungicides can be legally applied. Shortly before harvest, we will offer our recommendations for reducing the risk of harvesting scab infected wheat kernels. For further updates regarding late season wheat development and diseases, please check The Soy Report.