

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

Brief hot humid weather at the start of the week was followed by cooler and drier conditions. A complex of strong to severe thunderstorms on July 13 produced damaging winds, heavy rainfall and large hail in western and southern Wisconsin for the fourth Monday in a row. In some of the wettest areas, the latest round of rain led to additional lowland flooding, fieldwork delays, and declines in crop conditions. After the storms cleared, drier weather with comfortable temperatures and lower humidity values prevailed until showers returned later in the week. The seasonable mid-July temperatures promoted continued rapid development of summer crops and maintained overall positive crop prospects. More than 29% of the state's soybeans are blooming and 96% of the oats crop is heading. Despite minor declines in some areas due to surplus moisture and storm damage, crop ratings remain very favorable with 81-95% of alfalfa, corn, potato, soybean and wheat acres reported in good to excellent condition.

LOOKING AHEAD

SPOTTED WING DROSOPHILA: Flies have been collected in traps in Burnett, Dane, Door, Iowa, Monroe, Pepin and Waushara counties as of July 15, and are suspected in Bayfield, Pierce and Vernon counties.

Growers of raspberries, aronia and other susceptible small fruits should prepare to implement controls as soon as the flies or larvae are detected on their farms or orchards.

WESTERN BEAN CUTWORM: Moth emergence continued, with very low captures reported as far north as Marshfield in Wood County. The Wisconsin network of 87 pheromone traps registered only five additional moths from July 9-15, for a cumulative total of just 34 moths since the flight began on June 22. Peak flight, or 50% emergence of the population, should occur by July 30 at most southern and central sites. Moth activity is expected to intensify in the week ahead.

SOYBEAN APHID: Densities have increased to moderate levels in a few R1-R2 soybean fields indicating soybean aphid pressure is beginning to build, although the typical average is still extremely low at less than five per plant. Monitoring efforts should be increased as more soybeans advance through the early to intermediate reproductive growth stages, when aphid populations usually peak.

EUROPEAN CORN BORER: The first summer moths could appear next week in black light traps at locations where 1,400 degree days (modified base 50°F) are surpassed. The predominant stages observed in fields this week were fifth-instar larvae and pupae in the southern and west-central counties and third- and fourth-instar cater-

pillars elsewhere. The treatment window for first generation larvae has closed statewide, with the exception of the far northern counties.

STINK BUG: Adults and nymphs have been observed in south-central Wisconsin apple orchards, signaling the potential for fruit injury prior to harvest. Growers are encouraged to monitor fruits for evidence of feeding by these insects. A single adult or nymph can injure many apples and damage may not develop until after the fruits are in storage.



Common brown stink bug

jeanbrodeur.smugmug.com

DEGREE DAYS JANUARY 1 - JULY 15

LOCATION	50°F	2014	NORM	48°F	40°F
Dubuque, IA	1432	1375	1444	1495	2289
Lone Rock	1366	1347	—	1431	2181
Beloit	1425	1397	1461	1483	2272
Sullivan	1098	1092	1370	1174	1849
Madison	1336	1285	1391	1398	2133
Juneau	1219	1171	—	1298	1987
Racine	1018	1041	—	1094	1784
Waukesha	1098	1092	—	1174	1849
Milwaukee	1031	1038	1260	1116	1790
Hartford	1098	1092	—	1174	1849
Appleton	1146	1071	—	1225	1910
Green Bay	1044	983	1215	1139	1807
Big Flats	1265	1186	—	1312	1976
Hancock	1265	1186	1351	1312	1976
Port Edwards	1223	1141	1317	1283	1953
La Crosse	1435	1327	1525	1498	2282
Eau Claire	1275	1171	1365	1352	2076
Cumberland	1130	1004	1260	1190	1852
Bayfield	840	696	—	857	1397
Wausau	1056	989	1230	1111	1743
Medford	1025	951	1120	1074	1706
Crivitz	969	924	—	1026	1651
Crandon	923	861	966	944	1516

Method: ModifiedB50: Sine48; ModifiedB40 as of Jan 1, 2015. NORMALS based on 30-year average daily temps, 1981-2010.

FORAGES & GRAINS

POTATO LEAFHOPPER: Counts are approaching the two-leafhopper-per-plant economic threshold for alfalfa 12-inches and taller in a small percentage of Rock and Walworth County fields, although most sites still have averages below 0.5 leafhoppers per sweep. Economic counts have not been found as of July 15. Nymphs are appearing more frequently in sweep nets indicating populations are increasing.

PLANT BUG: Levels of this insect vary considerably from field to field, but the average remains very low at 0.3 per sweep. Nymphs in all developmental stages were found in third crop alfalfa sampled this week and these immature plant bugs constitute 25-50% of the population in most fields.

PEA APHID: A typical net sweep in alfalfa from Marathon County southward currently yields only 0.1-0.9 aphids, a pronounced decline from average counts of 5-6 per

sweep at the end of June. Minimal pea aphid activity has been observed since populations began to decrease four weeks ago.

TRUE ARMYWORM: Alfalfa surveyed in the southern and central counties showed low counts of small one-half inch second-generation larvae. Numbers ranged from 1-4 per 25 sweeps. The principal threat from armyworms in alfalfa is when the larvae migrate to other crops as fields are harvested.

CORN

WESTERN BEAN CUTWORM: Most pheromone and black light traps captured very few moths this week. None of the 87 pheromone traps registered more than two moths and the highest black light trap count was nine moths at Pardeeville in Columbia County. Peak flight, or 50% adult emergence, should occur over the southern half of the state before the end of the month.

Oviposition on corn and dry beans has been under way since early July and is theoretically increasing as the annual flight escalates. In rare cases, treatment may be required for field corn with infestations affecting 8% of the plants at 90-95% tassel emergence. For processing sweet corn, the economic threshold is 4% of plants infested.

EUROPEAN CORN BORER: Larvae from the spring flight of moths are generally in the intermediate to late development stages and evidence of their feeding was observed in 28% (10 of 36) of cornfields surveyed this week. Leaf feeding was apparent on 52% of plants in an exceptional Shawano County field, although the other nine survey sites had infestation rates below 24%. Pupation of first generation corn borers has started in the south-central and southwest areas. Black light traps could register the earliest moths of the summer flight over the weekend of July 18-19.



European corn borer leaf feeding

Krista Hamilton DATCP

CORN EARWORM: Pheromone traps in Fond du Lac, Green Lake and Marathon counties registered low counts of 2-4 migrants from July 9-15. The economic threshold for this pest is 5-10 moths in three consecutive nights for corn and seven moths per trap per week for tomatoes.

SOYBEANS

SOYBEAN APHID: Densities remain very low for this time of year. None of the 37 soybean fields sampled in the last week contained an average count above 13 aphids per plant. However, a few fields had individual plants with 200 or more aphids, indicating populations are building. As a reminder, foliar sprays should not be considered

until the economic threshold of 250 aphids per plant on 80% of the plants has been exceeded. Aphid counts have not surpassed this level in any soybean field surveyed by DATCP as of July 15.

JAPANESE BEETLE: Soybeans across the southern half of the state are showing 2-18% of plants with light to moderate leaf injury by a combination of Japanese beetles, bean leaf beetles, grasshoppers and various caterpillars. Leaf injury by these defoliators should not be allowed to exceed 20% between the bloom and pod-fill stages.

LEAFROLLER: Larvae and rolled leaves were observed in moderate numbers in several Vernon County soybean fields on July 14. An estimated 1-6% of plants were infested in six fields in the Coon Valley and Westby areas. Serious damage was not expected since the feeding and webbing was generally limited to one or two leaves per infested plant.

CELERY LEAFTIER: This small, European corn borer-like moth was found earlier this week in Vernon County soybeans. The larvae attack cultivated flowers, weeds, and vegetables, including beans, beets, celery and spinach, but are not considered a threat to field crops. The last time celery leaftier populations reached significant levels in Wisconsin was in 2010.



Celery leaftier moth

Krista Hamilton DATCP

FRUITS

APPLE MAGGOT: Captures on red spheres and yellow sticky traps increased in response to heavy rainfall earlier this week, with reports of flies appearing on traps in well

over half of the monitoring locations. The highest count for the week ending July 15 was 11 flies on a red sphere at Plymouth in Sheboygan County. Maintenance of traps will be important as emergence continues and oviposition on apples increases in late July and early August.

CODLING MOTH: Some apple orchards are 1,000 or more degree days (modified base 50°F) beyond the first biofix, and treatments for second generation larvae are starting. An increase in moth counts from the spring to summer flight suggests that some degree of fruit injury is probable and fruits should be closely inspected for damage. Apple growers are reminded to rotate insecticides between generations to prevent resistance to chemical materials. Localized larvicide applications are usually an acceptable alternative to orchard-wide treatment for sites with variable larval pressure between cultivars or blocks.

STINK BUG: Populations are increasing in field and fruit crops, especially in orchards with ground covers or adjacent to uncultivated areas. Apple growers should begin scouting fruits for the dimples or dark, irregular circular depressions typical of stink bug feeding and flag sites with multiple depressions on the same fruit or tree. Damage by this pest is often limited to specific areas in the orchard and depending on the distribution of the population, spot treatment may be adequate.



Stink bug damage on apple HGIC University of Maryland Extension

POTATO LEAFHOPPER: A Crawford County apple grower reports that populations are heavy in some orchard blocks and that associated discoloration of new shoots and mild hopperburn symptoms are appearing. One- to two-year-old, non-bearing apple trees are most susceptible to leafhopper feeding and should be monitored for

leaf curling and yellowing caused by the adults and nymphs. Treatment is justified at levels of one or more nymphs per leaf when symptoms are evident.

SPOTTED TENTIFORM LEAFMINER: The second flight has peaked in most southern and central apple orchards and sapfeeder larvae are reappearing. The economic threshold for this summer generation is one mine per leaf.



Spotted tentiform leafminer mines Tomasz Binkiewicz www.lepidoptera.eu

VEGETABLES

IMPORTED CABBAGEWORM: Defoliation has become more pronounced in cole crop plantings since early July. The late-instar larvae (>one inch long) noted in La Crosse, Sauk and Vernon counties this week are capable of consuming more leaf area, causing larger holes in the leaves and producing more frass. The worms can be found on the underside of leaves and inside the developing heads or growing points of plants. Treatment thresholds range from 10-75% of plants infested, depending on whether the crop is intended for fresh market sale or processing.

STRIPED CUCUMBER BEETLE: Adults have been increasingly active over the southern half of the state in the last two weeks. Growers of cucurbits should continue to inspect plants for these yellow and black striped beetles that transmit bacterial wilt of cucurbits through feces or contaminated mouthparts. Control is warranted 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.

FLEA BEETLES: Reports indicate that flea beetles have been a persistent problem for home gardeners again this season. In many instances their damage is aesthetic, but control may be considered for young plants if beetles are present on every plant and defoliation exceeds 30%.



Flea beetle defoliation

Krista Hamilton DATCP

LATE BLIGHT: Environmental conditions in recent weeks have been optimal for late blight development. Commercial potato fields infected with this disease have been confirmed to date in Adams, Marquette, Wood and Waushara counties. Early detection and immediate treatment are critical at this time. The late blight genotype/strain identified so far is US-23, which is treatable with mefenoxam and metalaxyl fungicides. Registered fungicides for potato late blight in Wisconsin are listed at the UW-Madison Vegetable Pathology website.

NURSERY & FOREST

JAPANESE BEETLE: Nursery inspectors found minor feeding damage on hibiscus, horse chestnut and linden this week in Dodge and Rock counties. Japanese beetle adults 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 bacteria and insect parasitic nematodes), none is as effective as physically removing the beetles from plants in the early morning or late evening hours, when they are less active. The beetles may be killed in a bucket of soapy water or by placing them in a plastic bag and freezing the contents for 72 hours.

DAYLILY LEAFMINER: Mines caused by the larvae of this destructive exotic Asian fly were found on daylilies during nursery inspections in southeastern Wisconsin, marking the second detection of daylily leafminer in the state. The first report was in July of 2014. Daylily leafminer (DLM) larvae feed between the upper and lower leaf surfaces, creating long, white mines that run parallel to leaf veins. Daylilies are generally not killed by DLM, but infested plants are unmarketable. Removal and destruction of mined leaves is advised to reduce the spread of this newest exotic pest. In other states where DLM has been detected since 2006, the larvae have also been found in roadside daylily populations, making the likelihood of eradication improbable.



Daylily leafminer

Marcia Wensing DATCP

FROGEYE LEAF SPOT: This fungal disease was observed this week on apple, crabapple and pear trees at nurseries and garden centers in Dodge, Kenosha, Rock and Waukesha counties. Symptoms first appear on or after petal-fall and consist of small, purple specks that enlarge over time into spots with brownish-gray centers surrounded by dark-brown concentric rings and a purplish border. Frog-eye leaf spot infection can weaken trees and cause lower fruit yields. Keys to controlling this disease include good sanitation, especially disposing of fallen leaves, and planting resistant varieties.

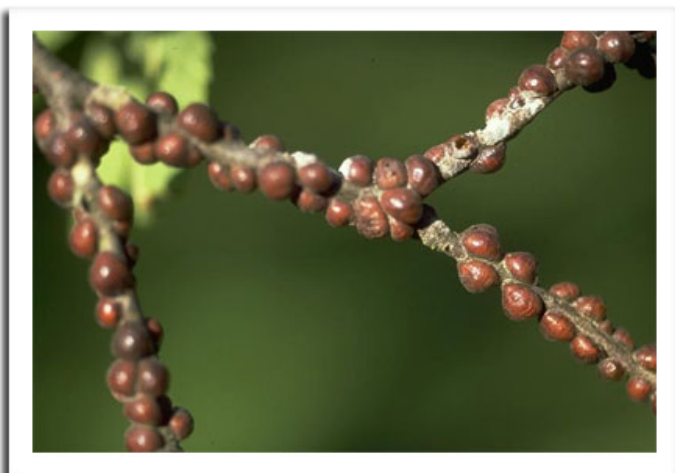
SLUGS: Damage caused by these nocturnal mollusks was noted on hosta and Solomon's seal at nurseries and garden centers in Kenosha and Washington counties. Slugs are active at night and chew large, irregular holes in leaf tissue, stems and flowers of most any plant, often leaving behind slime trails. Many cultural control methods are available to reduce damage, including removing plant

debris, boards or other materials or debris that may harbor slugs. Applying an abrasive material such as diatomaceous earth to the soil at the base of plants can also deter slugs. This season's wet weather has been very favorable for slugs.



Slug damage on hosta gardeningonthego.files.wordpress.com

LECANIUM SCALE: Heavy infestations of this flat, elliptical brown scale insect are evident on oak, ash, cherry and maple trees in Brown, Door, Kewaunee, Marinette, Oconto, Oneida, Shawano and Vilas counties, according to the DNR Northeast Region Forest Health Specialist. Egg hatch occurred several weeks ago and the mobile crawlers are no longer active in most parts of the state. Mid- to late June is usually the optimal time to target the yellow crawlers with horticultural oils or soaps, insect growth regulators, or conventional insecticides, before they settle onto the twigs and branches.



Lecanium scale insects.tamu.edu

HACKBERRY NIPPLE GALL: Hackberry trees across much of the state are showing infestations of this gall-making

insect. The prominent galls develop on the undersides of the leaves in response to feeding by the tiny, yellowish-orange psyllid nymph. Hackberry is the only known host of this psyllid. In most cases, the galls are an aesthetic issue that has no impact on tree health. Control is seldom necessary.



Hackberry nipple gall Liz Meils DATCP

GYPSY MOTH: Aerial spraying concluded July 14 with treatments in northwest Wisconsin. The 2015 program treated approximately 235,000 acres at about 100 sites in 21 counties. Counties receiving treatments were: Barron, Bayfield, Burnett, Chippewa, Crawford, Douglas, Dunn, Eau Claire, Green, La Crosse, Lafayette, Monroe, Polk, Richland, Rock, Rusk, Sawyer, Taylor, Trempealeau, Vernon and Washburn.

As of July 15, the annual moth flight had started as far north as Adams County. Reports from field specialists indicate that significant larval mortality has been observed, although it is too early to tell if this trend will impact next year's population.

Gypsy moth trappers have placed 11,754 or about 98% of the 12,200 traps expected to be set this summer. Trappers in southern counties are scheduled to begin checking pheromone traps for male moths next week.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 9 - 15

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	APB ⁵	LPTB ⁶	AM RED ⁷	YELLOW ⁸
Bayfield	Keystone	22	0	3	12	—	—	—	—
Bayfield	Orienta	34	1	0	15	0	18	—	—
Brown	Oneida	900	34	4	15	0	10	0	0
Clark	Greenwood	0	8	0	0	10	0	*15	—
Columbia	Rio	100	50	2	1	—	1	0	0
Crawford	Gays Mills	564	11	0	0	0	4	2	0
Dane	Deerfield	392	42	15	0	—	—	—	—
Dane	DeForest	275	51	0	6	0	10	—	—
Dane	Edgerton	522	116	0	17	0	43	—	0
Dane	McFarland	631	65	1	—	—	—	—	—
Dane	Mt. Horeb	408	100	1	2	2	15	—	—
Dane	Stoughton	256	84	5	2	1	6	2	7
Fond du Lac	Campbellsport	200	57	0	13	0	12	—	—
Fond du Lac	Malone	250	80	10	5	0	7	**1	0
Fond du Lac	Rosendale	190	30	3	10	0	7	2	0
Grant	Sinsinawa	51	19	4	2	—	—	—	—
Green	Brodhead	12	111	0	0	0	7	0	1
Iowa	Mineral Point	740	140	2	4	1	28	**3	2
Jackson	Hixton	212	36	6	6	0	12	0	1
Kenosha	Burlington	650	165	1	4	0	18	1	—
Marathon	Edgar	1782	113	2	2	0	31	0	0
Marinette	Niagara	72	3	0	0	0	19	—	—
Marquette	Montello	648	25	0	0	—	—	—	0
Ozaukee	Mequon	450	45	3	2	0	2	*2	—
Pierce	Beldenville	90	65	2	10	0	17	1	0
Pierce	Spring Valley	176	64	0	0	0	17	0	1
Racine	Raymond	459	10	2	9	1	9	0	0
Racine	Rochester	540	20	6	3	0	0	*1	0
Richland	Hill Point	960	46	1	4	1	24	**0	0
Sheboygan	Plymouth	1215	87	3	8	0	27	*11	0
Walworth	East Troy	—	—	—	—	—	—	—	—
Walworth	Elkhorn	—	—	—	—	—	—	—	—
Waukesha	New Berlin	96	27	13	0	3	13	0	0

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵American plum borer; ⁶Lesser peachtree borer; ⁷Apple maggot red ball; *Unbaited AM trap; **Baited AM trap; ⁸Apple maggot yellow board; *Counts represents captures on multiple traps.

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	2	0	0	0	1	0	2	4	0
Columbia	Pardeeville	0	1	0	2	7	28	1	8	0	9
Crawford	Prairie du Chien	0	0	0	0	2	4	0	1	0	0
Fond du Lac	Ripon	0	0	0	0	9	19	0	9	0	0
Manitowoc	Manitowoc	0	3	0	0	0	4	0	4	0	0
Marathon	Wausau	0	0	0	0	1	8	6	2	0	2
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	7	0	0	0	6	0	69	0	0
Walworth	East Troy	0	0	0	0	0	6	0	0	0	0
Wood	Marshfield	0	3	0	0	1	14	0	7	0	2

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