

Pest&Crop newsletter

Purdue Cooperative Extension Service and USDA-NIFA Extension IPM Grant

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Black Cutworm Moths Have Begun Their Arrival

(John Obermeyer)

Black cutworm trap cooperators have detected that moths are beginning their traverse to Indiana this past week. Though numbers are very low, see Black Cutworm Pheromone Trap Report, we will expect more arrival with anticipated storms from the Southwest, refer to the Indiana Climate and Weather Report. As described in last week's Pest&Crop, we now wait for how the future black cutworm captures lineup with delayed field work, winter-annual weed termination and/or planting. Happy Scouting!



Bug Scout - "Ahhh... spring time... look at all the pretty black cutworm moths!"

2019 Black Cutworm Pheromone Trap Report

(John Obermeyer)

County	Cooperator	BCW Trapped						
		Wk 1 3/28/19- 4/3/19	Wk 2 4/4/19- 4/10/19	Wk 3 4/11/19- 4/17/19	Wk 4 4/18/19- 4/24/19	Wk 5 4/25/19- 5/1/19	Wk 6 5/2/19- 5/8/19	Wk 7 5/8/19- 5/15/19
Adams	Roe/Mercer Landmark	0						
Allen	Anderson/Syngenta							
Allen	Gynn/Southwind Farms	0						
Allen	Kneubuhler/G&K							
Bartholomew	Concepts							
Bartholomew	Bush/Pioneer Hybrids							
Boone	Emanuel/Boone							
Boone	County CES/Lebanon	0						
Clay	Bower/Ceres							
Clay	Solutions/Clay City							

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Clinton	Emanuel/Boone Co. CES	1						
Clinton	Foster/Rossville							
DeKalb	Hoffman/ATA Solutions							
Dubois	Eck/Dubois Co. CES	4						
Fayette	Schelle/Falmouth Farm	1						
Fayette	Supply Inc.							
Fountain	Mrocklewicz/Syngenta	0						
Fulton	Jenkins/Ceres							
Fulton	Solutions/Talma							
Fulton	Ranstead/Ceres	0						
Hamilton	Solutions							
Hamilton	Campbell/Beck's Hybrids	0						
Hendricks	Nicholson/Nicholson							
Hendricks	Consulting							
Jasper	Tucker/NBayer							
Jasper	Overstreet/Jasper Co. CES	0						
Jasper	Ritter/Brodbeck Seeds							
Jay	Boyer/Davis PAC	2						
Jay	Shrack/Ran-Del Agri Services	1						
Jay	Temple/Jay Co. CES/Redkey	0						
Jay	Temple/Jay Co. CES/Pennville	0						
Jennings	Bauerle/SEPAC	1						
Knox	Bower/Ceres Solutions							
Lake	Kleine							
Lake	Moyer/Dekalb Hybrids/Shelby	0						
Lake	Moyer/Dekalb Hybrids/Scheider	0						
LaPorte	Rocke/Agri-Mgmt. Solutions	0						
Marshall	Barry							
Marshall	Harrell/Harrell Ag Services							
Marshall	Klotz/SR 10 & SR 331							
Marshall	Miller/Ceres							
Marshall	Solutions/Plymouth							
Miami	Early/Pioneer Hybrids	0						
Montgomery	Delp/Nicholson Consulting							
Newton	Moyer/Dekalb Hybrids/Lake Village	0						
Porter	Tragesser/PPAC	0						
Posey	Schmitz/Posey Co. CES	0						
Pulaski	Capouch/M&R Ag Services							
Pulaski	Leman/Ceres Solutions							
Putnam	Nicholson/Nicholson Consulting							
Randolph	Boyer/DPAC	0						
Rush	Schelle/Falmouth Farm	0						
Shelby	Supply Inc.							
Shelby	Fisher/Shelby County Co-op							
Shelby	Simpson/Simpson Farms							
St. Joseph	Carbiener							
St. Joseph	Deutscher/Helena Agri-Enterprises	0						
Sullivan	Bower/Ceres Solutions							
Sullivan	Bower/Ceres Solutions	0						
Tippecanoe	Solutions/Sullivan							
Tippecanoe	Bower/Ceres Solutions	0						
Tippecanoe	Nagel/Ceres Solutions	0						
Tippecanoe	Obermeyer/Purdue Entomology	0						
Tippecanoe	Westerfeld/Monsanto Research Farm	0						
Tipton	Campbell/Beck's Hybrids	0						
Vermillion	Bower/Ceres Solutions							
Wabash	Enyeart/Ceres Solutions							
White	Foley/ConAgra	0						
Whitley	Richards/NEPAC							

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

ATS and Burndown Herbicide Treatments

(Bill Johnson), (Bryan Young), (Julie Young) & (Marcelo Zimmer)

This spring we have received a number of questions regarding the use of glyphosate-based burndown herbicides programs with ATS (ammonium thiosulfate). Increased use of ATS is being driven by the fact that sulfur deficiency symptoms are showing up on fields with low sulfur soil test levels. It is our understanding that ATS is a low cost source of sulfur to help rectify sulfur deficiency. Because of the number of questions we were receiving, we conducted a quick study in the greenhouse to determine the impact ATS has on weed control with glyphosate and glyphosate plus 2,4-D.

We chose to evaluate wheat, velvetleaf, and lambsquarters, because these weeds are known to be tough to control with glyphosate. In this article, we will discuss wheat control. Our treatment structure and results are shown in Figure 1. Figure 2 shows wheat control 11 days after application. As you can clearly see in the figures, use of ATS with glyphosate resulted in lower control of wheat in this greenhouse study.

To translate what this would mean in the field, the potential for control of weeds or cover crops like wheat, annual ryegrass, barnyardgrass, velvetleaf, lambsquarters, marehail, etc. could be lower or result in incomplete kill if ATS is used with a burndown herbicide program that relies on glyphosate or glyphosate + 2,4-D. This situation is more likely to occur when the weeds are large, or when spray applications are made to plants that are not actively growing (e.g. cool, cloudy weather conditions for many days surrounding spray day). Please note this research included full rates of both glyphosate and 2,4-D under warm greenhouse conditions that favor herbicide activity.

We also recorded the pH of the spray solution prior to application and noted that ATS applied at a high rate of 7 gal/A increased the pH by approximately 1.5 pH units. Since we don't currently understand the basis for the antagonism between glyphosate and ATS, we can't suggest that this change in pH is the primary cause of reduced efficacy or that reducing the pH with an adjuvant that reduced spray pH will restore glyphosate activity.

To avoid antagonizing glyphosate activity in a situation like this, we would suggest the following strategies:

- 1) Apply ATS in a separate trip across the field a few days after the burndown treatment
- 2) Increase the rate of glyphosate to at least 2 qts/A
- 3) Consider adding another effective mode of action to glyphosate for control of weed species that are historically difficult-to-control in a spring burndown with glyphosate.

In our next article we will discuss velvetleaf control. The symptoms were slower to develop on velvetleaf and we wanted to allow a few more days to pass before we made our assessment.

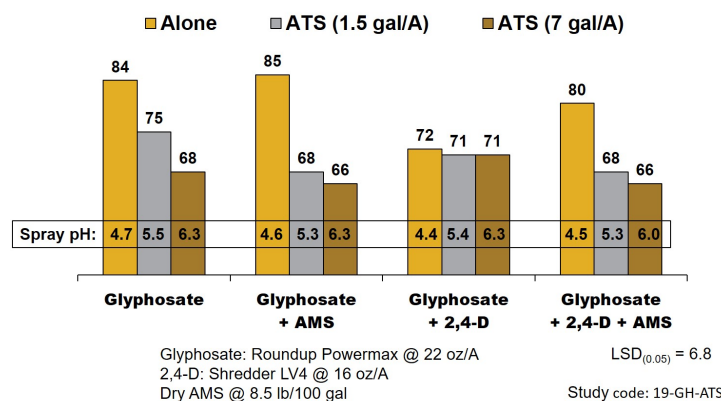


Figure 1. Effect of ammonium thiosulfate (ATS) on glyphosate activity on wheat seven days after treatment.

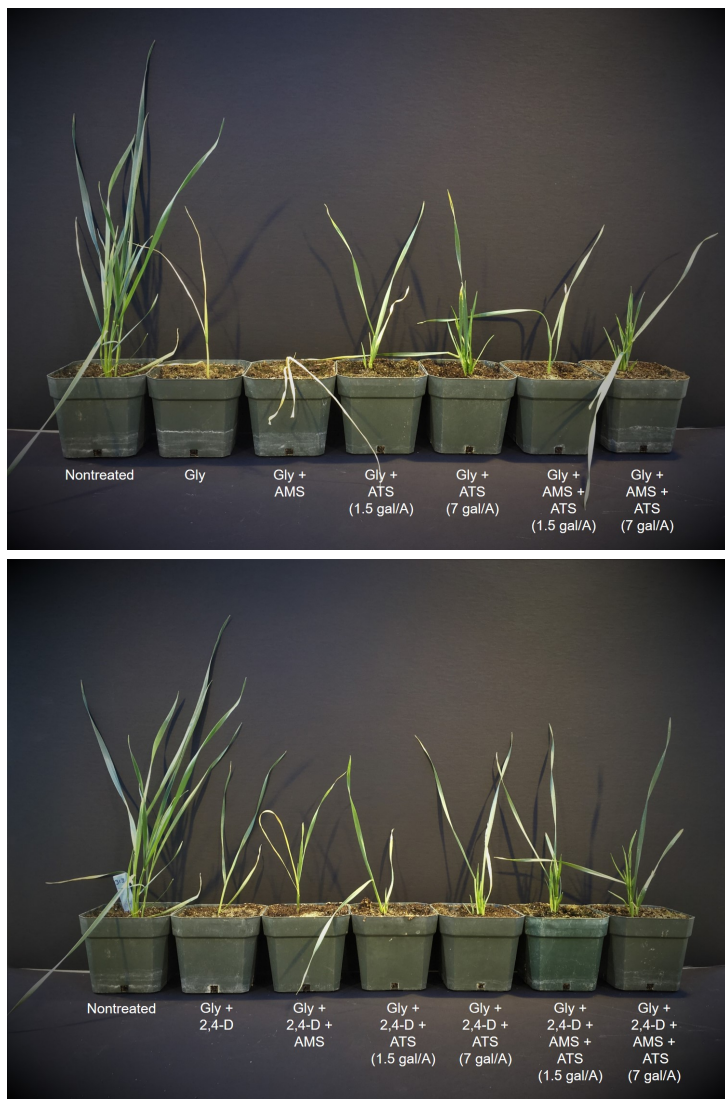


Figure 2. Effect of ammonium thiosulfate (ATS) on glyphosate activity on wheat 11 days after treatment.

Indiana Climate and Weather Report - 4/3/2019

(Beth Hall)

April is indicative of vegetation rapidly greening up, accumulating growing degree-days, and those infamous April showers. After March's memorable precipitation events that left most of the state 1"-2" above normal, perhaps a week or two without significant rainfall would be welcomed! Unfortunately, the 6-14-day outlooks are showing increased confidence that Indiana will experience above normal precipitation (Figure 1) with increased confidence of below normal temperatures (Figure 2) near the end of that period. The climate outlook for month of April is suggesting above normal temperatures so hopefully the end of the month will be warm and dry enough for productive planting. Growing degree-days have been slow to accumulate, but that is not necessarily unusual.

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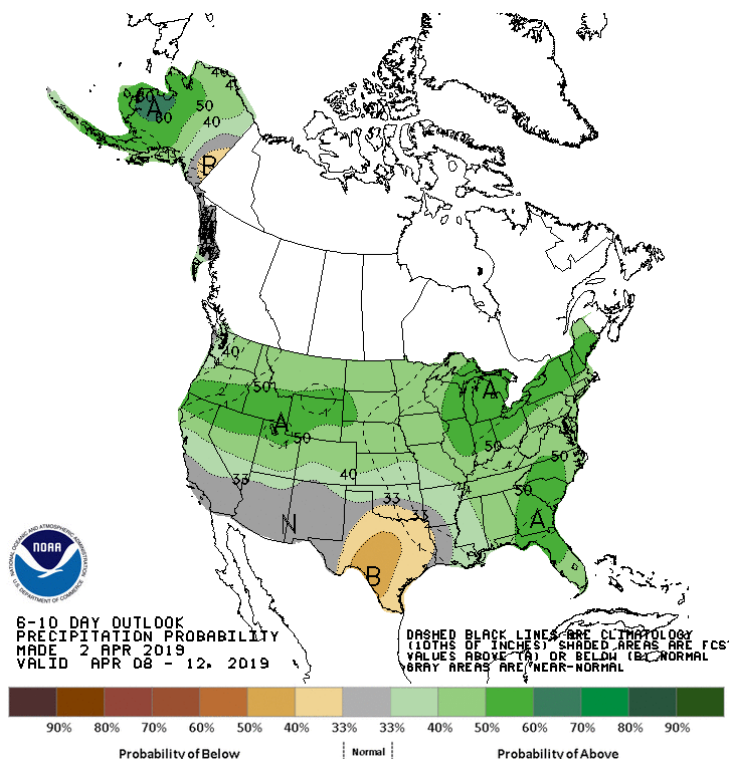


Figure 1. Probability of above or below normal precipitation amounts for April 8-12, 2019. Indiana is showing 40%-60% probability that precipitation will be above normal.

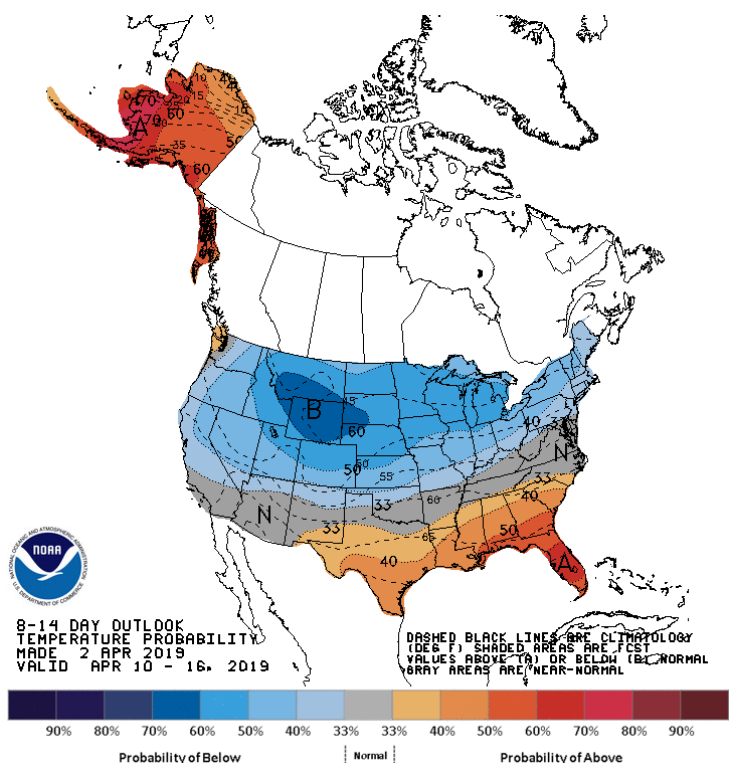


Figure 2. Probability of above or below normal temperature for April 10-16, 2019. Indiana is showing 33%-55% probability that temperatures will be below normal.

