Wisconsin Crop Manager

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Contents

Evaluating Corn Roots for Rootworm Damage

Bryan Jensen
UW Extension and IPM Program

Evaluating corn roots for rootworm feeding has several benefits in continuous corn and includes validation of your current control practice, monitoring for potential resistance to Bt and to confirm/reject if rootworms are responsible for lodged corn. The time to do dig roots is after peak larval feeding but before significant root regeneration occurs. Typically, late July is a good time to start. It is hard to predict when (if) roots will start to regenerate. However, I would expect a three week window before root regeneration can conceal previous feeding.

The best (if not only) way to quantify feeding is to use the use the Nodal Injury Scale (NIS) developed by Iowa State Entomologists. For more information, please refer to http://ipcm.wisc.edu/download/pubsPM/Corn-root-Rate-card2015hx.pdf

Larval feeding

Regardless of the control practice used, some feeding is likely, if not economically allowable. A general rule of thumb is if the NIS field average is less than 0.25 there should not be any economical loss. If the NIS rating was above 0.75 then economical loss is likely to occur. A rating between 0.25 and 0.75 is a gray area. Loss will be dependent on several factors which include hybrid, rainfall, compaction, fertility levels, etc.

You should expect to see some injury on Bt hybrids as well. You can use the above ranges to determine yield loss, however, your first concern will probably be resistance. Resistance should be considered if the field average is > 1.0 on single gene hybrid or > 0.5 on pyramid (two Bt crw proteins). Remember to avoid structured refuges and if a RIB is planted that 5-10% of the plants do not contain the Bt protein(s). If resistance is suspected, contact your seed sales person. They know the steps to take and are obligated to respond.

If you are responding to a lodged corn complaint, do not assume rootworms are the cause. They may or they may not. Or, they could be a contributing factor. Respond to the complaint as soon as possible and familiarize yourself w/ weather events from that area. Tall corn, especially with a developing ear, may easily lodge in areas exposed to wind, rain, etc.

Root Regeneration

Routinely monitoring roots in first year corn fields can alleviate concerns you might have regarding "rotation resistant" rootworms. Western corn rootworms have adapted to a corn/bean rotation by laying eggs in soybean fields. This phenomenon has been confined to selected areas of the Midwest, including southeast WI. However, recent complaints have been very infrequent. Northern corn rootworms have adapted to a corn/bean rotation because a percentage of their population requires 2 winter chill period before eggs hatch. This has not been confirmed in Wisconsin but may happen on rare occasions.

Small Grains Harvest and Combine Fires

John Shutske; Professor & Extension Specialist; Biological Systems Engineering

It looks like wheat harvest is rolling in parts of the state. I saw a post from a friend in New Glarus saying they'd started late yesterday. Just a quick reminder on combine fire prevention and protection — "Protection," because SOME machines will burn regardless of how hard you work at it. So you need to know what to do to minimize the damage. Over the years I (or my former students) have done a bunch of investigative work on about 12,000 fires (combines, tractors and other specialty harvesters). We've learned a lot….

See:
http://ipcm.wisc.edu/blog/2013/10/learn-not-to-burn-during-this-busy-harvest-season/
http://americanfarmservices.com/information/heavy-equipment-and-combine-fires/
http://nasdonline.org/static_content/documents/1494/d001294.pdf

Here are some specific reminders:

1. Keep the engine compartment as clean and clear of debris as possible. Caked/oily residue means there's a leak someplace. Fix it.
2. Listen closely for unusual noises and pay attention to warning lights and sensors that could indicate bearing/belt/and other drive component issues. Fix them.
3. Many combine fires are ignited by the electrical system – blown fuses, flickering lighting, etc. are all signs that you might have damage.
4. The ABC dry chemical fire extinguisher is probably still the most cost-effective and overall effective type of extinguisher. The bigger the better (at least 10 pounds). Mount extinguishers (recommend at least two ten-pounders) where they can be grabbed quickly in the cab AND/OR from the ground.
5. If a combine does catch fire, pull it away from any standing crop quickly. Shut off the engine. The longer the fire burns, the more difficult it will be to put it out. If the engine is left running, it will be almost impossible to extinguish (even if the fire department shows up)!
6. Grab your extinguisher if time allows and get out. Call for help. It is not always possible to put out a vehicle fire with a handheld extinguisher. A second one is often needed, even on a smaller fire.
7. Always consider PERSONAL safety. A combine fire that gets into a fuel, oil, or other flammable liquid system will burn hot. Even more so if a tire is involved. A machine can be replaced. A life cannot.
8. If you've used an extinguisher (even for a short burst), it MUST be recharged. If you're not sure where to recharge and re-tag your extinguisher, call your fire department.

Wisconsin White Mold Risk Map – July 8, 2016 & July 11, 2016

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

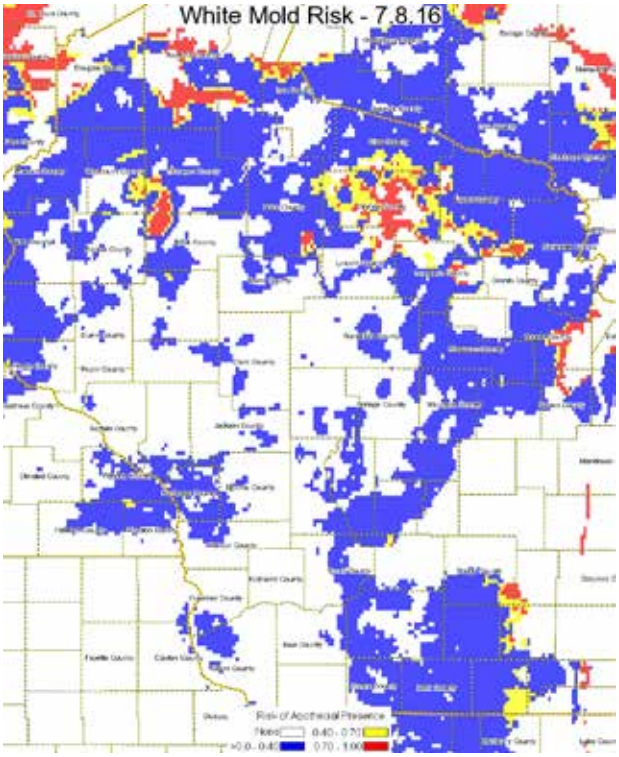
Jaime Willbur, Graduate Research Assistant, University of Wisconsin-Madison

Sclero-cast: A Soybean White Mold Prediction Model

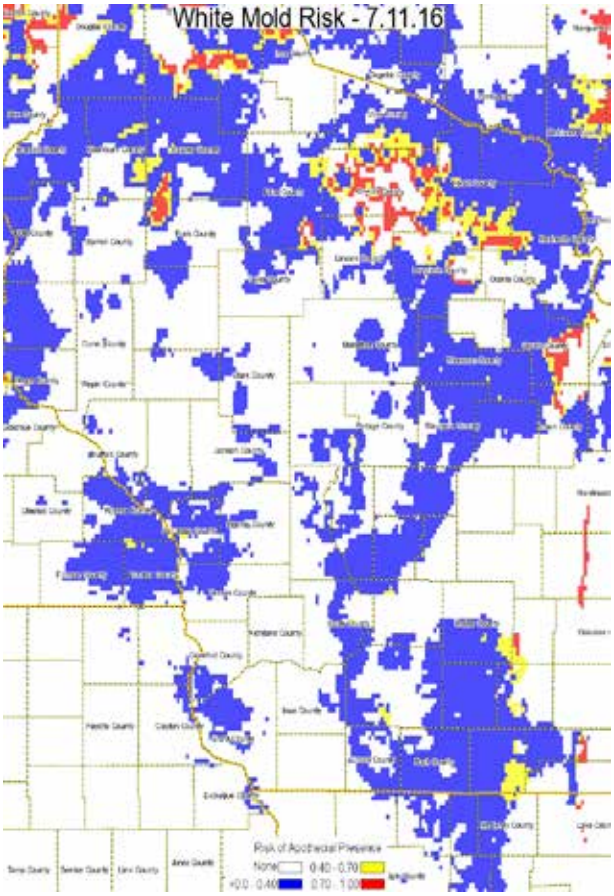
***This tool is for guidance only and should be used with other sources of information and professional advice*

*when determining risk of white mold development. We encourage you to read the model how-to guide which can be downloaded by clicking here***

White Mold Risk- July 8, 2016



White Mold Risk- July 11, 2016



Risk of apothecial presence and subsequent white mold development remains generally low for most of Wisconsin today. Risk has increased slightly across the state over the holiday weekend with some isolated pockets in the northern and south-central areas of the state. The UW Field Crops Pathology crew has been scouting for apothecia in fields in the soybean growing areas of south and central Wisconsin and HAVE NOT found any apothecia. This confirms the generally low risk currently being predicted by the model. Growers near higher risk pockets should monitor the soybean crop for closing canopy and flowering growth stages that may lead to increased risk of white mold. We have seen numerous fields this week already in the R1 growth stage. Be sure to consult the how-to guide for assistance in interpreting this map if you are considering spraying fungicide to control white mold.

UW-Madison/Extension Plant Disease Diagnostic Clinic (PDDC) Update

Brian Hudelson, Sean Toporek, and Ann Joy

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 July 2, 2016 through July 8, 2016.

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

Field Crops
Corn, Eyespot, *Kabatiella zeae,* Green
Corn, Northern Corn Leaf Blight, *Exserohilum turcicum,* Adams, Green, Portage
Soybean, Herbicide Damage, None, Green

Fruit Crops
Grape, Anthracnose, *Spaceloma ampelinum,* Taylor

Vegetable Crops
Lettuce, Root/Crown Rot, *Pythium sp., Rhizoctonia sp., Fusarium sp.,* Washington
Potato, Black Leg, *Dickeya sp.,* Langlade, Portage
Squash, Root/Crown Rot, *Pythium sp., Rhizoctonia sp., Fusarium sp.*, Dane
Tomato, Herbicide Damage, None, Outagamie

Specialty Crops
Hop, Apple mosaic, *Apple mosaic virus,* Champaign (IL)
Hop, Carlavirus, *Unidentified carlavirus*, Campaign (IL)

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

Don't Miss Agronomy/Soils Field Day – August 31

Carrie Laboski, Professor & Extension Soil Fertility/Nutrient Management Specialist

As usual Agronomy/Soils Field Day has a fantastic program lined up! Phil Townsend will discuss new frontiers in remote sensing for agriculture during the lunch program. A special tour focusing on UW research on remote sensing in agriculture is slated for the afternoon. Other tours will include recent research on soil fertility & management, grain production systems, forage production system and pest management.

The SnapPlus team and Nutrient and Pest Management Program along with the UW Soil & Forage Analysis Lab will have display booths to visit between tours. The Badger Crops Club will provide lunch ($5 donation).

The field day will be held at the Arlington Ag Research Station beginning at 8:30 am and concluding at 2:45 pm. This year all attendees will need to sign a waiver before they can ride tour wagons. Please come early to help facilitate this new process. Program details can be found in the flyer.

Click here to view the flyer.

Vegetable Crop Update July 8, 2016

Amanda J. Gevens, Associate Professor & Extension Vegetable Plant Pathologist

17th issue of the Vegetable Crop Update is now available. In this newsletter we focus on:

- Potato disease forecasting updates (PDays/DSVs)
- Late blight and cucurbit downy mildew national updates
- Agricultural Field Day agenda for Langlade County - Antigo Airport station

Click here to view this issue.

Vegetable Crop Update July 13, 2016

Amanda J. Gevens, Associate Professor & Extension Vegetable Plant Pathologist

18th issue of the Vegetable Crop Update is now available. In this newsletter we focus on:

- UW Ag Research Station reminders (Jul 14 Rhinelander, Jul 21 Antigo, Jul 28 Hancock)
- Onion Downy mildew - first confirmation in WI (Rock County)
- Cucurbit Downy mildew update and management - report from MI (Bay County - east central MI)
- Phytophthora crown and fruit rot in cucurbits and solanaeous crops (many detections this past week around the state)

Click here to view this issue.

Wisconsin Fruit News: Volume 1 Issue 7– July 8, 2016

Janet van Zoeren, Christelle Guédot, and Amaya Atucha, University of Wisconsin – Madison, Departments of Entomology and Horticulture

The 7th issue of Wisconsin Fruit News is now available. Click on the link below to view this newsletter:

https://fruit.wisc.edu/wp-content/uploads/sites/36/2016/07/Wisconsin-Fruit-News-vol1-issue7.pdf

Wisconsin Pest Bulletin for 7-7-16

Krista Hamilton, Entomologist, WI Dept of Agriculture, Trade and Consumer Protection

Volume 61 Issue No. 10 of the Wisconsin Pest Bulletin is now available at:

https://datcpservices.wisconsin.gov/pb/pdf/07-14-16.pdf

INSIDE THIS ISSUE

LOOKING AHEAD: Raspberry growers advised to prepare for SWD infestation

FORAGES & GRAINS: Alfalfa pest counts generally low for mid-July

CORN: Significant European corn damage found in a few fields

SOYBEAN: Soybean aphid densities increasing in R1-R3 fields

FRUITS: Apple maggot trap counts are up in some orchards

VEGETABLES: Striped cucumber beetles becoming more abundant

NURSERY & FOREST: Observations from this week's nursery inspections

DEGREE DAYS: Growing degree day accumulations as of July 13, 2016

Follow us on

AGRONOMY/SOILS FIELD DAY

Wednesday, August 31, 2016

UW-Arlington Agricultural Research Station

College of Agricultural & Life Sciences, University of Wisconsin-Madison — Growing the future

UW Extension — University of Wisconsin-Extension

PROGRAM

8:00	Registration ($0), wagon waivers*, coffee
8:30 Tours	Soil Fertility & Management Grain Production Systems Pest Management
10:30 Tours	Soil Fertility & Management Grain Production Systems Forage Production Systems
12:00	**New Frontiers in Remote Sensing for Agriculture** Phil Townsend Lunch provided by Badger Crops Club ($5 donation)
1:00 Tours	Pest Management Forage Production Systems Use of Remote Sensing in the Field
2:45	Have a safe trip home!

* UW Risk Management requires all attendees to sign a waiver before they can ride the tour wagons. Please come early to help facilitate this new process.

The Arlington ARS is located on Hwy. 51, about 5 miles south of Arlington and 15 miles north of Madison. Watch for Field Day signs.
GPS coordinates: 43.300467, -89.345534

In the event of rain, presentations will be held inside.

For more information contact the Department of Agronomy 608/262-1390 or the Department of Soil Science 608/262-0485.

Certified Crop Advisors: 7.5 CEU credits requested

TOURS

8:30	10:30	Soil Fertility & Management	
		Split/late N applications to corn - Should I be using them?	Carrie Laboski
		The Unseen Majority - Microbial life in the soil	Thea Whitman
		Cover Crops: Interseeding, nitrogen credits and soil health	Matt Ruark
		Quenching the Thirst of Crops: Improving soil water availability	Francisco Ariaga
8:30	**10:30**	**Grain Production Systems**	
		High input systems for higher yields	Shawn Conley
		Soybean nutrient uptake	Adam Gaspar
		Strip-tillage in Wisconsin	Joe Lauer
		The importance of breeding diversity into crop hybrids and varieties	Lucia Gutierrez
8:30	**1:00**	**Pest Management**	
		Diseases that affect Wisconsin field crops	Damon Smith
		Economics and resistance management of corn rootworm	Paul Mitchell & Bryan Jensen
		Weed community composition and emergence in long-term no-tillage, strip-tillage, and chisel plow corn and soybean systems	Nathan Drewitz & Dave Stoltenberg
		Managing volunteer wheat in late summer alfalfa seedings	Mark Renz
10:30	**1:00**	**Forage Production System**	
		Reduced lignin alfalfa	Ken Albrecht
		Establishing alfalfa in silage corn	John Grabber
		Ash in hay and wheel traffic	Dan Undersander
		Breeding cool season grasses	Mike Casler
1:00		**Use of Remote Sensing in the Field**	
		Utilizing remote sensing to estimate soybean emergence and sudden death syndrome	Steve Vosberg
		Hyperspectral imaging of soybean trials	Herrmann Ittai
		Using UAVs for Remote Sensing: How to and FAA regulations	Brian Luck
		Using sensors for n management in wheat	Carrie Laboski

Visit exhibits between tours and during lunch: *Apps for Ag, Nutrient & Pest Management Program, IPM Program, SnapPlus and more!*