

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

Cloudy, unsettled weather throughout the week maintained adequate to surplus soil moisture for summer crop growth. Overcast skies and cool temperatures prevailed, while scattered light showers and thunderstorms kept soil conditions wet across the northern and central areas. High temperatures were below normal for mid-June and were mainly in the 70s. Lows ranged from the mid-40s to low 60s. The showers interrupted post-emergence herbicide applications and late alfalfa harvesting, but there were enough days suitable for fieldwork to proceed between rains. Crops are showing signs of improvement, although consistently warmer temperatures are needed to spur plant growth statewide. The most advanced corn has reached the six-leaf (V6) growth stage and most soybean are only in the V1-V2 stages, with only 47% of the state's crop emerged to date.

LOOKING AHEAD

SPOTTED WING DROSOPHILA: The first reported female SWD fly of the season was captured in a DATCP monitoring trap between June 13 and 19. The appearance of SWD adults should be viewed as a warning to fruit growers to increase monitoring efforts since fly populations typically surge rapidly within three weeks of initial trap captures.

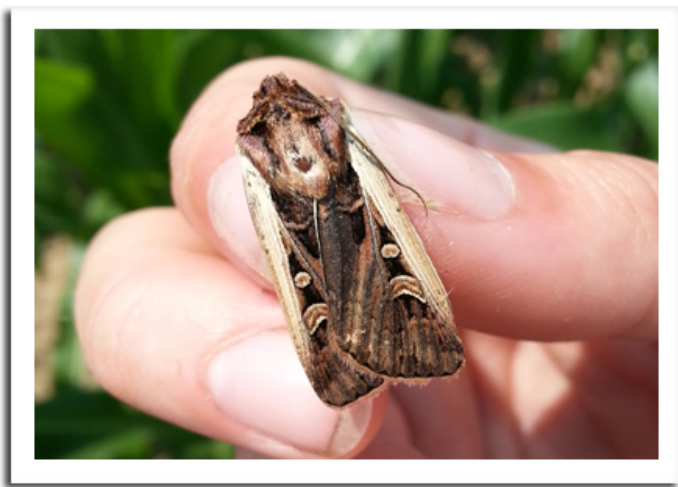
TRUE ARMYWORM: First-generation armyworm caterpillars are appearing in the perimeter rows of corn. Surveys indicate larval populations in corn remain below economically significant levels for now, but the very large moth captures of 491-1,110 moths registered in black light traps during the previous four weeks indicate that armyworm larvae may be locally abundant. Continued weekly scouting of corn and wheat is strongly recommended.

EUROPEAN CORN BORER: The spring flight continued for the third consecutive week and is expected to peak by June 20 in the south-central and southwestern counties, June 25 in the southeastern and central areas, and June 30 in the north. Moths are appearing in low numbers in black light trap and egg laying is underway throughout much of the state.

CODLING MOTH: Most southern and central Wisconsin apple orchards are 200-300 degree days (modified base 50°F) beyond the spring biofix, and treatments for first-generation larvae are beginning. 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.

WESTERN BEAN CUTWORM: Pheromone traps are now being set in preparation for the annual moth flight. Par-

Participants in the western bean cutworm monitoring program should begin reporting counts to Tracy Schilder at tracy.schilder@wisconsin.gov by June 26 and each Wednesday during the nine-week trapping survey.



Western bean cutworm moth u.osu.edu

STALK BORER: Migration of stalk borer larvae from grasses and broadleaf weed hosts into corn is expected to increase next week. Spot treatment may be warranted for fields that show 5% of plants with leaf feeding. Damage should become pronounced by late June or early July.

EASTERN TENT CATERPILLAR: Pupation has started in advanced areas of southern Wisconsin with the accumulation of 725 degree days (base 50°F). The first moths should begin emerging in 1-2 weeks.

FORAGES & GRAINS

ALFALFA WEEVIL: The peak larval damage period is expected to end by late June as populations reach the non-feeding pupal stage. Weevil numbers have been low this spring. The average count in 210 first-crop alfalfa fields sampled from May 31-June 19 was just 0.4 per sweep (40 per 100 sweeps) and leaf tip feeding was less than 20% in all surveyed fields.

POTATO LEAFHOPPER: Counts in 10-14 inch alfalfa regrowth have exceeded the economic threshold of 2.0 per sweep in a few southwestern Wisconsin fields. Surveys for the period of June 13-19 found averages varying from 0.4-2.2 per sweep, with the highest count (220 per 100 sweeps) observed in Grant County. Nymphs, which

DEGREE DAYS JANUARY 1 - JUNE 19

LOCATION	50°F	2018	NORM	40°F
Dubuque, IA	825	1109	891	1522
Lone Rock	751	969	—	1397
Beloit	748	943	903	1400
Sullivan	666	852	831	1271
Madison	725	931	856	1379
Juneau	614	875	—	1199
Racine	544	746	—	1129
Waukesha	619	782	—	1221
Milwaukee	563	774	725	1156
Hartford	601	827	—	1182
Appleton	549	844	—	1116
Green Bay	520	808	722	1080
Big Flats	599	893	—	1188
Hancock	557	814	837	1123
Port Edwards	565	821	813	1122
La Crosse	683	1028	945	1329
Eau Claire	644	945	837	1232
Cumberland	520	767	754	1010
Bayfield	375	631	—	811
Wausau	476	741	738	954
Medford	481	738	666	952
Crivitz	504	774	—	1014
Crandon	459	689	586	916

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

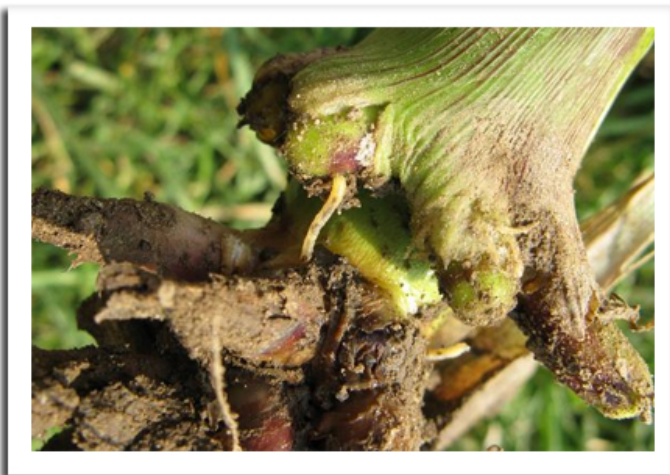
can be an indicator of population increase, should begin appearing next week. The neon green nymphs quickly move sideways when disturbed; differentiating them from plant bugs, aphids and other small, bright green insects that collect in sweep nets.

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.

PEA APHID: This insect continues to be the most abundant alfalfa pest. Densities currently range from 1-14 per sweep and average three per sweep. Rainy, humid weather promotes the spread of fungal pathogens that regulate these aphids and often cause populations to collapse by late June.

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 first two weeks of July this year. Larval activity should be assessed next 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

ROSE CHAFER: Light defoliation caused by this beetle was observed this week on corn in 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.

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 by June 26 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 pronounc-

ed 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 damage to corn

Krista Hamilton DATCP

SOYBEANS

BEAN LEAF BEETLE: Light defoliation was observed in 30% of sites surveyed in the southern two-thirds of the state. Despite widespread feeding injury, less than 5% of soybean plants were affected in the infested fields and very few beetles were found. Treatment specifically for this pest is seldom justifiable, but could be considered in the rare event that defoliation exceeds 40% or for populations of 39 or more beetles per foot of row during the vegetative stages.



Bean leaf beetle in soybean trifoliolate

Krista Hamilton DATCP

ROSE CHAFER: These tan beetles with orange-brown spiny legs are appearing on soybeans and 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 stages. Defoliation caused solely by the rose chafer is unlikely to reach this level before beetle activity subsides in July.



Rose chafer

flickr.com

SOYBEAN APHID: Surveys of VC-V2 soybeans found aphids in two of 25 fields sampled during the reporting period ending June 19. Densities ranged from 1-85 aphids per infested plant on 1-8% of plants, based on 100 plants examined per field. Specific counties where the aphids were detected were Columbia and Sauk.



Soybean aphids

Tracy Schilder 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. A capture of 10-15 crawlers in a few days, or 10 crawlers on one tape, may warrant control.



San Jose Scale crawler 'white cap phase' blogs.cornell.edu/jentsch/2014

ROSE CHAFER: This generalist pest is appearing in vineyards and orchards. Scouting twice weekly is advised for sites 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, although the feeding period is usually brief (<3 weeks) and the beetles usually disappear by July without causing permanent damage. Commercially available traps can attract beetles from surrounding areas and are not recommended for use in vineyards.



Rose chafer beetles feeding on wild grape

Krista Hamilton DATCP

OBLIQUEBANDED LEAFROLLER: Larval offspring 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 about a week after the first moths are captured in pheromone traps.



Obliquebanded leafroller larva

Tracy Schilder DATCP

SPOTTED WING DROSOPHILA: The first SWD flies were captured in traps by June 19 in La Crosse County. This date compares to June 1 in 2018, June 5 in 2017, and June 10 in 2016. Berry growers should intensify monitoring and scouting efforts at this time, and prepare to implement SWD treatment programs.

Commercial SWD traps and lures are 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 should begin to increase again by July as the second flight starts. Minimal RBLR activity was noted again this week, with average counts varying from 0-14 moths per trap and averaging only two per trap.

APPLE MAGGOT: Emergence of flies from the soil is likely to begin at advanced sites before the end of the

month. 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 next week in perimeter trees adjacent to abandoned orchards or woodlots to capture the earliest flies.



Apple maggot fly

magikcanoe.com

VEGETABLES

ZEBRA CATERPILLAR: This infrequent pest, named for its prominent black and yellow longitudinal stripes, was defoliating cauliflower leaves at a St. Croix County CSA on June 18. Larvae feed during the day on the foliage of a variety of broadleaf crops and ornamentals, causing ragged leaves. The young caterpillars initially feed together in groups, but later separate and feed individually. The zebra caterpillar occurs sporadically in Wisconsin and is generally not considered a serious pest. Manual removal of the larvae is the preferred form of control.



Zebra caterpillars on cauliflower

Megan Eames DATCP

SQUASH VINE BORER: Moth emergence is expected to begin next week 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. 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

Bruce Bolin flickr.com

IMPORTED CABBAGEWORM: Damage caused by larger cabbageworms has become very conspicuous, making the velvety green caterpillars generally easy to find and remove from gardens and smaller plantings. For larger commercial cabbage crops where chemical control may be required, ICW populations should be assessed weekly by examining 25-50 randomly-selected plants (depending on field size) and recording the number of infested plants.



Imported cabbageworm larva

www.mobot.org

A plant is infested if eggs or caterpillars are found. Control decisions should be made based on a threshold of 30% infestation in the transplant to cupping stages; 20% infestation from the cupping to early head stages; and 10% from early heading until harvest. For broccoli and cauliflower, the threshold decreases to 10% once flowers or curds begin to develop, to maintain quality.

NURSERY & FOREST

BOXWOOD BLIGHT: 'Green Velvet' boxwood stock from an Oregon supplier was found positive for boxwood blight at a Michigan box store chain last week, and DATCP inspectors are currently checking for diseased plants that may have been shipped to Wisconsin retailers. Boxwood blight is a developing problem, with infected plants occurring at numerous locations nationwide, from numerous sources. Retailers and homeowners are encouraged to check their boxwood plants for symptoms, and symptomatic plants should be sampled and tested at the UW Plant Disease Diagnostic Lab. More information about boxwood blight, its symptoms, and testing can be found at https://datcp.wi.gov/Pages/Programs_Services/BoxwoodBlight.aspx.



Boxwood blight lesions

Richard Buckley Rutgers PDL

JUMPING WORMS: Invasive "jumping worms" were recently confirmed in Sauk County. This damaging Asian pest, named for its unusual thrashing behavior when disturbed, was first detected in the state in 2013. The term 'jumping worms' refers to multiple species, all in the genus *Amyntas*. The 1.5 to 8-inch long worms can be identified by the smooth, whitish non-segmented band around the body (clitellum). Other common worm species have a raised band.

Jumping worms reproduce asexually and infest soil in high densities, altering soil texture and composition. Their feeding strips nutrients, kills plants, and increases erosion. A single worm can start a new population.



Jumping worm

UW-Madison Arboretum

Human-assisted dispersal by moving potted plants, soil, compost, mulch and fishing bait is a leading contributor to the spread of jumping worms. Actions recommended to reduce their spread include cleaning soil and debris from vehicles, equipment, gardening tools, and shoes before moving to and from a work site or recreational area. Gardeners and landowners who suspect they have jumping worms should keep any potentially infested plant, soil and mulch on site. These materials should not be sold, transplanted, or shared.

More information can be found on the DNR website at <https://dnr.wi.gov/topic/Invasives/fact/jumpingworm/index.html>. Sightings of jumping worms can be reported to the Wisconsin DNR by emailing invasive.species@wi.gov.

ROSE SLUG: The tiny green larvae of this sawfly were feeding on rose foliage in La Crosse County this week, and skeletonizing the leaves. Defoliation may be avoided by removing the larvae and damaged, lacy leaves. Horticultural oils or residual insecticides are also effective.

EUONYMUS CATERPILLAR: A heavy infestation of this insect was observed on *Euonymus* spindletree shrubs at a nursery in St. Croix County. The cream-colored larvae with black heads and a black lateral spot were near maturity. Chemical control is no longer advised in locations where larvae have reached the later instars and are likely to pupate soon. Plants can usually tolerate defoliation for

one year, but multiple years can lead to decline. Smaller infestations may be successfully treated by hand pruning to remove the infested foliage.



Euonymus caterpillars

Konnie Jerabek DATCP

SLUGS: Persistent wet conditions are providing favorable conditions for slug activity and damage in some areas of the state. Because slugs are nocturnal feeders, plant damage appears overnight and the cause is usually not apparent. Species such as the grey field slug, *Deroceras reticulatum*, are capable of inflicting substantial crop and garden damage, traveling up to 40 feet in one night. Slug activity quickly subsides with drier weather, but if control is warranted, a few options are as follows: sprinkling diatomaceous earth atop the soil beneath high-risk plants; encircling containers and small raised beds with protective copper tape; or trapping slugs by placing wet newspapers beneath boards laid on the ground. Slug baits with an iron phosphate component are often a good solution in mulched perennial beds.



Slug damage on hosta

gardeningonthego.files.wordpress.com

APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 13 - 19

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	DWB ⁵	LPTB ⁶	BMSB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	6	8	0	3	0	0			
Bayfield	Orienta	12	0	—	—	0	0			
Brown	Oneida	8	6	2	0	0	0			
Columbia	Rio	0	0	0	0	0	0			
Crawford	Gays Mills	16	0	0	—	—	22			
Dane	DeForest	—	—	—	—	—	—			
Dane	Mt. Horeb	0	0	2	7	0	0			
Dane	Stoughton	12	0	3	27	0	7			
Fond du Lac	Campbellsport	35	1	0	0	0	13			
Fond du Lac	Malone	1	1	2	0	18	7			
Fond du Lac	Rosendale	26	14	2	4	5	6			
Grant	Sinsinawa	154	20	11	7	—	9			
Green	Brodhead	7	0	4	10	—	22			
Iowa	Mineral Point	220	0	16	13	—	1			
Jackson	Hixton	7	2	6	1	—	2			
Kenosha	Burlington	0	0	4	23	11	12			
Marathon	Edgar	48	2	4	2	—	13			
Marinette	Niagara	0	1	0 ^{MD}	0	0	0			
Marquette	Montello	10	2	2	2	—	5			
Ozaukee	Mequon	0	0	7	0	0	0			
Pierce	Beldenville	—	—	—	—	—	—			
Pierce	Spring Valley	4	2	0 ^{MD}	0	5	39			
Racine	Raymond	4	0	5	0	—	20			
Racine	Rochester	4	0	11	18	0	0			
Richland	Hill Point	0	0	29	3	—	—			
Sheboygan	Plymouth	0	0	0	0	18	4			
Walworth	East Troy	—	—	—	—	—	—			
Walworth	Elkhorn	—	—	—	—	—	—			
Waukesha	New Berlin	50	2	15	2		20			

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Lesser peachtree borer; ⁶Dogwood borer; ⁷Brown marmorated stink bug; ⁸Apple maggot red ball; *Unbaited; **Baited; ⁹Apple maggot yellow board; ^{MD}Mating disruption.

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	3	1	0	16	0	0
Columbia	Pardeeville	0	1	0	1	14	0	4	27	0	0
Dodge	Beaver Dam	0	0	0	1	0	0	2	11	0	0
Fond du Lac	Ripon	0	1	0	1	0	0	0	2	0	0
Grant	Prairie du Chien	0	0	0	0	3	0	1	1	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	0	21	0	0
Marathon	Wausau	0	0	0	0	0	0	4	4	0	0
Monroe	Sparta	0	0	0	0	5	2	0	0	0	0
Rock	Janesville	2	3	0	0	3	0	13	326	3	0
Walworth	East Troy	1	0	0	2	13	0	0	6	0	0
Wood	Marshfield	0	1	0	0	0	0	8	19	0	0

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