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Pest & Crop Newsletter

Purdue Cooperative Extension Service

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Healthy Dose of Armyworm Moths – *(Christian Krupke and John Obermeyer)* -

Black cutworm moths, as reported last week, are not the only insects clouding the skies of the Hoosier state this spring. Armyworm moths have been captured in abundance in our traps placed at the Purdue Ag Research Centers throughout the state, see accompanying “Armyworm Pheromone Trap Report.” This doesn’t spell impending doom for crops yet to be planted, but it is a reminder to conduct timely scouting in high-risk fields when the larvae are actively feeding, early to mid-May. The increased popularity of cereal rye as a cover crop presents new opportunities for egg-laying females to find attractive food sources.

Most of the armyworm moths are blown here from southwestern states, much like black cutworm, but a percentage have overwintered here because of the mild winter. Once here, they mate and lay eggs on preferred plants, those being grasses. Highest risk for egg laying where dense grassy vegetation, e.g., wheat, grass hay, grass cover crops, exist now. Ideally, grass cover crops, will be terminated 2-3 weeks before corn emergence. With this spring’s wet weather, spraying of cover crops has been delayed, and that will likely often be the case. So we’re aware that the 2-3 week window won’t often be possible. But it is worth mentioning, because armyworm larvae without a “green bridge” between food sources will quickly starve.

Don’t be dependent on traited-corn, as high armyworm infestations will still cause significant damage before the Bt-proteins suppress their feeding. A wonderful reference to understand which Bt-traited corn has efficacy against specific insects is the “Handy Bt Trait Table.” This table, produced by Chris DiFonzo, Field Crops Entomologist at Michigan State University, is worth a look. It can be downloaded [HERE](#). Remember that seed-applied neonicotinoid insecticides have zero efficacy against armyworm. But there are many effective options for control with foliar insecticide sprays. A reminder that with this insect, especially when they are “marching” in large numbers, scouting still wins the day.



Armyworm trap with bunches of moths captured.

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Alfalfa Weevil Management Guidelines – *(Christian Krupke and John Obermeyer)* -

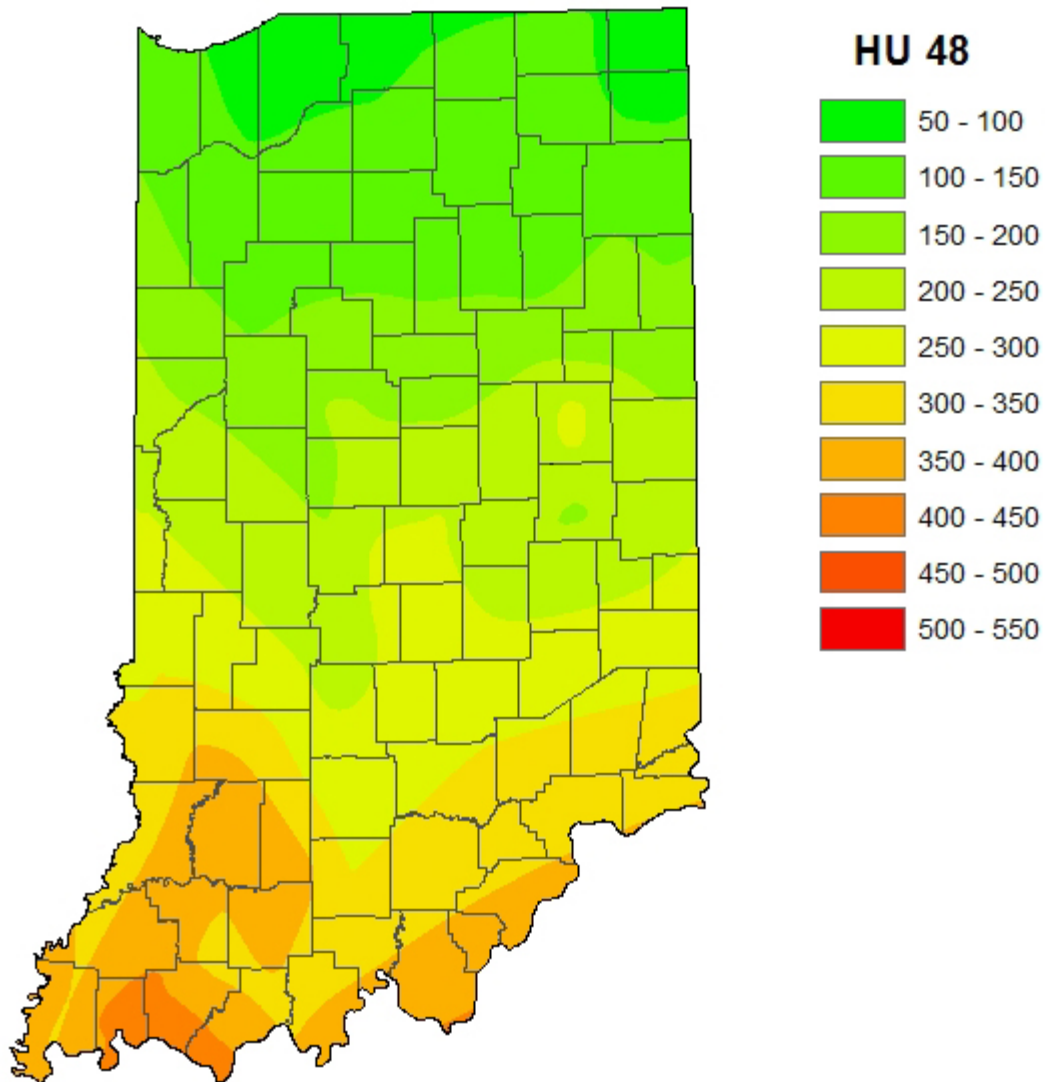
Pest managers in southern Indiana should now be scouting their alfalfa for leaf feeding from weevil larva. This pest is often overlooked during the early spring planting season.

Producers can manage this pest most effectively by utilizing heat unit accumulations data (base 48°F) to determine when sampling should begin and when an action should be taken. The management guidelines listed below should be used to determine when alfalfa weevil should be controlled in southern Indiana. Refer to the following map for alfalfa weevil development in your area.

Alfalfa Weevil Management Guidelines

Heat Units	% Tip Feeding	Advisory
200		Begin Sampling. South facing sandy soils should be monitored earlier.
300	25	Re-evaluate in 7-10 days using the appropriate HU or treat immediately with a residual insecticide if 3 or more larvae are noted per stem and % tip feeding is above 50%.
400	50	Treat immediately with a residual insecticide.
500	75	Treat immediately.
600	75+	If cutting delayed more than 5 days, treat immediately.
750		If harvested or harvesting shortly, return to the field in 4-5 days after cutting and spray if 1) there is no regrowth and weevil larvae are present OR 2) feeding damage is apparent on 50% of the stubble and weevil larvae are present.

Heat Units Base 48 Since 1 January 2017



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

Alfalfa Weevil Development Map.

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Armyworm Pheromone Trap Report

County/Cooperator	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12
Dubois/SIPAC Ag Center	0	0	0	101								
Jennings/SEPAC Ag Center	0	1	1	56								
Knox/SWPAC Ag Center	0	13	26	42								
LaPorte/Pinney Ag Center	0	0	3	352								
Lawrence/Feldun Ag Center	4	108	216	246								
Randolph/Davis Ag Center	0	29	41	528								
Tippecanoe/Meigs	0	2	15	107								
Whitley/NEPAC Ag Center	0	34	90	537								

Wk 1 = 3/16/17 - 3/22/17; Wk 2 = 3/23/17 - 3/29/17; Wk 3 = 3/30/17 - 4/5/17; Wk 4 = 4/7/18 - 4/12/17

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Black Cutworm Adult Pheromone Trap Report

County	Cooperator	BCW Trapped			
		Week 1 3/23/17- 3/29/17	Week 2 3/30/17- 4/5/17	Week 3 4/5/17- 4/12/17	
Adams	Kaminsky/New Era Ag			13	
Adams	Roe/Mercer Landmark	11	17*	7	
Allen	Anderson/Syngenta Seed		0		
Allen	Gynn/Southwind Farms	2	1	0	
Allen	Kneubuhler/G&K Concepts - Trap 1		0	19*	
Allen	Kneubuhler/G&K Concepts - Trap 2		9	2	
Bartholomew	Bush/Pioneer Hybrids	1	13*	13	
Clay	Bower/Ceres Solutions - Clay City	0	0	7	
Clay	Bower/Ceres Solutions - Bowling Green	0	0	0	

Clay	Bower/Ceres Solutions - Brazil	0	0	0	
Clinton	Emanuel/Boone Co. CES	8	9	6	
DeKalb	Hoffman/ATA Solutions	0	0	0	
Dubois	Eck/Purdue CES	14	28*	41*	
Elkhart	Kauffman/Crop Tech Inc.	0	0	6	
Fayette	Schelle/Falmouth Farm Supply Inc.	5	33*	5	
Fountain	Mroczkiewicz/Syngenta	7	18*	31*	
Fulton	Jenkins/N. Central Coop - Talma	0	5	10	
Fulton	Ranstead/NCC Coop - Rochester	0	0	0	
Gibson	Schmitz/Gibson Co. CES				
Hamilton	Campbell/Beck's Hybrids	14	13	18	
Hamilton	Truster/Reynolds Farm Equipment		1		
Hendricks	Nicholson/Nicholson Consulting	0	3	4	
Jasper	Overstreet/Jasper Purdue CES	2	5	0	
Jasper	Ritter/Brodbeck Seeds	1	3	10	
Jay	Boyer/Davis PAC		3	14	
Jay	Shrack/Ran-Del Agri Services	1	3	5	
Jay	Temple/Jay County CES				
Jennings	Bauerle/SEPAC	0	0	0	
Knox	Bower/Ceres Solutions - Freelandville	0	0	0	
Knox	Bower/Ceres Solutions - Vincennes	0	0	0	
Kosciusko	Klotz/Etna Green	0	0	4	
Lake	Kleine/Kleine Farms	4	16*	60*	
Lake	Moyer/Dekalb Hybrids - Shelby	5	5	20*	
Lake	Moyer/Dekalb Hybrids - Schneider	2	5	5	
LaPorte	Rocke/Agri-Mgmt Solutions				
	Truster/Reynolds Farm				

Madison	Equipment		0		
Marshall	Harrell/Harrell Ag Services		0		
Marshall	Klotz/SR 10 & SR 331	0	0	0	
Marshall	Miller/North Central Coop	0	0	0	
Miami	Early/Pioneer Hybrids	0	0	0	
Newton	Moyer/Dekalb Hybrids - Lake Village	2	6	2	
Porter	Leuck/PPAC	5	3	18	
Pulaski	Capouch/M&R Ag Services	0	0	1	
Pulaski	Leman/North Central Coop		0	10	
Putnam	Nicholson/Nicholson Consulting		2	6	
Randolph	Boyer/DPAC		1	0	
Rush	Schelle/Falmouth Farm Supply Inc.		6	10	
Shelby	Fisher/Shelby County Co-op	2	3		
Shelby	Simpson/Simpson Farms	7	49*	41*	
Starke	Capouch/M&R Ag Services	0	0	6	
Starke	Wickert/Wickert Consulting - California Twnshp	1	1	3	
St. Joseph	Barry/Helena			1	
Sullivan	Bower/Ceres Solutions - Farmersburg	0	1	2	
Sullivan	Bower/Ceres Solutions - Sullivan	6	21*	14*	
Tippecanoe	Bower/Ceres Solutions	0	0	0	
Tippecanoe	Kremer/Monsanto Research Farm	0	0	13	
Tippecanoe	Nagel/Ceres Solutions	30	47*	44*	
Tippecanoe	Obermeyer/Purdue Entomology	2	5	11	
Tipton	Campbell/Beck's Hybrids	10	17	11	
Vermillion	Bower/Ceres Solutions		0	0	
Wabash	Enyeart/North Central Coop				
	Walker,				

Whitley	Richards/NEPAC1 - Main	10	28*	37*	
Whitley	Walker, Richards/NEPAC2 - Kycler	3	8	17*	

* = Intensive Capture...this occurs when 9 or more moths are caught over a 2-night period

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Poison Hemlock – *(Travis Legleiter, Joe Ikley, and Bill Johnson) -*

Every spring we receive phone calls and emails with concerns of the presence of poison hemlock in the Indiana landscape. The appearance of poison hemlock on roadsides and fencerows of Indiana is not new, but the weed may seem to be more prevalent this year as it came out of winter dormancy with the unusually warm days of early March. This plant can be noticed very early in the spring every year, as it is typically the first plant to green up, usually in late Feb to early March. The presence of this weed is not new in Indiana as we can find articles in the Purdue weed science database back to 2003 on the subject of poison hemlock. The largest threat of this weed is the toxicity of its alkaloids if ingested by livestock or humans, but it can also be harmful to aesthetic values and has been reported to creep into no-till corn and soybean fields as well.

Biology and Identification

Poison Hemlock is a biennial weed that exists as a low growing herb in the first year and bolts to three to eight feet tall in the second year and produces flowers and seed. It is often not noticed or identified as a problem until the bolting and reproductive stages of the second year. The alternate compound leaves are pinnate (finely divided several times) and are usually triangular in outline. Flowers are white and occur in an umbel inflorescence. Poison hemlock is often confused with wild carrot but can be distinguished by its lack of hairs and purple blotches that occur on the stems.

Toxic Properties

Poison hemlock contains five alkaloids that are toxic to humans and livestock if ingested and can be lethal. All parts of the plants contain the toxic alkaloids with levels being

variable throughout the year. Symptoms of toxicity include nervousness, trembling, and loss of coordination followed by depression, coma, and/or death. Initial symptoms will occur within a few hours of ingestion.

Cases of poisoning due to poison hemlock ingestion are rare as the plants emit a mousy odor that makes it undesirable and unpalatable to livestock and humans. Consumption and toxicity in animals usually occurs in poorly managed or overgrazed pastures where animals are forced to graze poison hemlock.

Control

Control of poison hemlock with herbicides is most effective when applied to plants in the first year of growth or prior to bolting and flowering in the second year. The closer to reproductive stages, the less effective the herbicide. In roadside ditches, pastures, and waste areas, herbicides containing triclopyr (Remedy Ultra, Garlon, numerous others) or triclopyr plus 2,4-D (Crossbow) are most effective in controlling poison hemlock. Other herbicides that provide adequate control when applied at the proper timing are dicamba (Clarity, numerous others), metsulfuron-methyl (Escort XP), metsulfuron-methyl plus dicamba plus 2,4-D (Cimarron Max) and clopyralid plus 2,4-D (Curtail).

For further information on toxic plants in Indiana refer to the Purdue University Weed Science Guide to Toxic Plants in Forages.



Poison hemlock.



Poison hemlock.

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Spring Burndown Applications To Weeds And Cover Crops – (Joe Ikley, Travis Legleiter, and Bill Johnson) -

This spring so far has been cold and wet with short spurts of warm sunny days in-between. This weather cycle for the most part kept producers out of field and allowed the winter annual weeds to flourish the past couple of weeks. As we look ahead to the next couple of weeks in hope of getting out to the fields to do spring no-till burndown applications, there are a couple of things to keep in mind.

Winter Annual Weeds

The warm periods of weather, particularly the last two weeks, along with the ample soil moisture have been beneficial for winter annual weed growth and early emerging summer annuals. A few winter annual weeds that we have noticed are chickweed, purple deadnettle, and henbit that are for the most part already flowering in much of the state.

Cressleaf groundsel has begun flowering in southern Indiana.

Producers will need to make winter annual burndown applications quickly, once conditions allow them to get into fields. These weeds, specifically chickweed, can create mats that slow soil drying and delay planting. Although these annuals may already be flowering and nearing the end of their life cycle a timely burndown application will speed up the desiccation processes for quicker soil drying and timely planting.

Marestail

This weed has no doubt been the biggest weed problem across Indiana the last couple of years and this spring is setting up to give it an advantage again. Any fall emerging marestail that survived the winter or was not controlled by a fall herbicide application has likely already begun to bolt and will be difficult to control if not treated soon. The spring emerging cohorts of marestail have likely started to emerge and will be very quickly gaining size if producers are kept out of fields by continued wet conditions.

Producers need to be aware of the size of marestail populations in fields and plan burndown treatments accordingly. The majority of marestail populations are glyphosate-resistant and must be controlled with other herbicides. Producers need to be aware of appropriate tank mixes and rates to control larger marestail populations that are glyphosate resistant.

For a more details of marestail control, specifically in no-till soybean, refer to our "[Control of marestail in no-till soybean](#)" publication.

Cover Crops

The state of Indiana, according to personnel with NRCS, had approximately 1 million acres of cover crops planted this last fall. Some of the cover crop species are designed to be winter killed, although several will need to be terminated prior to corn or soybean planting.

Producers who seeded cover crops need to be aware of the proper timing, herbicides, and rates for termination applications for each specific cover crop species. Many of the cover crops are relatively easily controlled with 0.75 lb ae/A of glyphosate in early spring prior to corn or soybean planting.

The one cover crop that poses a larger challenge is annual ryegrass. When allowed to grow extensively in the spring annual ryegrass can be very difficult to terminate with herbicides and can become a weed itself. Producers need to make applications prior to annual ryegrass reaching 6 inches to ensure a successful termination. Much like marestail, the combination of the warm spells and wet soils keeping producers out of the field can lead to annual ryegrass cover crops growing beyond manageable heights.

Regardless of the size of the annual ryegrass there are a couple of keys that producers need to keep in mind when making their termination applications. Glyphosate is the most commonly used herbicide to terminate annual ryegrass and must be applied at 1.5 lb ae/A (2 quarts of a 3lb ae/gal glyphosate product) to ensure complete termination.

Application of glyphosate also need to be applied when the annual ryegrass is actively growing or during a period in which nighttime low temperatures are greater than 45⁰F.

It would also be a good idea to scout fields that have cover crops and see if marestail is present as well. If it is present do not rely just on glyphosate to terminate the cover crop.

You will need to add sharpen, 2,4-D, or dicamba to glyphosate to control the marestail.

For more information on cover crop termination refer to our "[Terminating Cover Crops: Successful Cover Crop Termination with Herbicides](#)" publication. For more information specifically on annual ryegrass termination refer to our "[Successful Annual Ryegrass Termination with Herbicides](#)" publication.

Application

The increase in acres infested with glyphosate resistant weeds means many producers are making burndown applications with other herbicides and/or tank mixes. Some of the popular tank mixes contain contact herbicides like gramoxone and sharpen. When applying a contact herbicide, producers need to keep in mind that complete spray coverage is essential. To ensure complete coverage producers need to use carrier volumes of at least 15 to 20 gallons per acre (GPA). The use of proper adjuvants and spray nozzle tips as listed by the product label will also ensure optimal coverage and efficacy.

The slight delay in the planting season has likely given some of our winter annuals and early emerging summer annuals a head start this year, but with the proper herbicides, rates, and application methods producers will be able to get their no-till fields cleaned off and ready for a successful growing season.

Dicamba Preplant Ahead of Roundup Xtend Soybeans

In order to control marestail and other broadleaf winter annual weeds, many producers may choose to use dicamba in their burndown applications ahead of planting Roundup Xtend soybeans. There is no specific "Roundup Xtend soybean" section on the labels of older dicamba products, so they must be treated like any other soybean. It is important to know that with the exception of Xtendimax, Engenia, and FeXapan, all other dicamba products must follow the label restrictions ahead of planting ALL soybeans. The requirements after application are for 1-inch of rain, then a 14-day waiting period for 0.25 lb ae/A of dicamba (8 ounces of a 4 lb ae/gal dicamba product), and 1-inch of rain, then a 28-day waiting period for 0.5 lb ae/A of dicamba (16 ounces of a 4 lb ae/gal dicamba product).

When using Xtendimax, Engenia, or FeXapan in a burndown ahead of Roundup Xtend soybean, the requirements for rainfall and a waiting period do not have to be observed. For Xtendimax and FeXapan, up to 44 oz/A (1 lb ae/A) can be applied preplant through emergence. This can be either through two applications of 22 oz/A (0.5 lb ae/A) or a single application of 44 oz/A. For Engenia, a total of 25.6 oz/A (1 lb ae/A) can be applied preplant through emergence. The Engenia label does not allow for more than 12.8 oz/A (0.5 lb ae/A) in a single application. When choosing to tank-mix these products in a burndown application, be sure to check their respective websites within 7 days of application to make sure the tank-mix is approved.

(www.xtendimaxapplicationrequirements.com)

(www.engeniatankmix.com)

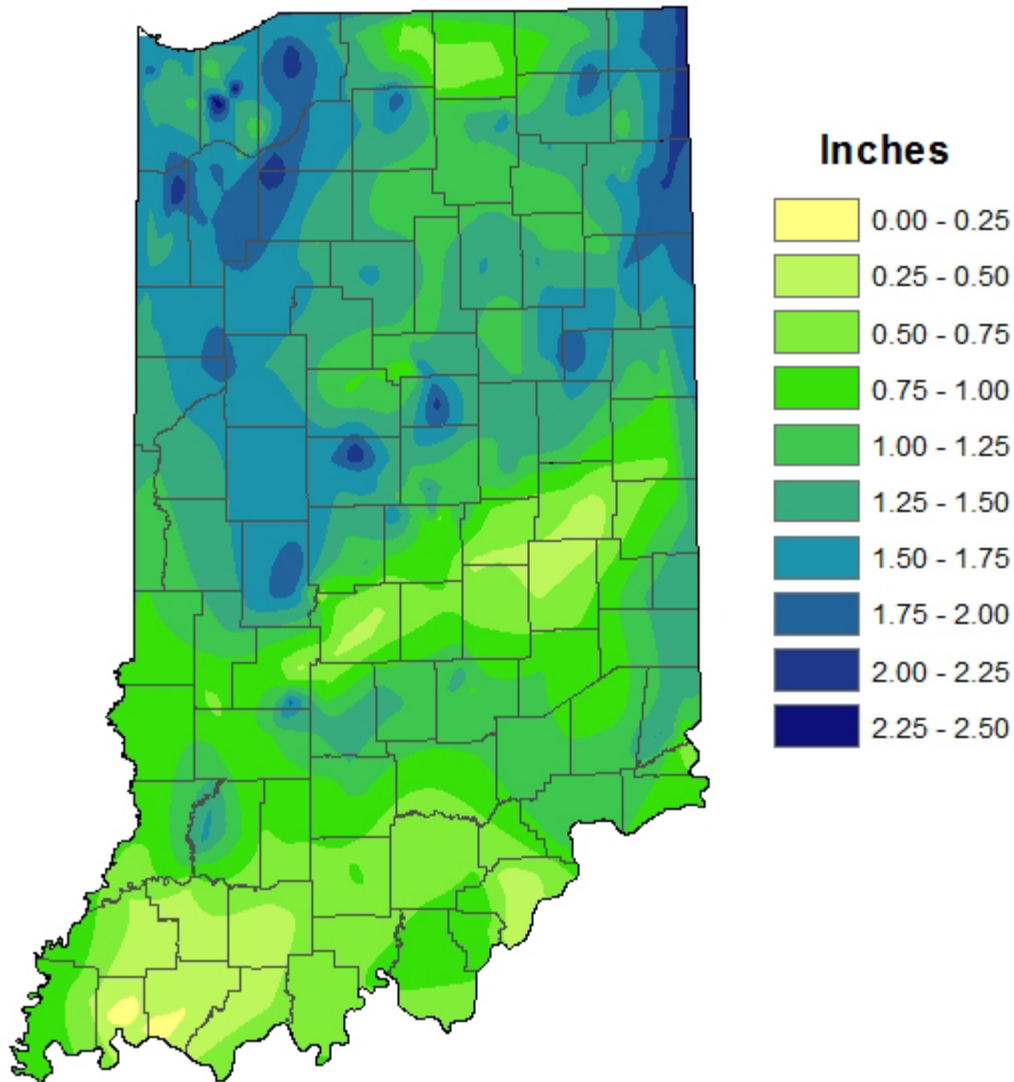
(www.fexapanapplicationrequirements.dupont.com)

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WEATHER UPDATE

Precipitation

Total Precipitation Apr 6 - 12, 2017 CoCoRaHS Network (317 Stations)

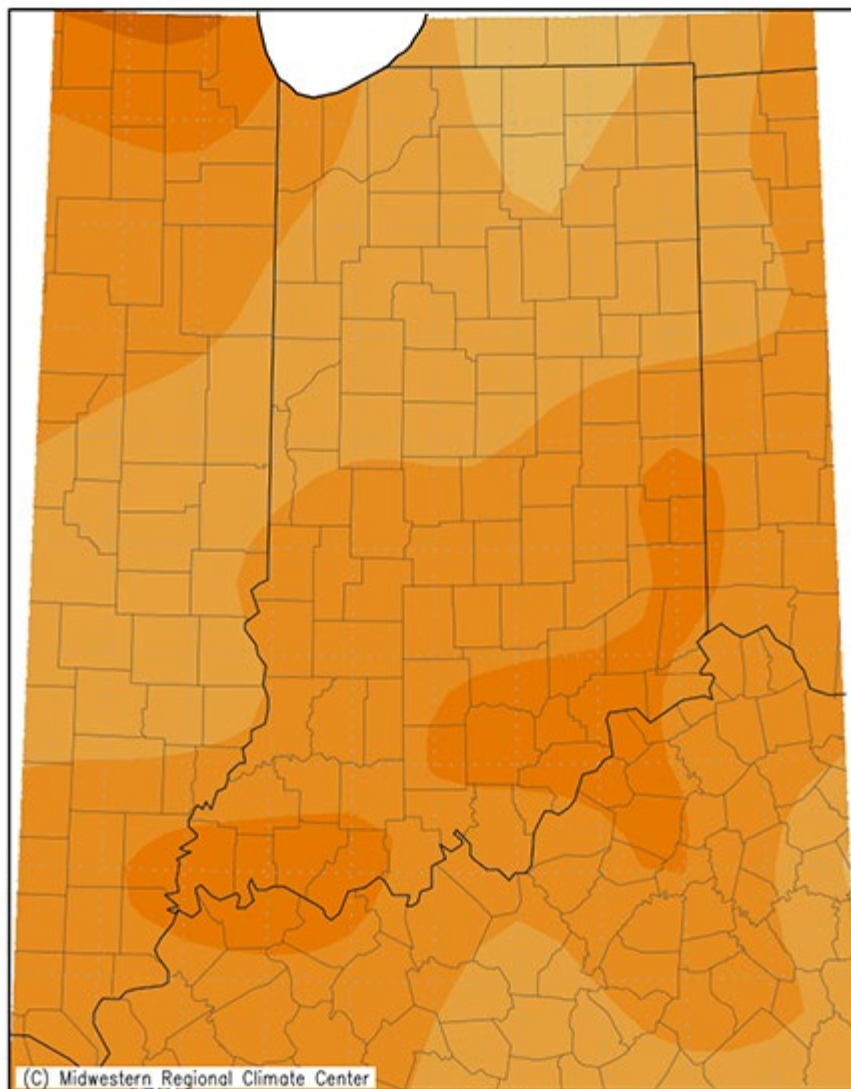


Analysis by Indiana State Climate Office
Web: <http://www.iclimat.org>

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Temperature

Average Temperature (°F): Departure from Mean April 4, 2017 to April 10, 2017



Mean period is 1981–2010.



Indiana State Climate Office www.iclimate.org
Purdue University, West Lafayette, Indiana
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THANKS FOR READING

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