

# WISCONSIN PEST BULLETIN

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



Wisconsin Department of Agriculture, Trade and Consumer Protection

Division of Agricultural Resource Management | Bureau of Plant Industry  
2811 Agriculture Dr., Madison, WI 53718 • <http://pestbulletin.wisconsin.gov>

## WEATHER & PESTS

A warmer, unsettled weather pattern arrived in Wisconsin, increasing topsoil moisture but slowing or halting fieldwork and causing local flooding along the lakeshore counties. Some of the heaviest rain (6 to 7 inches) fell across the east-central and southeastern regions May 17, while most areas received anywhere from 1 to 3 inches during the week. In Sheboygan County, the City of Plymouth recorded 7 inches of rain Sunday, and a reading of 2.99 inches at Milwaukee Airport set a new daily record. After the rain ended mid-week, planting of corn, oats, potatoes, soybeans and spring vegetables quickly resumed. This spring's rapid planting pace continued to progress 1-2 weeks ahead of the long-term average, with 81% of the state's intended corn acres and 61% of the soybean crop already in the ground. A warming trend expected next week, including several days of afternoon highs exceeding 80°F for the first time this season, should improve conditions for crop emergence and growth.

## LOOKING AHEAD

**BLACK CUTWORM:** The annual migration intensified May 14-20 with the capture of 445 moths in 44 traps, the largest weekly count since moths began arriving in April. Larvae produced by moths of the spring flight are in the early instar stages and signs of their feeding such as

small pinholes in the leaves should be detectable next week in emerging cornfields. Based on the 10-day temperature forecast, the primary damage period is expected to begin by May 26 in far southern Wisconsin.

**ALFALFA WEEVIL:** Adults have become more common in alfalfa and spring egg deposition is increasing. Surveys to assess larval populations and defoliation levels should begin next week (May 24-30).

**EUROPEAN CORN BORER:** Degree day accumulations at advanced locations such as Beloit and Platteville will surpass the 374 heat units (modified base 50°F) required for corn borer moth emergence by May 26. In 2018 and 2019, the first corn borer moths were collected in black light traps by May 30 and June 5, respectively. Overwintered larvae in the central and northern areas are just now entering the pupal stage, and the earliest spring moths are anticipated there June 1-7.

**POTATO LEAFHOPPER:** Migrants were collected in low numbers on May 19-20 from alfalfa fields in Grant, Iowa and Lafayette counties. Their recent appearance confirms that the first distinct migration event of 2020 has occurred.

**PLUM CURCULIO:** Beetle migration into the orchard perimeter is beginning. Apple growers who have experienced past problems with this pest should begin checking early-sizing cultivars such as Ginger Gold, Ida Red and Liberty



for crescent-shaped oviposition scars. The minimum size of fruitlets preferred for egg laying is 5 mm. Applications are not effective until fruit damage is observed.



Plum curculio

Stephen Luk bugside.net

**CODLING MOTH:** Evening temperatures will be appropriate for moth flight over the weekend of May 23-24 and throughout the week ahead. Close monitoring of pheromone traps is suggested for southern and central Wisconsin orchards until the biofix is documented. Conditions required for codling moth flight are wind speeds between 3-5 miles per hour when temperatures are above 62°F without rain. If temperature fluctuations lead to inconsistent moth activity, the biofix date should be assigned to the warmest, calmest night.

## FORAGES & GRAINS

**ALFALFA WEEVIL:** Larvae had not been found in any alfalfa field sampled as of May 20. The alfalfa weevil phenology model forecasts the first emergence of larvae for 300 degree days (sine base 48°F), which should be reached by May 22 near Beloit, May 24 in Madison, May 25 at Eau Claire, and June 2 near Wausau.

**PEA APHID:** Counts are beginning to increase. Alfalfa swept this week contained an average of 66 per 100 sweeps, while last week's average was only six aphids per 100 sweeps.

**POTATO LEAFHOPPER:** A migration appears to have occurred in the past week, with leafhoppers collected from 5 of 44 (11%) alfalfa fields surveyed May 19 and 20. This insect arrives annually in Wisconsin in mid- to late May, as harvest of the first alfalfa crop is approach-

## DEGREE DAYS JANUARY 1 - MAY 20

LOCATION	50°F	2019	NORM	40°F
Dubuque, IA	306	317	421	733
Lone Rock	275	303	—	667
Beloit	277	294	429	686
Sullivan	220	266	377	588
Madison	250	281	401	637
Juneau	193	229	—	527
Racine	170	208	—	516
Waukesha	190	250	—	542
Milwaukee	168	216	316	513
Hartford	175	230	—	501
Appleton	169	184	—	480
Green Bay	142	171	313	430
Big Flats	212	227	—	544
Hancock	180	206	390	488
Port Edwards	199	212	378	508
La Crosse	260	257	447	635
Eau Claire	261	236	387	613
Cumberland	168	172	330	430
Bayfield	107	101	—	330
Wausau	137	160	327	397
Medford	141	157	287	401
Crivitz	149	166	—	412
Crandon	116	147	263	347

*Method: Modified B50; Modified B40 as of January 1, 2020. NORMALS based on 30-year average daily temps, 1981-2010.*

ing. These long-distance migrants are predominantly mated females which arrive ready to lay eggs and initiate a new generation.

**TARNISHED PLANT BUG:** Adults are common in alfalfa, though counts remain very low. Surveyed fields in Dane, Grant, Green, Iowa, Jefferson, La Crosse, Lafayette, and Monroe counties had an average of six per 100 sweeps. The economic threshold for plant bugs in alfalfa of five per sweep (or 500 per 100 sweeps) is seldom exceeded until later in summer, but their relative abundance in spring can be an indicator of potential problems for apples, strawberries and other fruit and vegetable hosts.

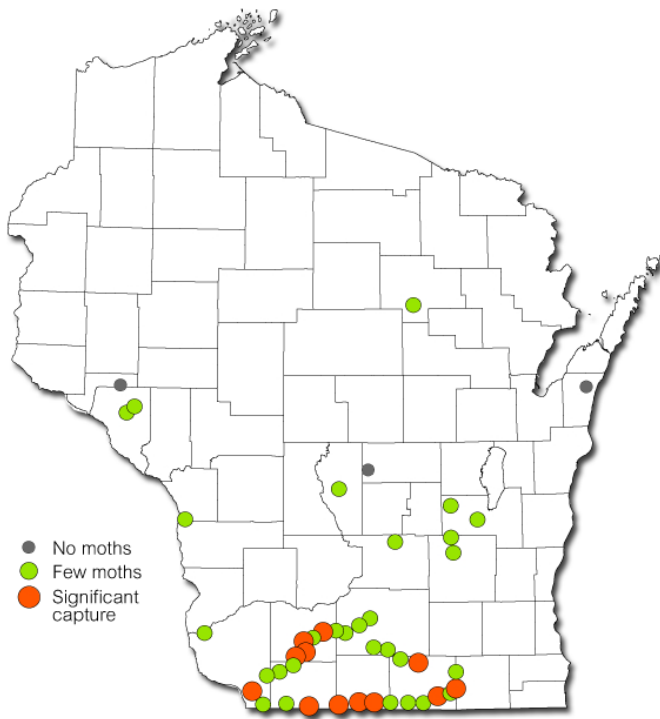
## CORN


**BLACK CUTWORM:** Significant flights were registered at several DATCP monitoring sites during the reporting period ending May 20. Twelve traps in Grant, Green, Iowa, Lafayette and Rock counties, reported their highest

counts of the season. This week's largest capture was 45 moths east of Janesville in Rock County. The cumulative total count to date is 922 moths in 44 traps, with 445 of those collected in the past week.

Based on a May 4 biofix and projected temperatures over the next 10 days, the start of the primary seedling corn damage period is now estimated for May 26 in south-central and southwestern Wisconsin, May 30 in the central region, and June 3 in areas north of Wausau. Crop consultants and growers are advised to begin inspecting corn (including Bt hybrids) for leaf pinholes and other signs of feeding during early season stand assessment. Scouting a few days before estimated cutting dates is recommended. It is important to be aware that Bt hybrids containing the Vip3A, Cry1A.105, Cry2Ab2, and Cry1F proteins provide suppression of this pest, but the larvae can still cut young plants.

### Black Cutworm Counts May 14-20, 2020



Wisconsin Department of Agriculture, Trade and Consumer Protection 

**EUROPEAN CORN BORER:** Emergence of the first spring moths may start before the end of the month in advanced southern locations. Most overwintered larvae are now entering the pupal stage, a period which requires about 10 days to complete at average daily temperatures of 65°F. Degree day accumulations near Beloit and Platteville, currently the warmest locations in the state, are expected

to reach the 374 units (modified base 50°F) needed for moth emergence by May 26.

**WIREWORM:** Current soggy field conditions in portions of southeastern Wisconsin are very suitable for this soil pest, which can bore into the base of corn plants and destroy the growing point. It is not uncommon for both wireworm and black cutworm infestations to occur in the same field. Accurate identification is important since rescue treatment for wireworms is ineffective once damage is observed.

**TRUE ARMYWORM:** Moderate captures of 37 and 41 moths were reported from Columbia and Fond du Lac counties in the past week, while seven black light traps from Janesville to Marshfield also reported smaller flights (< 18 moths per trap). Consultants and growers should anticipate larval armyworms appearing in fields by early to mid-June. The success of the first generation will lay the foundation for the second generation in July.



True armyworm moth

Krista Hamilton DATCP

## SOYBEANS

**SOYBEAN APHID:** Aphid colonization of emerging soybeans will likely occur during the first week of June this season, considering that 61% of the state's soybean crop has been planted and 6% has already emerged. During the last decade, the first recorded aphid observations have ranged from as early as May 24 in 2007 to as late as June 19 in 2019. In most years, aphids are detectable by the time soybeans reach the V1 stage.

**BEAN LEAF BEETLE:** Overwintered adults were found in two of 44 alfalfa fields sampled in the past week. The



beetles were collected in Green County. Populations of this soybean pest were likely favored by the mild 2019-20 winter weather, and the earliest-emerging fields will need to be scouted for beetle defoliation.

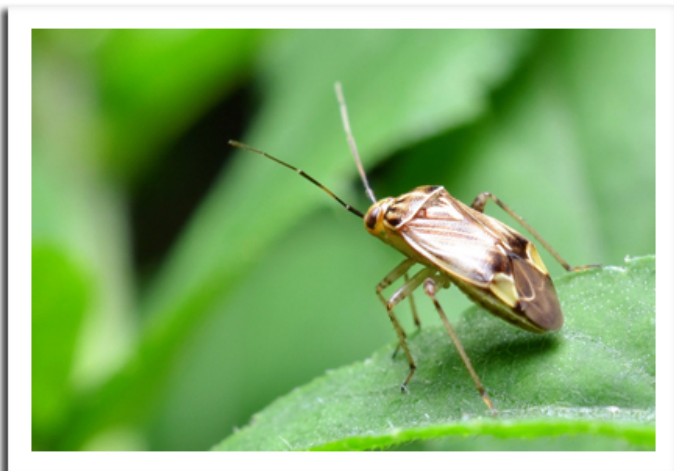


Bean leaf beetle

Krista Hamilton DATCP

## FRUITS

**TARNISHED PLANT BUG:** Nymphs can be anticipated by June. Strawberry plants beginning to bloom should be checked weekly for both adult and immature plant bugs. Control targeting the small first- and second-instar stages is most effective and can eliminate the need for a second treatment. The economic threshold for this insect in strawberries is four per 20 sweeps.



Tarnished plant bug

Dan Simon macrodan.tumblr.com

**CODLING MOTH:** Spring moth emergence is likely to begin over the weekend of May 23-24. Apple growers should continue checking traps daily until the biofix is established. In some years, determining this event is

complicated by fluctuating temperatures that lead to inconsistent emergence. The biofix is either the date of the first sustained flight of moths captured multiple days in a row or when counts exceed the threshold of five moths per trap per week. This date marks the point at which to begin counting degree days (base 50°F) to determine the optimal treatment window for first-generation larvae.

**OBLIQUEBANDED LEAFROLLER:** Larvae have resumed feeding after overwintering in the second-instar stage under the bark of scaffold limbs and twigs. The yellowish-green caterpillars with black head capsules typically feed for 2-3 weeks before pupating inside rolled leaves. The earliest OBLR moths usually appear in early June. In 2019 the first flight began around June 17, and in 2018 spring adults were captured on June 6. Any moths that appear in OBLR traps in May are likely the variegated leafroller or another non-target species.



Obliquebanded leafroller larva Eric Birschbach Ag Site Crop Consulting

**SPOTTED TENTIFORM LEAFMINER:** Moth emergence has peaked in the southern two-thirds of the state and is now declining. Populations are transitioning to first-generation larvae. The scouting procedure for STLM is to sample 10 terminals and fruit spurs per tree on 2-3 trees per orchard block. Sapfeeder mines will be noticeable on the undersides of leaves. The economic threshold is one mine per 10 leaves.

**PLUM CURCULIO:** Adult migration into orchard edges is beginning, and oviposition scars will become detectable on developing fruitlets within the next two weeks. Female weevils select early-sizing fruits 5 mm or larger for egg laying. Perimeter sprays can be used as an alternative to full cover sprays if PC injury is limited to the border rows.

However, if oviposition scars are found beyond the first 4-5 rows of trees, a cover spray is the better approach. Organic growers have the option of applying Surround® WP (kaolin clay). Another control strategy is to leave untreated “trap rows” of early varieties that are treated with an insecticide such as PyGanic on a warm night when the weevils are most active.

**OYSTERSHELL SCALE:** Egg hatch and the onset of the first-generation nymph or “crawler” period is expected to begin soon in southern and western Wisconsin. The appearance of the dispersal stage indicates treatments should start promptly. For smaller infestations in yards or on ornamental trees, the scale coverings and crawlers can be destroyed by scrubbing the bark with a mildly abrasive pad or sponge. Very heavily infested branches may need to be pruned.



Oystershell scale and crawlers Krista Hamilton DATCP

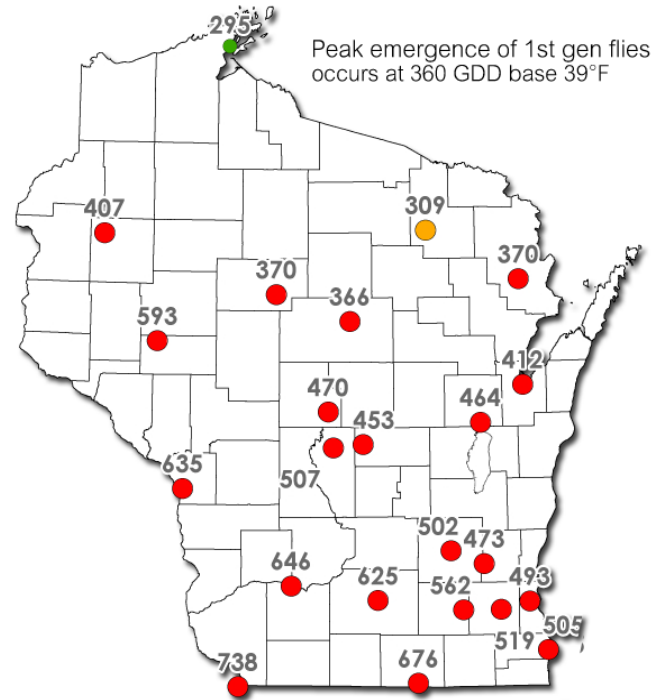
Activity by the mobile stage lasts for only 1-2 weeks before the crawlers settle onto branches and develop protective waxy covers. Apple growers in central and eastern Wisconsin are advised to begin scouting for crawlers during the first week of June.

## VEGETABLES

**SEEDCORN MAGGOT:** This spring’s cool weather pattern has prolonged the adult emergence period and delayed seed germination, creating favorable conditions for maggot infestation. Damage to susceptible vegetable crops such as beans, corn and cucurbits remains a strong possibility. Pupation of first-generation maggots, also the low risk fly-free period between the first and second generations, should begin around 846 degree days (sine base

39°F), or by May 28 near Beloit, La Crosse and Lone Rock. Poor stand establishment can be an early sign of maggot activity.

### Seedcorn Maggot Degree Days May 20, 2020



Wisconsin Department of Agriculture, Trade and Consumer Protection

**ONION MAGGOT:** Peak emergence and egg laying by first-generation flies can be anticipated where 680 degree days (base 40°F) are reached in the next few days. This includes warmer southern and western Wisconsin locations, from La Crosse southward. In the southeastern and central areas, peak emergence is forecast for May 26-June 2. As of May 20, the GDD accumulation was 686 near Beloit, 637 at Madison, 635 near La Crosse, 488 in Hancock, and 397 at Wausau.

Damage from the resulting first-generation maggots usually becomes evident around mid-June as onion seedlings start to wilt. Infested plants, when pulled, often break just below the rotting stem. Rotating this year’s plantings as far away as possible from last year’s onions is the most basic approach to onion maggot control. Management should be considered if 5-10% of last year’s crop was damaged by onion maggot.

**COLORADO POTATO BEETLE:** Overwintered beetles are likely to begin dispersing from hibernation sites to plants near field edges before the end of the month. Oviposition



on potatoes, tomatoes, eggplant and other hosts should begin by early June. The bright orange-yellow eggs are deposited in clusters of 15-30 on the undersides of leaves. Egg hatch occurs in 4-9 days.



Colorado potato beetle

Krista Hamilton DATCP

**IMPORTED CABBAGEWORM:** Adults are depositing eggs on cruciferous weeds and cole crops. Close examination of transplants for eggs and small larvae is critical during the oviposition period. Infestation levels in cabbage that exceed 30% at the transplant to cupping development stages may require control.



Imported cabbageworm larva

debsgardens.wordpress.com

## NURSERY & FOREST

**MEALYBUGS:** Severe infestations of these soft-bodied scale insects were recently found on Baptisia and columbine plants in a Vilas County nursery. Mealybugs damage plants by using their piercing-sucking mouthparts to extract plant juices, and also by vectoring several plant

diseases. In addition, their honeydew secretions can lead to heavy sooty mold growth that may inhibit photosynthesis. Plants infested with mealybugs can develop chlorosis, drop leaves, and die if the problem is severe enough. Control methods include use of diatomaceous earth around the base of the plants, application of the entomopathogenic fungus *Lecanicillium lecanii*, and biocontrol through lady beetle larvae (Coccinellidae). Application of insecticidal soaps or an aqueous solution containing 50% v/v isopropyl alcohol and 1% w/v sodium dodecyl sulfate (found in most household detergents) is also an option.



Mealybugs on columbine

Timothy Allen DATCP

**NON-VIABLE NURSERY STOCK:** Nursery growers and dealers are reminded to monitor plant stock for viability during the next two weeks. Plants that have not leafed out or fail to develop live buds will be considered non-viable and cannot legally be sold after June 1. Trees and plants in late dormancy or suspected to revive may be rehabilitated in areas outside of retail sales and may be returned to sale when healthy. Those that do not revive must be destroyed or returned to the supplier. Plant materials shipped with plastic-wrapped roots such as dry bulbs, trees, and shrubs are especially prone to moisture deficiency problems during transport and should be sold within three weeks of arrival at retail stores.

**CEDAR-APPLE RUST:** The distinctive, bright orange cedar-apple rust galls were noted on junipers in nursery and landscape settings throughout southern Wisconsin in the past week. These galls produce gelatinous tendrils that release fungal spores capable of infecting apple and related fruit trees over a span of 2-3 miles. Cedar-apple rust alternates between junipers and rosaceous plants, requiring both hosts to complete its two-year life cycle. Removal of the galls before sporulation is recommended

to limit spread of the disease to the alternate hosts: apple, crabapple, hawthorn, quince, pear and serviceberry. For apple trees, EBDC fungicides applied during the May rust infection period (tight cluster to first cover) usually provide adequate control in orchards and nurseries.



Cedar-apple rust gall on juniper

Tracy Schilder DATCP

**TOBACCO RATTLE VIRUS:** This plant virus was common among bleeding heart ‘Alba’ and ‘Valentine’ plants inspected at a Pierce County nursery, resulting in the destruction of several dozen plants sourced from an Oregon distributor. Symptoms of TRV are highly variable and can express as dark streaks, rings, mosaics, or mottled patterns on the foliage.



Tobacco rattle virus in bleeding heart

Tim Boyle DATCP

An extensive gallery of TRV and other nursery plant viruses has been compiled by the DATCP Plant Industry Lab and can be found at <https://datcp.wi.gov/Documents/PlantVirusSymptoms.pdf>.

Plant viruses have become widespread in the nursery trade in recent years. Spread of these harmful pathogens can be reduced by good sanitation practices, removal and proper disposal of infected plant materials, consumer education to recognize plant virus symptoms, and through an industry-wide effort to develop virus-resistant varieties and to implement tighter virus-free certification standards.



Tobacco rattle virus on peony

Timothy Allen DATCP

## APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 14 - 20

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	15	31	0						
Bayfield	Oriente	1	—	—						
Brown	Oneida	205	57	0			0			
Columbia	Rio	5	27	0						
Crawford	Gays Mills	—	—	—						
Dane	Mt. Horeb	8	12	0			0			
Dane	McFarland	5	4	0						
Dane	Stoughton	37	62	0						
Fond du Lac	Campbellsport	57	22	0						
Fond du Lac	Malone	11	7	0						
Fond du Lac	Rosendale	6	11	0			0			
Green	Brodhead	8	25	0						
Iowa	Mineral Point	15	16 <sup>MD</sup>	0 <sup>MD</sup>			0			
Jackson	Hixton	32	17	0						
Kenosha	Burlington	40	18	0						
Lafayette	Belmont	6	12	—			0			
Marathon	Edgar	27	13	0			0			
Marinette	Niagara	3	0	—			0			
Marquette	Montello	486	145	0			0			
Ozaukee	Mequon	10	82	0			0			
Pierce	Beldenville	247	53	0			0			
Pierce	Spring Valley	62	86	0 <sup>MD</sup>						
Racine	Raymond	42	7	—						
Racine	Rochester	—	—	—						
Richland	Hill Point	45	54	—			0			
Sheboygan	Plymouth	950	71	—			0			
Walworth	East Troy	10	21	0 <sup>MD</sup>						
Walworth	Elkhorn	21	55	0 <sup>MD</sup>						
Waukesha	New Berlin	10	20	—						
Wood	Rudolph	—	—	—						

<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; <sup>\*</sup>Unbaited; <sup>\*\*</sup>Baited; <sup>9</sup>Apple maggot yellow board.

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	14	0	0
Columbia	Pardeeville	0	0	0	0	0	1	0	1	0	0
Dodge	Beaver Dam	0	0	0	0	0	0	0	7	0	0
Fond du Lac	Ripon	0	0	0	0	0	0	0	18	0	0
Grant	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Langlade	Antigo	0	0	0	0	0	0	0	0	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	0	16	0	0
Marathon	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	0	0	0	0	0	0	9	0	0
Walworth	East Troy	0	0	0	0	0	0	0	0	0	0
Waukesha	Hancock	0	4	0	0	0	2	0	0	0	0
Wood	Marshfield	5	0	0	0	0	0	0	10	1	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>Variiegated cutworm; <sup>10</sup>Western bean cutworm.



## BLACK CUTWORM PHEROMONE TRAP COUNTS 2020

COUNTY	SITE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8
Adams	Adams	0	0	0	0	0	0	4	
Buffalo	Alma	0	0	0	0	2	0	4	
Buffalo	Gilmanton	0	0	0	1	1	0	4	
Columbia	Pardeeville	0	0	0	2	0	0	3	
Dane	Blue Mounds	—	—	0	1	4	2	3	
Dane	Cross Plains	—	—	0	0	5	2	2	
Dane	Middleton	—	—	0	0	1	0	5	
Dane	Montrose	—	—	1	0	1	4	5	
Dane	Oregon	—	—	0	0	4	6	11	
Dodge	Beaver Dam	0	1	2	0	1	2	4	
Dodge	Waupun	0	0	0	0	0	2	7	
Fond du Lac	Lamartine	0	0	0	0	0	1	10	
Fond du Lac	Ripon	0	1	0	2	0	2	2	
Grant	Dickeyville	—	—	0	9	20*	10	23*	
Grant	Hazel Green	—	—	3	7	7	11	11	
Grant	Platteville	—	—	0	2	9	9	11	
Grant	Prairie du Chien	0	0	0	0	0	0	1	
Green	Cadiz	—	—	0	6	6	3	18*	
Green	Clarno	—	—	0	9	15*	9	19*	
Green	Jefferson	—	—	1	1	7	5	24*	
Iowa	Brigham E	—	—	0	0	1	1	2	
Iowa	Brigham W	—	—	0	0	5	1	21*	
Iowa	Dodgeville E	—	—	1	0	9	4	10	
Iowa	Dodgeville W	—	—	1	4	7	3	18*	
Iowa	Mineral Point E	—	—	0	1	1	1	19*	
Iowa	Mineral Point W	—	—	0	2	7	2	18*	
Kewaunee	Algoma	0	0	0	0	1	0	0	
La Crosse	La Crosse	—	0	11	6	12	9	14	
Lafayette	Belmont	—	—	0	3	19*	6	6	
Lafayette	Kendall	—	—	1	0	2	4	1	
Lafayette	Monticello	—	—	1	2	11	17*	35*	
Lafayette	Shullsburg	—	—	0	2	12	2	4	
Langlade	Antigo	0	0	0	0	0	2	2	
Pepin	Durand	3	0	0	0	0	1	0	
Rock	Avon	—	—	1	6	6	18*	12	
Rock	Beloit	—	—	0	2	1	7	11	
Rock	Bradford W	—	—	5	1	7	8	45*	
Rock	Bradford E	—	—	0	1	2	2	1	
Rock	Fulton	—	—	0	0	1	2	15*	
Rock	Johnstown	—	—	0	2	1	5	5	
Rock	Newark	—	—	0	0	5	1	3	
Rock	Turtle	—	—	0	2	3	6	24*	
Rock	Union	—	—	1	1	2	0	8	
Waushara	Hancock	0	0	0	0	0	—	0	

\* Intense capture occurs when 9 or more moths are caught in a 2-night period. Week 1 (April 2-8), Week 2 (April 9-15), Week 3 (April 16-22), Week 4 (April 23-29), Week 5 (April 30-May 6), Week 6 (May 7-13), Week 7 (May 14-20), Week 8 (May 21-27).