

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

Humid, very warm weather accelerated crop emergence and development across the state. Daytime temperatures on June 10 and 11 soared to the 80s and 90s, before a passing cold front on Saturday night brought storms and cooler conditions. Many locations, including Boscobel, Burlington, Green Bay, La Crosse, Middleton, Prairie du Chien, Waupaca and Wisconsin Rapids, recorded highs of 90-95°F on Friday and Saturday. Several rounds of early-week showers and thunderstorms produced sporadic hail and abundant heavy rain which led to saturated soils and localized flooding. Isolated rainfall totals of 3-5 inches were reported in Columbia, Crawford, Dane, Grant, Iowa, La Crosse and Sauk counties on June 14-15. Crop prospects generally continued to improve with the heat and surplus precipitation, and the latest USDA NASS report rates 83-95% of the state's corn, oats, potatoes, soybeans in good to excellent condition. The near-record temperatures also stimulated insect development and reproduction, resulting in increased pest pressure in field, fruit and vegetable crops.

LOOKING AHEAD

CORN ROOTWORM: Larvae began emerging from overwintered eggs approximately two weeks ago and peak hatch is predicted to occur between 684 and 767 degree days (modified base 52°F), or from June 22-26

near Beloit and La Crosse. Evidence of root injury should become noticeable in heavily infested continuous corn and fields with Bt rootworm trait performance problems by mid-July. The first adult beetles customarily appear around Independence Day.

EUROPEAN CORN BORER: The treatment window for first-generation larvae has opened near Janesville, La Crosse, Spring Green and other advanced 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.

POTATO LEAFHOPPER: Nymphs are appearing in alfalfa. Counts of this stage and the adults are still 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 abruptly in response to warm mid-June weather. Regular sampling of second-crop alfalfa is recommended.

CODLING MOTH: Most southern and central Wisconsin apple orchards are 250-450 degree days (modified base 50°F) beyond the spring biofix, and treatments for first-

generation larvae have been applied. 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. Scouting fruits for tiny, circular entry wounds should begin in the week ahead.

JAPANESE BEETLE: Beetle emergence was noted on the UW-Madison campus on June 13. Damage to fruit trees, ornamental plants, nursery stock and field crops should be anticipated during the next two months, with peak activity occurring in mid-July. Populations of this invasive beetle are now established as far north as Barron County in northwestern Wisconsin and Oconto County in the northeast.



Japanese beetle

dnr.state.mn.us

FORAGES & GRAINS

ALFALFA WEEVIL: Damage is expected to subside by late June as remaining third and fourth instar larvae enter the non-feeding pupal stage. Larvae are common but not numerous in second-crop alfalfa. The average count from June 9-15 was below 0.4 per sweep and leaf tip feeding was less than 20% in surveyed fields.

PLANT BUG: Combined counts of the tarnished and alfalfa plant bug species average 0.4 per sweep, which is well below the economic threshold of five per sweep. The tarnished plant bug continues to be more common of the two species.

PEA APHID: Levels of this insect have been declining since early June. Densities currently range from 0.1-6 per sweep and average less than one per sweep. The rainy, humid weather of the past two weeks promotes

DEGREE DAYS JANUARY 1 - JUNE 15

LOCATION	50°F	2015	NORM	48°F	40°F
Dubuque, IA	892	891	814	932	1512
Lone Rock	842	844	—	874	1421
Beloit	908	889	826	955	1517
Sullivan	699	651	757	723	1196
Madison	848	822	782	843	1357
Juneau	705	732	—	736	1210
Racine	672	584	—	709	1193
Waukesha	686	651	—	709	1183
Milwaukee	648	591	656	688	1158
Hartford	681	651	—	705	1179
Appleton	641	669	—	676	1128
Green Bay	583	588	656	624	1063
Big Flats	747	770	—	800	1212
Hancock	747	770	766	800	1212
Port Edwards	722	737	744	729	1204
La Crosse	882	869	866	930	1488
Eau Claire	784	751	765	812	1329
Cumberland	674	655	687	685	1144
Bayfield	425	457	—	415	747
Wausau	634	626	673	638	1065
Medford	598	600	605	606	1032
Crivitz	512	542	—	521	886
Crandon	544	533	536	529	900

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

the spread of fungal pathogens that regulate these aphids and is likely contributing to the population collapse now occurring.

POTATO LEAFHOPPER: Counts in alfalfa remain low. The highest number recorded this week was only 0.4 per sweep in a field of 22-inch alfalfa near Janesville in Rock County. Nymphs were collected from a few of the sites surveyed on June 14 and 15.

MEADOW SPITTLEBUG: The adult stage of this insect was found in alfalfa in La Crosse, Richland and Sauk counties, signaling that the population has matured and their distinctive spittle masses will not reappear until next spring.

CORN

EUROPEAN CORN BORER: Larvae resulting from moths of the spring flight are in the early-instar stages and fresh

whorl-feeding injury has become evident in a few southern and west-central fields. Surveys found very minor infestations of 1-6% in five of the 40 (13%) sites examined this week, in Columbia, La Crosse, Marquette, Sauk and Trempealeau counties. The optimal treatment window for first generation larvae has opened in the southernmost areas of the state with the accumulation of 800 degree days (modified base 50°F).



European corn borer leaf feeding

Krista Hamilton DATCP

STALK BORER: Surveys indicate that 1-9% of edge row plants in several Adams, Clark, Columbia, Fond du Lac, Green Lake, Juneau, La Crosse, Marquette, Rock and Trempealeau County fields are infested with small, ½ to 1-inch larvae. This mid-season pest migrates from perennial grasses and broadleaf weed hosts in early June and infests the first 4-6 rows of corn. Scouting is recommended through the V7 stage since Bt corn hybrids suppress but will not completely control stalk borers.

BLACK CUTWORM: The threat from this early-season pest has largely subsided, but isolated problems could develop in later planted corn. Scouting may be discontinued once plants reach the V5 stage.

ROSE CHAFER: Light defoliation caused by this beetle was observed this week in corn in southern, central and western Wisconsin. Currently the infestations involve fewer than 3% of plants, though as many as five beetles per plant were found in two fields, one in La Crosse County and another in Rock County. 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.

SOYBEANS

SOYBEAN APHID: Densities remain very low and aphids have colonized no more than 4% of plants at most sites, although one exceptional field near Holmen in La Crosse County surveyed on June 14 had a 19% infestation rate, with an average of 16 aphids per infested plant. Several plants in this field were heavily infested with about 80-100 aphids concentrated along the plant stems and on the newest trifoliolate. Average counts in the other 32 soybean fields sampled this week (16%) were less than 0.3 aphids per plant and eight per infested plant, based upon examination of 100 plants per field. Most of the fields had no aphids. Populations are expected to increase sharply as soybean fields enter the reproductive stages of growth. Routine monitoring for aphids should begin by early July.

ROSE CHAFER: Emergence has accelerated and beetles are causing light damage to soybeans on sandy soils in the southern and west-central areas of the state. Defoliation levels ranged from 2-5% and were still well below the 30% treatment threshold in the V1-V4 fields checked.



Rose chafer beetle on soybean leaf

Krista Hamilton DATCP

SLUGS: Surveys in Columbia, La Crosse, Rock, Sauk and Trempealeau counties found minor but widespread leaf feeding injury on approximately 5-60% of plants in fields with soils saturated after several rounds of heavy rain. The observed defoliation was primarily limited to the unifoliolate leaves and was not expected to have an adverse long-term impact on the plants. Economic thresholds have not been developed for slug control in soybeans or corn and chemical control using baits should only be considered as a last resort option when plants

show severe defoliation, wet conditions persist, and the slugs are actively feeding.

FRUITS

ROSE CHAFER: This generalist pest is emerging in greater numbers and may rapidly arrive in vineyards and orchards, where the beetle 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 as soon as 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 only effective if applied at least 20 days in advance of the adult emergence period. 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

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 levels or if additional measures are needed to reduce populations and 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: Counts ranging as high as 69 moths per trap per week indicate the first of two flights may have peaked. Control of LPTB in orchards is based

on preventing larval establishment underneath the bark and should be timed just before or to coincide with egg hatch. Once 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.



Lesser peachtree borer Stuart Tingley birdingnewbrunswick.ca

Orchards that record high LPTB trap counts are advised to begin checking for signs of infestation in the gum in cankered areas, such as presence of pupal skins, sawdust, and frass produced by feeding borers. 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.

PEST MANAGEMENT AFTER MAY 15 FREEZE: Fruit growers are reminded that pest management programs should continue in apple orchards and vineyards impacted by the May 15 freeze, even if 100% crop loss is expected. Failure to control key pests this season could compound insect and disease pressure in 2017. Adjustments to treatment plans should be made for orchard or vineyard blocks or areas with only small amounts of fruits or no fruit.

REDBANDED LEAFROLLER: Moth counts are expected to increase by July as the second flight gains momentum. Minimal RBLR activity was noted again this week, with

average counts varying from 0-12 moths per trap and averaging less than two per trap.

VEGETABLES

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.



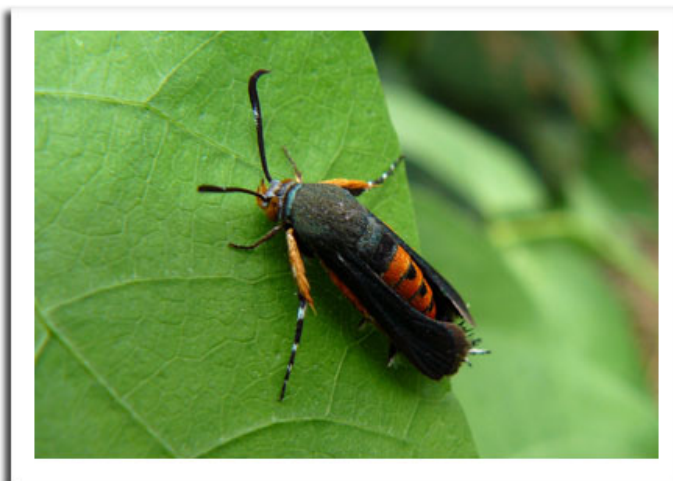
Imported cabbageworm larvae

www.tinygreenhands.com

LATE BLIGHT: 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, whether conventional or organic, should consider preventative fungicide applications to protect their tomatoes and potatoes. No cases of late blight have been confirmed in Wisconsin as of June 16.

SQUASH VINE BORER: Moths were observed in a La Crosse County home garden on June 10, confirming that adult emergence and oviposition has started. Close inspection of pumpkins, squash, gourds, and other vine crops for eggs and evidence of larval boring should

ordinarily begin once 900 degree days (simple base 50°F) have been reached around the third week of June, but is advised sooner now that the moths are active. Insecticides for SVB control 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. Two to three applications made five to seven days apart may be required during the three-week oviposition period.



Squash vine borer moth

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

POTATO LEAFHOPPER: Counts in snap beans and potatoes could increase markedly in the next 2-3 weeks as leafhopper reproduction intensifies and harvesting of second-crop alfalfa begins. Commercial vegetable growers should 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.

NURSERY & FOREST

NR 40 INVASIVE PLANTS: DATCP inspectors have issued "remove from sale" orders for 24 nursery growers and dealers selling regulated invasive plants this season, indicating lack of familiarity with the NR40 invasive species rule revisions enacted on May 1, 2015. The exception to the immediate stop sale of NR40 plants are

the “phase-out” plant species that were added to the “restricted” plant category when rule revisions went into effect last May. The phase-out period is intended to allow nurseries to sell existing stock. “Restricted” herbaceous invasives that were already known to be established in Wisconsin prior to May 1, 2015 can be sold for three years, until May 1, 2018, while trees and shrubs already in the state may be sold for up to five years, until May 1, 2020. No further importation or propagation is allowed. It is important to note that the phase-out does not apply for split-listed species, plants grown outside Wisconsin, “Prohibited” species, or to species regulated before May 2015.



Snow on the mountain, an NR-40 restricted plant Marcia Wensing DATCP

LABELING NURSERY STOCK: Inspections in Kenosha, Sheboygan and Walworth counties found both unlabeled and incorrectly labeled nursery stock. All nursery stock offered for sale in the state must be labeled with the common or botanical name, and the plant hardiness cannot be misrepresented, according to Wisconsin Statute 94.10 (5) and (7).

WHITE SMUT: Gaillardia plants in a Bayfield County nursery were infected with white smut. Symptoms include light green or whitish spots, often with tan centers, that form on the leaves and later produce white spores. Removal and destruction of infected leaves, increasing spacing between plants to promote airflow, and fungicide treatment are the suggested controls.

ASTER RUST: Asters at a garden center in Walworth County were lightly infected with this common fungal disease, characterized by bright orange, powdery spores that initially appear on the leaves and stems and may

enlarge to cause leaf yellowing and necrosis. Several species of rust can infect asters, though treatment does not differ. As with many rusts, the life cycle is complicated and involves the production of several kinds of spores and fruiting bodies. Both an herbaceous perennial host and an alternate conifer or grass host (depending upon species) are required. Rust incidence can be reduced by removing and destroying diseased leaves or fungicide treatment for severe cases.



Aster rust

Liz Meils DATCP

HOLLYHOCK SAWFLY: Severe defoliation of hollyhocks on a Vernon County farm was attributed to the tiny green and black larvae of this insect. The gregarious caterpillar-like worms feed in groups on the underside of hollyhock leaves, causing a lacy or skeletonized pattern of damage that is often mistaken for Japanese beetle defoliation. Chemical control with products containing Btk must be initiated as soon as the first holes appear on the lower leaves.



Hollyhock sawfly defoliation

Krista Hamilton DATCP

APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 9 - 15

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	APB ⁵	LPTB ⁶	DWB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	0	3	0	1	3	6			
Bayfield	Orienta	2	1	—	—	0	0			
Brown	Oneida	0	0	20	29	8	7	1		
Columbia	Rio	2	0	5	4	0	3			
Crawford	Gays Mills	95	0	0	6	—	—			
Dane	DeForest	0	0	4	12	—	—			
Dane	Edgerton	790	0	0	44	0	11			
Dane	McFarland	21	8	3	—	—	—			
Dane	Mt. Horeb	75	5	5	9	8	57			
Dane	Stoughton	75	12	14	28	9	10			
Fond du Lac	Campbellsport	0	0	0	7	7	44			
Fond du Lac	Malone	0	0	11	8	0	7	2		
Fond du Lac	Rosendale	4	2	6	4	1	3	0		
Grant	Sinsinawa	—	—	—	—	—	—			
Green	Brodhead	—	—	—	—	—	—			
Iowa	Mineral Point	720	1	13	20	0	24			
Jackson	Hixton	39	1	8	5	7	11			
Kenosha	Burlington	150	0	7	20	10	17			
Marathon	Edgar	10	1	7	31	0	47			
Marinette	Niagara	0	0	0	4	0	13			
Marquette	Montello	881	4	3	17	—	—			
Ozaukee	Mequon	0	1	6	3	—	—			
Pierce	Beldenville	20	0	8	2	0	0			
Pierce	Spring Valley	17	0	0	9	0	51			
Racine	Raymond	62	0	5	27	5	10			
Racine	Rochester	90	0	13	31	4	15			
Richland	Hill Point	29	0	8	35	4	69			
Sheboygan	Plymouth	20	0	9	12	12	28			
Walworth	East Troy	50	2	0	24	0	8			
Walworth	Elkhorn	163	0	0	71	11	22			
Waukesha	New Berlin	22	0	4	18	6	12			

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵American plum borer; ⁶Lesser peachtree borer; ⁷Dogwood borer; ⁸Apple maggot red ball; ^{*}Unbaited; ^{**}Baited; ⁹Apple maggot yellow board.

COUNTY	SITE	BCW ¹	CEL ²	CE ³	DCW ⁴	ECB ⁵	FORL ⁶	SCW ⁷	TA ⁸	VCW ⁹	WBC ¹⁰
Columbia	Arlington	0	0	0	0	0	0	5	1	0	0
Columbia	Pardeeville	0	0	0	0	0	0	1	2	0	0
Dodge	Beaver Dam	0	0	0	0	0	0	0	1	0	0
Fond du Lac	Ripon	0	0	0	0	0	0	0	3	0	0
Grant	Prairie du Chien	2	0	0	0	0	1	6	2	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	5	1	0	0
Marathon	Wausau	0	0	0	0	0	0	36	20	0	0
Monroe	Sparta	0	0	0	0	6	0	0	0	0	0
Rock	Janesville	0	0	0	0	3	0	3	17	0	0
Walworth	East Troy	0	0	0	0	3	0	3	1	0	0
Wood	Marshfield	3	5	0	0	1	0	23	33	2	0

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