

# 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 unsettled weather pattern continued in Wisconsin during the first days of July. Several lines of storms brought strong winds and heavy rainfall of 1-2 inches, with some locations recording weekly totals of 4-6 inches since the last report. The warm and humid conditions that prevailed were more typical of summer weather than in previous weeks, and the first 90°F temperatures of the year were recorded on June 29 in several locations, including Black River Falls, La Crosse, Madison and Waupaca. The highest reading on Saturday was 95°F in Mineral Point. The heat and humidity spurred plant growth statewide, accelerating development of fruit trees, vegetables and field crops. The most advanced corn has reached V11 stage and a few of the earliest planted soybeans are transitioning from the vegetative to the R1 reproductive stage. The hot temperatures also caused a noticeable increase in pest pressure in row crops, orchards and vineyards, with the first Japanese beetles of the 2019 season appearing in the past week.

## LOOKING AHEAD

**WESTERN BEAN CUTWORM:** The annual flight has started in southern and central Wisconsin, although only two moths have been captured DATCP's network of 57 pheromone traps as of July 3. The specimens were collected

near Bangor in La Crosse County and Sparta in Monroe County. Twenty-five percent emergence of the adult population is anticipated by July 15-22 throughout the southern portion of the state and during the following week in the central counties. Corn in the pretassel stage is most attractive for oviposition, and any fields approaching this stage next week should be closely inspected for egg masses and small larvae.

**EUROPEAN CORN BORER:** Larvae are in the early development stages and will begin entering the corn leaf midribs and unemerged tassels in the week ahead. The treatment window for first-generation corn borers has opened throughout the southern two-thirds of the state, in all areas south of Highway 10. 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 boring into stalks and midribs begins around 1,100 degree days (modified base 50°F). Larvae are susceptible to chemical control for only 7-10 days after egg hatch.

**SPOTTED WING DROSOPHILA:** Emergence is increasing and populations are expected to escalate abruptly by mid-July. Flies have been appearing in DATCP survey traps since June 17. SWD poses that greatest threat to June-bearing strawberries at this time of year, and thor-

ough, frequent harvesting is imperative for SWD control, especially for pick-your-own strawberry operations. Berry growers are advised to increase monitoring efforts and make preparations for SWD management.

**TRUE ARMYWORM:** Larvae are common at low levels in corn, and consultants are reporting localized problems in eastern Wisconsin. Continued scouting of corn and small grains is strongly recommended.



True armyworm larva

Krista Hamilton DATCP

**ROSE CHAFER:** Minor damage to grapes, raspberries, strawberries, fruit trees, roses and ornamentals is common. Chafer feeding is expected to continue for another 2-3 weeks and should subside in most areas by late July. Insecticide treatment of grape vines and landscape plants is usually not necessary.

## FORAGES & GRAINS

**POTATO LEAFHOPPER:** Counts in alfalfa have increased markedly during the latter half of June and are now above established economic thresholds in some areas. Surveys during the week ending July 4 found high counts of 2-4 leafhoppers per sweep in 14 to 24-inch second-crop fields in the central and south-central counties. The highest averages above two per sweep were noted in Dane and Sauk counties. Nymphs are collecting more frequently in sweep nets, indicating a potential for continued above-threshold populations later this month.

**ALFALFA WEEVIL:** A few late-stage larvae persist, but most of the population has pupated. Larval counts have declined to less than 0.3 per sweep (30 per 100 sweeps), and no further problems are anticipated this season.

## DEGREE DAYS JANUARY 1 - JULY 3

LOCATION	50°F	2018	NORM	40°F
Dubuque, IA	1133	1415	1181	1960
Lone Rock	1027	1257	—	1803
Beloit	1041	1228	1195	1823
Sullivan	931	1127	1112	1664
Madison	1013	1212	1136	1797
Juneau	878	1156	—	1592
Racine	797	1006	—	1511
Waukesha	887	1052	—	1619
Milwaukee	824	1042	999	1547
Hartford	859	1102	—	1569
Appleton	821	1140	—	1517
Green Bay	790	1098	980	1479
Big Flats	852	1179	—	1570
Hancock	806	1087	1109	1502
Port Edwards	808	1098	1078	1494
La Crosse	957	1328	1250	1733
Eau Claire	907	1246	1113	1625
Cumberland	750	1031	1016	1370
Bayfield	594	876	—	1154
Wausau	697	1004	997	1305
Medford	692	991	904	1291
Crivitz	757	1045	—	1393
Crandon	691	944	783	1272

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

**PLANT BUG:** Levels in the southern half of the state are unusually low for early July, ranging no higher than 0.2 per sweep or 20 per 100 sweeps. Nymphs of various maturities can be found in most fields and, despite the low counts in alfalfa, reports suggest that these insects are causing damage in some nurseries, apple orchards, and in fruit crops.

## CORN

**WESTERN BEAN CUTWORM:** The first moths of the season were captured in pheromone traps between June 27 and July 3. One was collected near Bangor in La Crosse County and another was caught near Sparta in Monroe County. The appearance of western bean cutworm adults indicates that the annual flight is beginning in the southern half of the state. Close inspection of corn plants for egg masses and small larvae should start once fields enter the late-whorl and pre-tassel stages. The eggs are deposited on the upper surface of the top 3-4 leaves, of-

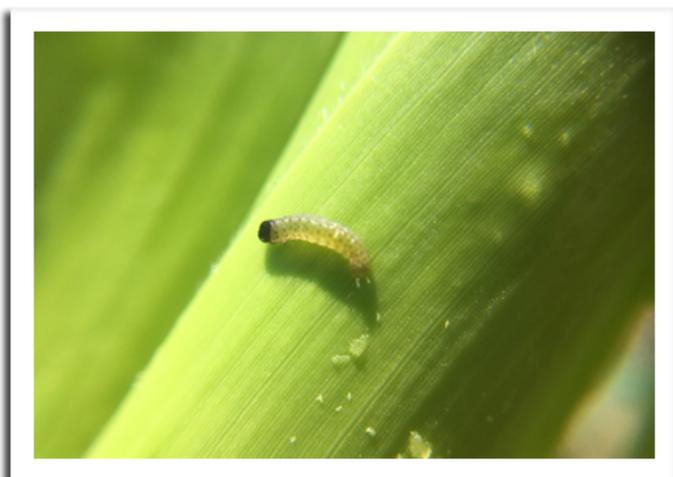
ten on the flag leaf, and the larvae can be found in developing tassels.



Western bean cutworm moth

[themothman.blogspot.com](http://themothman.blogspot.com)

**EUROPEAN CORN BORER:** Early whorl feeding was first noted in V7 corn in Dane County on June 26. Larvae were in the first and second instars last week and have now begun boring into the midribs of corn leaves. Chemical and biological insecticides targeting first-generation ECB are only effective for about a week after egg hatch, and must be applied soon in fields where small larvae are emerging. The treatment window is expected to close by July 7 near Madison and July 14 near Hancock. Scouting and management decisions should be made in the week ahead.



Second-instar European corn borer larva

[Krista Hamilton DATCP](#)

**TRUE ARMYWORM:** Conditions remain very favorable for armyworms after the recent rains. Continued scouting of corn and small grains is recommended. Light larval infestations involving 1-4% of perimeter row plants have been noted in about 16% (21 of 133) of cornfields survey-

ed by DATCP since mid-June. Localized problems were reported last week in the east-central area.

## SOYBEANS

**SOYBEAN APHID:** Densities have not increased noticeably since aphids were first observed on June 4. Counts averaged less than 9 aphids per 100 plants in 17% of the fields surveyed this week, and 83% had no detectable population. Routine monitoring should begin by mid-July or once fields reach the R1 (first flower) growth stage.

**DEFOLIATORS:** Leaf feeding by rose chafers, bean leaf beetles, slugs and various caterpillars is common in soybeans, though defoliation is light, ranging from 5-10% on no more than 2-3% of plants in most fields. The distinctive silver-spotted skipper caterpillar, recognizable for its two large orange eyespots on a dark purple head, was observed in Columbia County. Surveys indicate thistle caterpillars are prevalent again this season.



Silver-spotted skipper larva

[Tracy Schilder DATCP](#)

## FRUITS

**CODLING MOTH:** The first flight is expected to decrease soon. The weekly average count based on reports from 22 orchards was four moths per trap, which compares to six per trap last week. Apple growers should continue to monitor degree days and trap captures until 700 degree days (base 50°F) have accumulated from the spring biofix, to determine if late flights require treatment. Orchards near Janesville, La Crosse and Madison have accumulated about 450-575 degree days since June 1 when the biofix was recorded at southern sites.

**JAPANESE BEETLE:** Emergence has started and beetles are appearing in fruit and field crops. Neem oil products containing azadirachtin (e.g., BioNeem) are appropriate for organic systems and are most effective when applied repeatedly (every 3-4 days) while beetle populations are low and the first adults are just starting to move into vineyards and orchards. Products sold as “neem oil” that do not list the ingredient azadirachtin on the label are not effective against Japanese beetle. PyGanic is another organically acceptable method for immediate contact control, but the material dissipates quickly if applied during the day. A third option is Surround WP (kaolin clay) which deters both Japanese beetle and apple maggots, although its efficacy against Japanese beetle is inconsistent.



Japanese beetle

dnr.state.mn.us

**POTATO LEAFHOPPER:** The above-threshold populations common in alfalfa could translate into fruit tree damage as harvesting of second-crop hay increases this month. Levels are already high in southern and central orchards, and some growers have applied PyGanic for leafhopper control. Non-bearing, one- to two-year-old trees are most susceptible to leafhopper feeding and should be monitored for upwards leaf cupping and yellowing of terminal shoots. Treatment is justified at levels of one or more nymphs per leaf when hopperburn symptoms are developing.

**SPOTTED WING DROSOPHILA:** This invasive fly is particularly challenging for organic growers due to the limited number of organically approved and effective insecticides. The newly developed guide “Management Recommendations for Spotted Wing Drosophila in Organic Berry Crops,” published in June 2018, provides a list of non-chemical and insecticide approaches to protect berry crops against SWD. Controlling SWD requires a rigorous, persistent and diverse management plan. Download the

guide here: <https://www.canr.msu.edu/ipm/uploads/files/SWD/SWDOrganicBerryCrops.PDF>



Spotted wing drosophila larva in raspberry

wrir4.ucdavis.edu

**SPOTTED TENTIFORM LEAFMINER:** Moths of the second flight are emerging in greater numbers, with pheromone trap counts ranging as high as 1,215 per trap and averaging 215 per trap. This is up markedly from last week's average of 78 per trap. Peak moth activity should occur by mid-July across southern and central Wisconsin and a week or two later in the southeastern, east-central and northern areas. Apple orchards with populations exceeding one mine per leaf or a history of STLM damage are candidates for control of second-generation larvae.



Spotted tentiform leafminer mines Tomasz Binkiewicz www.lepidoptera.eu

**SAN JOSE SCALE:** First-generation nymphs or crawlers began emerging in southern Wisconsin orchards 2-3 weeks ago, and are beginning to settle onto the fruits and leaves. Continued sampling by taping scaffold branches is advised to confirm that nymph activity is complete. Neonicotinoids, insect growth regulators or other materials

directed against mobile crawlers are ineffective once the scales have begun to secrete their waxy covering.

## VEGETABLES

**SQUASH VINE BORER:** Increased inspection of pumpkins, squash, gourds, and other vine crops is recommended during the next two weeks. Egg laying has started and small larvae will soon begin boring into squash stems and runner vines. Insecticides are only useful if applied before the larvae tunnel into vines, and a second application is usually necessary during the adult flight period.



Squash vine borer adult

qwen wan flickr.com

**COLORADO POTATO BEETLE:** All larval stages were observed in the past week on potatoes in several southern and western Wisconsin community gardens. The summer generation of beetles is expected to begin appearing in potatoes by mid-July.



Colorado potato beetle larvae

Krista Hamilton DATCP

**SQUASH BUG:** Adults are appearing on cucurbits in home gardens, and populations generally increase sharply by mid-July with the addition of small nymphs. An average of one egg mass per plant when plants are flowering is recommended as the basis for initiating treatment. For gardens, hand picking and destroying the bugs and their eggs is most effective. Another option is to place cardboard or newspaper on the ground next to the plants. At night the squash bugs will aggregate beneath the cardboard and can be destroyed in the morning. Organic growers may use directed applications of pyrethrum (PyGanic) or the pre-mix with azadirachtin (Azera). Growers should be aware that the efficacy of most insecticide materials is reduced at temperatures above 80°F and the smaller nymphs are more easily killed than the adults. Refer to UWEX publication A3422 "Commercial Vegetable Production in Wisconsin" for a list of registered insecticides.



Squash bug adult female

Krista Hamilton DATCP

**LATE BLIGHT:** Disease severity values (DSV) for all potatoes near Grand Marsh and for early and mid-planted potatoes in the Hancock and Plover areas have exceeded the late blight risk threshold triggering preventative fungicide application. UW-Extension Vegetable Plant Pathologist Dr. Amanda Gevens recommends treatments to limit initial late blight infection begin at this time in these production areas. As of July 4, no late blight has been detected in the state.

**VARIEGATED CUTWORM:** This sporadic pest was the cause of severe damage to seedling vegetables on a Milwaukee County CSA farm in June. Variegated cutworm (VCW) is a migratory insect that last appeared in record numbers in Wisconsin crops in 2012. Considered one of the most damaging cutworms on beans, potato

and tomato, the larvae of this species climb plants at night to feed on foliage and fruits. The VCW caterpillar is differentiated from other cutworms by a single row of 4-5 yellow circular spots on the back.



Variegated cutworm larva

Marcos Veiga [www.cartinafinland](http://www.cartinafinland)

## NURSERY & FOREST

**BOXWOOD SPIDER MITE:** Damage from this spider mite was noted on 'Green Velvet' boxwood stock at a Vernon County garden center last week. Boxwood mite feeding causes leaf stippling that may vary from yellowish to brown depending on the severity of the infestation. In serious cases, premature leaf drop occurs. Like other mite pests, damage often intensifies as summer weather becomes hotter and drier. Light infestations in summer can be controlled by oil or soap spray applied two times, 7-10 days apart. Heavy infestations may require a residual miticide. Natural enemies of mites include green lacewings, lady beetles, harvestmen and spiders.



Boxwood spider mite damage

Tim Boyle DATCP

**POWDERY MILDEW:** Ninebark 'Center Glow' in a central Wisconsin growing field was infected with this common fungal disease. Powdery mildew is easily diagnosed on most plants by the grayish white powdery growth on leaf and flower surfaces that causes foliage to turn yellow and die prematurely. Powdery mildew may develop on dry foliage, though ideal conditions are high humidity and temperatures of 60-80°F.

Once powdery mildew is a problem, removing and destroying all infected plant parts is key. Overhead watering and late summer applications of nitrogen fertilizer, which can encourage tender new and susceptible growth, should be avoided. For severe infections, routine fungicide treatments every 10-14 days can be effective.

**CUCUMBER MOSAIC VIRUS:** Monkshood plants in Iron and Marathon counties were recently found to be infected with cucumber mosaic virus (CMV). This virus has a very wide host range and there is no known cure. Symptoms of CMV can include mottled or blotchy coloration or ringspots on infected plants. Preventive measures including immediate disposal of infected plants and control of pest vectors (i.e., aphids) are critical to limiting its spread.



CMV symptoms on monkshood

Timothy Allen DATCP

## APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 27 - JULY 3

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	0	21	0	—	—
Bayfield	Orienta	3	0	0	—	1	5	—	—	—
Brown	Oneida	160	0	6	2	21	3	0	—	—
Columbia	Rio	—	—	—	—	—	—	—	—	—
Crawford	Gays Mills	—	—	—	—	—	—	—	—	—
Dane	DeForest	—	—	—	—	—	—	—	—	—
Dane	Mt. Horeb	230	52	4	6	5	0	1	—	—
Dane	Stoughton	—	—	—	—	—	—	—	—	—
Fond du Lac	Campbellsport	55	1	0	5	0	0	0	—	—
Fond du Lac	Malone	163	3	5	3	10	3	0	—	—
Fond du Lac	Rosendale	7	3	2	3	13	2	0	—	—
Grant	Sinsinawa	71	6	3	—	—	—	—	—	—
Green	Brodhead	28	31	2	4	48	—	—	0	0
Iowa	Mineral Point	450	0	1	3	16	12	0	—	—
Jackson	Hixton	0	1	3	2	3	3	—	—	—
Kenosha	Burlington	210	18	7	11	29	14	0	—	—
Marathon	Edgar	—	—	—	—	—	—	—	—	—
Marinette	Niagara	0	0	0 <sup>MD</sup>	1	5	8	—	—	—
Marquette	Montello	1215	58	2	1	3	8	0	—	—
Ozaukee	Mequon	40	0	9	9	2	0	0	—	—
Pierce	Beldenville	6	3	2	0	0	3	0	0	0
Pierce	Spring Valley	144	0	1 <sup>MD</sup>	4	37	45	0	—	—
Racine	Raymond	969	0	15	24	19	12	0	0	0
Racine	Rochester	660	58	13	6	17	0	0	0	0
Richland	Hill Point	166	13	6	2	—	37	—	—	—
Sheboygan	Plymouth	1115	0	0 <sup>MD</sup>	0	11	23	—	—	—
Walworth	East Troy	75	1	0 <sup>MD</sup>	2	1	17	0	0	0
Walworth	Elkhorn	30	3	0 <sup>MD</sup>	9	3	3	0	0	0
Waukesha	New Berlin	85	3	10	2	20	11	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	4	0	0	15	0	0
Columbia	Pardeeville	0	0	0	0	0	0	1	18	0	0
Dodge	Beaver Dam	0	2	0	1	3	0	5	3	0	0
Fond du Lac	Ripon	0	1	0	0	0	0	1	0	0	0
Grant	Prairie du Chien	0	0	0	0	0	1	0	0	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	0	8	0	0
Marathon	Wausau	0	0	0	0	3	0	101	4	0	0
Monroe	Sparta	0	0	0	0	19	0	0	0	0	0
Rock	Janesville	0	9	1	0	3	2	3	96	1	0
Walworth	East Troy	0	0	0	0	2	0	0	0	0	0
Wood	Marshfield	0	0	0	0	0	0	28	0	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.