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# Pest & Crop Newsletter

Purdue Cooperative Extension Service

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Issue 7, May 20, 2016 • USDA-NIFA Extension IPM Grant

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# INSECTS, MITES, & NEMATODES

## **Nematode Updates - Corn Parasitic Nematodes –** *(Jamal Faghihi and Virginia Ferris) –*

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This has been a cool and wet spring so condition must be right for the needle nematode to cause damage to corn grown in sandy soils.

Needle nematodes, the most yield-limiting nematodes in corn. It needs a cool and wet condition to cause problems in corn. But some other nematodes, like lance and lesion nematodes, do not require

those conditions to be a problem. This time of the year these nematodes are looking for food and they are eager to attack young corn roots. So if condition is right in your area, cool, wet and sandy soil, needle nematodes could be a problem this year. If you have had problems on corn before, and weather conditions is in the nematodes' favor, you might consider sampling for nematodes. In this case, you may wish to send the entire root system with adjacent soil to the Nematology Laboratory, address below, at Purdue University for analysis. Samples must be kept cool and prevented from drying. The best time to sample for needle nematodes is 4-6 weeks after germination.

Under high nematode pressure, roots do not develop normally. The roots are truncated and resemble herbicide injury. Similar symptoms are present where lance nematodes are causing a problem. Lesion nematodes, however, will not cause the described root symptoms. But, symptoms for most plant parasitic nematodes are usually in patches and do not follow a uniform pattern in the field.

Often needle nematodes disappear when soil temperature rises above 85°F. So the best time to sample for needle nematode is now. You can sample for other corn parasitic nematodes throughout the growing season.

You have to observe whether conditions that are favorable to needle nematodes and enable them to cause yield loss. These conditions are specific to needle nematodes and do not apply to lance and lesion nematodes. The latter species feed throughout the season and they could be a problem in all types of soils and weather.

If you have any questions about corn nematode or any other kind of plant parasitic nematodes, you can contact Jamal Faghihi at 765-494-5901 or send an email to [jamal@purdue.edu](mailto:jamal@purdue.edu). Soil samples for nematode analysis can be sent to: Nematology laboratory, Purdue University, Department of Entomology, Smith Hall, 901 W. State Street, West Lafayette, IN 47907-2089. The cost for nematode analysis for each sample remains at \$10/procedure (if only soil samples are submitted). However, if we have to incubate the roots to extract internal nematodes an additional \$10/sample will be charged. We published an article earlier this year <https://extension.entm.purdue.edu/pestcrop/2016/Issue2/> describing the sampling method for various plant parasitic nematodes. Additional information and sampling form can be found on our Nematology website: <https://extension.entm.purdue.edu/nematology/services.html>.



*Healthy (left) compared to needle nematode damaged plant (right).*



*Corn seedling roots damaged by needle nematodes.*

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## **Slugs Certainly Possible This Spring** – *(Christian Krupke and John Obermeyer)* –

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- Slug damage is exacerbated in a cool, wet spring with heavy crop residue on the soil surface.
- Crop damage and stand losses are most severe when slugs enter open seed slots.
- Control options are limited and difficult to implement.

Slugs are soft-bodied, legless, slimy, and grayish or mottled gastropods – molluscs, relatives of snails and clams. The length of some individuals can reach 4 inches, but is usually 1/2 to 1-1/2

inches long. Build-up of slug populations is greatest in no-till systems and weedy fields, because the optimum conditions for slug survival (wet soils, lots of residue to feed upon and hide under) are most likely to occur under these conditions. Juvenile slugs, which are present now, will continue to increase in size, as will their appetite. The main problem (as with many soil insect pests) is that the interface between slugs and slow-growing plants is greater during these wet and cool periods. Depending on future weather, their feeding can continue well into June.

Both corn and soybeans can be damaged by this primarily nocturnal pest. Their mouthparts cause a scraping type of damage, where the top layer of leaf tissue is removed. On corn, slugs feed on the surface tissue of leaves resulting in narrow, irregular, linear tracks or scars of various lengths. The iridescent slime trails on and around plants are a sure sign of slugs. Severe feeding can result in split or tattered leaves that resembles hail damage. Soybean damage is not as predominant on the foliage, but rather on the hypocotyl and cotyledons. Given good growing conditions, plants usually outgrow slug damage once the crop is up. Most damage and stand losses by slugs occur when fields are too wet to plant and seed slots are not properly closed. In this situation, slugs can be found feeding on the seedlings within the slot, day or night. Obviously, once the growing point of corn or soybeans is injured, plant recovery is unlikely.

Control of slugs is difficult, if not impossible. Disruption of their environment, i.e., tillage, is typically not an option, especially on long-term no-till or highly erodible land. Some pelleted baits are available for use. However, spreading the pellets evenly over the field or damaged areas is another matter; a commercial mechanical dispenser is one possibility. With the significant cost and difficulty of application, consider these baits only as a last resort to protect crop stands in very high slug populated areas.

Where replanting is necessary from slug damage, one should strongly consider lightly tilling the area first. This should help dry the area and break-up and bury crop residue. Doing so will discourage further slug activity and expose some of the slugs there to predation from insect predators, as well as birds. Granular, liquid, and seed-applied insecticides are ineffective against slugs. Bt corn has no effect on slugs. Home remedies, such as spraying plants at night with liquid fertilizer (high salt concentration), have proved inconsistent and are obviously impractical for most large-scale plantings. In summary, this is an extremely tough pest with few easy solutions. Some slug feeding is inevitable in most fields during springs like this one. Fully closed seed slots (i.e. proper planting conditions), along with decent weather will allow the crop to outgrow all but the most severe infestations, however.

Happy scouting!



*Juvenile slug.*



*Slug feeding scars on corn leaf.*



Slug damage to soybean seedling.

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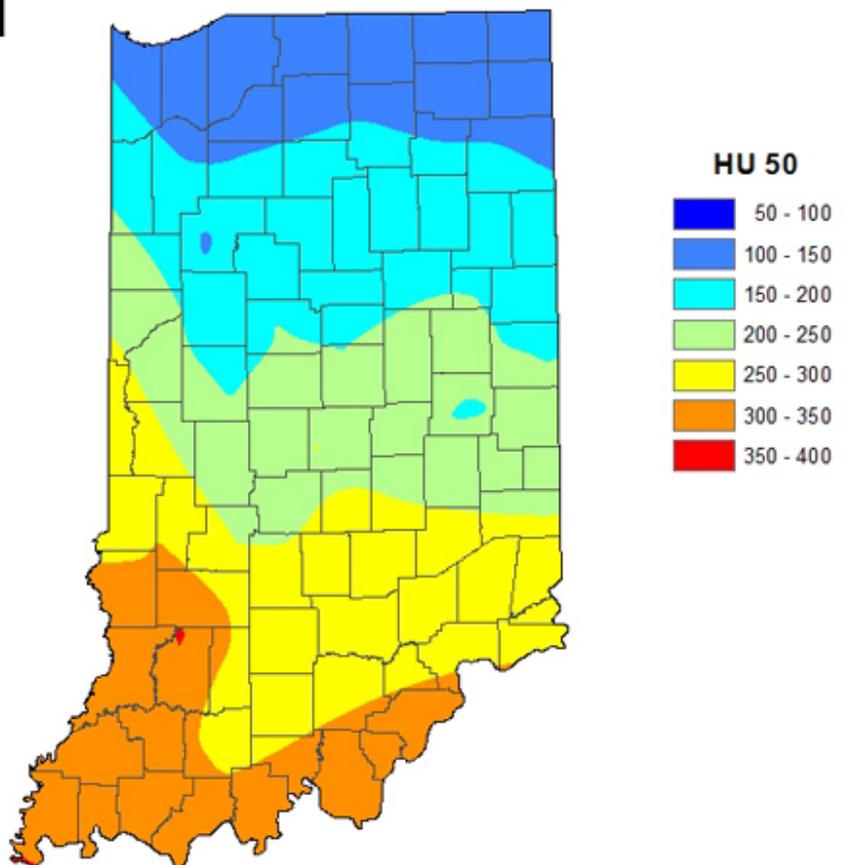
## Black Cutworm Development Map – (John Obermeyer) –

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**Bug Scout says,  
“Black cutworm  
leaf feeding and  
cutting of corn  
are possible in  
Southern and  
Central Indiana  
counties”**



Heat Units Base 50  
Since 20 April 2016



Analysis by Indiana State Climate Office  
Web: <http://www.iclimat.org>

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## Armyworm Pheromone Trap Report

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**County/Cooperator:** Dubois/SIPAC Ag Center

Wk 1	0
Wk 2	0
Wk 3	348
Wk 4	258
Wk 5	11
Wk 6	6
Wk 7	22
Wk 8	
Wk 9	
Wk 10	
Wk 11	
Wk 12	

**County/Cooperator:** Jennings/SEPAC Ag Center

Wk 1	0
Wk 2	0
Wk 3	15
Wk 4	18
Wk 5	9
Wk 6	1
Wk 7	9
Wk 8	

Wk 9

Wk 10

Wk 11

Wk 12

**County/Cooperator:**

**Knox/SWPAC Ag Center**

Wk 1

0

Wk 2

6

Wk 3

197

Wk 4

63

Wk 5

17

Wk 6

39

Wk 7

22

Wk 8

Wk 9

Wk 10

Wk 11

Wk 12

**County/Cooperator:**

**LaPorte/Pinney Ag Center**

Wk 1

0

Wk 2

25

Wk 3

317

Wk 4

296

Wk 5

63

Wk 6

149

Wk 7

121

Wk 8

Wk 9

Wk 10

Wk 11

Wk 12

County/Cooperator:

Lawrence/Feldun Ag Center

Wk 1

4

Wk 2

97

Wk 3

155

Wk 4

76

Wk 5

42

Wk 6

21

Wk 7

14

Wk 8

Wk 9

Wk 10

Wk 11

Wk 12

County/Cooperator:

Randolph/Davis Ag Center

Wk 1

0

Wk 2

0

Wk 3

0

Wk 4

24

Wk 5

122

Wk 6

162

Wk 7

101

Wk 8

Wk 9

Wk 10

Wk 11

Wk 12

<b>County/Cooperator:</b>	<b>Tippecanoe/Meigs</b>
Wk 1	0
Wk 2	4
Wk 3	141
Wk 4	101
Wk 5	45
Wk 6	50
Wk 7	55
Wk 8	
Wk 9	
Wk 10	
Wk 11	
Wk 12	

<b>County/Cooperator:</b>	<b>Whitley/NEPAC Ag Center</b>
Wk 1	7
Wk 2	21
Wk 3	619
Wk 4	1,091
Wk 5	376
Wk 6	682
Wk 7	612
Wk 8	
Wk 9	
Wk 10	
Wk 11	
Wk 12	

Wk 1 = 3/31/16 - 4/6/16; Wk 2 = 4/7/16 - 4/13/16; Wk 3 = 4/14/16 - 4/20/16; Wk 4 = 4/21/16 - 4/27/16; Wk 5 = 4/28/16 - 5/4/16; Wk 6 = 5/5/16 - 5/11/16; 5/12/16 - 5/18/16

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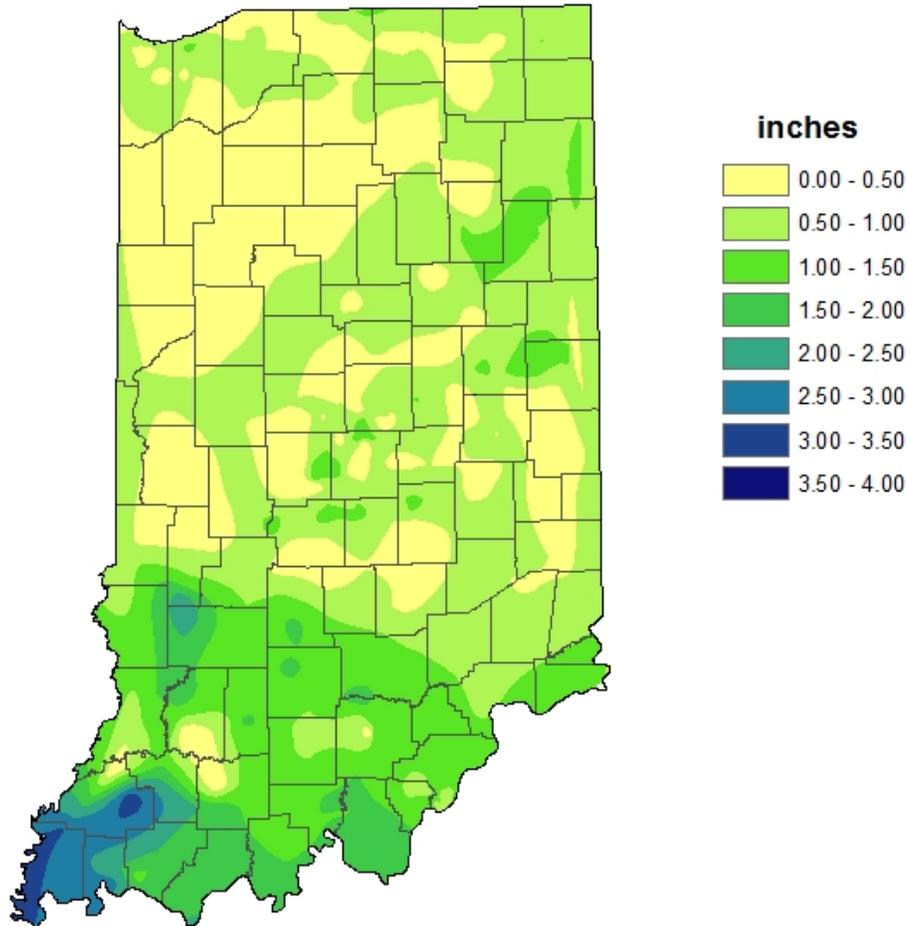
# WEATHER UPDATE

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Precipitation

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**Total Precipitation  
May 12 - 18 2016  
CoCoRaHS network  
(399 stations)**



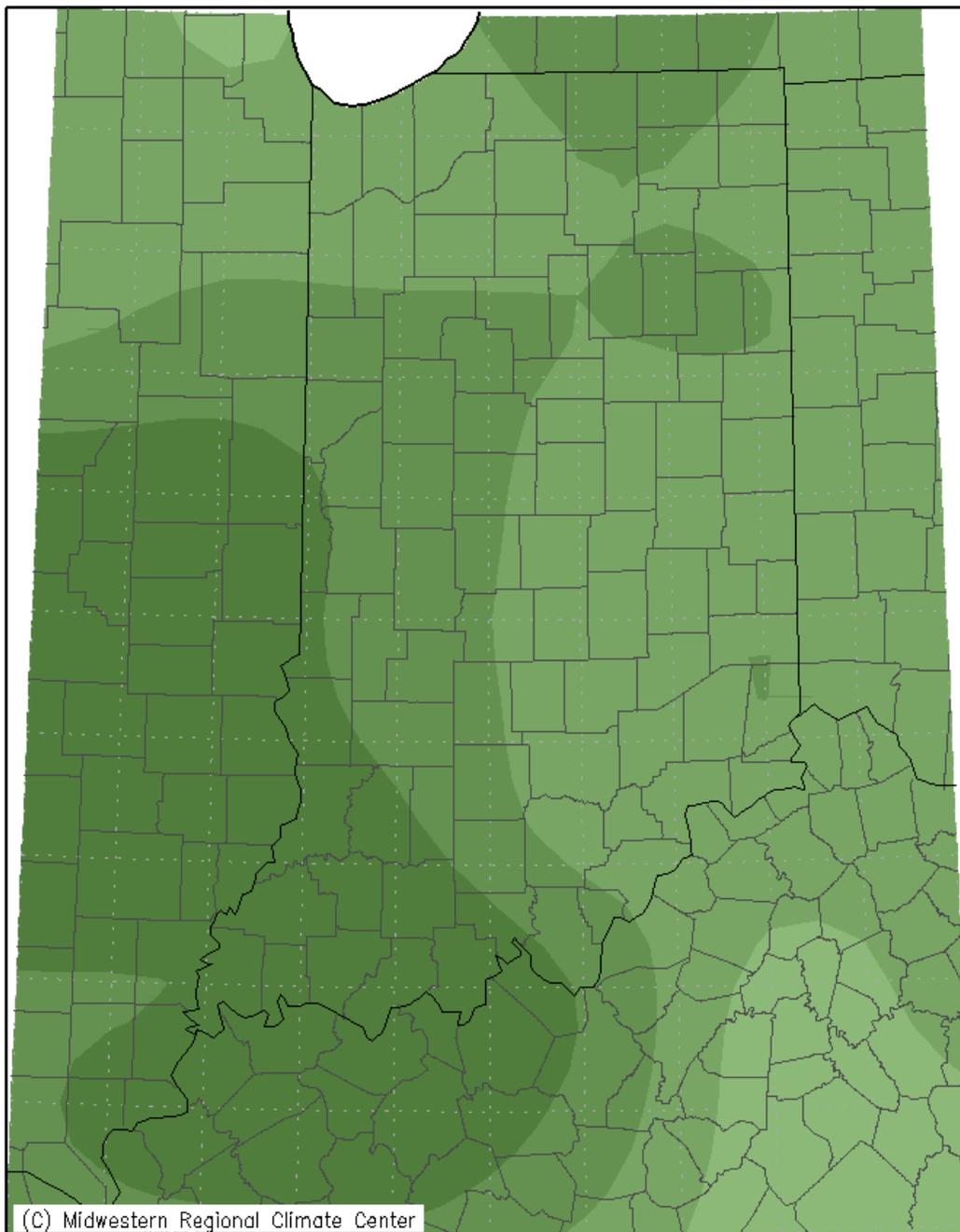
Analysis by Indiana State Climate Office  
Web: <http://www.iclimat.org>

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# Temperature

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# Average Temperature ( $^{\circ}\text{F}$ ): Departure from Mean May 11, 2016 to May 17, 2016



Mean period is 1981–2010.



Indiana State Climate Office [www.iclimate.org](http://www.iclimate.org)  
Purdue University, West Lafayette, Indiana  
email: [iclimate@purdue.edu](mailto:iclimate@purdue.edu)

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# Pest&Crop Newsletter

Purdue Cooperative Extension Service

## THANKS FOR READING

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