

# 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

Southerly winds brought very warm and humid air to Wisconsin, accompanied by intermittent showers and, in the far north, a deluge. Dry conditions dominated most of the state, though scattered storms developed on June 11 and unsettled conditions lingered much of the week. The heaviest rain (8-10 inches in eight hours) fell across portions of the northwest late Monday night and caused significant flooding and many road closures. The storm systems bypassed parts of south-central and southeast Wisconsin that have been trending dry this season. Summer crop development accelerated under the above-normal mid-July temperatures and over 45% of the state's soybeans were blooming at the start of the week, eight days ahead of last year and 12 days ahead of the five-year average. More than 5% of soybean acres are setting pods. Crop ratings continue to be very favorable despite recent storm damage and surplus rain in some areas, with 85-95% of alfalfa, corn, potatoes, soybeans and wheat acres reported in good to excellent condition.

## LOOKING AHEAD

**WESTERN BEAN CUTWORM:** Moth emergence is accelerating statewide. Approximately 40% of the DATCP pheromone traps captured moths this week, with low counts of 1-9 adults reported as far north as Wausau in Marathon County. Black light traps registered a total

of 68 moths across five locations. High counts for the July 7-13 monitoring period were 29 moths per trap in Columbia and Monroe counties. Peak flight, or 50% emergence of the adult population, should occur by July 31 at most southern and central sites. Moth activity is expected to intensify in the week ahead.

**SOYBEAN APHID:** Densities have increased to moderate levels in a few R1-R2 soybean fields indicating aphid pressure is beginning to build, although the typical average is still extremely low at fewer than five aphids per plant. Monitoring efforts should be increased as soybeans advance through the early to intermediate reproductive growth stages, when aphid populations usually peak.

**SPOTTED WING DROSOPHILA:** Flies have been collected in traps in Calumet, Dane, Door and Trempealeau counties as of July 13, and are likely emerging in many more locations. Growers of raspberries and other susceptible small fruits should prepare to implement controls as soon as the flies or larvae are detected on their farms or orchards.

**EUROPEAN CORN BORER:** Summer moths are appearing near La Crosse and in areas of the state where 1,400 degree days (modified base 50°F) have been surpassed. The predominant stages noted in fields this week were fifth-instar larvae and pupae. The treatment window for

first-generation larvae has closed statewide, with the exception of the far northern counties.



Fifth-instar European corn borer larva Krista Hamilton DATCP

**STINK BUG:** Adults and nymphs have been observed in southern and west-central Wisconsin apple orchards, signaling the potential for fruit injury. Growers are encouraged to examine fruits for evidence of feeding by these insects. A single adult or nymph can injure many apples, and damage may not develop until after the fruits are in storage.

## FORAGES & GRAINS

**POTATO LEAFHOPPER:** Counts in surveyed fields are still well below the economic threshold of two leafhoppers per plant for alfalfa 12-inches and taller, and most sites have averages below 0.5 leafhoppers per sweep. Economic counts have not been found as of July 13. Nymphs are appearing more frequently in sweep nets indicating populations are increasing.

**PLANT BUG:** Levels of this insect vary considerably from field to field, but the average remains very low at 0.4 per sweep. Nymphs in all developmental stages were found in third-crop alfalfa sampled this week and these immature plant bugs constitute about 25% of the population in most fields.

**PEA APHID:** A typical net sweep in alfalfa from Portage County southward currently yields only 0.1-0.7 aphids, a pronounced decline from average counts of 4-6 per sweep in mid-June. Minimal pea aphid activity has been observed since populations began to decrease several weeks ago.

## DEGREE DAYS JANUARY 1 - JULY 13

LOCATION	50°F	2015	NORM	48°F	40°F
Dubuque, IA	1471	1389	1399	1571	2375
Lone Rock	1427	1328	—	1521	2292
Beloit	1503	1388	1416	1618	2404
Sullivan	1234	1071	1326	1316	2013
Madison	1392	1302	1347	1486	2224
Juneau	1224	1188	—	1313	2011
Racine	1263	989	—	1367	2075
Waukesha	1193	1071	—	1272	1970
Milwaukee	1248	1003	1215	1355	2049
Hartford	1195	1071	—	1275	1973
Appleton	1164	1118	—	1256	1932
Green Bay	1138	1017	1175	1239	1902
Big Flats	1295	1233	—	1366	2050
Hancock	1295	1233	1309	1366	2050
Port Edwards	1271	1192	1277	1343	2042
La Crosse	1521	1394	1478	1643	2425
Eau Claire	1338	1240	1321	1429	2170
Cumberland	1126	1100	1218	1192	1875
Bayfield	881	820	—	925	1481
Wausau	1153	1031	1190	1216	1867
Medford	1052	1000	1083	1099	1749
Crivitz	1014	947	—	1077	1666
Crandon	1011	901	934	1041	1636

*Method: ModifiedB50: Sine48; ModifiedB40 as of Jan 1, 2016. NORMALS based on 30-year average daily temps, 1981-2010.*

**TRUE ARMYWORM:** Alfalfa surveyed in the southwestern and central counties showed modest counts of small one-half inch second-generation larvae. Numbers ranged from 1-3 per 100 sweeps. The principal threat from armyworms in alfalfa is when the larvae migrate to other crops as fields are harvested.

## CORN

**WESTERN BEAN CUTWORM:** Peak flight, or 50% adult emergence, should occur over the southern half of the state in the next two weeks. Oviposition on corn and dry beans has been under way since late June and is increasing as the moth flight escalates. In rare cases, treatment may be required for field corn with infestations affecting 8% of the plants at 90-95% tassel emergence. For processing sweet corn, the economic threshold is 4% of plants infested. This week's high trap counts were nine moths east of La Crosse and 29 moths at Pardeeville and Sparta, in Columbia and Monroe counties.

**EUROPEAN CORN BORER:** Larvae from the spring flight of moths are generally in the late development stages and evidence of their feeding was observed in 10% of cornfields surveyed this week. Leaf feeding was apparent on 51% of plants in an exceptional field near Galesville in Trempealeau County, although the other survey sites had infestation rates below 12%. Damage caused by first-generation larvae has become pronounced and should be relatively easy for crop scouts to assess at this time. Pupation has started in the southern and western areas. Black light traps could register the earliest moths of the summer flight over the weekend of July 16-17.



European corn borer leaf injury

Krista Hamilton DATCP

**CORN ROOTWORM:** Beetle emergence is gradually increasing across southern and central Wisconsin. Both the northern and western species have been noted in Dane, Dodge, Grant, Iowa, La Crosse, Lafayette, Richland and Sauk counties as of July 13.



Northern corn rootworm beetle

Krista Hamilton DATCP

**CORN EARWORM:** Pheromone and black light traps in Dodge, Fond du Lac and Monroe counties registered minimal counts of 1-7 migrants this week. The economic threshold for this pest is 5-10 moths in three consecutive nights for corn and seven moths per trap per week for tomatoes.

**JAPANESE BEETLE:** This defoliator is appearing in corn, soybeans and many other crops. For corn, the primary concern is to protect the silks from clipping since heavy beetle feeding on corn silks can impair pollination. Treatment may be justified for fields with three or more beetles per ear and silks that have been clipped to ½ inch when pollination is occurring (less than 50% complete). Japanese beetles often aggregate on plants in the edge rows, emphasizing the importance of obtaining representative samples from several areas throughout the field before making control decisions. Border row spot treatments may be sufficient if the beetles and damage are confined to the field edges. Beetles must be on the outside of the ear to be killed by contact insecticides.



Japanese beetles feeding on corn silks

Krista Hamilton DATCP

## SOYBEANS

**SOYBEAN APHID:** Densities are very low in most fields and moderate at a few sites. None of the 40 soybean fields sampled from July 7-13 had an average count above 11 aphids per plant. However, scattered fields had individual plants with 200 or more aphids, indicating populations are building. A recent article by Extension entomologist Chris DiFonzo of Michigan State University reminds growers and crop advisors that the aphid treatment threshold established in 2000 remains valid today



and that foliar sprays should not be considered until the economic threshold of 250 aphids per plant on 80% of the plants has been exceeded, even with markedly higher soybean prices: <http://www.farms.com/commentaries/soybean-aphid-thresholds-109893.aspx>. Aphid counts have not surpassed this level in any soybean field surveyed by DATCP as of July 13.



Japanese beetle soybean defoliation

Krista Hamilton DATCP

**JAPANESE BEETLE:** Soybeans across the southern half of the state are showing 1-14% of plants with light to moderate leaf injury by a combination of Japanese beetles, bean leaf beetles, grasshoppers and various caterpillars. Leaf injury by these defoliators should not be allowed to exceed 20% between the bloom and pod-fill stages.

## FRUITS

**APPLE MAGGOT:** Captures on red spheres and yellow sticky traps have increased, with reports of flies appearing on traps at nearly one-half of the monitoring locations. The highest count for the week ending July 13 was six flies on a red sphere at Rochester in Racine County. Maintenance of traps will be important as emergence continues and oviposition on apples increases in late July and early August.

**SPOTTED TENTIFORM LEAFMINER:** The second flight has peaked in most southern and central apple orchards and sapfeeder larvae are reappearing. The economic threshold for this summer generation of STLM is one mine per leaf.

**CODLING MOTH:** Several apple orchards are 1,000 or more degree days (modified base 50°F) beyond the first biofix, and treatments for second generation larvae are

starting. An increase in moth counts from the spring to summer flight suggests that some degree of fruit injury is probable and fruits should be closely inspected for damage. Apple growers are reminded to rotate insecticides between generations to prevent resistance to chemical materials. Localized larvicide applications are usually an acceptable alternative to orchard-wide treatment for sites with variable larval pressure between cultivars or blocks.



Codling moth larval damage to apples

Patrick Clement flickr.com

**STINK BUG:** Populations are increasing in field and fruit crops, especially in orchards with ground covers or adjacent to uncultivated areas. Apple growers should begin scouting fruits for the dimples or dark, irregular circular depressions typical of stink bug feeding, and flag sites with multiple depressions on the same fruit or tree. Damage by this pest is often limited to specific areas in the orchard and depending on the distribution of the population, spot treatment may be adequate.

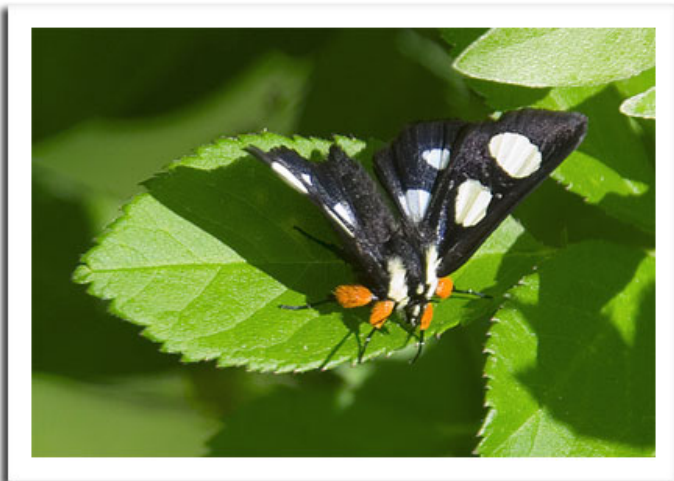


Common brown stink bug

jeanbrodeur.smugmug.com

**JAPANESE BEETLE:** A grape grower reports that these insects are defoliating grape vines in the Viroqua area of Vernon County. Beetles are also appearing in southern and western Wisconsin apple orchards. Damage to fruits, ornamentals and field crops is expected to intensify later this month and control may be necessitated to prevent fruit loss. Most chemical treatments are only effective against JB when populations are low and the beetles are first immigrating into vineyards and orchards. Fruit growers should note the daily location of beetles when timing an insecticide application since the beetles feed in trees during the day and move to the ground at night.

**EIGHT-SPOTTED FORESTER:** Adults were observed in Trempealeau County on June 13, indicating that egg deposition is occurring on grape leaves. The larvae of this insect consume grape foliage, leaving behind only the primary veins and petioles. Although light defoliation of vines is not uncommon in most vineyards, large-scale infestations are rare.



Eight-spotted forester moth

J. Gilbert [www.flickr.com](http://www.flickr.com)

## VEGETABLES

**FLEA BEETLES:** Reports indicate that flea beetles have been a persistent problem for home gardeners again this season. In many instances their damage is aesthetic, but control may be considered for young plants if beetles are present on every plant and defoliation exceeds 30%.

**STRIPED CUCUMBER BEETLE:** Adults have been increasingly active over the southern half of the state in the last two weeks. Growers of cucurbits should continue to monitor plants for these yellow and black striped beetles, which may transmit bacterial wilt of cucurbits through feces or

contaminated mouthparts. Control is warranted for populations of one beetle per plant in melons, cucumbers and young pumpkins, and five beetles per plant for less-susceptible cucurbits such as watermelon and squash.



Striped cucumber beetles inside squash blossom Krista Hamilton DATCP

**IMPORTED CABBAGEWORM:** Defoliation has become more pronounced in cole crop plantings since early July. The late-instar larvae (>one inch long) noted this week are capable of consuming more leaf area, causing larger holes in the leaves and producing more frass. The worms can be found on the underside of leaves and inside the developing heads or growing points of plants. Treatment thresholds range from 10-75% of plants infested, depending on whether the crop is intended for fresh market sale or processing.

**LATE BLIGHT:** Environmental conditions in recent weeks have been suitable for late blight development. Commercial potato fields infected with this disease have not been confirmed to date, but disease severity value accumulations near Grand Marsh, Hancock and Plover have exceeded the late blight risk threshold, indicating that the conditions required for disease development have been met. Home gardeners and farmers should consider preventative fungicide applications to protect their tomatoes and potatoes. Registered fungicides for potato late blight in Wisconsin are listed at the UW-Madison Vegetable Pathology website: <http://www.plantpath.wisc.edu/wivegdis/pdf/2016/Potato%20Late%20Blight%20Fungicides%202016.pdf>.

**SQUASH BUG:** Populations are expected to increase sharply by late July with the addition of many small nymphs. Insecticide options for commercial plantings include synthetic pyrethroids (e.g. Brigade, Mustang,



Pounce, Warrior, etc.) or neonicotinoids (Assail, Belay, Scorpion and Endigo). Organic growers should use directed applications of pyrethrum (PyGanic) or the pre-mix with azadirachtin (Azera). An average of one egg cluster per plant when plants are flowering is recommended as the basis for initiating treatment. For home gardens, soapy water or carbaryl treatment provides some control but repeated applications are usually needed.



Squash bug nymphs

vegedge.umn.edu

## NURSERY & FOREST

**HETEROSPORIUM LEAF SPOT:** This common leaf spot disease of iris was observed in a Chippewa County garden center this week. Symptoms appear early in the season as brown spots with water-soaked margins near the leaf tips. Once irises bloom, the spots enlarge rapidly, coalesce, and cause leaf dieback starting at the tip. Later the spots turn yellow to reddish-brown with characteristic gray centers.



Heterosporium leaf spot on iris

Liz Meils DATCP

Although the heterosporium fungus does not attack the bulbs or rhizomes, it weakens and may eventually kill affected plants. Since the fungus overwinters on dead iris leaves, removing and disposing of all diseased leaves in fall will reduce the amount of inoculum available for infection the following spring. A fungicide spray program is recommended for severe cases involving many plants.

**VERTICILLIUM WILT:** Catalpa trees at a nursery in Ozaukee County were exhibiting symptoms of this fatal vascular disease, frequently misidentified as decline caused by environmental factors. Symptoms are highly variable and can be acute or chronic. Acute symptoms include premature fall coloration, wilting, defoliation, branch dieback and death, whereas chronic symptoms typically reflect damage from earlier infections and may include slow growth, sparse foliage, stunted leaves and twigs, leaf scorch and abnormally heavy seed crops. Trees with severe wilt and dieback cannot be saved and should be replaced with a species not susceptible to Verticillium such as aspen, beech, sycamore, poplar, willow or any conifer.



Verticillium on lilac

Anette Phibbs DATCP

**GUIGNARDIA LEAF BLOTCH:** This leaf spot disease is developing on horse chestnut trees in Ozaukee County. Symptoms include irregular, reddish-brown leaf lesions with yellow margins that distort affected foliage as they increase in size and severity. Disease development can be suppressed by disposing of fallen leaves in autumn to reduce inoculum levels.

**BLACK KNOT OF CHERRY:** A light infection on cherry trees was noted at a nursery in Ozaukee County. This common fungal disease is characterized by irregular, black swollen galls or 'knots' which form on branches

and can range in size from ½ inch to one foot long. Shoots and branches bearing knots should be pruned in winter or early spring, before fungal spores are released. Multiple infections of black knot reduce tree vigor and cause eventual decline. Nursery trees with knots on the trunk must be removed from sale.



Black knot on cherry

DATCP Nursery Program

**PHYTOPHTHORA CACTORUM:** This root rot pathogen was confirmed by laboratory diagnosis on rhododendron plants from Price and Oneida counties. The infected rhododendrons were showing thickened leaves with distinct dark-red margins between healthy green leaf tissue and necrotic tissue, although symptom expression can vary.

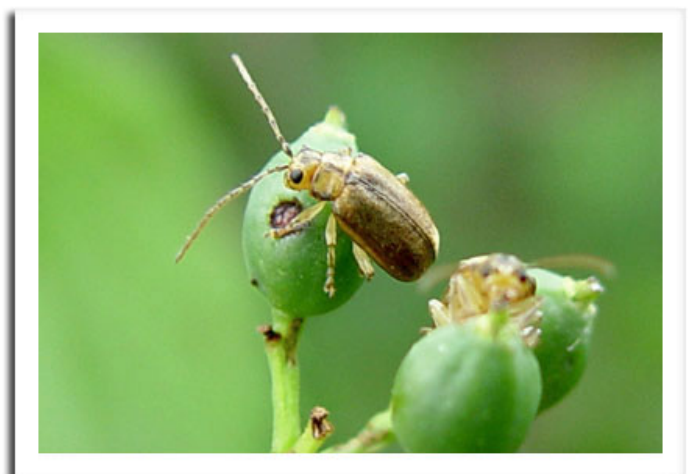
Rhododendron infected with *P. cactorum*

Timothy Allen DATCP

cultural practices that improve drainage should help reduce problems. Lowering soil pH is another protective measure, as low pH inhibits spore activity.

Symptomatic plants should be removed and destroyed to prevent spreading spores to other host plants of *P. cactorum*, including hundreds of ornamentals, trees and fruit crops as well as valuable agricultural crops like apples, ginseng and strawberries.

**VIBURNUM LEAF BEETLE:** Nursery inspectors recently found this invasive European beetle on arrowwood viburnums at a nursery in Washington County, making Washington the fourth Wisconsin County where VLB has been detected since 2009. 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 refoliating and can kill otherwise healthy plants after 2-3 years of heavy infestation. Gardeners, landscapers, nursery stock growers and retailers in southeastern Wisconsin should be alert to the characteristic, unique skeletonization of viburnum leaves caused by this insect and implement an aggressive treatment program to prevent this pest from spreading, if detected.



Viburnum leaf beetle

[www.forestryimages.org](http://www.forestryimages.org)

Most Phytophthora root rot infections occur during periods of wet, warm weather when spores enter plants through wounds. Because saturated soils provide ideal conditions for *P. cactorum* development and spread,

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

COUNTY	SITE	STLM <sup>1</sup>	RBLR <sup>2</sup>	CM <sup>3</sup>	OBLR <sup>4</sup>	APB <sup>5</sup>	LPTB <sup>6</sup>	DWB <sup>7</sup>	AM RED <sup>8</sup>	YELLOW <sup>9</sup>
Bayfield	Keystone	6	0	3	4	0	1	0	0	0
Bayfield	Orienta	0	0	0	7	0	12	36	—	—
Brown	Oneida	400	53	14	12	0	5	58	0	0
Columbia	Rio	123	7	0	0	0	0	18	0	0
Crawford	Gays Mills	19	18	0	0	—	—	27	0	0
Dane	DeForest	10	23	3	0	—	—	—	—	—
Dane	Edgerton	—	—	—	—	—	—	—	—	—
Dane	McFarland	137	20	7	—	—	—	—	—	*15
Dane	Mt. Horeb	321	184	1	1	2	6	10	1	1
Dane	Stoughton	99	84	7	0	0	3	5	0	4
Fond du Lac	Campbellsport	120	106	0	16	0	3	32	—	—
Fond du Lac	Malone	64	83	6	8	0	0	5	0	0
Fond du Lac	Rosendale	93	14	2	4	0	2	5	0	0
Grant	Sinsinawa	36	53	17	—	—	—	—	—	3
Green	Brodhead	12	118	0	0	6	19	98	0	0
Iowa	Mineral Point	214	192	8	6	1	16	38	0	1
Jackson	Hixton	55	6	0	2	0	2	13	0	0
Kenosha	Burlington	185	83	2	0	1	7	8	0	0
Marathon	Edgar	2113	61	0	3	0	9	91	0	0
Marinette	Niagara	201	8	0	8	0	8	6	1	0
Marquette	Montello	811	101	3	3	—	—	—	—	—
Ozaukee	Mequon	250	19	5	4	—	—	—	*2	—
Pierce	Beldenville	343	185	8	7	1	17	240	4	2
Pierce	Spring Valley	288	46	0	0	0	20	88	0	0
Racine	Raymond	252	13	1	5	1	3	35	0	0
Racine	Rochester	360	17	6	0	2	1	27	*6	0
Richland	Hill Point	119	62	1	3	3	21	34	**0	**1
Sheboygan	Plymouth	846	77	6	1	0	2	62	**4	0
Walworth	East Troy	100	73	0	7	0	13	28	1	1
Walworth	Elkhorn	100	36	0	39	6	19	0	1	2
Waukesha	New Berlin	786	46	5	6	2	6	63	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>American plum borer; <sup>6</sup>Lesser peachtree borer; <sup>7</sup>Dogwood borer; <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	Arlington	0	2	0	0	0	0	0	5	0	4
Columbia	Pardeeville	2	0	0	0	3	8	0	0	1	29
Dodge	Beaver Dam	0	0	0	0	0	0	0	0	0	5
Fond du Lac	Ripon	0	0	7	0	1	0	0	0	0	0
Grant	Prairie du Chien	0	0	0	0	1	1	0	0	0	0
Manitowoc	Manitowoc	0	0	0	0	0	3	2	0	0	0
Marathon	Wausau	5	4	0	1	12	19	25	3	0	1
Monroe	Sparta	0	0	2	0	3	0	0	0	0	29
Rock	Janesville	0	0	0	0	0	0	0	10	0	0
Walworth	East Troy	—	—	—	—	—	—	—	—	—	—
Wood	Marshfield	10	1	0	0	2	7	7	1	3	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.