Coping with Wheat Scab

Mark Sultenfuss, Program Manager - Field Crops Research

About two weeks ago I began noticing symptoms of head scab in area wheat. It was initially brought to my attention by an area farmer, distraught over seeing the symptoms in a field that he had sprayed with fungicides to prevent infection. Upon closer inspection of production wheat fields at Wye and in fields in our area, I observed many heads exhibiting symptoms of infection: partial or total bleaching of the glumes on the head, shriveled or non-existent kernels and an occasional pinkish coloration on the head. The symptoms of the scab infection are not hard to see once the head begins to mature and the dead parts begin to bleach out. Head scab is caused by Fusarium, a fungus frequently found on grain crop residue such as corn or wheat.

The wheat that I observed having the worst level of infection is the wheat that headed earliest, between May 10th-13th. Those dates were about the only time this spring when conditions were moderately favorable for the fungus to infect the flowering wheat heads. It was during that time frame that we had damp weather, which enabled the fungal spore population to rapidly increase, move from existing crop residue to the flowering parts of the wheat head and infect the spikelets. Thus far, I have observed infected heads in wheat fields that were sprayed with fungicides and fields that were not sprayed. Though, at Wye, infection is less severe where we did spray, I do not see totally clean fields anywhere.

During a scouting visit with Dr. Arv Grybauskas, Emeritus Field Crops Pathologist with the University of Maryland, we discussed preventative control measures which could have reduced infection this year. According to multi state trials over 10 years, spraying recommended scab-inhibiting fungicides, at the proper time, only reduces the likelihood of infection about 52%. Therefore, other measures must be taken to improve odds that fusarium head scab will not be a problem. It has been found that some wheat varieties have natural resistance to scab. The range of susceptibility is wide and the rating results should be a part of your variety decision. This rating is available at [http://mdcrops.umd.edu/wheat/](http://mdcrops.umd.edu/wheat/).

Another management decision that can be made to reduce the likelihood of scab infection is recognizing that planting wheat following corn will increase the chances for scab infection. While many of us always follow corn with wheat, we need to recognize that by doing this, we are increasing the odds in the favor of scab infection, particularly when using a wheat variety with low scab resistance. I notice fewer infected heads where wheat was planted after soybeans. This
makes sense since soybean residue is not a preferred host to the fusarium fungus; therefore fewer fungal spores are present in the field to infect the wheat heads. While getting rotations adjusted to only plant wheat behind soybeans may be a challenge, it could be a management tool that a farmer could consider for the future as a preference to avoid problems with fusarium.

Once the fungus has infected the head, not much can be done to stop the disease’s progress. You can, however, take an important measure at harvest to minimize the impact of quality reduction of your crop. As many infected wheat kernels, called “tombstones”, become shriveled and are tiny, it is important to remove them from the rest of the grain sample during the separation process in the combine. Merely by setting the cleaning fan speed to a high setting will blow many of these undesirable kernels out the back of the machine, thereby getting rid of kernels having the lowest test weight. These kernels also tend to have the highest levels of vomitoxin, which is also very undesirable. Setting the fan speed to a high setting also blows out more chaff, which may also contain very high levels of vomitoxin. Be sure to consult your combine operator’s manual to select proper initial settings for your machine. Start with these settings and then adjust the combine to get rid of the “tombstone” kernels.

For the future, when planning your wheat crop management strategy, remember to check out the fusarium resistance ratings and select high yielding, resistant varieties, while recognizing the impact of corn as previous crop to the wheat. Finally, plan to spray a preventative application of recommended fungicide, at the proper time during the flowering process, next spring if conditions are favorable for scab infection. You can monitor the risk of fusarium head scab for your area by visiting the fusarium Head Blight Prediction Center at www.wheatscab.psu.edu.

### Controlling Horseweed (Marestail) after Crop Emergence

**Dr. Aaron Hager, Associate Professor of Weed Science, University of Illinois**

The past several days have experienced a noticeable increase in questions about options to control marestail after crop emergence. Many have reported poor marestail control from herbicides applied prior to planting (primarily no-till soybean), especially when these burndown applications contained only glyphosate or glufosinate and 2,4-D. The increasing frequency of glyphosate-resistant marestail populations, the rush to plant whenever field conditions were conducive, and the less-than-ideal environmental conditions when many burndown applications were made, have contributed to a challenging situation for which a good solution might not be available. Several herbicides can control emerged marestail plants that are less than six inches tall, but few herbicides will control plants that are 12 inches or taller.

The majority of Maryland corn acres are increasingly cultivated under no-till production practices that receive no tillage prior to planting. In conventional corn, farmers usually follow one or more tillage operations prior to planting, and these tillage operations generally control emerged marestail. However, marestail might be a problem in corn acres planted with limited or no preplant tillage. Growth regulator herbicides, such as dicamba and 2,4-D, can provide control or suppression of emerged marestail. Some ALS-inhibiting herbicides also have activity against marestail, and control is sometimes improved when (if allowed by label) these herbicides are tankmixed with dicamba or 2,4-D. Glufosinate, applied alone or with atrazine in glufosinate-resistant corn hybrids, is another option for control. Keep in mind that if glufosinate was applied as a burndown treatment prior to corn planting, no in-crop applications of glufosinate can be made. Foliar-applied HPPD inhibitors combined with atrazine are other options that can provide control/suppression of emerged marestail less than about six inches tall. Marestail that survived a burndown herbicide in no-till soybean can be very difficult to control after soybean have emerged. Cloransulam or chlorimuron-containing products can be applied post-emergence to suppress or control emerged marestail. These products should be applied after the first soybean trifoliolate has expanded and before marestail height exceeds 6 inches. These products can be tank-mixed with glyphosate for post-emergence applications in glyphosate-resistant soybean. Glyphosate is an option for control of glyphosate-sensitive biotypes and glufosinate is an effective option when used in glufosinate-resistant (Liberty Link) soybean varieties. Foliar-applied PPO-
inhibiting herbicides will not control emerged marestail.

Another option to consider is to physically remove the surviving plants with a hoe, weed hook, or by pulling them from the soil. Before summarily dismissing this as a viable option, remember that marestail plants can be very competitive with soybean and can produce around 200,000 seeds per plant that are easily dispersed long distances by wind. A few plants that reach maturity this year can produce a sufficient amount of seed to infest an entire field within only a couple of seasons. Removing surviving marestail plants before they produce seed could save a great deal of time, money, and consternation in future seasons.

Western

The weather continues to be erratic. One week temperatures in the 90’s and the next highs in the 70’s. Rain has also been spotty with precipitation ranging from 0.2 to 1.2 inches of rain from the same weather front. Nearly all of the full season corn is planted and emerged with full season soybean planting coming to a close. Barley is turning and will soon be harvested. Wheat is headed out and pollinating. First cutting hay yields are lagging but with timely rain, second cutting could be better. On average we are two weeks behind last year. Notice I didn’t say “normal”. We don’t really believe there is such a thing as a “normal” year.

Central

Cool weather started the reporting period. Temperatures dipped into the low thirty’s on Saturday May 25, and spotty frost tipped some corn, and slowed tomato growth with some damage reported in low areas. Steady breezes have continue to dry the soil, with some locally heavy precipitation events helping hold soil moisture to adequate, but many areas showing signs of upper profile drying. Warmer temperatures rounded out the reporting period, with good drying for hay making. Barley is mostly turned and wheat is beginning to turn. Corn progress is good with most corn planted and soybeans planting progress moving quickly. Strawberries have been slowed with the cool temperatures one week ago, and while harvest has started, it has been slower than anticipated.

Northeast

A few good drying days have moved the first cutting of hay well along to completion. Corn planting is done and the stands are good with no serious issues. Full season soybean planting is finishing up a little later than usual and germination is looking OK. Barley is turned and appears to be a good crop, whereas wheat is beginning to lose the green color. The few showers of rain in the last week were needed.

Southern

Conditions at the beginning of this reporting period were dry, with many fields of corn beginning to curl. Recent rains have helped the situation, but more will be needed soon. Corn stands are in good condition. Problems associated with wetter soils at planting are showing up with some yellowing and uneven stands in isolated fields. PSNT testing is winding up. PSNT has been a valuable tool this year in evaluating the need for additional sidedress N, with a lot of variability across fields depending upon moisture and field history. Full season soybean planting is winding up. Full season soybean stands also look very good. Barley harvest has begun. Wheat is drying down very fast with harvest expected to be right behind barley harvest. Once again, there are plenty of fields with Italian Ryegrass escapes this year. Over the last two weeks, farmers were playing catch-up on first cutting hay.

Upper Eastern Shore

Most of the region has adequate soil moisture. Corn is growing fast and is being side dressed. Early beans are looking good. Barley is mature and just needs a few more drying days to harvest. Scab is showing up in some wheat that was flowering during that week of rainy weather. Good quality hay has been made in the last 2 weeks.

Lower Eastern Shore

Barley harvest has begun. Wheat is nearing harvest. Farmers are delaying harvest in some field because of wet conditions. Recent rainfall has contributed up to 6 inches of rain in some areas. Losses from frost damage in wheat are evident from the frost event that happened during the month of May. Some areas are reporting estimated frost damage up to 20 % in wheat. Scab can be found among 5 % of the wheat and barley crop. Ryegrass skips in wheat fields will contribute to yield reduction this year. Corn is looking excellent. Early planted soybean is growing well. Cucumber beetle and Colorado potato beetles are present in some fields. Grasshoppers are starting to emerge from the edges of the field. Annual strawberry harvest is finished. Phytophthora has been found in
watermelon. Growers should check their fields regularly and follow weekly spray schedule to prevent any new incidence. Although the harvest is behind for hay crop, the quality has been steady.

Timeline: This crop report is for the field observations from May 24 through June 11, 2013. Crop Report Regions: Western (Garrett, Allegany and Washington), Central (Carroll, Frederick, Howard, Montgomery), Northeast (Cecil, Harford, Baltimore), Southern (Anne Arundel, Prince George’s, Calvert, Charles, St. Mary’s), Upper Eastern Shore (Kent, Queen Anne’s, Talbot, Caroline), Lower Eastern Shore (Dorchester, Wicomico, Worcester, Somerset).

Agriculture Weather Report

Adam Caskey, Meteorologist

June 1st marked the beginning of the 2013 Atlantic Hurricane Season, and NOAA is predicting an above average season with a 70% likelihood of 13-20 named storms. This doesn’t necessarily mean a tropical storm or hurricane will hit Maryland, but the potential exists every summer. Actually, the remnants of tropical systems are often drought busters for the Mid-Atlantic. However, we are not in any kind of drought and not even considered abnormally dry in any part of Maryland according to the U.S. Drought Monitor.

I expect this trend to continue with an increased chance of above average moisture/rainfall as an unsettled weather pattern is expected through roughly the 21st of June. Several upper-level troughs in our flow should cause this and also contribute to below average temperatures. This is because higher altitude winds would mostly be out of the northwest or west with energy circulating overhead. Lately we have had summer-like heat for extended periods with southerly winds, but that trend should shift predominantly cooler in the type of pattern(s) I’m expecting through the third week of June. Due to good agreement amongst computer guidance and ensembles, forecast confidence is above average.

Announcements

2013 Pesticide Container Recycling Program from MDA

Maryland Department of Agriculture’s Pesticide Container Recycling Program will be accepting clean, empty containers from June 4 through September 27, during normal business hours. Containers will be collected from their current owners, for safe disposal and recycling.

Containers must be cleaned (triple-rinsed or pressure-rinsed) according to label directions. Please remember to remove lids and label booklets from the containers prior to drop-off.

Call 410- 841-5710 for more details and drop-off instructions.

Collection dates and venues can be found at this link, http://mda.maryland.gov/plants-pests/Documents/recycle.pdf

Cover Crop Sign-up Begins June 24

Sign-up for MDA’s 2013-2014 Cover Crop Program runs June 24 through July 15 at soil conservation district offices statewide. Don’t miss this once a year opportunity to apply for attractive grants to help offset the cost of planting small grains on your fields this fall to conserve nutrients, reduce soil erosion and pro-tect water quality in the Chesapeake Bay and its tributaries.

Maryland’s revised nutrient management regulations require cover crops to be planted when organic nutrient sources are applied to fields in fall.

Approximately $20 million has been allocated for this year’s program. Farmers may choose from two planting options. Traditional cover crops receive a base rate of $45/acre and up to $55/ acre in add-on incentives for using highly valued planting practices. Harvested cover crops qualify for $25/ acre with a bonus payment of $10/ acre if rye is used as the cover crop. There are no enrollment caps and certain restrictions apply. Studies have shown that
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Cover crops improve soil health, reduce weeds and pests and encourage beneficial insects. The Cover Crop Program is administered by the Maryland Agricultural Water Quality Cost-Share (MACS) Program and funded by the Chesapeake Bay Restoration Fund and the Chesapeake Bay 2010 Trust Fund. Applicants must be in good standing with MACS and in compliance with the Nutrient Management Program.

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**Upcoming Events**

**Horticulture Crops Twilight Meeting, Wednesday August 21st**

The 2013 Horticulture Crops Twilight Meeting will be held Wednesday, August 21st, from 5:00-8:00 PM, at Western Maryland Research & Education Center, 18330 Keedysville Road, Keedysville, MD 21756.

Learn the latest on the Brown Marmorated Stink Bug (BMSB) and Spotted Wing Drosophila on vegetables and fruit, apple seedling evaluations, mobile and stationery high tunnels. Registration is not required, but will help us to plan for handouts and refreshments. Please RSVP to 410-386-2760/888-326-9645 or e-mail mabott@umd.edu.

**Hay and Forage Workshop**

Join the University of Maryland Extension on June 18, 2013 from 6-8pm at the Lower Eastern Shore Research and Education Center, 27664 Nanticoke Rd., Salisbury, MD 21801 for an evening to discuss various forage options as well as selecting local hay varieties. There will also be a short tour of the forage/pasture research plot. Guest speaker Jessica Morton, equine specialist with Southern States, will be discussing alternative forage options (such as bagged forage) versus utilizing fresh cut forage.

Light refreshments will be provided along with door prizes during the program. Cost of the program is $5.00 per person (18 years old and under being free), with checks made payable to Worcester County Extension EAC. To register for this program, contact Jessie Renshaw at 410-632-1972 or jrenshaw@umd.edu.

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**Did You Know**

Every dollar you spend with a local farmer will cycle up to 3 dollars within the local economy, while every dollar you spend at supermarket chain brings only about 20 cents into the local economy.

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If you would like to receive this newsletter via email please contact Rhonda Barnhart at rbarnhar@umd.edu. The subject line should be: Subscribe Agronomy News 2013.

If you would like a hard copy please contact your local county extension office to sign-up for the mailing list. The list of local county offices can be found at www.extension.umd.edu.
This edition of Agronomy News is brought to you by:

University of Maryland Extension Field Faculty:

Ben Beale, Ag & Natural Resources Educator, St. Mary’s County
Dave Martin, Ag & Natural Resources Educator, Baltimore County
Jeff Semler, Ag & Natural Resources Educator, Washington County
Jim Lewis, Ag & Natural Resources Educator, Caroline County
Stanley Fultz, Dairy Science Agent, Frederick County
Sudeep Mathew, Ag & Natural Resources Educator, Dorchester County

University of Maryland Extension Specialist:

Dr. Robert Kratochvil, Agronomic Crop Production

University of Maryland Agricultural Experiment Station:

Mark Sultenfuss, Program Manager - Field Crops Research, Wye REC

Partners:

Adam Caskey, Meteorologist, ABC-7, WJLA-Washington DC
Dr. Aaron Hager, Associate Professor of Weed Science, University of Illinois

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Sudeep Mathew, Editor

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To subscribe or more information: Agronomy News
University of Maryland Extension
501 Court Lane, Room 208
Cambridge, MD 21613
410-228-8800
Email: rbarnhar@umd.edu