

Wisconsin Crop Manager

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Troubleshooting Early Season Corn Insect Damage 101: What to look for

Bryan Jensen, UW Extension

Troubleshooting early season corn insect damage can be difficult. There are several potential insect pests and some cause similar symptoms. Also, there is the possibility that if environmental and field conditions match up, new or unexpected insect damage may occur. Getting a complete “picture” of the situation will improve your diagnosis or provide more answers to questions if you seek outside help. Sometimes the answer is obvious. Other times, your diagnosis may be complete when several, but not all, clues point to one (or more?) insect.

It goes without saying, but try to find the insect causing the damage. Sometimes that is easier said than done. Look in the soil around the root zone, in the soil immediately surrounding the seedling, on the soil surface, under crop residue and in soil cracks. Take your time and be methodical. Early instar black cutworms are small and difficult to locate because they are the same color as many soil types. If you find an unknown insect take samples (best option) and/or digital pictures. Bring them to your local county extension crops and soils agents for identification or verification. Agents have access to several resources including the UW Entomology Insect Diagnostic Lab. Don't assume that if you find an insect in high numbers it is the culprit. There is a lot of “guilt by association” going on in the insect world.

Dissect the corn seedling. If an insect is found in the plant, make note of where it was located (above/below ground, in the whorl?). Is there an entry hole and it located below or above ground? This information can help separate below ground insects (wireworms, white grubs, hop vine borer) from some of the above ground insects (stalk borer, billbug). Look to see if the damage is current. That is, are the newly emerging leaves showing symptoms.

Determine if the damage is uniform across the field or if it is spotty. Very few insects will have a completely random distribution. However, damage patterns can tell a story. Hop vine and stalk borer damage can almost exclusively be found along ditches, grassy waterways, fence row and terraces. Some pests, like slugs, are more pronounced in areas with a lot of crop residue. Others may be found in association with broadleaf weeds (black cutworms), yellow nutsedge (billbug) and grassy weeds (armyworms, wireworms).

Injury symptoms can, at best, be used to sort insects into groups but are



often not descriptive enough to choose one insect over the other. Rather, plant injury symptoms can be used to rule out certain insects or used to help support diagnosis of others. Feeding on the leaf margin can often point to armyworm, grasshoppers and early instar black cutworms. Plant injury symptoms described as “wilted whorl” or “dead-heart” can include white grub, black cutworm, hop vine borer, stalk borer and wireworm. If symptoms include holes in the newly emerging leaves it might lead you to a stalk borer or billbug diagnosis. One exception is slug injury. Slugs have a very distinctive injury symptom which includes elongated feeding scars that may or may not have the leaf cuticle intact.

One final point. We occasionally get insects, which for some reason, flare up on either a local or landscape level. Some may be known corn pests and others not. Remember the variegated cutworm outbreak in 2012? Very extreme weather fronts brought this insect to Wisconsin at unprecedented levels. On a local scale, insects such as sandhill, glassy, spotted and dingy cutworms can be found in individual fields or even isolated areas of fields. Bring unknown insects and damage in for diagnosis. The benefits are many and will include accurate diagnosis, appropriate management decisions and data for field histories. Additionally, it gives us (UW Extension) a better feel for trends and we can get the word out.

Post Emergence herbicides for corn and soybean

Liz Bosak, Outreach Specialist, Department of Agronomy

At this time of the year, integrated weed management programs focus on scouting and diversifying management practices including non-chemical methods and herbicide sites-of-action. For more information, please visit the United Soybean Board’s TakeAction website, <http://takeactiononweeds.com/manage-your-fields/> and <http://takeactiononweeds.com/understanding-herbicides/sites-of-action/>. Michigan State University’s Weed Science website has detailed web pages on common weeds in annual crops with biological information and management recommendations, <http://www.msuweeds.com/worst-weeds/>. After each field season, the Herbicide Evaluation Program here at the university publishes efficacy data in a research report available at <http://wcws.cals.wisc.edu/research/herbicide-evaluation-program>. Summary ratings for many weed species are located in “Pest Management in Wisconsin Field Crops” available as a free pdf or in print at Cooperative Extension’s Learning Store, <http://learningstore.uwex.edu/Pest-Management-in-Wisconsin-Field-Crops2015-P155.aspx>.

Weed photo of the week



Pigweed, common lambsquarters, and ladythumb seedlings in a small research plot with no pre-emergence herbicide. The corn was planted on May 1, 2015 at the Arlington Agricultural Research station.

All 2014 Crop Manager Articles compiled in one PDF

The complete 2014 Wisconsin Crop Manager Volume 21 is now available on our website as a single PDF. The first four pages are a Table of Contents listing every article and the page number it can be found on.

To view or download all the articles from the 2014 Wisconsin Crop Manager in one PDF file, complete with a table of contents, click on the link below

http://ipcm.wisc.edu/download/wcm-pdf/WCMAnnual/WCM_2014.pdf

NOW is the time to start thinking about Pre-sidedress Soil Nitrate Test Sampling

The corn has been planted and is starting to grow. Now is the time to consider using the pre-sidedress soil nitrate test (PSNT) to help you adjust your sidedress nitrogen fertilizer rates. To learn how and why to take PSNT samples, view this informative video featuring Dr. Carrie Laboski, Extension Soil Scientist at the University of Wisconsin-Madison:

<https://www.youtube.com/watch?v=oSlpTI0oKog>

Save the Date – Agronomy/Soils Field Day at Arlington Ag Research Station on August 19th

The Departments of Agronomy and Soil Science in conjunction with the Arlington Agricultural Research Station will host their annual field day on August 19, 2015. The field day will highlight UW-Madison research on all facets of crop production and soil management. More details coming in June.

Vegetable Crop Update 5-22-15

The 9th issue of the Vegetable Crop Update is now available. This issue contains late blight updates and disease forecasting information (PDays/DSVs are now being posted). Click [here](#) to view this issue.

Vegetable Crop Update 5-28-15

The 10th issue of the Vegetable Crop Update is now available. This issue contains late blight updates and disease forecasting information (PDays/DSVs are now being posted).

We are nearing DSV 18 for early emerging potato fields in southern/ central Wisconsin at this time. Weather conditions have been favorable for the development of late blight from time of ~50% potato crop emergence to 5/27 (date of last DSV calculation). I attached an updated document which includes fungicides registered for potato late blight control in Wisconsin as of April 2015.

Click [here](#) to view this issue.

Irrigation Management in Wisconsin

The Wisconsin Irrigation Scheduling Program (WISP) (A3600-01)

Scott Sanford and John Panuska

Successful irrigation management uses a combination of rainfall and applied water to conserve energy, reduce cost and protect groundwater. Most of the areas in Wisconsin that are under sprinkler irrigation have sandy soils with groundwater that is close to the surface, so the potential for groundwater contamination by nitrates and pesticides is high. The Wisconsin Irrigation Scheduling Program (WISP) is a research-based program that uses a water budget approach to irrigation scheduling much like balancing a checkbook. It is available online at [wisp.cals.wisc.edu] (2015, 16 pages).

You can view, download, or order this publication on the Learning Store at: [Irrigation Management in Wisconsin](#)

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

Brian Hudelson, Sean Toporek, Ann Joy and Joyce Wu

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 May 16, 2015 through May 22, 2015.

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

Fruit Crops

Apple, *Monochaetia Twig Blight*, *Monochaetia sp.*, Jackson

Currant, *Antracnose*, *Gloeosporium sp.*, Calumet

Vegetables

Asparagus, *Fusarium Stem Rot*, *Fusarium sp.*, Adams

Asparagus, *Phoma Stem Blight*, *Phoma sp.*, Adams

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

Wisconsin Winter Wheat Disease Update 5/26

Damon Smith, Extension Field Crops Pathologist, Department of Plant Pathology, University of Wisconsin-Madison

Winter wheat in the south and south-central portions of Wisconsin is quickly approaching heading. Most wheat we have looked at recently is at boot stage with some beginning to head. Anthesis (flowering) will be occurring very soon if it hasn't already happened in these fields. Now is the time to consider Fusarium head blight (FHB or scab) risk and consider your control options in at-risk fields. With anthesis occurring this week in some fields, and the prolonged wet weather forecast for this week, growers and consultants should pay close attention to this situation. The risk for FHB will likely be high this week especially on susceptible varieties. To learn more about FHB on wheat you can download a fact sheet by [CLICKING HERE](#).

In addition to considering the weather conditions, you can consult the [FHB Prediction Center](#). I recently wrote a post about the FHB Risk Tool and how to best use it. You can read more about the tool [BY CLICKING HERE](#). Currently, the risk tool is predicting medium to high risk only along the Lake Michigan shore. However, I think this will change as we proceed through the week. With the extended chances of rain and high humidity, coupled with moderate to warm temperatures, risk for FHB on susceptible and moderately susceptible cultivars will be medium to high across a wider portion of the state. This will be especially true along the southern portions of Wisconsin where wheat is beginning to flower this week. Caramba and Provaro have proven to be the best products for FHB control ([see the Small Grains Fungicide Efficacy Table](#)), however, timing of application is critical. These products must be applied at first flower with good efficacy achievable up to 5-7 days after the start of anthesis. Fungicide application after 7 days post-anthesis is not recommended. Pay close attention to the FHB situation this week.

Other wheat diseases in Wisconsin have been fairly minimal. My graduate students managed to find and identify low levels of spot blotch on some plants at our Sharon, WI and Arlington, WI locations last Friday (May 22). The severity was relatively low. Rust and other diseases have not been identified in wheat fields we have traveled to. We will continue to scout and monitor the wheat disease situation as we head toward anthesis.



UPDATED for 2015! Pest Management Fast Facts 4 page information sheet

The popular publication Pest Management Fast Facts produced by the Nutrient & Pest Management (NPM) and the Integrated Pest Management (IPM) Programs has been revised. This useful four-page publication contains pest management thresholds and management options for corn, soybean, alfalfa, wheat and small grains. Updated information includes: 1) the herbicide resistance weed list, 2) the field crop insect treatment thresholds, 3) wheat pesticide application periods, and 5) other general management information.

The publication can be viewed at <http://ipcm.wisc.edu/download/pubsPM/Pest-FastFacts.pdf>. Copies are available free of charge from the NPM Program. Contact us at npm@hort.wisc.edu or 608-265-2660 to place your order.

Wisconsin Pest Bulletin 5/28/15

Krista Hamilton, Entomologist

A new issue of the Wisconsin Pest Bulletin from the Wisconsin Department of Agriculture, Trade and Consumer Protection is now available. The Wisconsin Pest Bulletin provides up-to-date pest population estimates, pest distribution and development data, pest survey and inspection results, alerts to new pest finds in the state, and forecasts for Wisconsin's most damaging plant pests.

Issue No. 6 of the Wisconsin Pest Bulletin is now available at:

<http://datcpservices.wisconsin.gov/pb/pdf/05-28-15.pdf>

Inside This Issue

LOOKING AHEAD: Black cutworm primary damage window now open

FORAGES & GRAINS: Significant increase in alfalfa weevil counts this week

CORN: European corn borer egg laying has started in southern WI

SOYBEAN: Minor bean leaf beetle defoliation noted in Columbia and Dane Cos.

FRUITS: Codling moth biofix set at several orchards from May 22-27

VEGETABLES: Striped cucumber beetle emergence under way

NURSERY & FOREST: Euonymus caterpillar infestation reported in the Appleton area

DEGREE DAYS: Growing degree day accumulations through May 27, 2015

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