



Wheat Update: Scab

We have received calls from our North Carolina clients about the scab alert issued by NC State for several counties last Friday. We will be dealing with this decision in Virginia and points north very soon and this seems to be a good time to cover this subject.

Scab (fusarium head blight) is a disease that infects wheat heads at flowering. Grain harvested from wheat infected with scab has lower yields, poor grain quality, low test weight and often contains vomitoxin (toxins produced by fungi) that make the grain less palatable to livestock and harmful to humans. There are three critical criteria needed for scab infections.

We generally look for moisture in a five-day window. Leaf wetness needs to average over eight hours/day with relative humidity above 70%. From 04/03 to 04/07, the average leaf wetness for Union Co., the wettest of our four NC weather stations, was 11.4 hours and the relative humidity was 73%, so moisture was available.

Scab needs temperatures between 60F and 85F according to several sources. The average temperature in Union Co. was 52F during the 04/05 to 04/07 span. These temperatures are not conducive to scab and makes infection unlikely.

In 2009, a significant scab year in Central Virginia, during wheat flowering (May 1- May 15), the average daily temperature was 60F with 76% relative humidity and 14.5 hrs/day of leaf wetness.

Wheat at flowering is the most vulnerable stage for heavy scab damage. Wheat prior to flowering or past flowering, while still susceptible, is less vulnerable to scab.

Although not mentioned in many reports, variety is an key component of scab infection and vomitoxin in wheat. No variety is resistant but several have above-average tolerance to scab. Conversely, some varieties are much more susceptible to scab.

Wheat can be protected from scab to some extent by fungicides. According to Dr. Christina Cowger, NCSU, *"fungicides are most effective against scab (about 50% reduction in disease) if applied at early to mid-flowering. Recent research indicates that the fungicides Caramba or Prosaro may still be able to reduce*



Scab infected wheat heads



Scab infected wheat kernels

disease development up to five days after the start of flowering. Applications are less effective after the fungus is established in the heads. Applications more than 5 to 7 days after the beginning of flowering are likely to run into the 30-day pre-harvest restriction and should be avoided." Please note: this is a fairly tight window for application.

We normally look for scab weather in early May in Central Virginia. Wheat flowering in mid-April may be less subject to scab simply due to cooler temperatures. Current weather forecast calls for warmer weather this week and wetter weather starting 04/18.

As wheat begins flowering, we will be watching several models to assess the risk from scab and make recommendations according to the information at that time. We do not expect to have to spray for scab but we need to be prepared.