

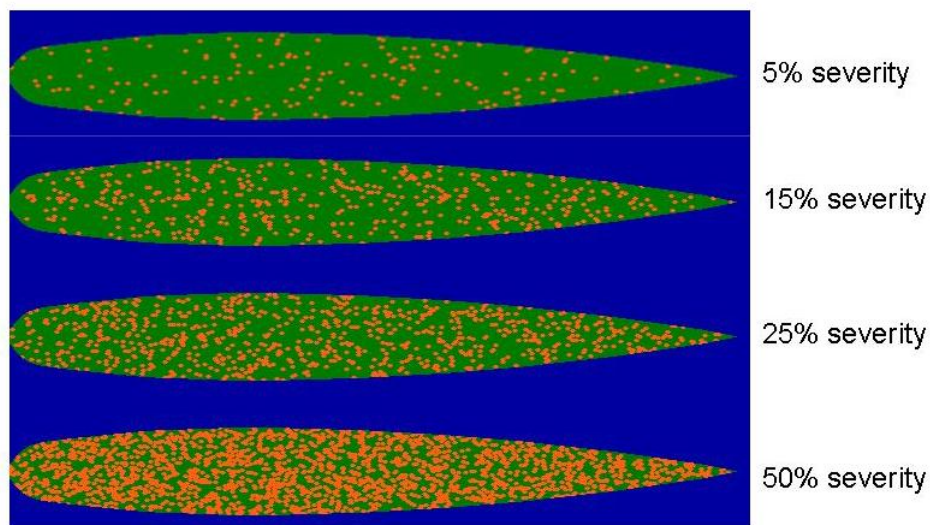
## Flag Leaf Emergence and Foliar Fungicides in Winter Wheat

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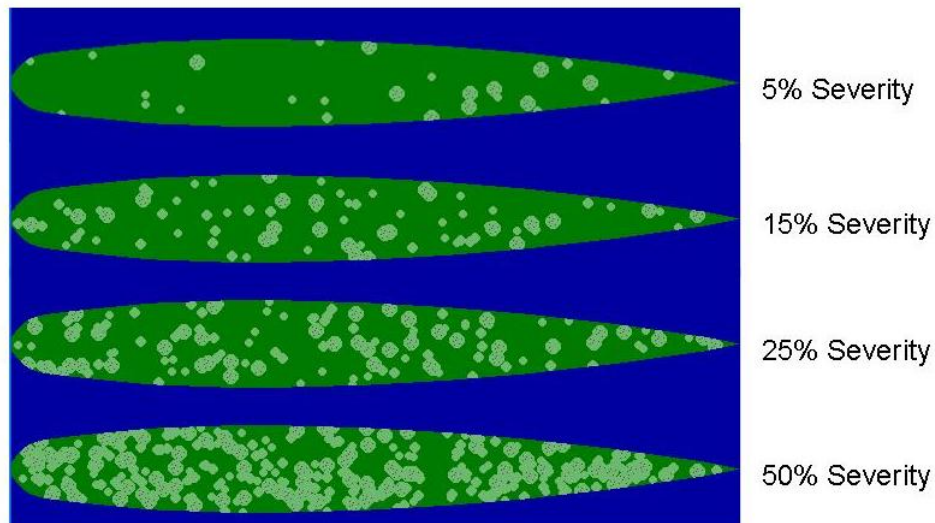
Winter wheat is at or near to the flag leaf (Feekes 8) growth stage throughout the state. This is an important time to actively scout wheat fields to most effectively determine if the use of a foliar fungicide will be needed. The main diseases we have seen so far this spring include Septoria leaf blotch, powdery mildew, and tan spot. We have addressed those three diseases, plus other foliar diseases in the April 10<sup>th</sup> *Wisconsin Crop Manager*. So far this year, the incidence and severity of these three diseases has been quite variable and dependent on the wheat variety and environment. With susceptible wheat varieties, we have seen incidence for Septoria leaf blotch and powdery mildew as high as 100% in some of our plots. It is during this growth stage period that the main question regarding the use of a foliar fungicide should be considered. To help guide that process, there are four questions that should be considered (Beuerlein 2001; Miller 1999):

1. Is there a fungal disease or diseases present?
2. Does the variety planted have resistance, and to which wheat diseases, or does it appear that disease pressure in the canopy is increasing?
3. Does the expected crop-yield warrant the cost of applying a foliar fungicide?
4. Is the crop under stress

If the answer to the first three questions is “yes”, and the answer to the last one is “no”, then application of a foliar fungicide will most likely be warranted. Besides identifying the foliar diseases in wheat, it is important to understand if the disease pressure is increasing. In Figures 1 and 2, two example sets of standard area diagrams are presented, the first for rust and the second for powdery mildew. Also, if the occurrence of disease is moving into the upper canopy, this is another indicator that the disease pressure is increasing.



**Figure 1.** Example set of standard area diagrams for wheat rust illustrating 5, 15, 25, and 50% leaf severity.



**Figure 2.** Example set of standard area diagrams for powdery mildew illustrating 5, 15, 25, and 50% leaf severity.

For further information regarding foliar fungicides available for wheat, consult *Pest Management in Wisconsin Field Crops*, UW-Extension A3646. For up-to-date information regarding the current status of rust of wheat or barley, consult <http://www.ars.usda.gov/Main/docs.htm?docid=9757>. For real-time forecasting for the risk of Fusarium head blight, consult <http://www.wheatscab.psu.edu>. Finally, for the most up-to-date information regarding wheat development and wheat diseases, consult <http://thesoyreport.blogspot.com>.

References:

Beuerlein, J. E. 2001. Wheat Growth Stages and Associated Management. The Ohio State University Extension, AGF-126-01.

Miller, T.D. 1999. Growth Stages of Wheat: Identification and Understanding to Improve Crop Management. Texas Agricultural Extension Service, SCS-1999-16.