

# Pest & Crop newsletter

**Purdue Cooperative Extension Service and USDA-NIFA Extension IPM Grant**

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## Alfalfa Weevil Damage Reported Very Early In Northern Counties And Implications Of Freezing Temperatures On Larvae

(Christian Krupke) & (John Obermeyer)

Recent reports from pest managers in northern counties have indicated that weevil damage and larval numbers are very high, well in advance of typical numbers for this date. See accompanying map below. It seems that winters mild temperatures have allowed for higher levels of egg and adult over-wintering and that spring heat unit accumulations have accelerated larval development. Based on the numbers and size-variability of larvae, egg laying occurred over an extended period. This makes management a little tougher, as it means that egg hatch and larval development will be occurring over a longer period than normal. Alfalfa stands of four years or more are especially vulnerable to higher weevil populations...they should be scouted and managed if necessary.



These alfalfa weevil larvae were well and fine the day after freezing temperatures on April 20. (Photo Credit: John Obermeyer)

The snow and freezing temperatures over the last couple days may bend-down or discolor the alfalfa, but weevil larvae will not be harmed.

Though the weevil ceases feeding activity when temperatures dip below 48°F, they are quite cold hardy and will survive just fine nestled among the folded leaves in the tips. Once warmer temperatures return – probably as you read this. – field scouting for alfalfa weevil damage should begin. Normally, at 250 heat units, base 48°F, accumulation from January 1 (see guidelines and map below) we recommend scouting. Sampling a field to determine the extent of alfalfa weevil damage and average stage of weevil development is best accomplished by walking through the field in an “M-shaped pattern.” Ten alfalfa stems should be examined in each of 5 representative areas of the field for a total of 50 stems from the entire field. Consider that south facing slopes and/or sandy soils warm sooner and should be prioritized for sampling. Each stem should be examined for evidence of tip feeding (pin-holes to skeletonized) and teasing out alfalfa weevil larvae from among damaged leaves. Although large alfalfa weevil larvae are relatively easy to find, small larvae are difficult to see; thus, very close examination of leaves may be required to detect “pin-hole” feeding, small black fecal pellets and small off-white to light green larvae. There are very few other insects feeding in alfalfa tips at this time of year.

By utilizing heat unit accumulation data to determine when management action should be taken, producers can get the greatest economic return. See guidelines and accumulated heat unit map below. If the application of an insecticide is required early in the weevil season, producers should select a material that has good residual action, and apply at the higher rate.

### Alfalfa Weevil Management Guidelines Southern Indiana

Heat Units	% Tip Feeding*	Advisory
250		Begin sampling. Re-evaluate in 7-10 days using the appropriate heat units or treat immediately with a residual insecticide if 3 or more larvae are noted per stem and % tip feeding is above 50%
300	0-50	
400	50	Treat immediately with a residual insecticide.
500	75	Treat immediately.
600	75+	If cutting delayed more than 5 days, treat immediately. 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.
750		

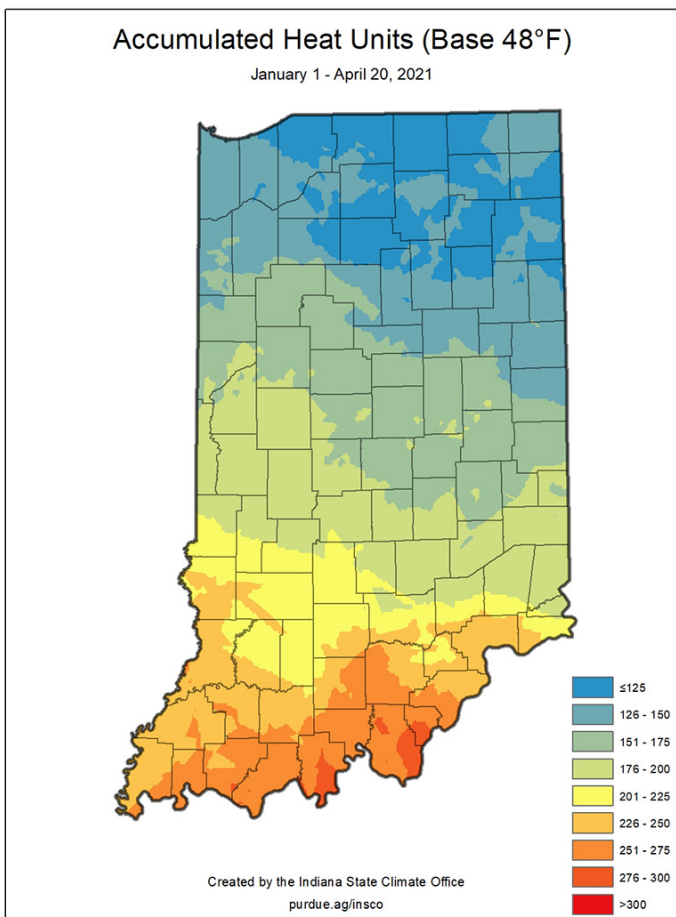
\*Note if larvae are still present, actively feeding and/or diseased.

### Alfalfa Weevil Management Guidelines Northern Indiana

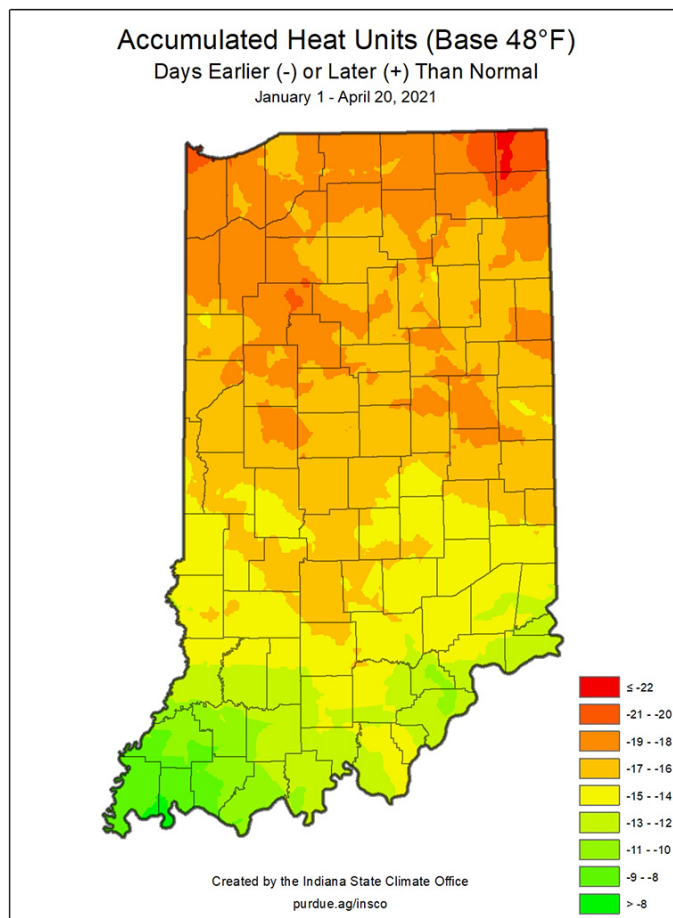
Heat Units	% Tip Feeding*	Advisory
250		Begin sampling.
300	0-40 (30)*	Re-evaluate in 7-10 days using the appropriate heat units or treat immediately with a residual insecticide if 3 or more larvae are noted per stem and % tip feeding is above 50%
400	60 (50)**	Treat immediately with a residual insecticide.
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.

\*Note if larvae are still present, actively feeding and/or diseased.

\*\*Shorter than normal growth at beginning of season.



Alfalfa weevil development, used with management guidelines. Still much egg hatching to occur!



This map shows why alfalfa weevil development and damage this year is way ahead of normal.

## VIDEO: Alfalfa Weevil: Damage And Scouting

(Christian Krupke) & (John Obermeyer)

Sampling an alfalfa field to determine the extent of alfalfa weevil damage and average stage of weevil development is best accomplished by walking through the field in an "M-shaped pattern." Ten alfalfa stems should be examined in each of 5 representative areas of the field for a total of 50 stems from the entire field. Consider that south-facing slopes and/or sandy soils warm sooner and should be prioritized for sampling. Each stem should be examined for: (1) evidence of feeding (pin-hole and skeletonized) by alfalfa weevil larvae; (2) maturity of the stem, i.e. pre-bud, bud and/or flowers; and (3) stem length. The average size (length) of weevil larvae should also be noted. Although large alfalfa weevil larvae are relatively easy to find, small larvae are difficult to see; so very close examination of leaves may be required to detect "pin-hole" feeding, small black fecal pellets and small off-white larvae. This video will further explain the proper sampling technique, and show alfalfa weevil feeding damage.

## Armyworm Pheromone Trap Report - 2021

(John Obermeyer)

County/Cooperator	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11
Dubois/SIPAC Ag Center	0	13	3								
Jennings/SEPAC Ag Center	0	1	0								
Knox/SWPAC Ag Center	0	6	1								
LaPorte/Pinney Ag Center	27	50	12								
Lawrence/Feldun Ag Center	14	62	7								
Randolph/Davis Ag Center	0	0	0								
Tippecanoe/Meigs	1	0	0								
Whitley/NEPAC Ag Center	0	0	0								

Wk 1 = 4/1/21-4/7/21; Wk 2 = 4/8/21-4/14/21; Wk 3 = 4/15/21-4/21/21;  
Wk 4 = 4/22/21-4/28/21; Wk 5 = 4/29/21-5/5/21; Wk 6 =  
5/6/21-5/12/21; Wk 7 = 5/13/21-5/19/21; Wk 8 = 5/20/21 - 5/26/21; Wk  
9 = 5/27/21-6/2/21; Wk 10 = 6/3/21-6/9/21; Wk 11 = 6/10/21-6/16/21

## 2021 Black Cutworm Pheromone Trap Report

(John Obermeyer)

		BCW Trapped										
		Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7				
		4/1/21-4/8/21	4/15/21-4/22/21	4/29/21-5/6/21	5/13/21-5/19/21	5/20/21-5/26/21	5/27/21-6/2/21	6/3/21-6/9/21				
County	Cooperator	4/1/21-4/8/21	4/15/21-4/22/21	4/29/21-5/6/21	5/13/21-5/19/21	5/20/21-5/26/21	5/27/21-6/2/21	6/3/21-6/9/21	6/10/21-6/16/21	6/17/21-6/23/21	6/24/21-7/1/21	7/2/21-7/8/21
Adams	Roe/Mercer Landmark	5	15	10*								
Allen	Anderson/NICK	0	1	0								
Allen	Gynn/Southwind Farms	0	0	0								
Allen	Kneubuhler/G&K Concepts	0	0	2								
Bartholomew	Bush/Pioneer Hybrids	0	21*	6								
Boone	Emanuel/Boone Co. CES	1	1	3								
Clay	Mace/Ceres Solutions/Brazil	6	7	2								
Clay	Fritz/Ceres Solutions/Clay City	0	3	5								
Clinton	Emanuel/Boone Co. CES	1	12	10								
Dubois	Eck/Dubois Co. CES	0	7	9								
Elkhart	Kauffman/Crop Tech	2		0								
Fayette	Schelle/Falmouth Farm Supply Inc.	12	23*	29*								
Fountain	Mroczkiewicz/Syngenta	2	15*	4								
Hamilton	Campbell/Beck's Hybrids	5	17*	6								
Hendricks	Nicholson/Nicholson Consulting	0	1	3								
Hendricks	Tucker/Bayer	-	-	-								
Howard	Shanks/Clinton Co. CES	0	0	0								
Jasper	Overstreet/Jasper Co. CES	0	0	0								
Jasper	Ritter/Dairyland Seeds	0	0	0								
Jay	Boyer/Davis PAC	0	29*	14								
Jay	Liechty/G&K Concepts	2	13	6								
Jay	Shrack/Ran-Del Agri Services	1	16	1								
Jennings	Bauerle/SEPAC	0	22*	19								
Knox	Clinkenbeard/Ceres Solutions/Westphalia	0	0	0								
Knox	Gretencord/Ceres Solutions/Fritchton	0	5	8								
Knox	Butler/Ceres Solutions/Vincennes	0										
Kosciusko	Jenkins/Ceres Solutions/Mentone	0	0	0								
Lake	Kleine/Rose Acre Farms	3	22*	2								
Lake	Moyer/Dekalb Hybrids/Shelby	0	7	0								
Lake	Moyer/Dekalb Hybrids/Scheider	1	7	2								
LaPorte	Deutscher/Helena	0	4									
LaPorte	Rocke/Agri-Mgmt. Solutions	1	2	0								
Marshall	Harrell/Harrell Ag Services	0	0									
Miami	Early/Pioneer Hybrids	0	0	2								
Montgomery	Delp/Nicholson Consulting	2		4								
Newton	Moyer/Dekalb Hybrids/Lake Village	1	5	3								
Porter	Tragesser/PPAC	0	3	0								
Posey	Schmitz/Posey Co. CES	-	2									
Pulaski	Capouch & Chaffins/M&R Ag Services	4	6									

Pulaski	Leman/Ceres Solutions/Francesville	3	5	4
Putnam	Nicholson/Nicholson Consulting	0	7	8
Randolph	Boyer/DPAC	0	2	4
Rush	Schelle/Falmouth Farm Supply Inc.	0	14*	0
Shelby	Fisher/Shelby County Co-op			
Shelby	Simpson/Simpson Farms	0		
Stark	Capouch & Chaffins/M&R Ag Services, NW		0	0
Stark	Capouch & Chaffins/M&R Ag Services, SE		0	0
St. Joseph	Battles/Mishawaka			
St. Joseph	Carbiener, Breman	2	2	1
St. Joseph	Deutscher/Helena Agri-Enterprises	0	3	
Sullivan	Baxley/Ceres Solutions/New Lebanon	0		
Sullivan	McCullough/Ceres Solutions/Farmersburg	0	0	2
Tippecanoe	Bower/Ceres Solutions/Lafayette	2	0	0
Tippecanoe	Nagel/Ceres Solutions/W. Lafayette	4	22*	23*
Tippecanoe	Obermeyer/Purdue Entomology/ACRE	1	5	2
Tippecanoe	Westerfeld/Bayer Research Farm/W. Lafayette	0	3	2
Tipton	Campbell/Beck's Hybrids	4	10	3
Vermillion	Lynch/Ceres Solutions/Clinton	0	0	
White	Foley/ConAgra/Brookston	3	3	2
Whitley	Boyer/NEPAC/Schrader	0	6	0
Whitley	Boyer/NEPAC/Kyler	-	-	0

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

## New FAA Rules On Remote ID For Drones

(Bob Nielsen)

Here's a FAQ page that answers some questions about FAA's new regulations regarding remote identification for drones that took effect yesterday. The rule affects drones that weigh more than 0.55 lbs or any drone flown under Part 107 activities.

[https://www.faa.gov/uas/getting\\_started/remote\\_id/](https://www.faa.gov/uas/getting_started/remote_id/)

The good news is that drones currently in your possession won't have to comply with the new regulations until September 16, 2023. Drone manufacturers do not have to comply until September 16, 2022. This means that drones you currently own and ones you purchase between now and then will likely NOT have built-in remote ID and you will have to equip them with after-market remote ID modules by September 16, 2023. I do not know whether after-market kits are yet available.

Technically, you will be able to legally fly a drone not equipped with Remote ID after that date. However, you will be restricted to "FAA-Recognized Identification Areas" (FRIAs) that are sponsored by local organizations or educational institutions. However, that option is clearly not viable if you need to fly outside of those areas.

In a recent blog by DJI, their VP of policy and legal affairs hints that some of their current drones might simply require a software update, yet to be developed, to utilize existing radio hardware in the drones. I suspect, for example, this might include the DJI Matrice 200 and the Mavic 2 Pro models, but probably not the Phantom 4 Pro model.

<https://viewpoints.dji.com/blog/faa-remote-id-what-it-means-for-you-and-your-dji-drone>

## Comments on Questions Received This



## Week

(Keith Johnson)

This past week I have had topic discussion with individuals that I thought would benefit readers of the Pest & Crop Newsletter.



Tulips survived the snow, and cool-season forages likely did, too.  
Photo contributed by Keith Johnson, Purdue Extension Forage Specialist

## Cold Temperature

Cold temperature and snow on Tuesday and Wednesday were causes of concern for forage producers. Where snow fell, it likely helped reduce forage seedling death and tiller damage on established forages. Snow is an insulating blanket when it is received. If it had been a clear, crisp night with heavy frost, concern would have been greater. Do be on the lookout next week for emerging white-beige leaf tissue. If seen, this tissue did get damaged by the cold weather.



Developing buttercup blossoms.  
Photo contributed by Purdue University Crop Diagnostic Training and Research Center

## Buttercup

An emerging weed problem in pastures is buttercup. Buttercup does have poisonous properties when grazed, but not as hay. My colleagues

in weed science prepared a detailed article for the newsletter last year on buttercup. It can be reviewed at [Control Of Buttercups In Indiana fields | Purdue University Pest&Crop newsletter](#).



Creeping foxtail or meadow foxtail is being found in pastures.  
Photo contributed by Jason Tower, Southern Indiana Purdue Agricultural Center Superintendent

## Creeping foxtail or Meadow Foxtail

To the casual observer, one may think a very early timothy ecotype is heading, but that is not the case. Meadow foxtail and creeping foxtail look very similar and one or both have been observed in pastures in southern Indiana. I have creeping foxtail established at a couple of locations. The purpose is to see if it can be a potential replacement for reed canarygrass as reed canarygrass seed purchase is now not allowed in Indiana. Details about the grass can be read at [CREEPING FOXTAIL \(usda.gov\)](#)

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## Does Snow In April Mean Global Warming Is Not Happening?

(Beth Hall)

This week, much of Indiana got to see some snow falling as we were hoping that winter weather was behind us. It is not unusual for some to ask when this sort of event happens how “global warming” could be real when things are feeling so cold. The start of my answer is pointing out the word “global”. While Indiana was experiencing below-normal temperatures this past week, many other places around the earth were experiencing above (if not much above) normal temperatures. When averaged across the planet, that global temperature is still showing increasing trends. The other part of the answer is about variability. Every year, there are going to be days that are cooler than normal and days that are warmer than normal. When averaged over a month, season, or year, temperatures have been increasing. Finally, our daytime high temperatures may not be showing a noticeably strong trend (though, there is even a slight warming trend that has been occurring), but nighttime low temperatures have been warming at a greater rate. Therefore, if our average daily temperature is an average of the daily maximum and minimum temperature, if just one of those is increasing, then the average will increase.

Will these cooler temperatures and risk for snow continue this spring? Climate outlooks at this point are favoring above-normal temperatures (Figure 1) and forecasts for the next 10 days suggest a strong warming with high temperatures in the upper 70s and lower 80s as early as next

week. Perhaps our last snow date of the season is behind us. Even precipitation should stay near-to-above normal over the next several weeks (Figure 2) – offering the potential for abnormally dry conditions in our northern counties to not worsen.



Figure 1. The 8-14-day climate outlook showing probabilities slightly favoring above-normal temperatures for April 29 through May 5, 2021. Source: NOAA Climate Prediction Center.



Figure 2. The 8-14-day climate outlook showing probabilities favoring near-normal precipitation amounts for April 29 through May 5, 2021. Source: NOAA Climate Prediction Center.

With the recent cold spell, growing degree-day accumulations have slowed down this past week, but total accumulations are still ahead of where things were last year (Figures 3 and 4).

### Growing Degree Day (50 F / 86 F) Accumulation

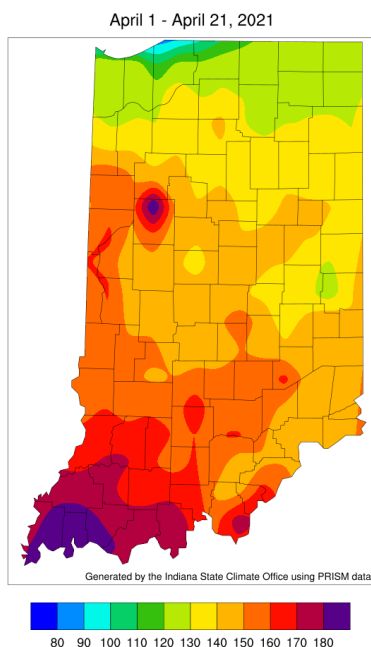


Figure 3. Modified growing degree day accumulation from April 1-21, 2021.

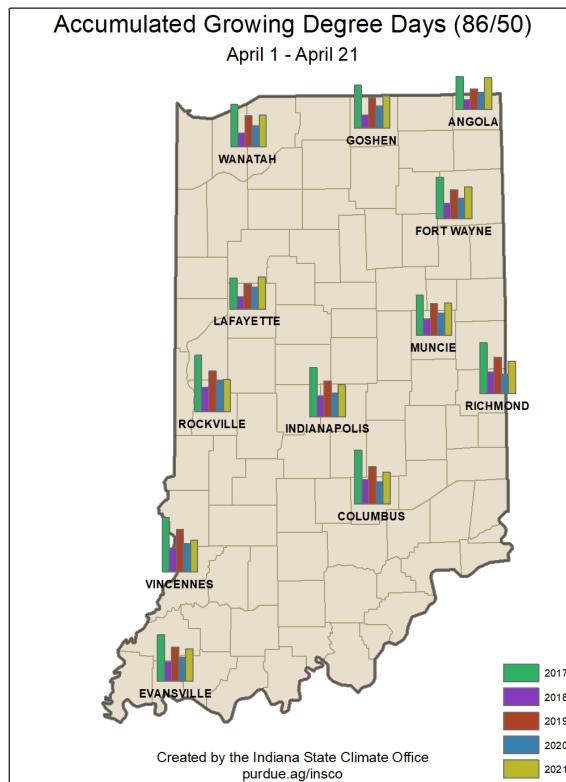


Figure 4. Comparison of 2021 modified growing degree day accumulations from average for April 1-21 to the past four years.

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