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News Release

Midwest Scab a 'Good News, Bad News' Scenario

Fusarium Head Blight (FHB) infection levels are ranging from low to quite high in Midwest wheat fields this year, according to university small grain specialists. Commonly referred to as "scab," this disease, caused by the fungus *Fusarium graminearum*, can produce significant yield losses, as well as serious grain quality issues due to the presence of the mycotoxin known as "DON" (deoxynivalenol).

The region's most troublesome scab areas in 2008 were in Nebraska and Kansas, where the disease was fueled by significant rainfall during late May and early June. This year, however, much of Kansas appears to be escaping serious scab problems. Bill Bockus, Kansas State University plant pathologist, toured the northeastern part of the state on June 10 while wheat was in the soft- to medium-dough stage. Of the 10 random commercial fields he examined, he found scab in just two — one with just a trace and the other with about half of one percent. "I expect northeast Kansas to not have problems with scab this year," Bockus says.

KSU extension plant pathologist Erick De Wolf reports a similar scenario in north central Kansas, where he found only trace levels of FHB as of early June.

The situation is different in the state's southeastern district, however. "Scab will be a significant production issue in southeast Kansas again this year, making for three straight years of above-normal levels of head scab in this region," De Wolf remarks. "The 2009 season was extremely favorable for the development of head scab in southeastern Kansas." As of early June, he was noting disease severity levels from 10% to more than 70% in the district. "Some fields will not be harvested and represent a total loss for producers," he states.

The scab situation in east central Kansas was still indeterminate as of early June, so KSU evaluations for that district were not yet available.

To the north, Nebraska may have largely dodged the scab ogre in 2009. The state incurred significant damage from FHB last year due to continuously wet conditions during the wheat flowering period.

"Most of the eastern [Nebraska] wheat flowered four to seven days before we got our rainy spell" this year, notes University of Nebraska small grains breeder Stephen Baenziger. "Initially, we were very hot and dry at flowering; but after flowering finished, it got wet and cool." Some southeastern Nebraska wheat fields did flower during the rainy spell; but as of early June it was too early to determine whether they were incurring significant scab infection.

A team of university specialists viewed wheat at flowering to just past flowering during a June 9 tour of the central Nebraska Panhandle. They found trace levels of stripe rust, leaf rust and tan spot. Scab was beginning to show up as well, reports UN-Lincoln extension plant pathologist Stephen Wegulo. Frequent rainfall in this area from about two weeks before flowering — almost unheard of in the Nebraska Panhandle — increased the risk of scab.

"The bottom line is that we have seen scab in eastern Nebraska and in the Panhandle, and the risk has increased for later-maturing wheat throughout the state," Wegulo observes. "But earlier-maturing wheat — especially in the southern tier of south central and eastern Nebraska — escaped scab due to dry conditions preceding flowering and into flowering. Some losses are expected, but they will be considerably less than those experienced in 2007 and 2008."

To the east, the 2009 Missouri wheat crop is experiencing widespread Fusarium Head Blight due to persistent rainfall through the heading window of all varieties. As of June 10, scab severity appeared to be highest in the southeastern and southwestern parts of the state. "However, scab is evident in the central and north regions as well," note

University of Missouri wheat breeder Anne McKendry and extension plant pathologist Laura Sweets.

Though good FHB infection level data from commercial fields were not available, McKendry believes variety selection will play a significant role in overall losses to scab in Missouri. Wheat varieties with known levels of resistance — *e.g.*, Truman, Bess, Roane — averaged less than 3% severity in the 2009 official state trials, according to McKendry, while approximately one-third of tested varieties averaged in excess of 10% across all locations. "Among all varieties, Truman had the lowest severity (1%) across all locations."

In southern Illinois, where most of that state's wheat acreage is located, a survey of nine counties showed scab in every wheat field examined, reports Carl Bradley, University of Illinois extension plant pathologist. The percentage of infected heads ranged from 17% up to 100%.

The Illinois wheat disease survey was continuing as of the second week of June, moving through the central and northern districts of the state. As of June 11, surveyed wheat fields in central Illinois (north of Interstate 70) were showing less scab than those to the south.

Bradley estimates that about 20% of this year's Illinois wheat acreage was sprayed with a fungicide for control of scab. He emphasizes that research both in Illinois and elsewhere indicates that planting a moderately resistant variety, along with the use of an effective fungicide, is the most effective management strategy for controlling scab.

The 2009 Fusarium Head Blight situation in Indiana was not favorable as of the second week of June. "FHB is very severe and widespread south of Indianapolis — and especially in southwest and southeast Indiana," reports Indiana University agronomist Herb Ohm. Yield losses on fields planted to susceptible varieties will be at least 15% and perhaps closer to 30%, Ohm believes.

Disease levels were much lower at Lafayette as of June 10, although that's still early in the season for northern Indiana. As in other states, university trials are reflecting a much lower disease index (incidence x severity in infected spikes) in certain lines. For instance, the disease index in Ohm's nursery at Evansville for one line being prepared for likely release was just 4%. That compared with indexes of as high as 50% for certain susceptible varieties.

Wheat and barley growers in all states are encouraged to visit the U.S. Wheat & Barley Scab Initiative's website — <http://www.scabusa.org/> — for links to information on harvesting scabby wheat fields, testing for DON, marketing scabby grain, crop insurance adjustments for DON, and other scab-related postharvest issues.

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