Purdue Cooperative Extension Service

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In This Issue

Insects, Mites, And Nematodes

Armyworm Active in High-Risk Corn Fields – (*Christian Krupke and John Obermeyer*)

- Armyworm moth captures have not been high, but they have concentrated their egg-laying to specific fields
- High-risk crops are corn fields following grasses, especially rye cover crop.
- Some Bt corn may suppress but not control armyworm. Seed-applied insecticides offer no help.

A random inspection of a 2-leaf cornfield, no-tilled into a burned down grassy cover crop in west central Indiana revealed some armyworm leaf feeding (see accompanying pictures). While carefully looking under crop/cover debris, armyworm larvae about a ½ inch long were found. Because armyworm primarily feed at night, careful searching in the vicinity of damaged plants in necessary to find these small larvae. Initially the damage appears negligible to the plant, but as the armyworm increase in size, so does their appetite. These small larvae are easy to treat/kill with insecticides, the larger ones are not as easily controlled!

High Risk Field, Corn Emerging in Burned Down Cereal Rye

High-risk crops are those where dense grassy vegetation (e.g., wheat, grass hay, grass cover crops) still exist have generally been burned-down for planting. Corn that has been no-tilled into a grass cover crop (ESPECIALLY ANNUAL RYE) should be inspected immediately for armyworm feeding. Hatched larvae will move from the dying grasses to emerging/emerged corn. There is nothing that resembles armyworm feeding at this time of year - armyworm feeding

gives corn a ragged appearance, with feeding extending from the leaf margin toward the midrib. Depending on the armyworm population, most of the plant can be consumed. Severe damage is often compared to pencils sticking out of the ground.

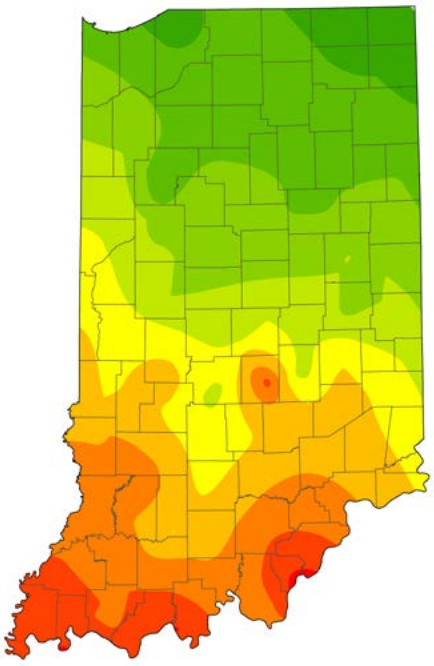
Don't be complacent with Bt corn hybrids, as high armyworm infestations will still cause significant damage before the insecticidal proteins in Bt corn reduce their feeding. Seed-applied insecticides, even high-rates, will NOT control armyworm. In short, there is no in-plant or on-seed solution that will allow you to avoid scouting on this one. Remember, once armyworm larvae reach an inch or more in length, they eat a tremendous amount of foliage in a short period of time and become harder to kill. Large areas of seedling corn can be wiped out overnight under heavy infestations. Sweet dreams and happy scouting!

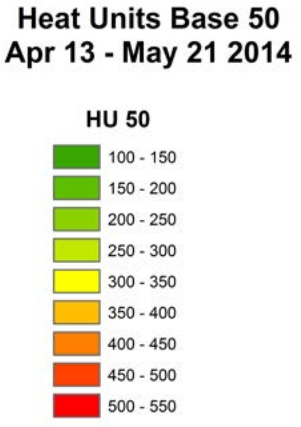

This armyworm remained feeding during the day


Characteristic feeding damage from small armyworm


Small armyworm on damaged leaf

Black Cutworm Development Map





Analysis by Indiana State Climate Office
Web: http://www.iclimate.org

Armyworm Pheromone Trap Report - (*John Obermeyer*)												
	Wk 1 = 4/3/14 - 4/9/14; Wk 2 = 4/10/14 - 4/16/14; Wk 3 = 4/17/14 - 4/23/14; Wk 4 = 4/24/14 - 4/30/14; Wk 5 = 5/1/14 - 5/7/14; Wk 6 = 5/8/14 - 5/14/14; Wk 7 = 5/15/14 - 5/21/14											
County/Cooperator	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Dubois/SIPAC Ag Center			2	0	0	1	0					
Jennings/SEPAC Ag Center	0	0	0	0	0	0	0					
Knox/SWPAC Ag Center	0	0	0	0	0	0	0					
LaPorte/Pinney Ag Center	0	0	1	1	14	3	0					
Lawrence/Feldun Ag Center	1	8	10	10	0	5	0					
Randolph/Davis Ag Center	0	2	1	1	1	0	0					
Tippecanoe/Meigs			1	0	0	0	0					
Whitley/NEPAC Ag Center	0	1	2	17	20	35	0					

Weeds

Corn Growth, Postemergent Herbicides, and Crop Injury – (*Bill Johnson and Travis Legleiter)*

The majority of Indiana's corn went into the ground the week of May 4th-9th with ideal weather and soil conditions. Although that week also came with lots of high wind speeds that kept herbicide applicators out of the field and was followed by a week of rain. It is very likely that a majority of the corn is now emerging without receiving their planned pre-emerge herbicide application. Fortunately many of the pre-emerge products can also be applied postemerge and there are many herbicides for postemergence weed control in corn. The large number of products is a positive when considering glyphosate-resistance management and prevention, but can also make timing and product application decisions more complicated since corn ear development can be greatly influenced by postemergence herbicides if they are applied too late in the growing season.

When choosing a post applied corn herbicide or herbicide combination, producers need to consider the weed species present, weed heights, AND crop growth stage. The majority of conventional post-applied corn herbicides are effective on select weed species and only at certain weed heights. Typically a combination of products or a pre-package of active ingredients is needed to achieve control of all weed species present. Producers should refer to herbicide labels for weed species controlled and recommended application heights; Table 4 of the Indiana and Ohio Weed Control (**https://mdc.itap.purdue.edu/item.asp?Item_Number=WS-16-W#.U3YlwI5GfIF**) Guide can also assist in choosing an effective herbicide option. Spraying weeds that are larger than the recommended label height can result in poor weed control.

The stage and height of corn at the time of post herbicide application is also important to keep in mind as applications outside of the labeled window can result in crop injury and/or yield loss. The type and amount of injury from an application beyond the labeled window is dependent upon the herbicide, other environmental stresses, and exact timing of application. Injury symptoms include: ear pinching, ear bottlenecking, internode stacking, onion leafing, rat tailing, brace root malformation, and green snap. Refer to the herbicide label and Table 6 for the appropriate crop stages for post emergence herbicide applications. When tank mixing products, follow the most restrictive label as far as determining the appropriate crop growth stage restriction.

Other items to consider to avoid crop injury based on our past experience:

1. Avoid using contact herbicides just prior to rain showers or applying these herbicides when there is a heavy dew to avoid washing the herbicide down into whorl.
2. Avoid applying growth regulator herbicides after several nights of cool temps (45 degrees or cooler).
3. Do not use UAN solutions as the carrier when applying atrazine premixes to spike stage corn.
4. Do not mix growth regulator herbicides with chloroacetamide herbicides and apply postemergence. These mixtures are fine if applied before corn emergence.
5. Do not apply ALS inhibitors past the V6 stage of corn growth.

Plant Diseases

Fusarium head blight (scab) management in wheat – (*Kiersten Wise*)

Wheat will be flowering (Feekes 10.5.1) in parts of central and southern Indiana this week and next week. As wheat approaches flowering (Feekes 10.5.1, Figure 1) it is important to consider the risk for Fusarium head blight, or scab, development.

The fungus that causes head scab, Fusarium graminearium, infects wheat during flowering, beginning at Feekes 10.5.1. Symptoms appear later in the season and include bleached spikelets on the head (Figure 2), and small or shriveled grain kernels, commonly called "tombstones". The fungus also produces mycotoxins, such as deoxynivalenol, or DON, which can accumulate in the infected grain.


Feekes 10.5.1, or beginning flowering of the wheat plant

Rainy, warm, and humid weather conditions favor disease development. We have had ample moisture this spring, but temperatures have fluctuated and the risk of disease development is variable across the state. Farmers may want to consider a fungicide application at early flowering for suppression of FHB. Indiana research indicates that applications of the fungicides Prosaro and Caramba are most effective at managing FHB if they are applied at early flowering. Other products are available, but may not be as effective. Fungicides that have a strobilurin mode of action are not labeled for Fusarium head blight suppression. Be sure to follow label restrictions on how many days must pass between fungicide application and harvest.

A risk assessment tool is available to assess the risk of Fusarium head blight in Indiana as wheat enters flowering. This model can be accessed through the following link: **http://www.wheatscab.psu.edu/**. This model uses weather information including temperature, rainfall, and relative humidity to calculate risk levels for Fusarium head blight. Although it is a good tool for predicting risk, it has an estimated accuracy level of 80. Keep in mind that the model does not provide a guaranteed prediction for whether or not scab will occur in individual fields, and additional factors such as the local weather forecast, crop conditions, and Extension commentary should be considered when assessing the level of risk. Producers can sign up for alerts courtesy of the U.S. Wheat and Barley Scab Initiative. Alerts can be sent to a cell phone or email, and will be sent out as the risk map updates risk of scab in Indiana. To sign up for alerts, visit: **http://scabusa.org/fhb_alert.php**.

The foliar disease Septoria/Stagonospora leaf blotch has been observed in fields throughout the state, but is still at relatively low levels in most of Indiana due to cool weather. Fungicides applied at flowering for FHB suppression will also provide some level of protection from foliar disease on the flag leaf. Producers who are considering a foliar fungicide application for Septoria/Stagonospora leaf blotch control through boot stage should keep in mind that applications made prior to flowering will NOT suppress FHB or the associated mycotoxin deoxynivalenol, or DON. If the risk for FHB increases after foliar fungicide applications are made, it may be necessary to make another application at flowering for FHB suppression.


Bleached spikelets symptomatic of Fusarium head blight

VIDEO: Soybean Seedling, Sampling and Submission for Problem Diagnosis – (*Kiersten Wise, Gail Ruhl, and John Obermeyer*)

When sustained cool and wet conditions occur after soybean planting, emergence and stand establishment problems often follow. These issues may be due to one or more factors including seedling blights, herbicide injury, or excess moisture. It is very difficult to diagnose the cause of stand establishment issues in the field, and to accurately determine the specific organism responsible for seedling blight it is necessary to submit samples to a diagnostic lab such as the Purdue Plant and Pest Diagnostic Lab. This video will demonstrate how to sample fields and submit samples to determine what may be to blame for uneven stands.

CLICK HERE OR ON THE IMAGE TO VIEW THE VIDEO

Sign up for Purdue Crop Scouting Competition – (*Kiersten Wise and Corey Gerber*)

The first annual Purdue Crop Scouting Competition will be held on August 19th at the Purdue Diagnostic Training and Research Center (DTC) at the Agronomy Center for Research and Education (ACRE) in West Lafayette, IN

Indiana high school student teams of 4-6 individuals, and adult team leaders are eligible to participate in the competition. The primary goal of the Crop Scouting Competition is to educate youth about agriculture and Integrated Pest Management (IPM) concepts.

Teams will participate in field scouting exercises in both corn and soybeans. These exercises will focus on basic crop agronomics, pest ID (weeds, insects, diseases) and the decision making processes for improved crop management. There will also be a general knowledge test associated with the competition. Each scouting exercise and the test will be scored, and prizes awarded to the top three teams with the highest scores. The first place team will receive $500, with second and third place teams receiving $300, and $150, respectively.

All groups are welcome. Teams can be supervised by industry members, Extension educators, K-12 Agriculture educators, FFA crop judging teams and other FFA groups, or 4-H groups.

The competition will begin in the morning and conclude with a provided lunch.

The 2014 competition will be limited to 6 teams. Funds are available to help with lodging costs for teams. Teams must register by July 1st, 2014 by contacting Lisa Green at **lgreen06@purdue.edu**.

For more information and resources for team training can contact Kiersten Wise at **kawise@purdue.edu.**

The competition is supported by the Indiana Soybean Alliance and the Indiana Corn Marketing Council.

Weather Update