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NDSU | WILLISTON RESEARCH EXTENSION CENTER

Ag Alert

Northwest North Dakota

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UPCOMING EVENTS

Divide County Crops Meeting **Wednesday, September 21**

The Divide County Crop Improvement Association and NDSU Extension will host a crops meeting at the Crosby Community Center from 5:30 to 8:00 pm September 21. The event is free to attend and a hamburger supper will be served. Come meet Brandon Biwer, new Divide County Ag Agent and learn from other speakers including: Dr. Audrey Kalil discussing durum susceptibility to Fusarium head blight (scab), Austin Link presenting 2016 small grain variety trial results, and Dr. Prashant Jha Montana State University weed scientist sharing his work on fall vs. spring herbicide application for crop safety and weed control in pulses and an update on the status of Round-up (glyphosate) resistant kochia in eastern Montana.

National Hard Spring Wheat Show **February 7-9, 2017**

Save the date for the 64th Annual National Hard Spring Wheat Show now! This event will be held in Williston February 7, 8, and 9 with a bread fair for area 5th grade students on February 7th and educational lectures and workshops for farmers and agronomists on the 8th and 9th.

PLANTING WINTER WHEAT? BREAK THE GREEN BRIDGE!

Typical yellow streaks of WSMV.
Photo credit: Mary Burrows, MSU

Wheat Streak Mosaic Virus (WSMV) was confirmed in many fields in Williams, Mountrail, and McKenzie Counties this summer. While some fields did not exhibit much yield loss, others suffered substantial yield loss and in some cases, crop failure. WSMV can infect winter wheat, spring wheat, and durum. WSMV is a viral disease that is transmitted by the wheat curl mite, *Aceria tosichella*. The earlier wheat plants are infected with the virus, the greater the yield loss that can be expected. If wheat plants are infected late in development, e.g., heading or later, very little yield loss is expected; but, infection during emergence and tillering can result in complete yield loss and crop failure.

To prevent your winter wheat from becoming infected with WSMV, make sure that you break the green bridge. The mites that transmit WSMV must have green, living plant tissue to survive. As crops dry down, they migrate to grassy weed hosts such as cheat and Japanese brome or volunteer wheat. If winter wheat is in your plans, **wait at least two weeks between controlling volunteer wheat / grassy weeds and planting the winter wheat.** This two-week window is necessary to starve the mites.

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If there was WSMV in your field or a neighboring field this summer, it may be best to rotate to a broadleaf crop next year, especially if you do not have time to control the volunteer wheat or grassy weeds before planting. Selecting a broadleaf crop such as pea, flax, canola, safflower, or soybean would give you the opportunity to get ahead of the mites and control volunteer small grains and grassy weeds next year. Another tip is to avoid planting winter wheat near late-maturing or still-green corn. Corn can also host the mites and would be an attractive green bridge for mites in an area where they were able to move to corn after spring wheat dried down. If corn is still green, the mites could be feeding on it, just waiting to move into a newly emerged winter wheat field.

HIGH DON (VOMITOXIN) WHEAT

As harvest wraps up, we have been getting many reports of high DON (deoxynivalenol), commonly known as vomitoxin, wheat. DON is a fungal toxin (mycotoxin) that may be produced in wheat and barley grain infected by Fusarium head blight (FHB), also called scab. Very high levels, exceeding 10 ppm (parts per million) have been reported in Divide, Williams, and Mountrail Counties. I suspect that the issue is also present farther east as counties such as Burke, Renville, and Ward also got rain in early and mid-July when the spring wheat and durum were flowering and susceptible to infection by scab.

Finished wheat products for human consumption have a DON cut-off of 1 ppm; however, since many milling process can reduce DON concentrations by 50% or more, grain handlers or buyers may accept up to 2 ppm without discounts. Buyers often purchase up to 5 ppm wheat with discounts for every 0.5 or 1.0 ppm above 2 ppm. Depending on the quality of available supply and demand size, 5 ppm DON or greater wheat may still be sold, but usually with heavy discounts.

FHB infected or scabby kernels can be removed from good quality wheat because scabby kernels tend to have a lighter test weight than healthy kernels. These lighter-weight, scabby kernels can often be removed by screening and/ or airflow. If you have high DON wheat, check with area elevators and grain handlers to see if they offer grain cleaning services. While cleaning does incur a cost per bushel, if it can reduce DON levels to 2 ppm or below, it will increase the value of the remaining grain. With high DON levels in the region this year, ask if buyers are adding a premium to very low DON wheat (<1 ppm). If they are, this has the potential to further increase your return on investment in cleaning. Be sure to do the arithmetic beforehand to help decide if cleaning grain is worth the cost. Below is a table with an example of an original load of wheat of 1,000 bushels and a DON of 8 ppm. Look at the value of the original load versus cleaned load to determine if cleaning was worth the investment.

Table below is an example of the value of an uncleaned load of high DON wheat (Original load) compared with the value of a cleaned load. Assume a cleaning cost of $0.30 per bushel.

Factors	Original load	Clean-out (screenings)	Cleaned load	Cleaned load + premium for low DON
Bushels	1,000	50	950	950
Test weight (lbs/bu)	59	56	61	61
DON level	8 ppm	9 ppm	1 ppm	1 ppm
Price (per bu)	$2.40	$1.00	$3.00	$3.20
Value	$2,400	$50	$2,850	$3,040

Original load value = $2,400

Cleaned load value = $2,850 + $50 - $300 = $2,600 *Remember to subtract cleaning cost!*

Cleaned load with low DON premium = $3,040 + $50 - $300 = $2,790

In this example, it is worth the investment of paying for cleaning to increase the value of the grain. Keep in mind that if cleaning costs were higher, for example $0.50 per bushel, then the added value of the cleaning would be lost.