

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

Scattered early-week showers interrupted an otherwise dry weather pattern across the state. Daytime high temperatures climbed to the upper 80s on July 28, before a cold front brought cooler and less humid air. Minimal rain accompanied the front's arrival, and warmth and dryness persisted over Wisconsin for much of the week. The increasingly hot, dry conditions accelerated alfalfa and small grains harvesting and spurred summer crop growth, but the heat and limited moisture stressed corn progressing through the tassel and silk stages of development. Signs of the two-spotted spider mite, a dry weather opportunist, began appearing in some soybean fields. Dry soils have become most prevalent in the east-central counties where topsoil moisture levels are rated as 45% very short or short for croplands, and more rain will be needed in August to ensure optimal yields.

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 weeks under normal August temperatures.

WESTERN BEAN CUTWORM: Moth counts peaked from July 23-29 at most southern and central monitoring sites. The cumulative state total as of July 29 is only 275 moths in 97 pheromone traps, the lowest count recorded in the last 11 years. Preliminary results of the 2015 wbcw trapping survey are summarized in the map on page 100.

SOYBEAN APHID: Monitoring efforts should be increased in all areas of the state as more fields enter the pod-setting stages. DATCP surveys continue to find low average densities of less than 25 aphids per plant, but a few isolated fields could develop economic populations early next month. Foliar treatment is not recommended 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.

CORN EARWORM: Migrants arrived in very low numbers for the fourth week. The monthly total count of only 47 moths at 10 pheromone trap locations indicates a low risk of earworm infestation for now, but monitoring network participants should continue to scout silking fields and replace lures on a weekly basis.

JAPANESE BEETLE: Reports indicate that these beetles are abundant enough in some apple orchards and

nurseries to require treatment. Continued scouting is advised in August for apples, corn, grapes, soybeans, and all other susceptible crops. Economic thresholds vary by crop and are listed in the CORN, SOYBEAN and FRUIT sections.



Japanese beetle

Benimoto flickr.com

FORAGES & GRAINS

POTATO LEAFHOPPER: Surveys continue to yield non-economic counts of less than two leafhoppers per sweep, despite the drier weather and favorably warm temperatures of late July. Nevertheless, weekly monitoring of third- and fourth-crop alfalfa throughout August is recommended.

PLANT BUG: Counts are similar to last week at 0.3-2.4 per sweep. Most fields contain an average of one plant bug per sweep, a fraction of the economic threshold of five per sweep. Nymphs have become more abundant in alfalfa in the last two weeks and now comprise about 50-75% of the plant bugs in sweep net collections.

PEA APHID: Levels are still extremely low at less than one aphid per sweep in all alfalfa fields sampled in southern and western Wisconsin.

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 can be expected by August 14 across the southern two-

DEGREE DAYS JANUARY 1 - JULY 29

LOCATION	50°F	2014	NORM	48°F	40°F
Dubuque, IA	1755	1632	1754	1811	2756
Lone Rock	1680	1618	—	1728	2640
Beloit	1753	1654	1778	1792	2744
Sullivan	1390	1313	1677	1494	2281
Madison	1653	1537	1696	1699	2592
Juneau	1520	1409	—	1617	2429
Racine	1324	1265	—	1417	2230
Waukesha	1390	1313	—	1494	2281
Milwaukee	1333	1262	1573	1435	2232
Hartford	1390	1313	—	1494	2281
Appleton	1457	1309	—	1553	2362
Green Bay	1353	1215	1501	1476	2256
Big Flats	1571	1426	—	1604	2425
Hancock	1571	1426	1645	1604	2425
Port Edwards	1521	1379	1611	1598	2392
La Crosse	1767	1608	1855	1812	2757
Eau Claire	1593	1442	1665	1686	2534
Cumberland	1423	1252	1550	1511	2285
Bayfield	1123	904	—	1148	1820
Wausau	1342	1205	1517	1425	2169
Medford	1296	1165	1386	1373	2117
Crivitz	1272	1154	—	1326	2096
Crandon	1191	1060	1184	1232	1925

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

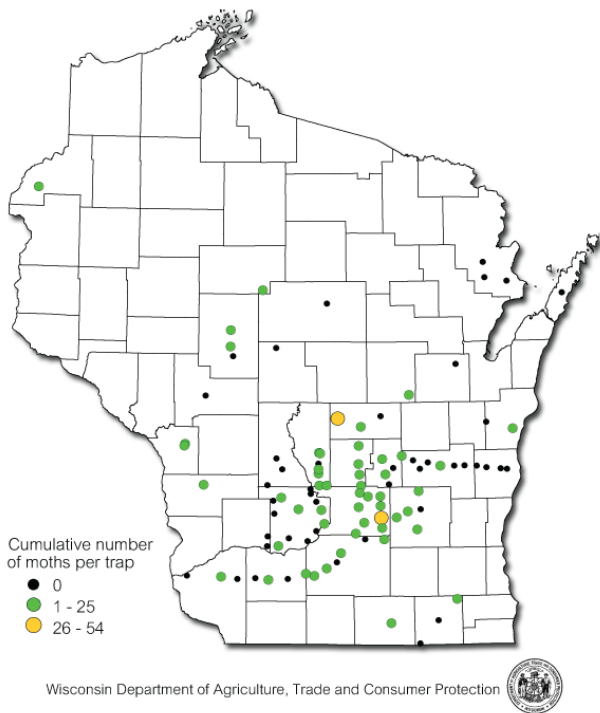
thirds of Wisconsin. Sweet corn and non-Bt field corn should be inspected for egg masses and small larvae before 2,100 degree days (modified base 50°F) are surpassed and the treatment window for second generation corn borers closes.

CORN LEAF APHID: Light populations of 15-40 aphids per plant were noted on a few corn plants in Dane, Grant and Green County fields on July 23. Pressure of 50 or more aphids per plant on 50% of the plants can interfere with pollination and may require treatment.

WESTERN BEAN CUTWORM: The western bean cutworm degree day model indicates that 75% or more of the moth population has emerged near Beloit, La Crosse, Spring Green and other advanced locations. Emergence is about 50% complete in the south-central and central counties where activity appears to have peaked this week. The high count for the period of July 23-29 was 49 moths in the pheromone trap near Fall River in Columbia

County and 32 in the Pardeeville black light trap. The cumulative state count to date is only 275 moths in 97 pheromone traps, the lowest total since surveys for this pest began in 2005.

Western Bean Cutworm Trap Counts 2015



JAPANESE BEETLE: Minor infestations of 1-14 beetles per 100 plants have been observed since early July in scattered fields in the southern and west-central counties. The greatest threat to corn at this time of year is when large numbers of beetles converge on corn silks, potentially impairing pollination. Control is warranted for populations that exceed three beetles per ear when pollination is occurring.



Japanese beetles feeding on corn silks

Krista Hamilton DATCP

CORN EARWORM: Moth counts remained low from July 23-29, with pheromone traps in Green Lake, Pardeeville, and Ripon registering very small flights of 2-3 migrants. A pheromone trap capture of 5-10 moths for three consecutive nights indicates the need for protective treatment of sweet corn fields with green silks. Counts this week were as follows: Arlington 0, Beaver Dam 0, Green Lake 2, Hancock 0, Janesville 0, Manitowoc 0, Marshfield 0, Pardeeville 2, Prairie du Chien 0, Ripon 3 and Wausau 0.

SOYBEANS

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.



Whiteflies on underside of soybean leaf

Joe Spencer Illinois NHS

SOYBEAN APHID: Observations from the annual aphid survey currently under way suggest populations are increasing but remain low for late July. Only one of the 44 fields sampled as of July 29 had an average count greater than 25 aphids per plant on 100% of the plants, with individual plant counts of 124-200 aphids per plant. All other fields had averages below 18 aphids per plant. Soybean aphids can reproduce rapidly under the warm, dry weather pattern predicted for early August, 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 defoliation is common in soybeans, though 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.

FRUITS

APPLE MAGGOT: Counts have been variable since fly emergence began four weeks ago, with some of the highest numbers occurring in orchards with fruits damaged during earlier hailstorms. According to John Aue of Threshold IPM Services, the volatiles produced by ripening, hail-damaged apples are highly attractive to AM and other fruit flies, and the number of AM flies captured on traps represents only a fraction of the fruit flies potentially entering the orchard. He notes that other flies in the genera *Rhagoletis* and *Drosophila* can inflict similar damage to hail-injured fruit.



Apple maggot fly

ics.ifas.ufl.edu

Continued maintenance of traps will be important as harvest approaches in August. Baited traps should be concentrated in late summer varieties (i.e., cultivars ripening before Paula Red) for monitoring of apple maggot pressure.

WHITE APPLE LEAFHOPPER: 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. Ordinarily, control

should target first generation nymphs, but if justified, treatments for the second generation are also effective.



White apple leafhoppers

utahpests.usu.edu

STINK BUG: Apple growers who experienced stink bug damage last season should begin inspecting fruits for dimples or dark, irregular circular depressions typical of stink bug feeding, and flag sites with multiple depressions on the same fruit or tree. This pest commonly migrates into orchards from field crops and wild hosts at this time of year. Damage is usually limited to specific areas in the orchard and depending on the distribution of the population, spot treatment may be adequate.



Stink bug damage to apples

Maryland Dept of Agriculture

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 formu-

lations of codling moth granulosis virus may be used until harvest and will provide five to seven days of protection.

JAPANESE BEETLE: A few growers have noted light to moderate damage to apples, but beetle activity has been sporadic this season. If levels increase next month and treatment is required, growers can minimize insecticide use by spot treating only the most heavily 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.

VEGETABLES

BLOSSOM END ROT: This disorder of tomatoes, peppers, watermelons and squash is appearing 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. 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, Grant, La Crosse, Portage, Rock 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 eggs

Krista Hamilton DATCP

LATE BLIGHT: Cases of this disease have been confirmed on potato in five counties (Adams, Marquette, Portage, Waushara and Wood) and on tomato in three counties (Columbia, Fond du Lac and Waushara) as of July 29. 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

VIRUSES IN ORNAMENTALS: Nursery inspectors collected 150 virus-symptomatic plant samples from 50 greenhouses and retailers during a March 11-June 29 survey. Each sample was tested for up to 12 host-appropriate viruses. Of the 150 samples, 75 (50%) were infected with at least one plant virus.

Tobacco rattle virus was the most common virus, with 44 of 85 samples testing positive (52%). More than half of the TRV-positive samples were the bleeding heart varieties 'Alba', 'Pink' and 'Valentine', whereas the fern-leaf bleeding hearts 'King of Hearts', 'Love Hearts' and 'Luxuriant' all tested negative for TRV.

Several other viruses were also detected. Hosta virus X was diagnosed in seven of 12 hosta plants tested (58%),

and potyviruses were found in 15 of 30 samples (50%), on the hosts canna, iris, lily and sedum. Impatiens necrotic spot virus was diagnosed in 6 of 41 begonia samples, for a 15% positive rate. Testing for alfalfa mosaic virus, Arabis mosaic virus, tobacco mosaic virus and tomato spotted wilt virus yielded negative results.

Additional testing of petunias for tomato chlorotic dwarf viroid (TCDVd) found 10 of 42 plants to be positive (24%). The TCDVd-infected petunias were all 'Peppy Lavender', while 'Johnny Flame', 'Peppy Red', 'Queen Bee', 'Royal Velvet', 'Supertunia', 'Sweetunia' and the other varieties tested negative.

Greenhouses and retailers cooperated with inspectors by removing all virus-infected plant materials from sale.



Impatiens necrotic spot virus on begonia

Anette Phibbs DATCP

STEM AND BULB NEMATODE: The DATCP Plant Industry Laboratory has confirmed the second Wisconsin detection of the stem and bulb nematode, *Ditylenchus dipsaci*, an economically serious plant parasitic nematode that infests a wide range of agricultural crops and ornamentals, and is of particular concern to garlic growers. The nematode was discovered in phlox 'White Delight' in a Waukesha County nursery. This follows a previous nursery detection of stem and bulb nematode in Jefferson County in 2013, also on phlox.

Stem and bulb nematode completes its life cycle in bulbs, stems and leaves of hosts, causing distortion and discoloration of shoots, and rotting of bulbs, tubers and rhizomes. It can survive in dried plant debris, seed and in soil, making control very difficult to achieve. Good sanitation practices and removal and destruction of all infested plant material are critical.

OAK GALLS: Nursery inspections in the past week found an assortment of galls on oak, including oak cynipid galls, oak flake galls and noxious oak galls. Galls are abnormal outgrowths of plant tissue caused by insects, fungi, bacteria, nematodes or mites. These growths may develop on any plant part, but most commonly occur on the branches and leaves. Chemical treatment should be timed to control the adult stage, if justified. Pruning and destroying infested plant parts are the preferred control methods.



Flake galls on oak

Ellen Natzke DATCP

FALL WEBWORM: Nests or webs made by fall webworm larvae were noted this week on oak trees in a Jefferson County nursery. These characteristic webs appear later in the season than those of other web or tent making larvae in Wisconsin (e.g., eastern tent caterpillar and forest tent caterpillar). The larvae and their tents are primarily an aesthetic problem that can be easily controlled by manual removal or pruning.



Fall webworm larvae and nest

Tim Allen DATCP

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 23 - 29

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	APB ⁵	LPTB ⁶	DWB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	21	4	0	0	—	—	—	—	—
Bayfield	Oriente	95	0	0	10	0	13	97	0	0
Brown	Oneida	650	26	14	0	0	4	18	0	0
Clark	Greenwood	4	0	0	0	4	0	10	3	18
Columbia	Rio	—	—	5	0	—	0	0	1	5
Crawford	Gays Mills	285	2	0	0	0	2	4	13	0
Dane	Deerfield	344	54	7	0	—	—	—	5	0
Dane	DeForest	0	2	4	13	1	0	1	0	0
Dane	Edgerton	—	—	—	—	—	—	—	—	—
Dane	McFarland	80	12	0	—	—	—	—	—	35
Dane	Mt. Horeb	100	33	3	1	1	18	2	—	—
Dane	Stoughton	283	16	9	0	0	8	3	1	5
Fond du Lac	Campbellsport	170	38	0	10	0	8	5	*0	—
Fond du Lac	Malone	200	46	7	5	0	2	42	**0	0
Fond du Lac	Rosendale	87	34	0	2	0	—	—	3	0
Grant	Sinsinawa	—	—	—	—	—	—	—	—	—
Green	Brodhead	16	17	2	3	0	7	36	0	0
Iowa	Mineral Point	620	11	12	5	0	38	32	**0	—
Jackson	Hixton	39	17	5	0	2	9	13	0	1
Kenosha	Burlington	285	108	2	0	3	86	113	**6	—
Marathon	Edgar	688	71	4	0	0	7	104	0	0
Marinette	Niagara	146	13	0	0	0	12	13	—	—
Marquette	Montello	1053	52	2	0	—	—	—	0	0
Ozaukee	Mequon	375	55	0	1	0	2	20	*1	—
Pierce	Beldenville	123	65	2	1	0	8	14	4	0
Pierce	Spring Valley	125	30	0	1	0	8	63	*1	0
Racine	Raymond	201	7	0	2	1	6	28	0	0
Racine	Rochester	0	56	4	0	0	0	—	*2	1
Richland	Hill Point	216	5	3	2	0	21	22	**0	0
Sheboygan	Plymouth	250	50	3	0	9	23	35	*13	3
Walworth	East Troy	24	2	0	2	0	0	0	0	0
Walworth	Elkhorn	283	5	0	3	6	4	36	0	0
Waukesha	New Berlin	297	18	3	0	12	11	45	0	0

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	0	0	0
Columbia	Pardeeville	0	1	0	5	1	14	0	13	0	32
Crawford	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Fond du Lac	Ripon	0	0	0	0	5	6	0	0	0	1
Manitowoc	Manitowoc	0	0	0	0	0	3	0	3	0	1
Marathon	Wausau	0	1	0	5	3	25	1	3	0	4
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	2	6	1	0	1	1	0	33	0	0
Walworth	East Troy	0	0	0	2	0	7	0	2	0	17
Wood	Marshfield	0	10	0	4	1	21	0	19	0	9

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