

# 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

Unsettled weather with periods of heavy rain prevailed, disrupting seasonal fieldwork but increasing soil moisture supplies for summer crops in southern and central Wisconsin. A complex of weekend storms brought significant showers to the southwestern area, as cool, overcast conditions dominated much of the state. Portions of northeastern and northcentral regions were missed by the rain and continue to trend dry. A few storms lingered into Tuesday before mild, drier weather returned mid-week, allowing farmers to finish planting their corn, oats and potato crops. Corn planting was 95% complete and more than 87% of the crop had emerged as of Sunday, three days ahead of last year and the 5-year average. Meanwhile, apple growers are reporting vigorous, rapid foliar growth in their orchards this spring, with trees exhibiting minimal stress despite hail damage from recent storms. Prospects for the state's crops are very favorable as of mid-June.

## LOOKING AHEAD

**SPOTTED WING DROSOPHILA:** The first reported female SWD fly of the season was captured in UW monitoring traps between May 17 and June 1. The very early appearance of SWD adults should be viewed as a warning to fruit growers to increase monitoring efforts since fly

population typically surge within three weeks following initial trap captures.

**EUROPEAN CORN BORER:** The treatment window for first-generation larvae has opened in advanced southern locations. Close inspection of susceptible corn and Bt refuge areas is advised during the next two weeks to determine the percentage of whorls infested with small larvae. Conventional or organic treatments directed against the early-instar stages must be applied before the caterpillars begin boring into corn stalks and midribs, around 1,100 degree days (modified base 50°F). Larvae are susceptible to chemical control for only 7-10 days after egg hatch.

**CODLING MOTH:** Most southern and central Wisconsin apple orchards are 300-450 degree days (modified base 50°F) beyond the spring biofix, and treatments for first-generation larvae have been made. Reapplication of CM insecticides may be necessary if heavy rainfall of two or more inches is received and trap counts are consistently above five moths per trap per week, or following a brief intense rain event (½-1 inch). Scouting fruits for tiny, circular entry wounds should start next week.

**POTATO LEAFHOPPER:** Nymphs will likely begin appearing in alfalfa in the week ahead. Counts of this stage and the adults are well below the economic threshold of one per sweep in 8- to 11-inch fields and two per sweep for

alfalfa 12 inches or taller, though reproduction could increase rapidly in response to hot mid-June weather. Routine sampling of second-crop alfalfa is recommended.

**APPLE MAGGOT:** Fly emergence could start by June 24 near Beloit, June 29 near La Crosse, and July 9 near Racine. This event corresponds with the accumulation of 900 degree days (base 50°F). Traps can be placed next week in perimeter trees adjacent to abandoned orchards or woodlots to capture the earliest emerging flies.

**LILY LEAF BEETLE:** This newly-established invasive beetle was reported this week by the Portage County Horticulture Assistant at four separate locations in the Stevens Point-Plover area. Portage County is currently the southernmost Wisconsin county in which the lily leaf beetle is known to occur. The northernmost record of the beetle is from Merrill in Lincoln County. Lily leaf beetle was first discovered in the state in 2014 near Kronenwetter and Mosinee in Marathon County. Recommended controls include manually picking the adults and larvae from lilies or applying an insecticide labeled for use on ornamental plants. More than one application may be needed.



Lily leaf beetles

Reeser Manley

## FORAGES & GRAINS

**ALFALFA WEEVIL:** The peak larval damage period is expected to end by late June as populations transition into non-feeding pupal stage. Larvae remain common but not abundant in late first-crop alfalfa and second-crop regrowth. Weevil numbers have been low this spring. The average count from June 7-13 was below 0.2 per sweep and leaf tip feeding was less than 20% in most surveyed fields.

## DEGREE DAYS JANUARY 1 - JUNE 13

LOCATION	50°F	2017	NORM	40°F
Dubuque, IA	953	934	795	1607
Lone Rock	827	829	—	1443
Beloit	802	853	806	1410
Sullivan	717	763	739	1282
Madison	793	806	765	1391
Juneau	740	748	—	1302
Racine	618	689	—	1160
Waukesha	653	719	—	1199
Milwaukee	647	688	639	1197
Hartford	697	714	—	1250
Appleton	714	666	—	1238
Green Bay	684	644	640	1200
Big Flats	765	745	—	1321
Hancock	694	676	749	1206
Port Edwards	700	669	728	1218
La Crosse	879	839	847	1488
Eau Claire	803	738	748	1345
Cumberland	646	536	670	1117
Bayfield	490	345	—	905
Wausau	630	568	657	1112
Medford	623	542	590	1097
Crivitz	663	594	—	1141
Crandon	589	483	523	1039

*Method: Modified B50; Modified B40 as of January 1, 2018. NORMALS based on 30-year average daily temps, 1981-2010.*

**PEA APHID:** Densities generally range from 1-2 per sweep in surveyed fields. The rainy, humid weather of the past week favors the spread of fungal pathogens that will likely contribute to aphid population decline later this month.

**POTATO LEAFHOPPER:** Counts in 8-14 inch regrowth were less than 0.3 per sweep in all fields sampled this week, though development and reproduction are expected to increase by late June and the economic threshold of 1.0 per sweep in 6-12 inch alfalfa and 2.0 per sweep in alfalfa taller than 12 inches may be exceeded in some fields. Continued sampling of alfalfa regrowth is advised.

**MEADOW SPITTLEBUG:** The adult stage of this insect is appearing in alfalfa sweep net samples, signaling that the population has matured. Meadow spittlebug damage is rare but occasionally occurs on first-year alfalfa seeded into small grain stubble. This insect has a single generation per year in Wisconsin, and the risk of damage ends once the adults emerge.

## CORN

**CORN ROOTWORM:** Larvae began emerging from overwintered eggs about a week ago and peak hatch (50% egg hatch) is predicted to occur during the last two weeks of June. The estimated average peak date for the southern half of the state is June 21. Larval activity should be assessed later this month in fields that have historically had problems or if Bt-trait performance issues are suspected. Submerging the roots in a bucket of salty water (i.e., float test) or digging up plants and breaking apart the soil around the root system are two methods for confirming rootworm feeding.



Corn rootworm larva

JSmith [www.cornpest.ca](http://www.cornpest.ca)

**ROSE CHAFER:** Light defoliation caused by this beetle was observed this week on corn in southern, central and western Wisconsin. Currently the infestations involve fewer than 2% of plants, though the beetles were numerous (4-5 per plant) on a few individual plants. Rose chafers are also appearing on soybeans and a variety of ornamental and garden plants. Beetle pressure is likely to be heaviest in fields on sandy soils and can be expected to continue until mid-July.

**EUROPEAN CORN BORER:** The treatment window for first-generation larvae has opened in southern Wisconsin. Although much of the state's corn acreage is not attractive for oviposition and too small to support larval survival, scouting for eggs, small larvae, and early whorl feeding is suggested for advanced fields with an extended leaf height greater than 18 inches. Controls directed against the early-instar stages must be applied before the caterpillars begin boring into corn stalks and midribs. The narrow 300 degree day corn borer treatment window

from 800-1,100 GDDs (modified base 50°F) will close before the end of the month.

**WESTERN BEAN CUTWORM:** Pheromone traps are now being set in preparation for the annual moth flight. Participants in the western bean cutworm monitoring program are reminded to begin reporting counts to Tracy Schilder at [tracy.schilder@wisconsin.gov](mailto:tracy.schilder@wisconsin.gov) by June 20 and each Wednesday through mid-August.

**STALK BORER:** Scouting should begin for this mid-season pest that migrates from perennial grasses and broadleaf weed hosts in early June and infests predominantly the first 4-6 rows of corn. Leaf feeding will become pronounced by late June and spot treatment may be justified for severe infestations. Close inspection of fields is recommended through the V7 stage since Bt corn hybrids suppress but will not completely control stalk borers.



Stalk borer larva

[jclucier flickr.com](http://jclucier.flickr.com)

## SOYBEANS

**ROSE CHAFER:** These tan beetles with orange-brown spiny legs are appearing on soybeans, corn, and on a wide variety of ornamental and garden plants. Rose chafer pressure is likely to be heaviest in fields on sandy soils and can be expected to continue for 3-4 more weeks. The economic threshold is 30% defoliation for soybean fields in the pre-bloom vegetative stages. Defoliation caused solely by the rose chafer is unlikely to reach this level before beetle activity subsides in July.

**SOYBEAN APHID:** Counts in soybean fields sampled this week averaged less than two aphids per plant and 10 per

infested plant, based upon examination of 100 plants per field. Populations will likely remain low through the end of the month, with densities increasing noticeably around early to mid-July as soybean fields reach the reproductive stages of growth.



Soybean aphids

Krista Hamilton DATCP

## FRUITS

**SAN JOSE SCALE:** Monitoring for crawlers by taping scaffold branches should be underway. Concentrating the tape on younger limbs (2-3 inches in diameter) in blocks with a history of SJS damage is advised. A 10x hand lens is required to view the oval, bright-yellow crawlers. According to Orchard IPM Specialist John Aue, a capture of 10-15 crawlers in a few days or 10 crawlers on one tape with zero on all other tapes, may warrant application.

**OBLIQUEBANDED LEAFROLLER:** Larvae resulting from the first moth flight are emerging across the southern half of the state. The small, newly-hatched caterpillars are controlled by most products applied for codling moth (except granulosis virus and mating disruption), but scouting is still required to determine if codling moth sprays have effectively reduced OBLR populations or if additional measures are needed to prevent fruit damage. Sampling for fruit and foliar feeding should begin seven days after the first moths are captured in pheromone traps.

**LESSER PEACHTREE BORER:** Increasing counts in pheromone traps indicate the first of two flights should soon peak. Control of LPTB in orchards is based on preventing larval establishment underneath the bark and should be timed to coincide with egg hatch. Once the larvae are under the bark, chemical control is ineffective. LPTB egg

hatch begins about 8-10 days after moth emergence, thus the optimal treatment window is 7-14 days after the first moths are captured in pheromone traps. Directed sprays must be applied uniformly to drench the trunk and scaffold limbs to a height of about eight feet.

Orchards that record high LPTB trap counts are advised to begin checking for signs of infestation, such as presence of pupal skins, sawdust, and frass produced by feeding borers, in the gum of cankered areas. If the gum does not contain frass or sawdust, the injury is probably not caused by borers. LPTB problems are almost always associated with Cytospora canker and, to a lesser extent, pruning wounds, winter injury, and mechanical damage. A second and more damaging flight occurs in late August or September.

**ROSE CHAFER:** This generalist pest is appearing in higher numbers and may rapidly arrive in vineyards and orchards, where the beetles skeletonize leaves and consume developing fruit clusters. Scouting twice weekly is advised for vineyards on sandy soils and those with a history of rose chafer problems once the first beetle is observed. An average of two beetles per vine has been suggested as the basis for initiating controls. Systemic soil drench insecticides are not effective at this time. Commercially available traps can attract more beetles from surrounding areas and are not recommended for use in vineyards.

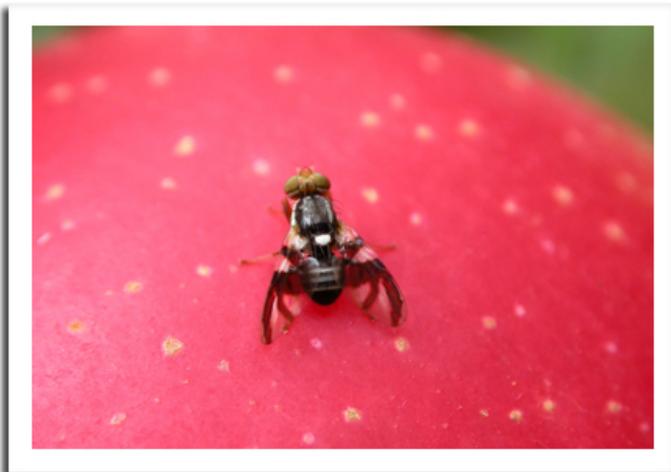


Rose chafer beetles feeding on wild grape

Krista Hamilton DATCP

**APPLE MAGGOT:** Emergence of flies from the soil is likely to begin in the next two weeks. This annual event corresponds with the accumulation of 900 degree days (modified base 50°F) when soil moisture is appropriate. Apple maggot traps should be placed soon in perimeter

trees adjacent to abandoned orchards or woodlots to capture the earliest flies.



Apple maggot fly

[ics.ifas.ufl.edu](http://ics.ifas.ufl.edu)

**SPOTTED WING DROSOPHILA:** The UW reports the first SWD flies were captured in traps on June 1 in Dane County. This date compares to June 5 in 2017, and June 10 in 2016, and suggests that SWD are appearing earlier each year. Berry growers should intensify monitoring and scouting efforts at this time, and prepare to implement SWD treatment programs.

Commercial SWD traps and lures are now available through Great Lakes IPM or growers can make their own traps using a clear plastic deli container baited with either a yeast-sugar mix (one tablespoon of active dry yeast plus four tablespoons of sugar dissolved in 12 ounces of water) or apple cider vinegar. A few drops of unscented dish soap should be added to the homemade traps to break the surface tension and kill the flies.

**REDBANDED LEAFROLLER:** Moth counts will begin to increase again by July as the second flight starts. Minimal RBLR activity was noted again this week, with average counts varying from 0-27 moths per trap and averaging only three per trap.

## VEGETABLES

**POTATO LEAFHOPPER:** Counts in snap beans and potatoes could increase markedly before the end of the month as leafhopper reproduction and harvesting of second-crop alfalfa begin. Commercial vegetable growers may use an insect sweep net to monitor fields, taking 25 sweeps per sample site and sampling from at least

five sites per 30 acres. Counting nymphs and adults by turning over 25 leaves from the middle of the plant is the protocol for gardens or smaller-acreage farms. Recommended treatment thresholds for potatoes are one adult per net sweep or an average of 2.5 nymphs and adults on the undersides of 25 potato leaves. In snap beans, the threshold is 0.5 adults and nymphs per sweep for seedlings, and one leafhopper per sweep for larger plants in the third trifoliolate to bud stages.



Potato leafhopper nymphs

[nymphs.blog.uvm.edu](http://nymphs.blog.uvm.edu)

**SQUASH VINE BORER:** Moth emergence is beginning in warm southern Wisconsin locations. Close inspection of pumpkins, squash, gourds, and other vine crops for eggs and evidence of larval boring should start once 900 degree days (simple base 50°F) have been reached around the third week of June. If insecticide use is warranted for SVB control, materials must be applied before the larvae bore into vines and become protected by vine tissue. Applying treatments while runners are shorter than two feet long is most critical.



Squash vine borer moth

[D. Charvat '10 flickr.com](https://www.flickr.com/photos/dcharvat/)

**LATE BLIGHT:** Disease severity value accumulations near Grand Marsh in Adams County have exceeded the late blight risk threshold, indicating that the conditions required for disease development have been met. Considering inoculum is likely present in various areas of the state following last year's confirmed late blight detections in 13 counties, gardeners and farmers, whether conventional or organic, may want to use preventative fungicide applications to protect their tomatoes and potatoes. No cases of late blight have been confirmed in Wisconsin as of June 14.

**IMPORTED CABBAGEWORM:** Adult butterflies have become more common this month and larvae of varying sizes can be found on cabbage, cauliflower and broccoli in most vegetable plantings. Manual removal of the caterpillars is suggested for smaller gardens, while treatment with a product containing the bacterial insecticide *Bacillus thuringiensis* (Bt) subspecies *aizawi* (Agree, Xentari) or subspecies *kurstaki* (Biobit, Cutlass, DiPel, Javelin, Lepinox, MVP, Thuricide) can be considered for larger production fields. Bt is most effective against small larvae and may not control larger, full-grown caterpillars. Most Bt products persist on plants only a few days and must be reapplied if small larvae are actively feeding.



Imported cabbageworm larvae

[www.insectpod.com](http://www.insectpod.com)

## NURSERY & FOREST

**MAPLE SHOOT BORER:** Moderate damage caused by this tortricid moth was recently observed on 'Autumn Blaze' maples at nurseries in St. Croix and Dunn counties. Maple shoot borer adults become active in early spring, laying eggs on new maple shoots. Larvae bore into apical shoots and cause flagging and dieback.

Slicing the wilted shoot tip vertically with a sharp knife will show evidence of boring activity and an exit hole along the blackened stem.



Maple shoot borer damage

Konnie Jerabek DATCP

In addition to flagging, the tip dieback creates new forked growth that requires corrective pruning to remove all but a single leader which may need to be trained using supports to grow. Pheromone traps can be used to monitor the early-season moth flight and determine the optimal timing of a single insecticide application, if warranted.

**CURRENT SPANWORM:** This bright yellow, black, and white inchworm was found defoliating currant shrubs in the Reedsville area of northern Manitowoc County. The larvae feed on currants and gooseberry in the genus *Ribes* from late May through June, first consuming the tips of the leaves down to the midrib before defoliating entire shrubs.



Currant spanworm larvae

Colleen and Jeff Lopnow

Pupation occurs in late June and the moths emerge in mid-summer. There is just one generation a year. Healthy, vigorously growing shrubs can usually tolerate feeding damage.

**VIBURNUM LEAF BEETLE:** A report from the UW-Madison Insect Diagnostic Lab confirms that larvae of this invasive European beetle have been found on viburnum shrubs in at least seven Milwaukee County locations this month. Viburnum leaf beetle is particularly damaging because both the adult and immature forms rapidly defoliate viburnums. Successive feeding by larvae and adults prevents shrubs from re-leafing and can kill otherwise healthy plants after 2-3 years of heavy infestation.



*Viburnum leaf beetle defoliation*

*Marcia Wensing DATCP*

Gardeners, landscapers, nursery stock growers and retailers in southeastern Wisconsin should be alert to the distinctive skeletonization of viburnum leaves caused by this insect and report sightings to DATCP or the UW. Counties in which VLB has been documented since 2009 include Milwaukee, Ozaukee, Washington, and Winnebago.

**BACTERIAL BLOSSOM BLAST IN PEAR:** 'Parker' and 'Luscious' pear trees in Polk County were diagnosed by the Plant Industry Lab as having blossom blast infection caused by *Pseudomonas syringae*, with concurrent evidence of *Phomopsis* canker also noted. The primary symptom is blackening near the shoot growth, similar to fire blight. Blossom blast can be a problem when cool and wet weather prevail during bloom, especially when fruiting spurs or blossoms are injured by frost or cold damage, leaving the trees susceptible to infection. Continued infection can result in small lesions and extensive shot-hole defoliation of leaves. This disease is difficult to

manage, with application of copper-based bactericides being the only practical control option.

**MAPLE PETIOLE BORER:** Sugar maple trees in Door County were exhibiting withered, flagged leaves attributed to the maple petiole borer. Larvae of this small sawfly bore into leaf stems or petioles of all maple species, causing weakness and leaf detachment. The larvae remain in the portion of the petiole still connected to the main branch, later burrowing into the soil to pupate after the infested segment falls to the ground.



*Maple petiole borer hole*

*Timothy Allen DATCP*

Although the early spring defoliation can be dramatic, trees generally retain the vast majority of their leaves until fall and are not adversely affected. No corrective action is needed.

## APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 7 - 13

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	13	3	0	0	2	0			
Bayfield	Orienta	17	0	0	—	15	0			
Brown	Oneida	15	8	11	10	3	4			
Columbia	Rio	23	0	0	5	0	12			
Crawford	Gays Mills	—	—	—	—	—	—			
Dane	DeForest	—	—	—	—	—	—			
Dane	Mt. Horeb	5	0	1	29	—	8			
Dane	Stoughton	23	1	3	5	17	0			
Fond du Lac	Campbellsport	10	1	0	3	1	1			
Fond du Lac	Malone	1	0	8	21	28	14			
Fond du Lac	Rosendale	6	11	8	3	2	3			
Grant	Sinsinawa	57	27	20	24	—	—			
Green	Brodhead	8	5	4	13	—	11			
Iowa	Mineral Point	130	2	27	14	—	21			
Jackson	Hixton	8	4	2	2	0	9			
Kenosha	Burlington	16	0	4	28	—	28			
Marathon	Edgar	26	1	0	10	—	18			
Marinette	Niagara	6	1	0	3	—	8			
Marquette	Montello	6	11	5	24	—	13			
Ozaukee	Mequon	7	0	4	—	—	4			
Pierce	Beldenville	12	2	4	6	—	6			
Pierce	Spring Valley	0	9	0	34	10	55			
Racine	Raymond	8	0	18	11	—	24			
Racine	Rochester	39	0	10	13	0	1			
Richland	Hill Point	15	0	5	11	—	17			
Sheboygan	Plymouth	0	0	0	4	8	8			
Walworth	East Troy	21	0	0	0	—	0			
Walworth	Elkhorn	30	0	0	12	—	1			
Waukesha	New Berlin	7	0	10	29	—	38			

<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.

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	Pardeeville	0	0	0	0	1	0	24	29	1	0
Dodge	Beaver Dam	0	3	0	10	4	1	1	0	0	0
Fond du Lac	Ripon	0	0	0	2	0	0	1	7	0	0
Grant	Prairie du Chien	—	—	—	—	—	—	—	—	—	—
Manitowoc	Manitowoc	0	1	0	0	0	5	31	11	0	0
Marathon	Wausau	0	0	0	0	3	2	6	6	0	0
Monroe	Sparta	0	0	0	0	3	2	6	6	0	0
Rock	Janesville	1	2	0	0	1	0	2	28	1	0
Walworth	East Troy	—	—	—	—	—	—	—	—	—	—
Wood	Marshfield	0	2	0	0	0	0	37	16	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>Variegated cutworm; <sup>10</sup>Western bean cutworm.