

# WISCONSIN PEST BULLETIN

Timely crop pest news, forecasts, and growing season conditions for Wisconsin

STATE OF WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION PLANT INDUSTRY BUREAU  
2811 Agriculture Dr. Madison, WI 53718 • <http://pestbulletin.wisconsin.gov>

## WEATHER & PESTS

An unusually cool, wet weather pattern persisted in Wisconsin during the last week of May. Following a sunny and dry Memorial Day weekend, showery conditions with below-normal temperatures returned, providing little additional opportunity for farmers to plant corn before the crop insurance final planting deadline. Several rounds of showers passed through the state, causing river levels to rise and adding excess moisture to already saturated fields. The showers also prevented weed control and fertilizer applications. Corn planting progress fell further behind, with only 46% of intended acres planted at the start of the week, 9 days later than last year and two weeks behind the 5-year average. Soybean planting was 13 days behind average at 20% complete as of May 26. The USDA NASS reports that there have been an average of just 2.7 days suitable for fieldwork per week this spring (from April 8-May 26). Many acres intended for corn may now be planted to soybeans or could go unplanted if the wet weather continues.

## LOOKING AHEAD

**BLACK CUTWORM:** Survey traps have collected a cumulative total of 1,207 moths at 44 monitoring sites since the first recorded moth capture of the season on

April 4. Repeated significant flights in May signal that damaging infestations could continue to develop throughout June. Many emerging corn acres are under a high threat of larval infestation at this time. Routine scouting for evidence of cutting or below-ground tunneling injury is advised until the V5 stage.

**EUROPEAN CORN BORER:** Degree day accumulations near Beloit, Lone Rock and Madison have reached the 374 units (modified base 50°F) required for the spring flight to begin, though significant moth activity is unlikely until mid-June. Black light trap contents should be closely examined during the next two weeks for any early moths.

**JUNE BEETLE:** Adult June beetles are emerging and recent black light trap counts indicate that locally heavy populations should be expected. DATCP cooperators from Walworth to Marathon County recorded large beetle captures in the past week, with the highest count of 307 beetles reported from Wausau. Foliar feeding damage caused by the adult stage of the June beetle is usually isolated and brief, and control is rarely warranted.

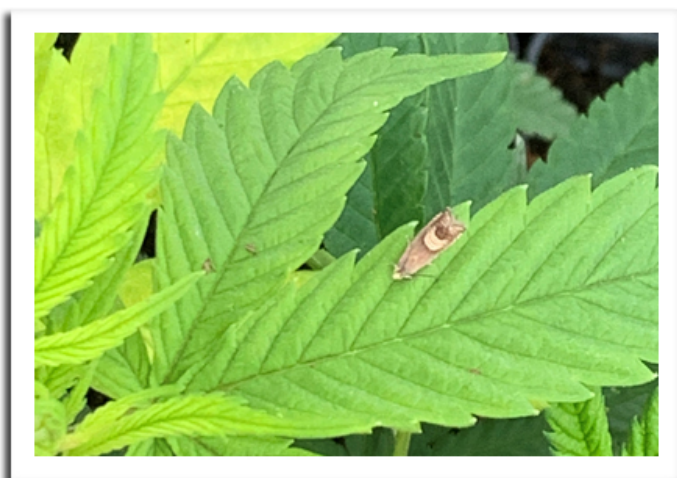
**CODLING MOTH:** Emergence of spring moths began in a few southern Wisconsin apple orchards this week. Five cooperating sites reported low counts of 1-7 moths, and most did not register a sustained flight. Codling moth flight occurs consistently between 6:00 and 11:00 pm in Wisconsin, and winds must be between 3-5 mph with



temperatures above 62°F without rain for mating to occur. Daily trap monitoring is critical until the biofix is determined.

**TRUE ARMYWORM:** Moderate to heavy local flights have been documented at several trapping locations this month, signaling that growers should anticipate armyworm caterpillars appearing on perimeter row corn plants in 2-3 weeks. The Janesville black light trap site registered a very large capture of 240 moths from May 23-29, and larvae from earlier flights are now collecting in alfalfa sweep net samples.

**EURASIAN HEMP BORER:** Moths began emerging in a Delavan greenhouse on May 26. The appearance of adults suggests that egg laying on the leaves and stalks of indoor hemp plants is beginning. The larvae of this small moth are considered one of the most destructive hemp pests, therefore routine inspection of greenhouse plants for moths is recommended starting next week. The biological insecticide Bt and natural enemies such as parasitic *Trichogramma* wasps are control options for IPM programs.



Eurasian hemp borer moth Steve Tomlins Turtle Creek Gardens

## FORAGES & GRAINS

**ALFALFA WEEVIL:** Larval populations remain very low for late May. Surveys found no more than 9 larvae per 100 sweeps, with an average of only two per 100 sweeps. Defoliation is currently unnoticeable in most fields. Based on the low populations observed from May 23-29, economic feeding damage above the 40% threshold is unlikely to develop in first-crop alfalfa harvested by the first or second week of June. Routine sampling for larvae

## DEGREE DAYS JANUARY 1 - MAY 29

LOCATION	50°F	2018	NORM	40°F
Dubuque, IA	445	635	532	933
Lone Rock	414	554	—	857
Beloit	414	543	541	858
Sullivan	371	476	485	773
Madison	393	531	511	840
Juneau	323	490	—	707
Racine	294	411	—	673
Waukesha	349	439	—	746
Milwaukee	303	437	407	691
Hartford	322	468	—	703
Appleton	271	468	—	633
Green Bay	256	447	412	613
Big Flats	308	508	—	697
Hancock	283	462	500	649
Port Edwards	290	467	487	652
La Crosse	351	580	569	790
Eau Claire	317	530	500	703
Cumberland	236	441	436	535
Bayfield	162	365	—	429
Wausau	224	431	429	516
Medford	220	423	381	506
Crivitz	242	457	—	563
Crandon	211	414	346	485

Method: Modified B50; Modified B40 as of January 1, 2019.  
 NORMALS based on 30-year average daily temps, 1981-2010.

and leaf tip feeding should be underway and continue through early second-crop regrowth.

**PEA APHID:** Surveys found a range of 35-120 aphids per 100 sweeps and an average of 78 per 100 sweeps, a marked increase over the 14 per 100 sweeps average noted last week. Winged aphids have not been observed as of May 29.

**PLANT BUG:** Counts in alfalfa remain extremely low, though a sharp population increase is expected once the first small nymphs begin appearing in early June.

**MEADOW SPITTLEBUG:** Nymphs and their frothy spittle masses were first noted in alfalfa on May 29. Populations are currently less than 1-2 per 100 stems.

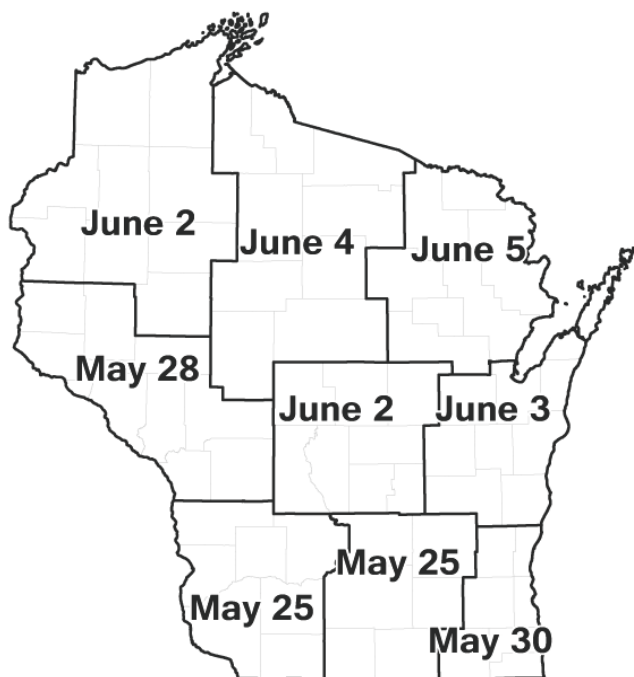
**POTATO LEAFHOPPER:** The first distinct migration into Wisconsin occurred last week and leafhoppers are common in low numbers in alfalfa. Adults were collected


in all of the fields surveyed by DATCP from May 23-29, with counts varying from 3-15 per 100 sweeps.

## CORN

**BLACK CUTWORM:** Larvae resulting from the spring migration are now in the damaging late-instar stages in portions of southern and west-central Wisconsin. Signs of cutworm activity, such as small, irregular holes in the leaves and the presence of cut plants should be detectable in the 11% of corn emerged as of May 30. Many corn acres are at increased risk of attack this season as a result of significantly delayed planting and consistent moth flights throughout May. All corn should be closely monitored for cutworm feeding until the five-leaf stage. A threshold of 3% cutting of plants (with black cutworms still present in the field) has traditionally been used as the point at which growers should consider a rescue treatment. Early and timely detection of cutworm infestations is critical for controls to be effective.

Estimated Start Date of Black Cutworm Peak Damage Period 2019



Wisconsin Department of Agriculture, Trade and Consumer Protection 

**TRUE ARMYWORM:** Substantial flights of 240 and 77 moths have been registered at the Janesville black light trap location in the last two weeks, indicating a potential for larval infestations in small grains and corn next

month. Reduced tillage corn following sod or a small grains cover crop, and fields with early-season grassy weed pressure, are candidates for armyworm problems. Damage usually appears first in the perimeter rows of fields, where the larvae enter when moving from another food source.



True armyworm moth

Krista Hamilton DATCP

**EUROPEAN CORN BORER:** The degree day model for this insect suggests the first flight could begin shortly in advanced areas of the state where 374 heat units (modified base 50°F) have accumulated, including Beloit and Madison. Nightly temperatures have generally been too cold for moth flight, thus individuals are not yet appearing in black light trap collections. The spring flight is expected to start in the week ahead.



European corn borer moth

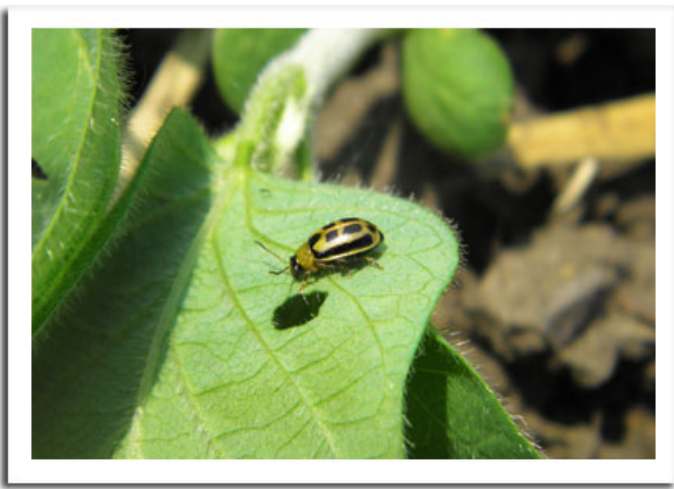
andrej macroid.ru

**CORN EARWORM:** An early migration occurred during the reporting period ending May 29, as evidenced by the capture of 13 moths in the Janesville pheromone trap.

In contrast to the black cutworm, corn is not at a critical growth stage where earworm damage can occur and these very early moths usually pose no threat to emerging fields.

## SOYBEANS

**SOYBEAN PESTS:** Surveys in soybeans have not yet started as of May 30. According to the latest USDA-NASS crop report, only 20% of the state's soybeans have been planted, 11 days behind last year and 13 days behind the average. Statewide, only 1% of the crop has emerged.



Bean leaf beetle

Krista Hamilton DATCP

## FRUITS

**CODLING MOTH:** Cool weather interrupted the start of the spring flight following a warm Memorial Day weekend. A few apple orchards in the DATCP network reported their first CM captures of the season between May 23 and 26, but at nearly all locations the flights were light and inconsistent, and the spring biofix was not set. The recommendation for orchards that register an irregular early flight is to delay the first spray until 350 degree days (base 50°) from the biofix date. Treatments applied at this threshold coincide with 15% larval hatch and are timed to eliminate most of the new larvae before they enter fruits.

**OBLIQUEBANDED LEAFROLLER:** Moth captures reported from Dane and Grant counties indicate that the first flight is beginning in southern Wisconsin orchards. The current model predicts that this event occurs following the accumulation of 600 degree days (simple base 43°F), a

threshold which has not been reached. This suggests that the OBLR counts in last week's table were probably a non-target species such as the RBLR. The OBLR is bell-shaped and slightly larger than the other fruit moths monitored by DATCP, making it relatively easy to identify. Once pheromone traps indicate that emergence of spring moths has started, weekly sampling of 10 fruit clusters and 10 terminals in the outsides, centers, and tops of five trees per orchard is recommended. Control may be justified for populations averaging three or more larvae per tree.



Obliquebanded leafroller moth

Ilona L. bugguide.net

**SPOTTED TENTIFORM LEAFMINER:** Moth numbers were mostly low again this week. Counts ranged from 0-297 per trap and averaged 39 per trap, with the exception of high captures of 750 moths reported from Brown County and 1,634 moths collected in Marathon County. The over-all low activity suggests that apple orchards are between STLM flights and populations are in the larval stages. Trap counts are expected to increase sharply over the next two weeks with the start of the second flight.

**PLUM CURCULIO:** Migration into orchards has been delayed this spring by unseasonably cool weather. Significant movement in orchards prior to petal-fall is unlikely to have occurred at most sites, therefore traditional cover sprays at petal-fall are probably not necessary. Warming temperatures forecast for early June should provide more favorable conditions for plum curculio migration and egg laying, with the first oviposition scars becoming evident in the week ahead. Apple growers are advised to continue scouting the orchard perimeter for the crescent-shaped scars, concentrating on blocks with past pressure and the largest fruits (> 5mm).

**POTATO LEAFHOPPER:** South winds last week brought the first large influx of potato leafhopper migrants into the state. DATCP surveys in alfalfa found leafhopper adults widely distributed throughout the south-central and southwest counties, in low numbers. The nymphs produced by these migrants usually appear during the second or third week of June and can be damaging to young fruit trees.

**CEDAR-APPLE RUST:** The cooperator in Sauk County reports that galls on juniper (red cedar) are sporulating in the Hill Point area. The bright orange, gelatinous tendrils that emerge from these galls release spores which can infect apples and related fruit trees up to three miles away. Cedar-apple rust alternates between junipers and rosaceous plants and requires both hosts to complete its life cycle. Removal of the galls within a mile before sporulation is one approach to limiting spread of the disease to apple, crabapple, hawthorn, quince, pear and service-berry, though usually impractical. Fungicides must be applied from tight cluster to first cover.



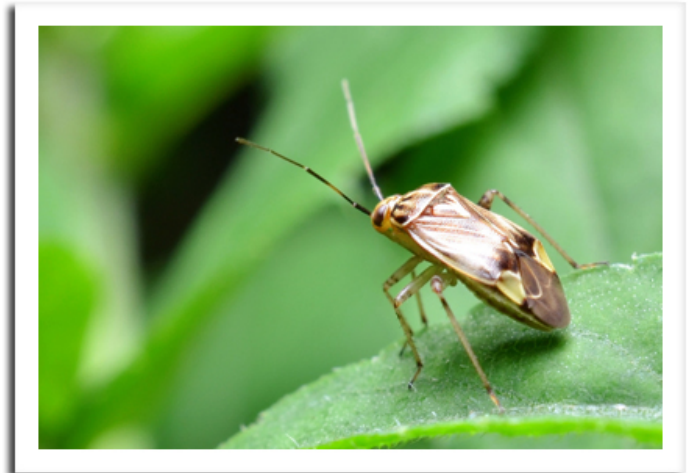
Cedar-apple rust gall on juniper

Tracy Schilder DATCP

**THRIPS:** John Aue of Threshold IPM Services reports that migrant thrips are appearing on blossoms of both apples and strawberries. This pest causes only cosmetic damage to mature trees, but on newly-planted and non-bearing apple trees its feeding is more serious and can result in stunting. Apple growers are encouraged to look for thrips during routine scouting for other or chard pests.

**TARNISHED PLANT BUG:** Nymph production is expected to start next week in the southern counties. Strawberry plants beginning to bloom should be sampled once a

week for both adults and nymphs. Controlling the smallest nymph stages is most effective. The economic threshold for this insect in strawberries is four adults per 20 sweeps at first flower bud formation or one nymph in four flower clusters.



Tarnished plant bug

Dan Simon macrodan.tumblr.com

## VEGETABLES

**BLACK CUTWORM:** Routine inspection of seedling and recently transplanted vegetables for evidence of black cutworm feeding is advised now that larvae have reached the damaging late-instar stages. Cutworms feed on the stems of young plants at the soil line and can be destructive where transplants are planted through black plastic or a similar weed barrier. These barriers provide a protective covering for cutworms, making them more difficult to control. Beans, cabbage, carrots, celery, corn, lettuce, peas, peppers, potatoes and tomatoes are all at risk of larval injury.



Black cutworm larvae

Roger Schmidt UW-Madison

**IMPORTED CABBAGEWORM:** First-generation larvae should begin appearing on cabbage transplants next week. Growers are encouraged to inspect gardens and larger cabbage plantings regularly for the yellow eggs laid singly on plants and for the velvety green caterpillars with a yellow longitudinal stripe. The economic threshold for this pest in cabbage is 30% infestation at the transplant-to-cupping stages.



Imported cabbageworm larva

debsgardens.wordpress.com

**COLORADO POTATO BEETLE:** Home gardeners and potato growers can expect to see beetles on plants during the first or second week of June. If scouting shows that early-season beetle pressure is high, the first of two foliar applications of an insect growth regulator or the biological insecticide Bt should be made as egg start to hatch and again 7-10 days later.



Colorado potato beetle eggs

ecotanjim.files.wordpress.com

**ONION MAGGOT:** Peak emergence has occurred in south-central and southwestern Wisconsin and is antici-

pated next week across the central counties, following the accumulation of 680 degree days (simple base 40°F). The spring onion maggot generation is typically the most damaging, especially where onions are grown in succession. Annually rotating onion planting locations is one basic approach to maggot control. Damage exceeding 5-10% is considered high enough warrant soil insecticide use.

## NURSERY & FOREST

**ELONGATE HEMLOCK SCALE:** A DATCP inspector recently found EHS during an inspection in Milwaukee County. The infested hemlock was received from out-of-state supplier. Some of the affected trees were lightly infested, while others had obvious signs of EHS. The nursery dealer responded by treating the hemlock with Safari insecticide with Dinotefuron, a systemic that should offer one year of control. Unlike the hemlock woolly adelgid, EHS is not regulated with an external quarantine in Wisconsin. However, this invasive pest is not known to be established in the state and there is concern for the Christmas tree industry and native hemlocks given its broad host range.



Elongate hemlock scale

nystateparks.blog

**GYMNOSPORANGIUM RUST:** A Gymnosporangium rust was found on serviceberry "Autumn Brilliance" shrubs at a nursery in Rock County. Gymnosporangium rusts require two hosts to complete their life cycle, a juniper and a member of the Rosaceae family. Depending upon the deciduous host, these rusts are commonly referred to as cedar-apple, cedar-hawthorn, or cedar-quince rust. Cedar-quince rust (*G. clavipes*) is the most likely of the three to have infected the serviceberry as it has the broadest host range. Symptoms on the fruit tree are most evident on

fruit and stems, though leaves may show spots or lesions. Swollen cankers appear on stems and aecia may be visible on the fruit. Later in the summer, fungal telial columns protrude from the lesions, releasing spores to be blown to a juniper host. Rust galls form on the juniper the following year. In nurseries, this disease rarely requires intervention, but apple orchards may benefit from fungicide treatment applied early in the season, from tight cluster to full cover.

increasing spacing between plants to lower humidity, and growing resistant varieties. Pruning shears should be disinfected with bleach or 70% alcohol between cuts to prevent spread of the disease. Pruning infected branches well below the visibly infected area may help reduce reoccurrence. A protective chemical treatment may limit infection severity if applied prior to full leaf expansion.



*Gynosporangium rust on serviceberry*

Shanon Hankin DATCP



*Pseudomonas bacterial blight on lilac*

Shanon Hankin DATCP

**PSEUDOMONAS BACTERIAL BLIGHT:** This bacterial disease was observed on several varieties of common lilac shrubs at southern Wisconsin dealers and nurseries. Symptoms ranged from light to severe, with light leaf lesions and shoot dieback noted. Bacterial blight usually develops during cool, wet weather and spreads by rain and splashing water.



*Pseudomonas blight on lilac*

DATCP Nursery Program

Best management options consist of pruning out blighted twigs well below the visibly infected area, thinning,

## APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 23 - 29

COUNTY	SITE	STLM <sup>1</sup>	RBLR <sup>2</sup>	CM <sup>3</sup>	OBLR <sup>4</sup>	DWB <sup>5</sup>	LPTB <sup>6</sup>	BMSB <sup>7</sup>	AM RED <sup>8</sup>	YELLOW <sup>9</sup>
Bayfield	Keystone	0	0	0	0		—			
Bayfield	Orienta	13	0	—	—					
Brown	Oneida	750	6	0	—		—			
Columbia	Rio	0	0	0	0		0			
Crawford	Gays Mills	—	—	—	—		—			
Dane	DeForest	0	16	0	3		9			
Dane	Mt. Horeb	5	10	0	0		0			
Dane	Stoughton	27	55	0	0		0			
Fond du Lac	Campbellsport	57	15	0	6		5			
Fond du Lac	Malone	16	7	0	0		0			
Fond du Lac	Rosendale	1	2	0	0		1			
Grant	Sinsinawa	12	8	7	10		—			
Green	Brodhead	4	6	0	0		0			
Iowa	Mineral Point	45	9	3	0		0			
Jackson	Hixton	44	9	0	1		0			
Kenosha	Burlington	40	4	1	0		—			
Marathon	Edgar	1634	38	—	—		13			
Marinette	Niagara	0	15	0 <sup>MD</sup>	0		0			
Marquette	Montello	243	12	0	0		0			
Ozaukee	Mequon	15	77	0	10		0			
Pierce	Beldenville	65	21	0	0		12			
Pierce	Spring Valley	47	9	0 <sup>MD</sup>	0		0			
Racine	Raymond	56	0	2	0		0			
Racine	Rochester	70	8	4	0		0			
Richland	Hill Point	4	8	0	—		0			
Sheboygan	Plymouth	176	28	0 <sup>MD</sup>	—		0			
Walworth	East Troy	2	0	0 <sup>MD</sup>	0		0			
Walworth	Elkhorn	32	26	0 <sup>MD</sup>	0		0			
Waukesha	New Berlin	10	2	0	0		0			

<sup>1</sup>Spotted tentiform leafminer; <sup>2</sup>Redbanded leafroller; <sup>3</sup>Codling moth; <sup>4</sup>Obliquebanded leafroller; <sup>5</sup>Lesser peachtree borer; <sup>6</sup>Dogwood borer; <sup>7</sup>Brown marmorated stink bug; <sup>8</sup>Apple maggot red ball; \*Unbaited; \*\*Baited; <sup>9</sup>Apple maggot yellow board; <sup>MD</sup>Mating disruption.

COUNTY	SITE	BCW <sup>1</sup>	CEL <sup>2</sup>	CE <sup>3</sup>	DCW <sup>4</sup>	ECB <sup>5</sup>	FORL <sup>6</sup>	SCW <sup>7</sup>	TA <sup>8</sup>	VCW <sup>9</sup>	WBC <sup>10</sup>
Columbia	Arlington	0	0	0	0	0	0	0	27	0	0
Columbia	Pardeeville	0	0	0	0	0	0	0	7	0	0
Dodge	Beaver Dam	1	1	0	0	0	0	0	41	0	0
Fond du Lac	Ripon	1	1	0	0	0	0	0	3	0	0
Grant	Prairie du Chien	0	0	0	0	0	2	0	0	0	0
Manitowoc	Manitowoc	2	0	0	0	0	2	0	29	0	0
Marathon	Wausau	0	0	0	0	0	0	0	3	0	0
Monroe	Sparta	0	0	0	0	0	2	0	5	0	0
Rock	Janesville	0	5	2	0	0	0	0	240	0	0
Walworth	East Troy	3	2	0	0	0	0	0	3	0	0
Wood	Marshfield	2	0	0	0	0	1	0	7	0	0

<sup>1</sup>Black cutworm; <sup>2</sup>Celery looper; <sup>3</sup>Corn earworm; <sup>4</sup>Dingy cutworm; <sup>5</sup>European corn borer; <sup>6</sup>Forage looper; <sup>7</sup>Spotted cutworm; <sup>8</sup>True armyworm; <sup>9</sup>Variegated cutworm; <sup>10</sup>Western bean cutworm.



## BLACK CUTWORM PHEROMONE TRAP COUNTS 2019

COUNTY	SITE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8
Adams	Brooks	—	0	—	0	0	1	0	2
Adams	Grand Marsh	—	0	—	0	0	0	0	2
Buffalo	Alma	0	0	0	0	3	1	1	2
Buffalo	Gilmanton	0	0	1	0	2	2	0	0
Columbia	Columbus	0	1	3	3	4	0	0	
Columbia	Hampden	1	12*	13*	7	20*	4	21*	
Columbia	Leeds	0	6	0	3	4	1	1	
Dane	Blooming Grove	0	1	4	1	2	0	0	
Dane	Blue Mounds	1	0	2	3	1	5	3	
Dane	Cross Plains	7	1	0	5	8	2	6	
Dane	Deerfield	3	8	3	5	9	2	2	
Dane	Middleton	0	0	0	1	2	1	1	
Dane	Springfield	0	0	6	13*	15*	7	6	
Dane	Vienna	0	0	0	3	4	0	5	
Dodge	Beaver Dam	0	1	9	12*	12*	1	3	24*
Dodge	Calamus	0	9	5	3	12*	7	9	
Dodge	Hubbard	0	8	5	4	5	1	2	
Dodge	Lowell	0	3	5	1	0	2	2	
Dodge	Oak Grove	0	3	2	6	2	4	7	
Dodge	Waupun	0	7	7	13*	19*	3	14*	13*
Door	Sturgeon Bay	—	—	1	5	5	2	21*	4
Fond du Lac	Lamartine	0	0	7	3	1	3	13*	3
Fond du Lac	Ripon	1	1	20*	9	11	1	4	19*
Grant	Dickeyville	0	0	6	7	2	4	17*	
Grant	Platteville	1	0	3	15*	13*	5	6	
Grant	Prairie du Chien	0	0	0	2	0	4	0	0
Iowa	Brigham E	0	0	1	3	14*	0	2	
Iowa	Brigham W	1	0	8	2	13*	8	48*	
Iowa	Dodgeville E	1	1	2	14*	7	6	5	
Iowa	Dodgeville W	0	0	6	9	4	4	7	
Iowa	Mineral Point E	0	0	7	6	18*	3	4	
Iowa	Mineral Point W	0	0	3	5	14*	3	2	
Jefferson	Ixonia E	0	9	14*	13*	6	4	14*	
Jefferson	Ixonia W	2	15*	2	4	7	7	17*	
Jefferson	Johnson Creek	1	7	2	0	0	1	0	
Jefferson	Milford	0	3	0	2	3	0	2	
Kewaunee	Algoma	—	—	0	0	2	4	5	
La Crosse	West Salem	—	—	—	—	2	0	—	1
Lafayette	Belmont	0	0	3	3	6	3	4	
Lafayette	Kendall	0	0	4	7	4	1	4	
Pepin	Durand	—	0	0	2	6	—	2	4
Rock	Janesville	5	11*	3	3	4	2	2	0
Washington	North Lake	1	6	0	0	0	0	0	
Waukesha	Oconomowoc	0	4	2	1	1	0	0	

\*Intense capture occurs when 9 or more moths are caught in a 2-night period. Week 1 (April 4-10), Week 2 (April 11-17), Week 3 (April 18-24), Week 4 (April 25-May 1), Week 5 (May 2-8), Week 6 (May 9-15), Week 7 (May 16-22), Week 8 (May 23-29).