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## Insects, Mites, And Nematodes

**Get to the Root(worm) of the Problem** - (*Christian Krupke, John Obermeyer, and Larry Bledsoe*)

- High-risk fields should be evaluated for rootworm larvae and damage.
- Insecticide efficacy on early-planted corn may be suspect.
- Larval sampling procedures are outlined.
- Rescue treatment guidelines are given below.

Rootworm larvae have been hatching and seeking corn roots for a few weeks in northern counties and even longer in southern counties. When first hatched the larvae are seldom observed because they are very small and live mostly within the roots. As they increase in size, they will feed both inside and outside roots, causing tunneling and pruning. It would be prudent to sample roots of plants in high-risk fields, especially where insecticide efficacy is in question.

To sample for rootworms, use a shovel and lift out the root mass and surrounding soil and place on a dark surface (black plastic garbage bags work well). Carefully break up the clods and sort through the soil. Look for 1/4 to 1/2 inch long, slender, creamy-white larvae with brownish-black heads and tails. Once the soil has been separated from the root mass, inspect it for root scarring and pruning. You may find the larvae under the leaf collars that are close to nodal roots; tear these leaves away to check. Rootworms are often observed sticking out of roots. Repeat the process with several plants, representing different areas of a field. An average of two or more larvae per plant represents a rootworm population and signals the need for a rescue cultivation application.

Insecticides applied after planting should be directed toward the base of the plant. It is also important to throw soil up around plants to incorporate the insecticide and promote



High tech tools for rootworm sampling

the establishment of brace roots. A good brace root system will help prevent plant lodging and reduce yield losses due to rootworm feeding. If a no-till field has an economic population of larvae, placing the insecticide on top of the ground will usually not be effective. The only exception may be if the soil insecticide is watered in through irrigation or rainfall (ideally  $\frac{1}{2}$ " or more). Two liquid soil insecticides, Furadan 4F (2009 is the last year for use of this product) and Lorsban 4E, are labeled for post-emergent applications. If one decides to mix the insecticide with a liquid nitrogen source for a side-dress application, compatibility checks should be made. Broadcasting the insecticide will greatly diminish rootworm efficacy.



Watch this movie on scouting for corn rootworm larvae



The damaged roots on the left isn't noticeable until the plant falls over



A close-up photograph showing a person's thumb holding a small, green, serrated leaf. The leaf is held between the thumb and index finger, with the thumb's nail visible. The leaf is green with some yellowing along the edges. The background is a blurred green, suggesting a field of similar plants.

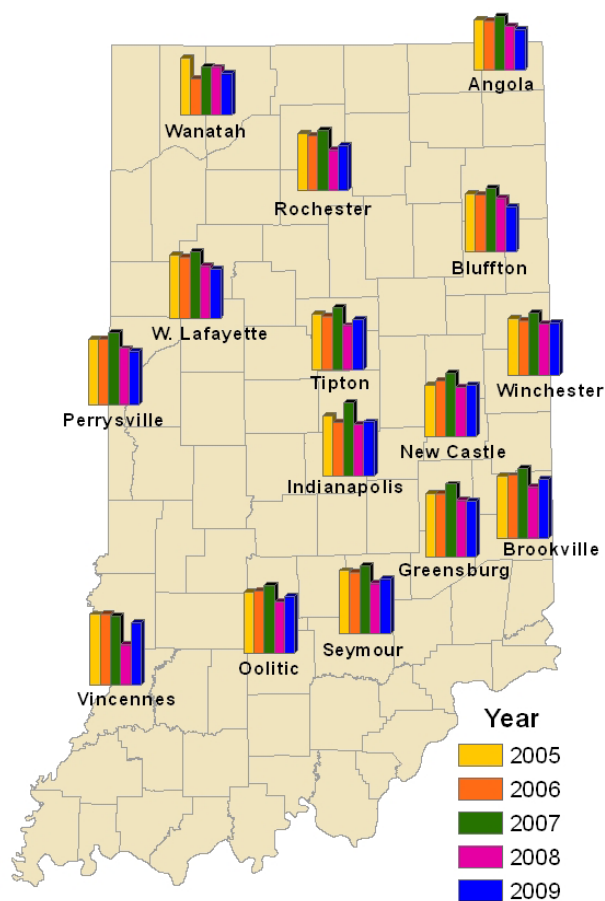


Black Light Trap Catch Report - (John Obermeyer)														
County/Cooperator	6/9/09 - 6/15/09							6/16/09 - 6/22/09						
	VC	BCW	ECB	SWCB	CEW	FAW	AW	VC	BCW	ECB	SWCB	CEW	FAW	AW
Dubois/SIPAC Ag Center	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Jennings/SEPAC Ag Center	0	0	3	0	0	0	2	1	0	0	0	0	0	6
Knox/SWPAC Ag Center	0	1	0	0	0	0	4	0	0	0	0	0	0	16
LaPorte/Pinney Ag Center	0	0	11	0	0	0	2	0	1	16	0	0	0	5
Lawrence/Feldun Ag Center	0	1	0	0	0	0	6	0	1	0	0	0	0	17
Randolph/Davis Ag Center	0	1	0	0	0	0	2	0	0	3	0	0	0	4
Tippecanoe/TPAC Ag Center	0	0	5	0	0	0	5	0	1	1	0	0	0	17
Whitley/NEPAC Ag Center	0	0	5	0	0	0	1	0	0	7	0	0	0	5

VC = Variegated Cutworm, BCW = Black Cutworm, ECB = European Corn Borer, SWCB = Southwestern Corn Borer, CEW = Corn Earworm, FAW = Fall Armyworm, AW = Armyworm

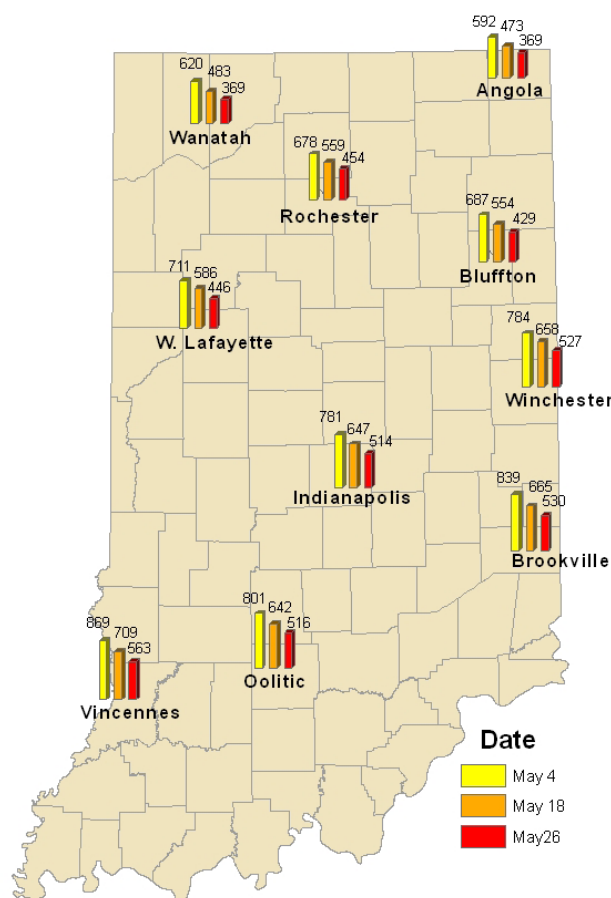
# Weather Update

## Accumulated Growing Degree Days (86/50) Since April 1



Data Provided by Indiana State Climate Office  
Web: <http://www.iclimate.org>

## Accumulated Growing Degree Days (86/50) by Date



Data Provided by Indiana State Climate Office  
Web: <http://www.iclimate.org>

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