

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 continued, limiting fieldwork but maintaining adequate soil moisture for crop establishment. Several rounds of showers and thunderstorms soaked much of the state from May 28-31, with daily rainfall amounts of 1-2 inches recorded in many locations. Seasonally warm, humid conditions prevailed until markedly cooler and drier air arrived on June 1. The additional timely rain and above-average temperatures helped spur plant development and maintain very favorable early-season field crop prospects, while periods of dry weather during the week supported a continuation of this year's rapid planting pace. Planting of the 2016 corn crop was 97% complete by the end of May, two percentage points, or three days, ahead of last year and 13 points ahead of the five-year average. Seventy-five percent of the state's corn crop had emerged, and overall 85% of the corn was in good to excellent condition. Soybeans were 85% planted, 24 points or about two weeks ahead of the average.

LOOKING AHEAD

TRUE ARMYWORM: Minor feeding damage to corn has been noted in La Crosse and Monroe counties. As stated last week, the low to moderate moth flights documented since early May suggest that small grains, corn and other

susceptible crops are at risk of larval infestation this month and should be monitored for potential problems.

CODLING MOTH: A substantial flight is under way in several southern Wisconsin apple orchards. Moths have become increasingly abundant in the past two weeks and a definite potential exists for damaging populations if treatments directed against first-generation larvae are improperly timed. Counts for the period of May 26-June 1 ranged from 0-37 moths per trap, with the high count registered at Sinsinawa in Grant County.

ALFALFA WEEVIL: Larval counts and leaf tip damage have exceeded economic levels in scattered fields. Any remaining first-crop alfalfa should be harvested as soon as possible to limit further feeding by the larger and more destructive late-instar weevil larvae. Continued scouting is recommended through first harvest and early second-crop regrowth.

BROWN MARMORATED STINK BUG: A report from the UW-Madison Insect Diagnostic lab notes that overwintered brown marmorated stink bugs are active. Several individuals have been observed inside of buildings and outdoors near the UW-Madison campus in the past week.

EUROPEAN CORN BORER: The spring flight is expected to peak by June 9 in the southwestern, south-central and central counties, June 16 in the southeastern and east-

central areas, and June 21 in the far north. Moths are appearing in black light traps and egg deposition is occurring in locations such as Eau Claire, Janesville, Hancock, La Crosse and Madison and where 450 degree days (modified base 50°F) have accumulated.

SOYBEAN APHID: Colonization of VE-V1 soybeans was documented for the first time this season on June 1. Surveys found aphids in only two of 27 soybean fields examined, both in La Crosse County. Densities were extremely low at 1-4 aphids per infested plant. This observation confirms that dispersal to soybean plants has started in western Wisconsin.

FORAGES & GRAINS

POTATO LEAFHOPPER: Migrants are widely distributed over the southern two-thirds of the state, though populations remain very low. The highest number found in the last reporting period was only 0.1 per sweep near Omro in Winnebago County. The economic threshold for this pest is one per sweep in 6-12 inch alfalfa and two per sweep in alfalfa 12 inches or taller.



Potato leafhopper

plantnexus.com

ALFALFA WEEVIL: Larval populations have continued to increase under the wet weather pattern of late May. Counts now range from 0.1-2.2 larvae per sweep and average 0.3 per sweep (30 per 100 sweeps), which is a three-fold increase from an average of 11 per 100 sweeps last week. Leaf tip damage is generally less than 30%, although failure to harvest the first crop on time has permitted economic defoliation levels of 40-60% to develop in a few fields. Larvae in the second and third instars are the predominant development stages.

DEGREE DAYS JANUARY 1 - JUNE 1

LOCATION	50°F	2015	NORM	48°F	40°F
Dubuque, IA	615	629	580	623	1091
Lone Rock	591	601	—	592	1027
Beloit	641	621	589	654	1104
Sullivan	478	446	531	476	838
Madison	560	581	558	562	964
Juneau	486	510	—	490	852
Racine	455	394	—	461	833
Waukesha	478	446	—	476	838
Milwaukee	442	400	450	451	809
Hartford	478	446	—	476	838
Appleton	442	466	—	451	792
Green Bay	386	396	453	399	726
Big Flats	526	553	—	495	852
Hancock	526	553	546	495	852
Port Edwards	507	526	532	487	851
La Crosse	615	618	620	627	1073
Eau Claire	555	518	545	551	957
Cumberland	485	446	479	472	820
Bayfield	307	305	—	285	515
Wausau	427	444	471	406	724
Medford	424	423	419	412	729
Crivitz	361	373	—	344	599
Crandon	381	384	379	349	615

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

Damage will only intensify as more larvae transition into the larger third and fourth-instar stages. Harvesting first crop fields as soon as possible and monitoring regrowth for carryover of weevil larvae is strongly advised.

PEA APHID: Populations from Dunn County south to Waukesha County varied from 1-18 per sweep and averaged 2.5 per sweep, a decrease from last week's average of four per sweep. The weekly high count of 18 per sweep was noted in Trempealeau County. Pea aphid levels in alfalfa have presumably peaked and should begin to decline by mid-June.

CORN

BLACK CUTWORM: Crop advisors and growers should continue to inspect late-planted corn for another two weeks or until plants have reached the five-leaf (V5) stage, particularly fields with soybean residue or earlier broadleaf weed problems. Signs of cutworm activity have

been encountered in a very small percentage of sites surveyed in the last 2-3 weeks, though significant injury has not been reported or observed as of June 1.

OBLIQUEBANDED LEAFROLLER: Larvae of this leafroller species were unexpectedly common in the west-central Wisconsin cornfields surveyed earlier this week. Nearly all of the fields examined in La Crosse, Monroe and Vernon counties had a few plants with larvae and minor leaf injury on 1-4% of plants in the edge rows. Damage caused by this caterpillar is probably inconsequential and mainly a curiosity, though populations appear to be higher than normal again this season, as was the case in 2015.



Obliquebanded leafroller larva

Krista Hamilton DATCP

STALK BORER: Larvae are expected to begin migrating from grassy areas into corn in the week ahead. Spot checking the 4-6 border rows for plants with holes in the leaves, wilted whorls and other early signs of damage is recommended starting at 1,400 degree days (sine base 41°F). Control measures may be in order for fields with infestations affecting 5% or more of plants. Stalk borer degree day accumulations as of June 1 were: Beloit 1,080, Madison 949, La Crosse 1,036, and Spring Green 997.

EUROPEAN CORN BORER: Emergence of spring moths is under way, with low numbers of moths appearing in the East Troy and Janesville black light traps. According to the European corn borer degree day model, the majority of moths should emerge by June 9 in advanced southern and western areas of the state and about 1-2 weeks later in the central and northern areas. The first egg masses should be detectable next week. Since most corn is less than 18 inches tall and cannot support larval development, oviposition is likely occurring on peas, peppers, potatoes, snap beans and various weed hosts. Early

planted corn in the mid-whorl, or 10-leaf stage, is most attractive for oviposition by the spring flight of moths.

TRUE ARMYWORM: Minor infestations in corn were noted in six of 66 fields sampled since late May. Small larvae ranging in length from ½-¾ inch were found at four of the sites. Based on these observations and the moderate moth flights during the previous 3-4 weeks, more concentrated scouting of corn and wheat should begin at this time. A rescue treatment may be justified this month if 25% of plants are infested with two or more small larvae (¾ inch or shorter) or 75% of plants are infested with larvae of any size.

SLUGS: Damage consisting of narrow, irregular longitudinal streaks on the lower leaves is becoming evident in damp fields saturated by recent heavy rain. These mollusks thrive during periods of wet weather and could become a problem in no-till systems and very weedy corn where surface residue and high moisture favor their development. Corn in the V4 stage or younger is most susceptible to slug feeding.

SOYBEANS

SOYBEAN APHID: This insect has begun to colonize soybeans in western Wisconsin. Alates (winged aphids) and nymphs were detected on 1-2% of the plants in two fields surveyed in La Crosse County on June 1. Densities were extremely low at 1-4 aphids per infested plant. Twenty-one additional fields examined in Calumet, Columbia, Dodge, Outagamie, Sauk, Washington, Waukesha and Winnebago counties had no detectable aphid population.



Soybean aphids

Krista Hamilton DATCP

BEAN LEAF BEETLE: Surveys conducted across the central and southeastern areas of the state found light defoliation in 11 of 23 (48%) soybean fields. Less than 10% of the plants were affected and beetle counts were very low, ranging no higher than 1-2 per 25 feet of row. Chemical control of this pest during the soybean vegetative stages should be considered only if field-wide defoliation levels exceed 40% or if populations of 39 or more beetles per foot of row are observed. Economic soybean damage directly resulting from bean leaf beetle feeding has never been documented during DATCP surveys.



Bean leaf beetle defoliation

Krista Hamilton DATCP

FRUITS

OBLIQUEBANDED LEAFROLLER: The spring flight continued for the second week, with low numbers of moths registered in southern and central Wisconsin orchards. Late-instar larvae and rolled leaves are still evident at some sites, indicating that moths should continue to emerge over the course of several weeks. The recommended scouting procedure for OBLR is to begin checking terminals for small larvae 7-10 days after the first moths are captured. Although there is no direct correlation between trap counts and larval populations, scouting is important since orchards that register even low counts (< five moths per trap) can develop significant larval problems a few weeks after a flight has occurred. Control is warranted for populations averaging three or more larvae per tree.

GRAPE PLUME MOTH: Reports from vineyards in Crawford and Vernon counties indicate larvae are feeding on grape foliage and webbing together the terminal leaves of shoots. The green caterpillars with whitish hairs

commonly appear in late spring in perimeter rows near wooded areas. Their feeding on interveinal areas of leaves and characteristic webbing on young terminals is generally low-impact and control is usually not required. However, in exceptional cases, spot treatment of infested rows with *Bacillus thuringiensis* var. *kurstaki* (Btk) may be considered. Since Bt must be ingested by larvae to be lethal, it is imperative to confirm the presence of caterpillars and treat only if the larvae are small enough that continued feeding is expected. Grape growers who notice shoots with young leaves webbed together are advised to unroll the leaf to verify that the larvae inside is grape plume moth.

CODLING MOTH: Emergence increased sharply during the May 26-June 1 reporting period. Counts varied from 0-37 moths per trap and averaged about 10 per trap at the monitoring sites that registered CM captures. A larvicide application made 250 degree days (modified base 50°F) after biofix is the standard control for orchards that have documented significant early flights of 20 or more moths in the last two weeks. By contrast, in locations where the spring flight has been inconsistent, it is recommended that growers delay applications until 350 degree days post-biofix, when a greater percentage of the larval population has emerged. Setting additional pheromone traps would also be beneficial in identifying localized areas of moth activity within the orchard if counts remain low and a precise biofix cannot be established. A density of one trap per 2.5 acres (or one per five acres where blocks are uniform in size, shape and topography) is suggested.



Codling moths in pheromone trap

Steve Schoof NCSU

REDBANDED LEAFROLLER: Most orchards are between flights and populations consist primarily of the larval

stages. The second flight should start at most orchard locations by mid-June. Apple growers are reminded to replace pheromone lures for both RBLR and STLM in preparation for the second flights.

VEGETABLES

COLORADO POTATO BEETLE: Oviposition has started across southern and central Wisconsin. The bright orange-yellow eggs deposited by the females should now be apparent on the undersides of potato leaves. At normal June temperatures, the eggs hatch in 4-8 days and larvae mature to the third instar stage in another 5-9 days. These early individuals are usually less destructive than the summer generation. Treatment is justifiable for pre-flowering, 6- to 8-inch potato plants when defoliation exceeds 20-30%.



Colorado potato beetle

Jiri Bohdal www.naturephoto-cz.com

BLACK CUTWORM: Home vegetable gardens and larger plantings should be monitored for signs of black cutworm feeding now that first-generation larvae are in the damaging late-instar stages. Beans, cabbage and other crucifers, carrots, celery, corn, lettuce, peas, peppers, potatoes and tomatoes are all susceptible to black cutworm injury during the transplant establishment period. Most cutworm damage occurs at night as the larvae feed on the stems of young plants at or slightly above or below the soil line. During periods of wet weather, the larvae usually cut plants at the soil surface.

STRIPED CUCUMBER BEETLE: Adults are expected to become increasingly abundant by mid-June. Growers of cucurbits should begin inspecting plants for these yellow and black striped bacterial wilt vectors which infect

cucumbers, melons and squash through feces or contaminated mouthparts. The first symptom of bacterial wilt on cucumber and melon is a distinct flagging of lateral and individual leaves. Early beetle control may be justified 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 beetle

missouribeginningfarming.blogspot.com

NURSERY & FOREST

DAYLILY LEAF STREAK: Daylilies in Oneida and Vilas County nurseries visited in the previous week 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 daylily leaves in fall is also recommended to eliminate the source of the leaf streak fungus.

VIBURNUM LEAF BEETLE: Eggs and early-instar larvae of this invasive European beetle were observed on May 19 in Milwaukee County, one of two southeastern Wisconsin counties in which viburnum leaf beetle (VLB) is known to be established (also Ozaukee County). This newly-introduced exotic species is particularly damaging because both the adult and immature forms rapidly defoliate viburnums. Successive feeding by larvae and adults prevents shrubs from re-foliating and can kill otherwise healthy plants after 2-3 years of heavy infestation. Milwaukee County gardeners, landscapers,

nursery stock growers and retailers 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.



Viburnum leaf beetle larvae DATCP Nursery Program

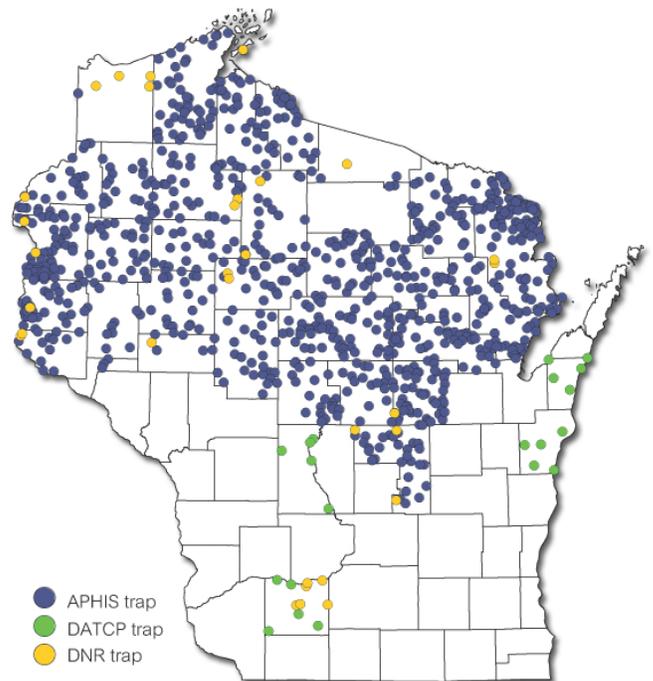
BLACK SPOT ON ROSE: Symptoms of this fungal disease were observed on rose plants at garden centers in Adams, Kenosha, Milwaukee, Sauk and Walworth counties in the last week. Diagnostic features are small, round black spots with feathery margins on the leaf surface that enlarge and cause foliage to turn yellow and drop prematurely. The black spots first appear on expanding lower leaves during wet weather, but eventually spread to the entire plant. Development of this rose disorder is favored by humid, wet conditions and can be alleviated by increasing air circulation and removing infected leaves and fallen debris.

FROST INJURY: A wide variety of nursery trees, shrubs and perennials in Wisconsin nurseries are showing the effects of frigid temperatures on May 14-15. Frost damaged nursery stock is evident statewide, though DATCP inspectors are reporting more extensive damage in the northwest region, including Chippewa, Dunn and Eau Claire counties.

EMERALD ASH BORER: The annual EAB trapping survey has started in anticipation of beetle emergence, which typically begins when the black locust tree is in full bloom around 450 growing degree days (modified base 50°F). Approximately 900 purple traps will be set across 38 counties this year, primarily in those counties in which EAB has not been found. Cooperating agencies are DATCP, DNR and USDA APHIS. Survey locations

include high-risk sites such as campgrounds, recreation areas, major transportation arteries, firewood dealers and sawmills. The traps are baited with an attractant and coated with a sticky material that captures adult beetles during the 10-week adult flight period.

Preliminary EAB Trap Locations 2016



Wisconsin Department of Agriculture, Trade and Consumer Protection

GYPSY MOTH: Aerial Btk spraying has been completed for the season. Approximately 26,822 acres were treated in 16 southern and western counties: Barron, Buffalo, Chippewa, Crawford, Douglas, Dunn, Eau Claire, Grant, Green, La Crosse, Lafayette, Rusk, Richland, Sawyer, Trempealeau and Vernon. The Wisconsin DNR also finished spraying two suppression sites in Rock and Sauk counties. Most of the counties that received Btk treatment will also receive a mating disruption application in late June or, depending on the start of the moth flight period. The Gypsy Moth Trapping Program has so far deployed 2,187 traps (19%) of its estimated 11,474 traps. All traps are expected to be set by the first week of July.

APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 26 - JUNE 1

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	APB ⁵	LPTB ⁶	DWB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	0	0	0	0	0	0			
Bayfield	Orienta	8	1	—	—	—	—			
Brown	Oneida	175	4	1	0	0	0			
Columbia	Rio	25	11	5	0	0	9			
Crawford	Gays Mills	11	0	5	0	0	10			
Dane	DeForest	2	14	4	2	—	—			
Dane	Edgerton	32	6	—	—	9	13			
Dane	McFarland	0	1	1	—	—	—			
Dane	Mt. Horeb	0	3	6	1	5	18			
Dane	Stoughton	1	2	11	0	0	10			
Fond du Lac	Campbellsport	13	0	0	0	5	17			
Fond du Lac	Malone	4	2	5	0	2	6			
Fond du Lac	Rosendale	26	4	1	2	2	0			
Grant	Sinsinawa	—	—	37	—	—	—			
Green	Brodhead	1	2	1	11	31	21			
Iowa	Mineral Point	0	0	15	0	4	20			
Jackson	Hixton	25	13	5	4	0	0			
Kenosha	Burlington	62	1	4	0	22	21			
Marathon	Edgar	69	45	3	0	3	20			
Marinette	Niagara	0	0	0	0	0	0			
Marquette	Montello	41	4	11	—	—	—			
Ozaukee	Mequon	5	10	22	—	—	—			
Pierce	Beldenville	0	5	33	0	7	3			
Pierce	Spring Valley	6	3	2	1	0	16			
Racine	Raymond	12	4	20	0	18	21			
Racine	Rochester	6	0	22	0	5	36			
Richland	Hill Point	6	3	21	1	8	27			
Sheboygan	Plymouth	20	20	15	—	0	10			
Walworth	East Troy	50	10	0	0	0	0			
Walworth	Elkhorn	—	—	—	—	—	—			
Waukesha	New Berlin	0	0	29	1	29	35			

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	0	1	0	0
Columbia	Pardeeville	0	4	0	0	0	0	0	7	0	0
Dodge	Beaver Dam	0	0	0	1	0	0	0	11	0	0
Fond du Lac	Ripon	0	1	0	0	0	0	0	0	0	0
Grant	Prairie du Chien	0	0	0	0	0	0	1	0	0	0
Manitowoc	Manitowoc	0	0	0	0	0	3	1	13	0	0
Marathon	Wausau	0	5	0	0	0	2	1	7	0	0
Monroe	Sparta	0	0	0	0	0	0	0	0	0	0
Rock	Janesville	0	0	1	0	2	2	2	26	1	0
Walworth	East Troy	4	0	0	0	7	0	0	3	0	0
Wood	Marshfield	0	2	0	0	0	1	1	7	0	0

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