

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 this week, disrupting seasonal fieldwork but increasing soil moisture reserves for summer crops. A powerful line of severe storms moved eastward across southern Wisconsin during the late evening and early morning hours of June 16-17, producing damaging winds and tornadoes southwest of Madison. Torrential rainfall of 1.5-2.0 inches in an hour was observed in several locations. Additional rounds of showers and thunderstorms redeveloped throughout the week as a frontal boundary stalled across the region. Conditions were warm and humid, with afternoon high temperatures mainly in the 80s and lows ranging from the 40s to upper 60s. The repeated rounds of storms and significant rain further increased topsoil moisture supplies which were already 92% adequate or surplus statewide, while the heat and humidity promoted rapid growth of vegetative corn, soybeans and potatoes. Prospects for the state's crops continue to improve and reports indicate the quality and quantity of the first cutting of alfalfa were the highest in several years.

LOOKING AHEAD

EUROPEAN CORN BORER: The most advanced corn is now susceptible to infestation by first generation corn

borers. Leaf feeding and small larvae were observed during the past week on 2-4% of plants in Monroe and Vernon counties. Early signs of damage, including leaf pinholes and shot holes, should be noticeable in southern and central Wisconsin fields in the week ahead.

TRUE ARMYWORM: Surveys indicate larval populations in corn remain below economically significant levels, but continued scouting for localized infestations is recommended. Many fields have an abundance of grassy weeds favorable for armyworm development and late herbicide treatments at these sites could force the larvae from the grasses onto corn plants.

SOYBEAN APHID: Early colonies were observed for the first time this season on June 10 in Sauk County. Surveys this week detected aphids in 11 of 47 soybean fields sampled. Densities were low and ranged from 1-22 per infested plant on 2-18% of plants. The aphids were found in Dodge, Grant, Iowa, Jackson, La Crosse, Lafayette, Monroe and Vernon counties.

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, but reproduction could increase abruptly in response to the current warm temperatures. Regular sampling of second-crop alfalfa should continue.

EASTERN TENT CATERPILLAR: Pupation has begun in advanced areas of southern Wisconsin with the accumulation of 725 degree days (base 50°F). The first moths may begin appearing at lights and in black light traps in the next two weeks.

STALK BORER: Migration of stalk borer larvae from grasses and broadleaf weed hosts into corn is expected to accelerate 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.



Stalk borer larva

jclucier flickr.com

APPLE MAGGOT: Fly emergence could begin 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) in most years. Traps should be placed next week in perimeter trees adjacent to abandoned orchards or woodlots to capture the earliest emerging flies.

WESTERN BEAN CUTWORM: Pheromone traps are now being set in preparation for the annual moth flight. Participants in the western bean cutworm monitoring program should begin reporting counts to Tracy Schilder at tracy.schilder@wisconsin.gov by June 25 and each Wednesday during the nine-week trapping survey.

FORAGES & GRAINS

ALFALFA WEEVIL: Larval counts in southern and central Wisconsin have declined due to pupation and harvest of first-crop alfalfa. Carryover of larvae into second-crop regrowth is common, although averages are below one

DEGREE DAYS JANUARY 1 - JUNE 15

LOCATION	50°F	2013	NORM	48°F	40°F
Dubuque, IA	749	691	814	781	1244
Lone Rock	704	659	—	737	1189
Beloit	766	768	826	785	1275
Sullivan	561	676	757	595	1003
Madison	680	653	782	715	1165
Juneau	606	599	—	649	1059
Racine	520	529	—	570	982
Waukesha	561	576	—	595	1003
Milwaukee	527	513	656	567	970
Hartford	561	545	—	595	1003
Appleton	532	523	—	572	966
Green Bay	471	464	656	515	898
Big Flats	618	547	—	632	1016
Hancock	618	554	766	632	1016
Port Edwards	584	520	744	598	975
La Crosse	693	590	866	720	1159
Eau Claire	581	526	765	608	1006
Cumberland	480	459	687	503	836
Bayfield	319	301	—	316	564
Wausau	483	474	673	510	851
Medford	455	475	605	483	816
Crivitz	444	423	—	474	808
Crandon	417	434	536	431	728

Method: ModifiedB50; SineB48; ModifiedB40 as of Jan 1, 2014.
NORMALS based on 30-year average daily temps, 1981-2010.

per sweep and leaf tip damage is generally less than 20%. Most weevils are in the third and fourth-instar stages and should pupate within the next two weeks. Routine scouting is suggested through early July or until the weevil season has ended.

MEADOW SPITTLEBUG: The first spittle masses appeared three weeks ago and late-instar nymphs are now the predominant development stage. Adult spittlebugs should begin appearing in alfalfa sweep net collections by July. A population of 1.0 or more nymphs per stem may interfere with harvest operations, but infestations of this level are rare in Wisconsin.

POTATO LEAFHOPPER: Populations are approaching the economic threshold of 1.0 per sweep in some 8- to 11-inch alfalfa fields. Counts for the period of June 12-18 varied from 0-0.6 per sweep, with the highest average (30 per 50 sweeps) found in Monroe County. Nymphs, which can be an indicator of population increase, were

swept from two of the 47 fields sampled. 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.

PEA APHID: Counts have not changed significantly since the last report. Averages in 47 alfalfa fields surveyed from Walworth to Dunn County ranged from 0.5-7.6 per sweep, which is normal for this time of year. The highest counts were observed near Hazel Green in Grant County. Pea aphid populations in Wisconsin alfalfa usually peak by mid-June and then decline in July.

PLANT BUG: Alfalfa fields as far north as Chippewa County are showing low populations of 0-1.3 per sweep. The economic threshold is five per sweep. Nymphs are still more abundant than adults in most fields.



Alfalfa plant bug

fotomie2009 flickr.com

CORN

TRUE ARMYWORM: Larval infestation rates ranged from 1-6% in fields sampled from June 12-18. These averages are considered non-economic, but actual populations may be larger and more widespread than surveys indicate. In addition, the black light traps near Coon Valley and Janesville registered moderate counts of 39-44 moths this week. Larvae from these flights, coupled with the current armyworms, could present a consistent population for several more weeks. Continued scouting of corn and wheat is strongly advised through early July.

EUROPEAN CORN BORER: The spring flight of moths has peaked in the southwest, south-central and west-central

areas. Black light trap counts have been low at most sites since the flight began in late May, with the exception of Coon Valley where 29 moths were registered from this week. Oviposition is occurring on corn, snap beans, potatoes and weed hosts, and leaf feeding by first instar larvae should be noticeable in the tallest non-Bt cornfields next week.



European corn borer pin hole feeding

Krista Hamilton DATCP

STALK BORER: Larvae varying in size from ½-¾ inch were the cause of light leaf injury to 1-4% of the edge row plants in corn in Grant, La Crosse, Lafayette, Monroe and Vernon counties. Similar levels of infestation were found last week in Dane, Juneau and Sauk counties. The migration of stalk borers from grass and broadleaf weed hosts into corn is increasing and spot treatment may be warranted by early July for fields showing 5% of plants with damage. As a reminder, most Bt corn hybrids will suppress but not completely control stalk borers, so field scouting is necessary through the V7 stage.

SOYBEANS

BEAN LEAF BEETLE: Light defoliation was observed at 40% of sites surveyed in the southern two-thirds of the state. Despite widespread feeding injury, less than 8% 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.

SOYBEAN APHID: Surveys of V1-V4 soybeans found aphids in 10 of 47 (21%) fields sampled as far north as

Jackson County. Densities ranged from 1-22 aphids per infested plant on 2-18% of plants based on 40 plants examined. A few individual plants in a La Crosse County field had counts of 70-88 aphids. Specific counties in which the aphids were detected include Dodge, Grant, Iowa, Jackson, La Crosse, Lafayette, Monroe and Vernon. Early colonies were also found in Crawford, Richland and Sauk counties in the previous week, suggesting that the aphids are already distributed at low densities across much of southern and central Wisconsin.

ROSE CHAFER: This beetle has been noted on perennials, field crops, and in home gardens since the last report. The adults deposit eggs in the soil that hatch into grubs that feed on the roots of grasses, weeds and garden plants. Defoliation is expected to increase during the next 3-4 weeks, especially in areas of the state with sandy soils.



Rose chafer beetles

Krista Hamilton DATCP

FRUITS

CODLING MOTH: Most southern and central Wisconsin apple orchards are 250 or more degree days (modified base 50°F) beyond the first biofix, and treatments for first generation larvae have started. Early larvicide applications made at the traditional 250 degree-day point coincide with 3% hatch and are appropriate for orchards that experience high trap counts (10-15 moths) in the first week after biofix. By contrast, apple orchards with initially low moth counts that increase later in the flight may benefit from delaying treatment until 350 degree days after biofix, or 15% hatch. Treating at this later window theoretically exposes more newly hatched larvae to the insecticide product.

Apple growers are reminded that reapplication 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. Applying materials at a higher rate may provide extended protection from rain and a longer reapplication interval, according to Orchard IPM Specialist, John Aue.



Codling moth eggs and newly-hatched larva

ucanr.edu/blogs

REDBANDED LEAFROLLER: Moth counts were extremely low again this week, ranging from 0-4 per trap. The average was only 0.9 per trap. The low number of RBLR moths appearing in traps since early June suggests that populations are still primarily in the larval stages or that controls applied a few weeks ago were very effective. The second flight is likely to begin in the next two weeks.

OBLIQUEBANDED LEAFROLLER: The first flight of moths accelerated this week and is expected to continue through mid-July. Apple growers who experienced OBLR problems in recent years should consider setting additional traps to determine specific blocks or varieties in which to direct sampling and control efforts. Monitoring terminals over the next 2-3 weeks for the second brood of larvae will also indicate the potential for problems later this season.

PLUM CURCULIO: John Aue of Threshold IPM Services reports that persistent damage is occurring in some orchards that applied perimeter sprays earlier this month. Most southern Wisconsin locations are 308 degree days (modified base 50°F) or more beyond petal fall and the majority of beetles should have moved into interior trees by now. If temperatures remain favorable, the egg laying period could extend throughout June, leading to severe

injury by early July in unprotected sites. Continued scouting is recommended and, if late immigration is suspected, a perimeter application is acceptable. Organic control options include maintaining a protective coating of Surround® WP (kaolin) on exposed blocks.

SAN JOSE SCALE: Emergence of scale nymphs or “crawlers” is anticipated next week in southern orchard locations. Sampling by taping scaffold branches in blocks with history of damage is advised to determine the relative abundance of scales, the start and end of the hatching period, and if treatments are successful. The tape should be changed every 7-10 days during the period of crawler activity.

FIRE BLIGHT: Symptoms of this fruit tree disease (i.e., shepherd’s crook, amber ooze) are becoming increasingly evident during shoot development. If shoot blight is suspected, pruning out infected tissue 12 inches below any symptoms will help prevent further spread. An application of streptomycin 24 hours before or after a significant rain or hail event is an effective control for trees still in bloom.



Fire blight ‘shepherd’s crook’ symptoms

www.omafra.gov.on.ca

VEGETABLES

SQUASH VINE BORER: Moth emergence and egg laying can be anticipated by June 24 in advanced southern areas, about the time chicory blooms. Pumpkins, squash, gourds and other vine crops should be examined daily for eggs and evidence of larval boring from 900-1,000 degree days (base 50°F). Insecticidal controls must be applied to the stems of plants when the adults are first observed, especially while runners are less than two feet

long. Repeat applications may be required throughout the three-week oviposition period.



Squash vine borer moth

D. Charvat '10 flickr.com

WHITE-LINED SPHINX: These distinctive green, yellow and black caterpillars, which may exhibit considerable color variation, were observed this week on evening primrose in Dane County. The larvae are offspring of migrant moths that arrived from the southern U.S. last month. Similar to the armyworm, these caterpillars occasionally reach outbreak levels and can move in tremendous numbers in search of food, consuming entire plants and covering roadways. Large populations occur approximately every 6-7 years in Wisconsin and 2013 was a “banner year” for this insect.



White-lined sphinx larva

Eric Birschbach Ag Site Crop Consulting, LLC

COLORADO POTATO BEETLE: Larvae in southern and west-central Wisconsin are primarily in the first and second instars. Bacterial insecticide treatments of *Bacillus thuringiensis* var. *tenebrionis* (Bt) are most

effective at this time, while the larvae are very small. Most bacterial products persist only two days and must be reapplied 2-3 times to effectively control populations. Treatment is recommended when 6-8 inch plants show 20-30% defoliation.

NURSERY & FOREST

EMERALD ASH BORER: Adults are emerging in southern Wisconsin and were observed on June 16 in Washington and Dane counties. Beetle emergence typically begins when the black locust tree is in full bloom, or around 450 growing degree days (base 50°F). Degree day accumulations as far north as Medford in Taylor County are beyond this threshold and most confirmed infestations in the state are experiencing initial beetle flight this week. Emerald ash borer adults can be observed feeding on ash leaves, on the bark of the main stem, or in the vicinity of ash trees. The metallic green beetles differ from similar green beetles by having a purple-red abdomen which is visible during flight.



Emerald ash borer purple abdomen

Bill McNeeWDNR

SHOT HOLE DISEASE: Nursery inspectors observed this disease on chokecherry 'Canada Red' and 'Schubert' as well as on the weeping cherry 'Snow Fountains' in Jefferson, Monroe, Ozaukee and Waukesha counties. Shot hole disease is common on *Prunus* species and can be caused by various bacterial or fungal pathogens. Symptoms first appear on new leaves and shoots as small reddish or purplish spots that enlarge, turn necrotic, and then fall out as foliage expands, leaving a 'shot hole' appearance. On fruits, dark lesions develop and eventually become rough and corky. Determining the causal agent is difficult once symptoms are advanced and the

initial leaf spots have become leaf holes. Chemical treatment is not advised unless a specific bacterial or fungal cause can be identified and the severity of symptoms warrants control.



Shot-hole disease of cherry

Liz Meils DATCP

DAYLILY LEAF STREAK: Several daylily varieties, 'Marque Moon', 'Platinum Palette Calypso Coral', and others at nurseries in Ashland, Clark, Douglas, Jefferson, Milwaukee, Vilas, and Waukesha counties were infected with this fungal disease, characterized by a central, yellow streak along the leaf midvein that starts at the leaf tips and progresses downward. Removing infected leaves as they appear, minimizing overhead watering, and fertilizing and watering plants properly to promote growth of new leaves should help to reduce the spread of this primarily cosmetic daylily disorder. Complete removal of dead leaves each fall is also recommended to eliminate the source of the leaf streak fungus.



Daylily leaf streak

Liz Meils DATCP

TAR SPOT: The pale yellow lesions appearing on Amur maple, red maple ‘Burgundy Bell’, and silver maple ‘Silver Queen’ in Clark and Monroe counties are early symptoms of tar spot, a cosmetic fungal leaf spot disease. Severely infected foliage will soon develop raised, black, tar-like spots and may drop prematurely. Tar spot is an aesthetic disease best controlled by clearing and destroying infected leaves in fall to prevent the spores from spreading. If treatment is justified, three fungicide applications are necessary for control: one at bud break, one when leaves are half expanded, and one when leaves are fully expanded.



Early symptoms of tar spot on Norway maple Marcia Wensing DATCP

GYPSY MOTH: A report from the DNR Northern Region Forest Health Specialist predicts noticeable defoliation again this summer for aspen stands south of Ashland where severe defoliation occurred in 2013. Surveys this spring found an abundance of egg masses on the boles of aspens and tag alders, apparently protected by last winter’s deep insulating snow cover. Larvae in Ashland County were predominantly in the second and third instars as of June 15 and their damage should be evident later this month.

FIRE BLIGHT: Warm, humid weather this week favored development of the fire blight bacterium in nurseries and orchards. The pathogenic bacteria multiply on the edge of cankers formed the previous year and are disseminated by insects, wind, and rain splash. During this week’s inspections, fire blight was found on the pear cultivar ‘Cleveland Select’ in a Monroe County nursery. Symptoms are cankered twigs and branches with blackened, drooping foliage that appear to have been scorch-

ed. Prompt removal of cankered branches or “strikes” 12 inches beyond the diseased area can reduce the problem. Sterilizing tools with a 10% bleach solution between cuts is recommended.



Branch or ‘strike’ infected with fire blight M. Allen treexperts.mb.ca

NR 40 INVASIVE SPECIES RULE: Recent garden center inspections in Milwaukee and Washington counties found the invasive plants, *Ampelopsis brevipedunculata* ‘Elegans’ (variegated porcelain berry), *Myriophyllum brasiliensis* (red-stemmed parrot feather) and *Lonicera japonica* ‘Halliana’ (Hall’s honeysuckle) being offered for sale. These plants are categorized as prohibited under the DNR’s Chapter NR 40 Invasive Species Rule and must be removed from sale.

Many additional aquatic and terrestrial plants commonly used in the nursery industry will be listed as prohibited or restricted once revisions to the DNR’s Chapter NR 40 Invasive Species Rule take effect next fall. The addition of 42 new prohibited plant species and 29 new restricted plants has been proposed. Nursery operators and brokers have until June 30 to submit comments on the proposed changes: <http://dnr.wi.gov/topic/Invasives/classification.html>.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 12-18

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	AM RED ⁵	YELLOW ⁶
Bayfield	Keystone	5	3	0	0		
Bayfield	Oriente	12	3	—	—		
Brown	Oneida	25	0	4	2		
Columbia	Rio	95	0	10	16		
Crawford	Gays Mills	67	0	3	11		
Dane	Deerfield	192	2	7	9		
Dane	McFarland	214	—	0	53		
Dane	Mt. Horeb	0	0	2	10		
Dane	Stoughton	41	0	43	4		
Dane	West Madison	28	0	11	16		
Fond du Lac	Campbellsport	2	0	0	1		
Fond du Lac	Malone	0	0	2	3		
Fond du Lac	Rosendale	—	—	—	—		
Grant	Sinsinawa	82	—	3	—		
Green	Brodhead	0	4	1	1		
Iowa	Mineral Point	30	0	9	21		
Jackson	Hixton	60	4	8	13		
Kenosha	Burlington	30	0	12	14		
Marathon	Edgar	—	—	—	—		
Marinette	Niagara	8	0	1	4		
Marquette	Montello	523	0	1	16		
Ozaukee	Mequon	0	0	7	1		
Pierce	Beldenville						
Pierce	Spring Valley	0	0	0	4		
Racine	Raymond	0	0	9	30		
Racine	Rochester	21	0	18	4		
Richland	Hillpoint	—	—	—	—		
Sheboygan	Plymouth	10	1	13	3		
Walworth	East Troy	6	2	0	4		
Walworth	Elkhorn	3	3	0	1		
Waukesha	New Berlin	5	1	21	4		

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Apple maggot red ball; ^{*}Unbaited AM trap; ^{**}Baited AM trap; ⁶Apple 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
Chippewa	Chippewa Falls	0	1	0	0	7	0	0	0	0	0
Crawford	Prairie du Chien	—	—	—	—	—	—	—	—	—	—
Dane	Mazomanie	0	0	0	0	2	0	1	0	0	0
Fond du Lac	Ripon	0	0	0	0	3	1	0	4	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	0	0	0	0
Marathon	Wausau	0	1	5	0	0	0	1	2	0	0
Monroe	Sparta	0	0	0	0	0	0	0	0	0	0
Portage	Plover	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	2	0	0	0	1	0	39	0	0
Vernon	Coon Valley	0	5	0	0	29	0	0	44	0	0
Walworth	East Troy	1	0	0	0	1	0	0	3	0	0
Wood	Marshfield	0	3	0	0	1	1	0	10	0	0

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