Wisconsin Crop Manager

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Vegetable Crop Update 6/20/14 and Disease Supplement 6/24/14

The 10th issue of the Vegetable Crop Update is now available. This issue contains an Insecticide/Nematicide update - Vydate L for dry bulb onion thrips and stubby root nematodes, late blight updates, blitecast and P-Days for late blight and early blight management, and a crop diagnostic training workshops advertisement - Dan Heider. Click here to view this update.

The 1st Disease Supplement is also available. This supplement contains information on late blight forecasting as well as other updates. Click here to view the first Disease Supplement.

Plant Disease Diagnostic Clinic (PDDC) Update

Brian Hudelson, Ann Joy, Joyce Wu, Tom Hinsenkamp, and Catherine Wendt, Plant Disease Diagnostics Clinic

The PDDC receives samples of many plant and soil samples from around the state. The following diseases/disorders have been identified at the PDDC from June 14, 2014 through June 20, 2014.

Plant/Sample Type, Disease/Disorder, Pathogen, County

FIELD CROPS,

Corn, Anthracnose, *Colletotrichum graminicola*, Green

Corn, Seedling Blight, *Fusarium* spp., Green

FORAGE CROPS,

Alfalfa, Root Rot, *Pythium* sp., *Fusarium* sp., Green Lake

FRUIT CROPS,

Apple, Fire Blight, *Erwinia amylovora*, Chippewa

Apple, Root Rot, *Pythium* sp., *Fusarium* sp., Chippewa

VEGETABLES,

Basil, Downy Mildew, *Peronospora belbahrii*, Dane

Garlic, Uncharacterized Viral Disease, Unidentified plant virus, Waukesha

Tomato, Bacterial Canker, *Clavibacter michiganensis* subsp. *michiganensis*, Monroe

For additional information on plant diseases and their control, visit the PDDC website at pddc.wisc.edu.

Wisconsin Winter Wheat Disease Update – June 24, 2014

Damon L. Smith – Extension Field Crops Pathologist, University of Wisconsin

I have spent the last several days rating winter wheat variety trials and fungicide trials at the Arlington Agricultural Research Station in Arlington, Wisconsin, Columbia Co. Wheat in this area is mostly in the mid-to-late milk stage.

Leaf rust was observed at low levels in border rows and plots not sprayed with fungicide. Incidence (number of plants with symptoms) in some plots is near 50%. However, severity (area of leaf covered by rust pustules) on flag leaves is low at 5% or less. At this stage impact on yield by leaf rust will likely be low and fungicide sprays to control the disease at this stage are NOT recommended.

Septoria/Stagopspora leaf blotch was also observed on lower leaves of most plots. Very few plots had leaf blotch symptoms on the flag leaves, and if they did, severity was in the 5% range. Impact on yield by leaf blotch at this location will be low. Again, fungicides are NOT recommended on winter wheat at this growth stage.

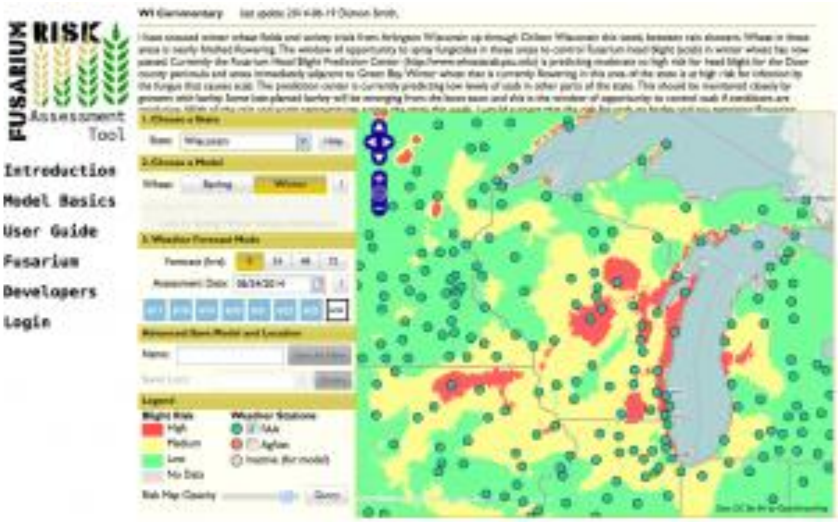

Figure 1. FHB Risk Map for June 24, 2014

Very little Fusarium head blight (scab) has been observed on winter wheat from Arlington, Wisconsin on up through to Chilton, Wisconsin. Currently the Fusarium Head Blight Prediction Center (http://www.wheatscab.psu.edu) is predicting moderate to high risk for head blight for much of the state of Wisconsin (Fig. 1). Winter wheat in much of the state is likely past flowering now, and thus the window of opportunity to treat for head blight has passed. However, some late-planted barley may be emerging from the boot at this time and this is the window of opportunity to control scab on barley, especially with the risk being moderate to high.

If a fungicide is warranted for control of scab on barley, products such Prosaro, Caramba, or similar that contain triazole active ingredients can offer suppression of scab and reduce deoxynivalenol (DON) accumulation in harvested grain. These products should be applied within a week from the beginning of flowering for reasonable control. Products containing strobilurin fungicides should be avoided after heading. Research has demonstrated that levels of DON can be higher after treatment with strobilurin products after heading.

Foliar applied fungicides for control of alfalfa diseases

Damon L. Smith, Extension Field Crops Pathologist, University of Wisconsin
Scott Chapman, Research Associate, University of Wisconsin
Bryan Jensen, IPM Program, University of Wisconsin

An evaluation of foliar applied fungicides for control of diseases of alfalfa was implemented in Wisconsin in 2014. This work is a continuation of fungicide evaluation that has been ongoing since 2011. In previous trials, yield advantage by using fungicide was only observed about 20% of the time when fungicide was used. In addition, the yield advantage is often not high enough to cover the cost of the fungicide application. In 2014 we wanted to continue to evaluate some newer products on the market and determine if there was a yield increase and added value when used. Methods and results from the first cutting in 2014 are below.

The trial was established at the Arlington Agricultural Research Station located in Arlington, WI. The alfalfa cultivar ‘Spring Gold’ was seeded on 20 Aug 2012 in a field with a Ringwood silt loam soil (6 to 12% slopes). The experimental design was a randomized complete block with four replicates. Plots were 40 ft long and 10 ft wide. Standard alfalfa production practices as described by the University of Wisconsin Cooperative Extension Service were followed. Treatments consisted of a non-treated control and five fungicide treatments. Fungicides were applied using a CO_2-pressurized backpack sprayer equipped with 8001 TurboJet flat fan nozzles calibrated to deliver 20 GPA. Fungicides were applied once plants had reached a height of 6 in. Date of fungicide application was 4 May 2014. Natural sources of pathogen inoculum were relied upon for disease. Disease and defoliation was evaluated immediately after harvest by visually estimating both parameters with the aid of standard area diagrams. A small-plot harvester was used to cut a 31-in wide by 37.4 ft long area of each plot to determine wet yield. A subsample of alfalfa was also collected from each replicate (~0.50 lb.), weighed, then dried and weighed again to determine dry matter yield. Value added per acre was also determined for each treatment using the following method. First yield differences compared to the control were calculated (yield advantage). Price advantage per acre was then determined by multiplying the yield advantage by $0.10/lbs dry matter (price based on June 13, 2014 hay report). Finally, $30 (average price for a fungicide application) was subtracted from all price advantages to determine the value added to each acre by using fungicide. All disease, defoliation, yield, and added value data were analyzed using a mixed model analysis of variance (P=0.05).

Weather was very wet and cool prior to the first harvest. Based on these weather patterns the primary disease present at the first harvest was spring black stem. No significant differences in average severity of spring black stem were identified among all treatments. No significant differences in defoliation were identified among treatments. Dry matter yield was significantly higher than the non-treated check for all plots that received fungicide. Added value was not significantly different from the non-treated control for all plots that received fungicide. While there was an average yield increase when fungicide was used for this cutting, significant added value over the non-treated control was not observed when fungicide was applied. Phytotoxicity was not observed with any treatment.

Treatment and Rate/Acre	Spring Black Stem Severity (%)[z]	Defoliation (%)[z]	Dry Matter Yield (Tons/a)[y,x]	Added Value by using Fungicide (USD/a)[v]
Non-treated Check	10.6	10.0	1.74 b	$0.00
Quadris 6.0 fl.oz. + Warrior II 1.6 fl.oz. + Induce 0.25% v/v	5.6	7.5	1.92 a	$6.30
Aproach 12.0 fl.oz. + Induce 0.25% v/v	4.4	5.0	1.93 a	$7.93
Aproach 12.0 fl.oz.	6.3	6.3	1.95 a	$11.00
Quadris 6.0 fl.oz. + Induce 0.25% v/v	4.3	7.5	1.95 a	$10.89
Aproach 6.0 fl.oz.	5.6	6.3	1.97 a	$14.73
Aproach 6.0 fl.oz. + Induce 0.25% v/v	6.3	7.5	1.99 a	$19.00
EXP 2	5.6	6.3	1.99 a	$18.84
EXP 1	5.6	7.5	2.01 a	$23.44
Headline 6.0 fl.oz. + Induce 0.25% v/v	4.4	6.3	2.05 a	$31.50
LSD (α=0.05)	ns[w]	ns[w]	0.15	ns[w]

[z]Values are based on the average disease severity or defoliation prior to harvest on 3 Jun.

[y]Means followed by the same letter are not significantly different based on Fisher's Least Significant Difference (LSD; α=0.05).

[x]Yield based on harvest on 3 Jun.

[w]ns = no least significant difference (α=0.05).

[v]Values determined after accounting for hay yield compared to the non-treated control and subtracting average price of fungicide application ($30/a); prices based on $0.10/ lbs. dry matter; June 13, 2014 Hay Report

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