

# 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

Locally heavy showers on August 4 interrupted an otherwise dry weather pattern across the state. Daytime high temperatures during the week ranged from the 70s to around 80°F, and were near normal or a few degrees below normal for early August. Nighttime lows were in the lower 50s to mid-60s. Monday's storms delivered significant and much-awaited precipitation to southern and central Wisconsin, though some produced heavy downpours of 2-4 inches which caused flash flooding in portions of Dane, Iowa and La Crosse counties. Other areas, mainly in eastern and northern Wisconsin, were missed by the early-week rain and are in need of additional moisture soon to support development of reproductive summer crops. Despite a July drying trend, most of the state's crops are faring well under moderate temperatures and sparse rainfall due largely to adequate subsoil moisture reserves established early in the growing season.

## LOOKING AHEAD

**EUROPEAN CORN BORER:** The treatment window for second generation larvae has opened in southern and western Wisconsin with the accumulation of 1,550 degree days (modified base 50°F). Susceptible corn should be inspected next week for egg masses and small

larvae. Chemical control directed against early-instar corn borers will remain an option until 2,100 degree days have been surpassed, or for approximately three more weeks if below-normal temperatures persist.

**WESTERN BEAN CUTWORM:** Moth counts have declined at most monitoring locations, signaling the end of the annual flight. The cumulative state total as of August 6 is only 409 moths in 103 pheromone traps. Preliminary results of the 2014 western bean cutworm monitoring survey are summarized in the map on page 93.

**SOYBEAN APHID:** Regular monitoring of soybeans is advised at this time as more fields enter the critical pod-filling stages. Most sites sampled by DATCP this week still contained very low average counts of less than 20 aphids per plant, but a few isolated fields may have developed economic populations. Foliar treatment should not be considered until soybean fields have been thoroughly sampled to determine if the established threshold of 250 aphids per plant on 80% of the plants has been exceeded.

**JAPANESE BEETLE:** Reports and survey observations indicate populations are down statewide this year, though these beetles are abundant enough in some apple orchards and nurseries to require treatment. Scouting is advised for apples, corn, grapes, soybeans, and all other susceptible crops. Economic thresholds vary by crop and

are listed under the CORN, SOYBEAN and FRUIT sections.



Japanese beetle

Krista Hamilton DATCP

## FORAGES & GRAINS

**POTATO LEAFHOPPER:** Surveys continue to yield non-economic counts of less than two per sweep. Despite the dry weather of July and sufficiently warm temperatures, populations in alfalfa have remained consistently low since the first migrants arrived in the state in May. Nevertheless, weekly monitoring of the third alfalfa crop throughout August is recommended.

**PLANT BUG:** Counts are similar to last week at 0.5-4.2 per sweep. Most fields contain approximately two per sweep, less than half the economic threshold of five per sweep. Nymphs have become more abundant in alfalfa in the last two weeks and now comprise about 40-80% of sweep net collections.

**PEA APHID:** Populations of this forage pest could increase in response to the cooler and mostly dry weather, which usually favors aphid population growth. Counts this week were still extremely low at less than 0.6 aphid per sweep in all fields sampled.

**STRIPED BLISTER BEETLE:** A few alfalfa fields surveyed in La Crosse and Monroe counties had low counts of 1-2 beetles per 100 sweeps. These insects can be an indicator of potentially high grasshopper populations since the immature stages are predaceous upon grasshopper eggs. Heavy blister beetle infestations often occur during or just after an outbreak of grasshoppers.

## DEGREE DAYS JANUARY 1 - AUG 6

LOCATION	50°F	2013	NORM	48°F	40°F
Dubuque, IA	1787	1775	1927	1914	2814
Lone Rock	1781	1720	—	1888	2801
Beloit	1823	1885	1957	1927	2864
Sullivan	1452	1710	1848	1580	2423
Madison	1690	1718	1866	1797	2706
Juneau	1553	1608	—	1690	2536
Racine	1409	1520	—	1555	2402
Waukesha	1452	1542	—	1580	2423
Milwaukee	1404	1484	1752	1539	2377
Hartford	1452	1506	—	1580	2423
Appleton	1455	1504	—	1590	2420
Green Bay	1354	1423	1663	1494	2313
Big Flats	1567	1507	—	1649	2490
Hancock	1567	1523	1810	1649	2490
Port Edwards	1517	1467	1776	1617	2428
La Crosse	1774	1683	2040	1883	2772
Eau Claire	1601	1570	1836	1721	2557
Cumberland	1392	1397	1715	1505	2275
Bayfield	1006	1014	—	1074	1748
Wausau	1334	1353	1679	1452	2214
Medford	1287	1389	1535	1409	2165
Crivitz	1283	1321	—	1404	2172
Crandon	1172	1240	1311	1264	1978

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

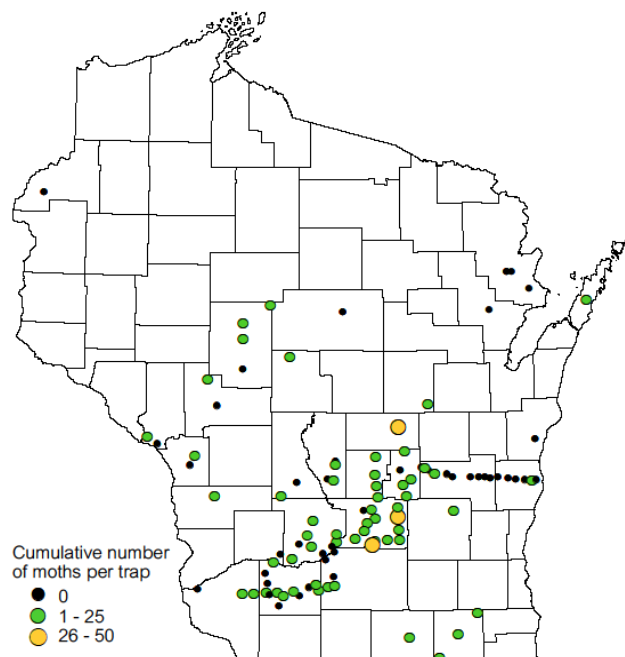
## CORN


**EUROPEAN CORN BORER:** Moths of the second flight continue to appear in very low numbers in black light traps, signaling that eggs are being deposited on corn and other hosts. The peak of summer moth activity is expected to occur in southern and central Wisconsin by August 19. Sweet corn and non-Bt field corn should be inspected for egg masses and larvae before 2,100 degree days (modified base 50°F) are surpassed and the treatment window for second generation corn borers closes. Surveys this week found minor infestations affecting 4-12% of plants in Juneau, Monroe and Vernon counties.

**WESTERN BEAN CUTWORM:** The western bean cutworm degree day model indicates that 75% or more of the moth population has emerged as far north as Hancock in Wau-shara County. Trap counts have begun to decline across the southern half of the state. By contrast, emergence is

about 50% complete in the north-central and northeastern counties where activity appears to have peaked in the past week. The high count for the period of July 31-August 6 was just 12 moths in the pheromone trap near Columbus in Columbia County. The cumulative state count to date is only 409 moths in 103 traps, the lowest total since surveys for this pest began in 2005.

### Western Bean Cutworm Trap Counts July 2 - August 6, 2014



Wisconsin Department of Agriculture, Trade and Consumer Protection 

**JAPANESE BEETLE:** A DATCP survey specialist reports that approximately 2-3% of the plants in a Monroe County field had silks pruned to the ear tip and as many as three beetles per plant were feeding on the silks, potentially impairing pollination. Silk pruning was also noted in scattered fields in Juneau, La Crosse and Trempealeau counties. Control of this pest in corn is warranted for populations that exceed three beetles per ear when pollination is incomplete.

**CORN EARWORM:** Moth collections decreased during the week of July 31-August 6 from already very low levels. Only 16 moths were registered at 11 pheromone trap sites compared to 40 moths captured the previous week. Despite these low counts, the appearance of even a few moths in traps signals that sweet corn producers should continue to monitor fields with green silks. Counts this week were: Coon Valley 0, Cottage Grove 2, East Troy 0, Green Lake 3, Janesville 0, Madison 1, Marsh-

field 0, Mazomanie 0, Springvale 5, Sun Prairie 1 and Williamstown 4.

**CORN ROOTWORM:** Survey observations found counts of 0.1-1.3 beetles per plant this week, with above-threshold averages of 0.75 or more beetles in two fields in Monroe County. More beetles are appearing on silks as emergence accelerates. Crop advisors and corn growers should be aware that a study by Petzold-Maxwell et al., 2013 found that beetle emergence from Bt corn is delayed by an average of 12 days relative to non-Bt corn, suggesting that the scarcity of beetles as of early August does not necessarily indicate low populations for 2014. Beetle counts could increase sharply as emergence peaks this month.



Western corn rootworm beetles

Krista Hamilton DATCP

## SOYBEANS

**SOYBEAN APHID:** Results of the annual aphid survey currently under way suggest populations are still low in the vast majority of Wisconsin soybean fields, but may be increasing in response to mild late-summer temperatures. Three of the 188 fields sampled as of August 6, one each in La Crosse, Waupaca and Wood counties, had moderate average counts greater than 40 aphids per plant on 100% of the plants, with individual plant counts of 105-255 aphids per plant. Soybean aphids reproduce faster under cooler conditions, with the greatest population growth occurring at temperatures of 70-80°F. Insecticide treatment, if required, is most effective when applied during the R2-R4 (full bloom to full pod) stages.

**JAPANESE BEETLE:** Light to moderate (2-15%) defoliation is common in soybeans statewide. Populations appear to



be down from last year in most locations and treatment has not been justified for any field sampled so far this season. The economic threshold for Japanese beetle and other leaf feeding soybean pests is 20% defoliation between bloom and pod fill.

**WHITEFLY:** Minor infestations were observed this week in soybeans in the west-central and southwest counties. Whiteflies are a common pest of greenhouse plants and commercial vegetables with high reproductive potential and known resistance to several insecticides. Their sporadic appearance in Wisconsin soybeans is primarily a curiosity since yield reductions have never been documented in Midwestern soybeans.



Whiteflies on underside of soybean leaf

Joe Spencer Illinois NHS

## FRUITS

**APPLE MAGGOT:** Emergence increased in the past week at orchard locations in all areas of the state. Very high counts of 10-30 flies per trap were reported from Bayfield, Gay Mills, Mineral Point, Niagara, Plymouth and Rochester. Growers should maintain traps and continue apple maggot sprays as long as the flies persist and counts exceed established economic thresholds.

**JAPANESE BEETLE:** Activity has been sporadic this season. A few growers have noted light-moderate damage to apples, but populations are fairly low for early August. If levels increase this month and treatment is required, growers can minimize insecticide use by treating only susceptible, infested varieties. Conventional growers may use pyrethroids or Imidan for immediate knock-down control, while organic producers could target first with PyGanic and follow up the next day with Neem oil as a

repellent. For maximum effectiveness, controls should be applied on a warm, sunny afternoon, when the beetles are most active.

**WHITE APPLE LEAFHOPPER:** A report from Orchard IPM Specialist John Aue notes that second generation eggs are beginning to hatch. Apple growers who observed damage caused by the first generation several weeks ago should scout for stippling and whitish spots on leaves in the interior of tree canopies. The summer generation of nymphs feeds well into September and can cause significant chlorophyll loss. In addition, the adults are a nuisance at harvest as they fly into the face and eyes of pickers. Ordinarily, control should target first generation nymphs, but if justified, treatments for the second generation are also effective.



White apple leafhopper stippling Whitney Cranshawforestryimages.org

**CODLING MOTH:** John Aue advises orchardists to continue monitoring pheromone traps to determine options for second generation control. If counts exceed five moths per trap per week and treatment is warranted, materials such as Altacor and Delegate can be applied within five to seven days of harvest. The three formulations of codling moth granulosis virus may be used until harvest and will provide five to seven days of protection.

## VEGETABLES

**BLOSSOM END ROT:** This disorder of squash, tomatoes, peppers and watermelons is prevalent in commercial and home gardens, according to grower reports. The dark, water-soaked spot that starts at the blossom end of the fruit and enlarges around the fruit surface is caused by

calcium deficiency or inconsistent soil moisture levels. Since this disease is physiological in nature, fungicides and insecticides are useless as control measures. Amending calcium levels in spring and maintaining even soil moisture levels throughout the season will usually limit its development.



Blossom end rot on tomato

Krista Hamilton DATCP

**SQUASH BUG:** Reports from Dane, Marathon, Sauk and Vernon counties indicate continuing problems in home gardens. The insects are infesting cucumber, summer squash and zucchini, killing plants in extreme cases. The simplest control is to remove the eggs, nymphs and adults from plants and submerge them in a bucket of soapy water. Gardeners are also advised to dispose of dead leaves and other plant material which can harbor large numbers of nymphs.



Squash bug nymphs

www.gardensimply.com

**CABBAGE CATERpillars:** Populations of diamondback moths, cabbage loopers and imported cabbageworms

are reportedly high in a few southern Wisconsin cabbage plantings. The larvae of these cabbage pests initially feed on leaves, causing large ragged holes, and eventually move to the center of the plant to infest the developing heads of broccoli, cabbage and cauliflower. Treatment thresholds are reached when 10% of cabbage in the early heading to mature head stages are infested, or 10% of broccoli and cauliflower in the first flower or curd to maturity phase are affected. *Bacillus thuringiensis* (Bt) and chemical insecticides are the most effective forms of control.



Cabbage damaged by diamondback moth larvae infonet-biovision.org

**LATE BLIGHT:** Three cases of this disease have been confirmed in Wisconsin as of August 6, two on potato in Portage County and another on tomato in Milwaukee County. Conventional and organic potato growers should maintain a five- to seven-day preventive fungicide program (copper-containing fungicide treatments approved for organic use), while home gardeners are advised to inspect tomato and potato plants daily for leaf lesions and fruit spots. If late blight is suspected and symptoms are widespread, plants should be destroyed and properly disposed of to prevent further disease spread.

## NURSERY & FOREST

**LINDEN BORER:** An unmistakable sign of linden borer infestation, namely sawdust-like frass exuding from the trunks and collecting at the bases of trees, was noted on several 'Greenspire' lindens trees in St. Croix County. The frass is a by-product of larval feeding in the sapwood. This destructive wood-boring insect attacks both vigorous and stressed nursery trees, causing structural weakening that often results in broken trunks or limbs,



rapid decline and death. Early symptoms include thinning of the canopy and bark cracks or bulges where feeding has taken place. Larger trees may not show symptoms for 2-5 years, while smaller trees may exhibit symptoms the year they are infested. Dead or dying trees contain many borer larvae and should be cut down and burned or chipped before adults emerge in summer.



Linden borer frass

Konnie Jerabek DATCP

**YELLOW-BELLIED SAPSUCKER:** This member of the woodpecker family was the cause of moderate-to-severe damage to various crabapple and elm trees at nurseries in Shawano and St. Croix counties. Sapsuckers peck holes in trees and larger woody shrubs, feeding on the bark, sap and insects drawn to the sap. Their holes generally are not harmful, but some smaller or less vigorous trees and shrubs may be killed if damage is extensive enough to girdle the trunk or stem. In rare instances, the damage can render trees unfit for sale.



Sapsucker damage

Konnie Jerabek DATCP

**HOSTA ANTHRACNOSE:** The dark lesions observed on the stems and leaves of assorted hosta plants at a nursery dealer in Polk County were diagnosed as hosta anthracnose, the most common foliar disease affecting hostas. This fungal disorder thrives in warm, wet settings and can be controlled by keeping foliage dry. Removing infected leaves, maintaining adequate plant spacing, and disinfecting pruning tools between cuts are also recommended. This anthracnose fungus is a different species the one that infects oaks and other shade trees in spring.



Hosta anthracnose stem lesions

Konnie Jerabek DATCP

**JAPANESE BEETLE:** Nursery inspectors found minor feeding damage to apple, elm, linden, serviceberry, willow and many other ornamentals this week in Brown, Kenosha and Walworth counties. Adults of this species skeletonize foliage, leaving only the network of veins, while the subterranean grubs feed on roots of grasses and frequently damage turf in lawns, parks and golf courses. Of the range of control measures that may be directed against the adult or larval stages (i.e. trapping, insecticides, milky spore disease, insect parasitic nematodes, etc.), none is as effective as physically removing the adults from plants in the early morning or late evening hours, when they are less active. The beetles may be killed using a bucket of soapy water or by placing them in a plastic bag and freezing the contents for 72 hours.

**CYTOSPORA CANKER:** Colorado blue spruce trees in a St. Croix County nursery field were exhibiting oozing cankers and dieback of the lower branches associated with this fungal disease. The canker-causing fungi invade the bark of twigs, branches or trunks of woody plants that are physiologically stressed due to drought, flooding, insects or mechanical injury. Diseased branches should

be pruned out during periods of dry weather, while cankers that develop on the trunk require removal and destruction of the entire tree. Many other trees are susceptible to this disorder, including apple, ash, aspen, birch, cottonwood, elm, maple, poplar and willow. Cytospora canker is more common on trees over 15 years old, but may occur on younger trees.



Cytospora canker on spruce branch

Konnie Jerabek DATCP

**VERTICILLIUM WILT:** Catalpa, redbud and sugar maple trees at a nursery in Walworth County were diagnosed with this fatal vascular disease, frequently misidentified as decline caused by environmental factors. Symptoms are highly variable and may be acute or chronic. Acute symptoms include premature fall coloration, wilting, defoliation, branch dieback and death, whereas chronic symptoms typically reflect damage from earlier infections and may include slow growth, sparse foliage, stunted leaves and twigs, leaf scorch and abnormally heavy seed crops.

Verticillium wilt symptoms on maple Ash Kanner [www.extension.umn.edu](http://www.extension.umn.edu)

Shade trees showing severe wilt and dieback cannot be saved, although regular watering during dry periods may reduce symptom severity. Verticillium-infected plants should be replaced with a non-host species such as aspen, beech, sycamore, poplar, willow or any conifer.

**REDHEADED FLEA BEETLE:** These shiny black beetles with prominent reddish heads were abundant on the leaves of several containers of ornamental shrubs and perennials at a nursery dealer in Polk County. According to the inspector's report, a few honeyberry honeysuckle plants were severely damaged. The beetles were also noted on hydrangea, rudbeckia, salvia and weigela. Defoliation caused by flea beetle feeding varies by leaf type, appearing as skeletonizing or shredding on thinner leaves and a linear, leafminer-like pattern on the thicker, fleshy leaves of sedum and similar plants. The source of the nursery infestation may have been nearby corn and soybean fields where crop surveys have observed locally heavy beetle populations in the last two weeks. It is unlikely that the beetles emerged from container media. Insecticides directed against the adults are the most effective control, but repeat application is often required.



Redheaded flea beetle on honeyberry honeysuckle Konnie Jerabek DATCP

## APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 31 - AUGUST 6

COUNTY	SITE	STLM <sup>1</sup>	RBLR <sup>2</sup>	CM <sup>3</sup>	OBLR <sup>4</sup>	AM RED <sup>5</sup>	YELLOW <sup>6</sup>
Bayfield	Keystone	25	2	1	0	11	9
Bayfield	Oriente	11	0	0	4	0	0
Brown	Oneida	20	60	2	0	2	0
Columbia	Rio	—	—	—	—	—	—
Crawford	Gays Mills	234	—	4	0	30	0
Dane	Deerfield	197	6	6	0	1	1
Dane	McFarland	73	7	0	5	0	0
Dane	Mt. Horeb	113	4	2	16	—	—
Dane	Stoughton	89	8	38	3	0	0
Dane	West Madison	144	22	18	24	0	—
Fond du Lac	Campbellsport	65	32	0	2	*2	0
Fond du Lac	Malone	73	38	2	4	**0	**0
Fond du Lac	Rosendale	74	63	4	2	1	0
Grant	Sinsinawa	82	23	33	0	0	2
Green	Brodhead	8	12	6	19	0	0
Iowa	Mineral Point	115	8	14	4	**10	*
Jackson	Hixton	102	0	2	0	0	2
Kenosha	Burlington	145	13	4	4	2	—
Marathon	Edgar	—	—	—	—	—	—
Marinette	Niagara	156	17	0	0	10	—
Marquette	Montello	189	13	2	0	0	0
Ozaukee	Mequon	210	24	3	1	*2	—
Pierce	Beldenville	—	—	—	—	—	—
Pierce	Spring Valley	41	25	0	1	**2	0
Racine	Raymond	277	29	1	0	0	0
Racine	Rochester	110	8	19	2	*12	0
Richland	Hillpoint	350	0	5	0	**0	0
Sheboygan	Plymouth	102	3	8	19	**23	0
Walworth	East Troy	14	4	0	6	0	0
Walworth	Elkhorn	22	12	0	14	0	0
Waukesha	New Berlin	85	2	5	2	0	0

<sup>1</sup>Spotted tentiform leafminer; <sup>2</sup>Redbanded leafroller; <sup>3</sup>Codling moth; <sup>4</sup>Obliquebanded leafroller; <sup>5</sup>Apple maggot red ball; <sup>6</sup>Unbaited AM trap; <sup>\*\*</sup>Baited AM trap; <sup>6</sup>Apple maggot yellow board; \*Counts represents a two-week period.

COUNTY	SITE	BCW <sup>1</sup>	CEL <sup>2</sup>	CE <sup>3</sup>	DCW <sup>4</sup>	ECB <sup>5</sup>	FORL <sup>6</sup>	SCW <sup>7</sup>	TA <sup>8</sup>	VCW <sup>9</sup>	WBC <sup>10</sup>
Crawford	Prairie du Chien	—	—	—	—	—	—	—	—	—	—
Dane	Mazomanie	0	1	0	1	5	1	0	0	0	1
Fond du Lac	Ripon	0	0	0	0	4	4	0	0	0	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	Sparta	0	0	0	5	3	0	4	0	0	12
Rock	Janesville	0	5	0	0	2	0	0	7	0	0
Vernon	Coon Valley	3	0	0	2	2	0	0	4	0	1
Walworth	East Troy	2	1	0	1	0	2	0	0	0	2
Wood	Marshfield	1	5	0	2	0	7	0	6	4	6

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