

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

Mild, mostly dry weather dominated the state, improving conditions for alfalfa harvesting, orchard pest control, and post-emergence herbicide applications following last week's wetness. Gusty southwest winds and abundant sunshine pushed early-week highs 5-15°F above normal before cooler and less humid air arrived on June 21. Precipitation was scattered and light (0.10 to 0.5 inch), with the largest accumulation (one inch) recorded in the Eau Claire area. June heat and precipitation have spurred plant growth statewide and crops are generally faring very well. The most advanced corn has reached the nine-leaf (V9) growth stage and soybeans are likely to enter the initial reproductive stages (R1) by early July. Overall, 86% of the corn crop was reported in good to excellent condition at the start of the week, a one percentage point improvement from last week and two points higher than the same time last year. Favorable conditions also led to a seven point increase in alfalfa condition ratings and 90% of the second-crop is reported in good to excellent condition.

LOOKING AHEAD

APPLE MAGGOT: Degree day accumulations in southern and western Wisconsin are appropriate for fly emergence. Red sphere and yellow sticky traps should be placed next week in perimeter trees adjacent to

abandoned orchards or woodlots to capture the earliest emerging flies. The treatment threshold for apple maggot remains at five flies per trap per week for traps enhanced with ammonia attractant and one fly per trap per week for unbaited traps.

EUROPEAN CORN BORER: Larvae are primarily in the first to third instars and will begin entering the midribs of corn leaves next week. The treatment window for first-generation corn borers is expected to close by June 28 in the far southern counties and 1-2 weeks later elsewhere, following the accumulation of 1,100 degree days (modified base 50°F).

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 report counts to Tracy Schilder at tracy.schilder@wisconsin.gov by June 29 and each Wednesday through mid-August. The first moths of the season could start appearing in traps during the last week of June.

JAPANESE BEETLE: Emergence of Japanese beetles has been observed in Columbia, Dane, La Crosse, Racine and Rock counties as of June 23. Damage to fruit trees, ornamentals, nursery stock and field crops can be expected for the next two months across most of the state, with heaviest populations likely occurring in the western

areas where the beetle's range is expanding. Soil-applied systemic insecticide treatments must be made 3-4 weeks in advance of beetle emergence and are no longer advised for southern and central Wisconsin.

SOYBEAN APHID: Counts remain extremely low in most soybean fields. Of the 36 sites surveyed from June 16-22, nine had averages below two aphids per plant and 75% of the fields had no detectable aphid population. Routine monitoring for aphids should begin by early July.



Soybean aphids on new growth

Krista Hamilton DATCP

FORAGES & GRAINS

ALFALFA WEEVIL: Larval populations are now less than 0.2 per sweep and pupation is occurring across southern and central Wisconsin. No significant alfalfa weevil problems are anticipated for the remainder of the season.

PLANT BUG: Surveys conducted as far north as Adams, Green Lake and Juneau counties yielded counts of only 0.1-0.8 adults and nymphs per sweep, which is still very low in comparison to the economic threshold of five per sweep in alfalfa.

PEA APHID: Populations of this insect have continued to decline since the previous report and currently average 0.2 per sweep compared to one per sweep last week. Pea aphid counts have decreased considerably since peaking at 28 per sweep during the last week of May.

POTATO LEAFHOPPER: Counts in second-crop alfalfa remain much the same as previously reported at fewer than 0.6 adults and nymphs per sweep. Most fields are

DEGREE DAYS JANUARY 1 - JUNE 22

LOCATION	50°F	2015	NORM	48°F	40°F
Dubuque, IA	1044	1022	954	1098	1734
Lone Rock	992	969	—	1039	1642
Beloit	1051	1019	966	1116	1734
Sullivan	832	757	891	1411	1400
Madison	956	947	916	1003	1573
Juneau	835	847	—	880	1410
Racine	823	682	—	878	1418
Waukesha	813	757	—	851	1381
Milwaukee	803	692	781	861	1387
Hartford	809	757	—	846	1376
Appleton	769	771	—	818	1326
Green Bay	720	685	776	776	1271
Big Flats	883	884	—	1008	1420
Hancock	883	884	895	1008	1420
Port Edwards	859	850	869	881	1412
La Crosse	1051	1008	1010	1116	1730
Eau Claire	932	871	895	977	1550
Cumberland	797	750	808	822	1337
Bayfield	533	525	—	540	929
Wausau	770	720	793	788	1271
Medford	715	691	715	737	1219
Crivitz	637	622	—	660	1081
Crandon	662	609	626	661	1088

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

showing low populations of only 0.1-0.3 per sweep. Economic counts of two or more leafhoppers per sweep in alfalfa 12 inches or taller have not been observed as of June 22.



Potato leafhopper

Krista Hamilton DATCP

CORN

CORN ROOTWORM: Corn producers can expect to see the first beetles of the year and evidence of root damage starting by early July. Egg hatch has been underway since late May and should peak during the week of June 26-July 2 across much of southern and central Wisconsin. Evaluation of corn roots for pruning is recommended beginning 7-10 days after 50% rootworm egg hatch. Continuous corn and areas with Bt performance issues should be the highest priority for inspection and root ratings.



Western corn rootworm beetles

Krista Hamilton DATCP

GRANULATE CUTWORM: This moth, which bears a strong resemblance to the western bean cutworm adult, is appearing in black light traps. The granulate cutworm is noticeably smaller, about $\frac{3}{4}$ of the size of the western bean cutworm. The annual flight of western bean cutworm adults is unlikely to begin until next week.

EUROPEAN CORN BORER: Surveys found minor infestations affecting 1-8% of plants in a few fields sampled from June 16-22. First- and second-instar larvae were the predominant development stages in western Wisconsin. Control treatments will become less effective as boring into corn midribs and stalks begins in the week ahead. The optimal treatment window for first generation larvae has opened as far north as Eau Claire County with the accumulation of 800 degree days (modified base 50°F) and will close once 1,100 degree days have been reached.

STALK BORER: Larval infestations remain light in most fields, seldom exceeding 5%. A few outlier sites in Dane

and Richland counties had leaf feeding on 10-12% of the plants in the first four edge rows, but significant damage was not expected since the corn was in the V7-V8 stages.



Stalk borer damage

Krista Hamilton DATCP

NORTHERN CORN LEAF BLIGHT: UW-Extension Field Crops Plant Pathologist Dr. Damon Smith reported the first find of NCLB in Wisconsin on June 16, in V7-V8 Rock County corn. Early cases of NCLB have also been confirmed from Dane, Jackson, Juneau counties by a BASF specialist, with spore identification pending for Adams, Calumet, Green Lake and Waushara counties.



Northern corn leaf blight lesion

Wade Oehmichen BASF

The early appearance of NCLB this season indicates that farmers and consultants should increase corn scouting. Damon Smith reminds growers that disease development slows during periods of hot, dry weather, and that NCLB is currently affecting leaves that will be in the lower canopy of the plant and are not responsible for a large portion of grain yield. Fungicide applications, if

justified, should be made as close to the tassel stage (VT) as possible for greater yield gain.

SOYBEANS

SOYBEAN DEFOLIATORS: An assortment of minor defoliators can be found at very low levels in many soybean fields. Included in this category are bean leaf beetles, green fruitworm larvae, grasshopper nymphs and rose chafers, all of which were noted on fewer than 4% of plants examined in fields surveyed from June 16-22. Prebloom soybean fields with combined defoliation rates of 30% or more may qualify for treatment, though defoliation in the vegetative stages seldom results in yield loss, especially when soil moisture, temperatures and other growing conditions are favorable. The economic threshold is lowered to 20% defoliation once soybeans reach the bloom and post-bloom stages.



Rose chafer beetle

Krista Hamilton DATCP

SOYBEAN APHID: Colonies are appearing gradually in soybean fields this season and have been found thus far in Adams, Columbia, Dane, Green, Iowa, La Crosse, Monroe, Richland, Rock and Trempealeau counties. Only 11 of the 69 (16%) fields surveyed in the last two weeks have had detectable populations. Densities were below two aphids per plant and 10 per infested plant based on examination of 100 plants per field, with the week's highest total count of 35 aphids per 100 plants found in Adams County.

FRUITS

POTATO LEAFHOPPER: This insect is appearing in greater numbers in orchards as harvesting of second-

crop hay increases. Non-bearing, one- to two-year-old trees are most susceptible to leafhopper feeding and should be monitored for upwards leaf cupping and yellowing of terminal shoots caused by the adults and nymphs. Treatment is justified at levels of one or more nymphs per leaf when symptoms are apparent.



Potato leafhopper damage to apple foliage

fruit.cornell.edu

DOGWOOD BORER: Pheromone traps can be placed now to provide information on the size and timing of the moth flight, as well as the subsequent larval hatch expected in July.



Dogwood borer injury

Alan Biggs flickr.com

SAN JOSE SCALE: Crawlers are emerging from beneath scales in southern Wisconsin orchards. Known "hotspots," or areas of suspected high SJS pressure, can be monitored using black electrical tape on scaffold branches. The tape should be wrapped adhesive side-down, and a thin layer of petroleum jelly applied to the outer side of the tape. Captures of 10-15 crawlers on several taped

branches over the course of a few days, or 10 crawlers on one tape with zero on all other tapes, may warrant application. Treatments should be applied once the yellow crawlers are active, but before their white, waxy coverings (white cap stage) start to form on the leaves and branches. Conventional products for summer control include Esteem (pyriproxyfen) or Movento (spirotetramat). Options for organic growers are summer oil and biological control.



San Jose scale on plum

Elizabeth Wahle ipm.illinois.edu

GRAPE PHYLLOXERA: Grape growers concerned about the appearance of phylloxera galls on grape foliage are reminded that insecticide treatments should have been applied at the first sign of gall formation earlier this month. No insecticide can reduce or eliminate the galls once they have formed on the leaves.



Grape phylloxera galls

universitydisplaygardens.com

REDBANDED LEAFROLLER: The orchards in Dane, Grant, Iowa, Kenosha, Racine and Walworth counties reported

captures of 50-156 moths this week, indicating the second flight is gaining momentum. Counts of this pest have been very low since the first flight subsided in early June, but are expected to increase markedly during the first week of July.

APPLE MAGGOT: Emergence of the first flies of the season could start by June 25 or 26. Initial apple maggot treatments should begin 7-10 days after the first fly appears on a yellow sticky trap and immediately if the fly is found on a red sphere, with later sprays following at 10- to 14-day intervals as long as flies are appearing on traps. A trapping density of 6-12 unenhanced red spheres per acre placed on the perimeter row is suggested. For traps enhanced with an AM attractant, the density can be reduced to one trap every 20 trees on the outside border. Orchards with a history of severe AM problems should also place a few traps in the orchard interior. The economic threshold for apple maggot control is one fly per unenhanced trap per week or five flies per enhanced trap per week.



Apple maggot fly

magikcanoe.com

CODLING MOTH: The spring flight has peaked in most orchards, though counts remain high at some sites. Signs of fruit damage are becoming apparent. Economic counts of five or more moths per trap per week were registered at 15 of 25 locations (60%) during the June 16-22 monitoring period. Apple growers are advised to continue monitoring degree days and CM trap captures until 650-700 units (base 50°F) have accumulated from the spring biofix to determine if additional flights require treatment. Most flights should occur by 700 degree days.

JAPANESE BEETLE: Adults are emerging in southern and western Wisconsin and neonicotinoids or Neem oil repel-

lant sprays must be applied soon, while populations are low and the beetles are still immigrating into the orchard. Neem oil is appropriate for organic systems and effective when applied repeatedly. PyGanic is another organically acceptable method for immediate contact control, but the material dissipates quickly if applied during the day. A third option is Surround WP (kaolin clay) which deters both Japanese beetle and apple maggots, although its efficacy against Japanese beetle is inconsistent.

VEGETABLES

RED TURNIP BEETLE: This red and black beetle was noted in Adams, Monroe and Wood County alfalfa fields on June 22. Red turnip beetle is an occasional pest in the Central Sands area of the state. Hosts include broccoli, cabbage, kohlrabi, radish and turnip, but hoary alyssum and yellow rocket are thought to be the primary food plants. Reports of damage to home gardens are infrequent, except in high population years.



Red turnip beetle

Doug Waylett flickr.com

SQUASH VINE BORER: Moths have been observed around pumpkins, zucchini and winter squash in Dane, Grant and La Crosse counties since June 10. Growers of these vine crops should begin checking susceptible plants for flat, brown eggs deposited at the base of stems once the moths are noticed. Control is required as soon as the eggs are found to prevent the larvae from boring into the vines. Gardeners may remove the eggs by scraping them off with a fingernail. Covering plants with row covers or netting to prevent egg deposition and placing yellow pheromone-baited sticky traps around plantings may also help to reduce SVB problems. A conventional insecticide or kaolin clay applied to the plant

bases as a weekly spray during the three- or four-week egg laying period can provide protection if the sprays thoroughly cover the plant stems and are applied repeatedly to assure good control.



Squash vine borer adult

qwen wan flickr.com

IMPORTED CABBAGEWORM: Moths are very active in gardens and egg laying has intensified. Damage caused by ICW is very conspicuous and the larvae are generally easy to find, making control of this insect relatively easy to accomplish in gardens and smaller plantings. For larger commercial cabbage crops, larval infestations should be assessed on a weekly basis by examining 25-50 randomly-selected plants (depending on field size) and recording the percentage of infestation. 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 and 20% infestation from the cupping to early head stages.



Imported cabbageworm larvae

www.insectpod.com

POTATO LEAFHOPPER: Development and reproduction has accelerated with warmer temperatures in the past two weeks. Counts thus far have not justified treatment, but numbers are approaching the economic threshold of 1.0 per sweep in 6-11 inch alfalfa and 2.0 per sweep in alfalfa taller than 12 inches. This observation suggests populations are likewise increasing in vegetable hosts such as snap beans and potatoes.

NURSERY & FOREST

IMPATIENS DOWNY MILDEW: This destructive foliar disease of impatiens was found in a Kenosha County garden center last week. In 2012, impatiens downy mildew (IDM) became widespread in U.S. greenhouses and landscape settings, with Wisconsin and more than 30 other states reporting cases. Young impatiens plants are especially susceptible to infection and symptoms are often first observed on terminal growth. IDM thrives in humid, cool conditions and is capable of causing complete defoliation and plant collapse.

Commercial growers of impatiens are advised to inspect and cull plants with light green stippled leaves, curled leaves, or the characteristic white, downy mycelia growth on the undersides of foliage. Home gardeners should also carefully examine impatiens for IDM symptoms before purchasing flowers, and consider planting the mildew-resistant New Guinea impatiens or a New Guinea hybrid to avoid losing plants to IDM.



Impatiens downy mildew

Marcia Wensing DATCP

APPLE SCAB: Ornamental crabapple trees in Dunn and Washington counties were expressing light to moderate leaf spotting symptoms associated with this fungal

disease. Infected leaves initially develop brown or olive lesions that later turn black. These primary spring infections produce secondary spores which continue to infect leaves and fruits during wet periods throughout the growing season, often resulting in severe defoliation. Cultural practices such as pruning, planting resistant varieties, thorough sanitation, and careful watering can usually control apple scab. Fallen leaves should be removed in autumn to reduce the amount of inoculum available to start the infection cycle the following year. Fungicides are generally not warranted for nursery stock, except in years when the disease is particularly severe.



Apple scab on crabapple

Liz Meils DATCP

COTTONY MAPLE SCALE: The white, cottony egg masses produced by this pest of deciduous trees and shrubs were observed on red maple and 'Autumn Splendor' horse chestnut trees at a nursery in Dunn County. Cottony maple scale is generally considered only a nuisance pest, as populations are cyclical and peak every few years, causing significant branch and twig dieback when levels are high. Chemical treatments directed against the crawler stage should be considered only after two consecutive years of heavy infestation. Light infestations may be pruned out and destroyed.

DAYLILY RUST: The daylily varieties 'Aztec Priestess' and 'Royal Frosting' in a Kenosha County garden center are developing this rust disease. The most recognizable symptom is the long, brownish-yellow streaks which develop along the leaves. As the disease progresses, small, raised yellowish-orange pustules appear on the leaf undersides. These pustules eventually release orange spores that are wind-dispersed to other daylilies. The disease cycle involves a secondary host, *Patrina* spp. Daylily rust is not known to overwinter in Wisconsin.

The spores arrive on southerly winds or on infected daylilies from out-of-state suppliers.



Daylily rust

Ellen Natzke DATCP

LINDEN LEAF GALL MITE: The distinctive nail-shaped galls caused by this mite are appearing on lindens in Oneida County. The galls are the result of early-spring feeding by the overwintered mites that passed the winter on sheltered parts of the tree. At this time of season the galls are greenish yellow, but eventually turn reddish-brown. LLGM specializes on plants in the genus *Tilia* and occurs on littleleaf linden and basswood trees. The galls usually form on the shaded, lower leaves and are mostly a cosmetic problem.



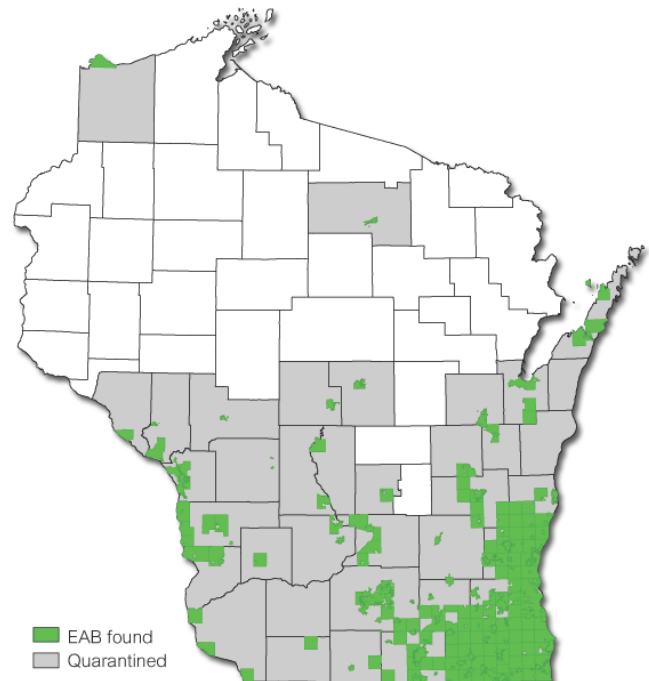
Linden leaf gall mite

Tim Allen DATCP

EMERALD ASH BORER: Juneau County has been added to the growing list of Wisconsin counties with confirmed EAB infestations, after the June 15 detection of EAB near Lyndon Station. The metallic green beetles began emerging from infested ash trees by June 10 and were

observed in Racine County on June 17 and Fond du Lac County on June 19. Beetle emergence usually begins around 450 growing degree days (modified base 50°F) and peaks at or above 1,000 growing degree days. New EAB detections in the past week include the following three municipalities, all located in counties with known EAB populations: Jefferson County (City of Jefferson), Vernon County (Village of Stoddard), and Waukesha County (Village of Butler).

EAB Detections 2008 to June 23, 2016



Wisconsin Department of Agriculture, Trade and Consumer Protection



APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 16 - 22

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	APB ⁵	LPTB ⁶	DWB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	7	3	6	0	0	21			
Bayfield	Orienta	0	0	—	—	0	2			
Brown	Oneida	900	2	21	23	0	1	7		
Columbia	Rio	143	31	0	0	0	0			
Crawford	Gays Mills	528	8	0	3	—	—			
Dane	DeForest	—	—	—	—	—	—			
Dane	Edgerton	387	55	0	53	0	37	0	0	0
Dane	McFarland	10	10	5	—	—	—			
Dane	Mt. Horeb	105	25	1	1	0	20			
Dane	Stoughton	155	96	17	19	1	13			
Fond du Lac	Campbellsport	53	—	0	14	0	29			
Fond du Lac	Malone	11	2	14	42	0	5	4		
Fond du Lac	Rosendale	3	1	12	6	0	11	0	0	0
Grant	Sinsinawa	82	58	12	9	—	—			
Green	Brodhead	—	—	—	—	—	—			
Iowa	Mineral Point	790	58	9	25	0	14			
Jackson	Hixton	70	0	3	13	2	7			
Kenosha	Burlington	340	60	12	8	5	21			
Marathon	Edgar	1209	0	6	33	1	13			
Marinette	Niagara	0	0	0	18	0	14			
Marquette	Montello	—	—	—	—	—	—			
Ozaukee	Mequon	25	0	8	8	—	—			
Pierce	Beldenville	792	10	11	28	0	24			
Pierce	Spring Valley	509	2	0	9	0	33	0		
Racine	Raymond	210	21	6	2	0	4			
Racine	Rochester	260	64	17	11	0	0			
Richland	Hill Point	—	—	—	—	—	—			
Sheboygan	Plymouth	765	0	16	14	0	12			
Walworth	East Troy	51	46	0	3	—	—			
Walworth	Elkhorn	81	156	0	49	—	—			
Waukesha	New Berlin	57	4	6	6	10	15			

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	3	0	0	0	0	3	0	0	0
Columbia	Pardeeville	0	0	0	0	2	0	6	0	0	0
Dodge	Beaver Dam	0	0	0	0	1	0	0	0	0	0
Fond du Lac	Ripon	0	0	0	0	2	0	0	1	0	0
Grant	Prairie du Chien	0	0	0	0	0	1	1	0	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	6	6	0	0
Marathon	Wausau	0	0	0	0	0	0	17	10	0	0
Monroe	Sparta	0	0	0	0	8	3	0	2	0	0
Rock	Janesville	1	3	0	0	0	0	0	8	0	0
Walworth	East Troy	1	0	0	0	1	0	1	1	0	0
Wood	Marshfield	1	1	0	0	0	0	16	3	0	0

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