

WISCONSIN PEST BULLETIN

Timely crop pest news, forecasts, and growing season conditions for Wisconsin



Wisconsin Department of Agriculture, Trade and Consumer Protection

Division of Agricultural Resource Management | Bureau of Plant Industry
2811 Agriculture Dr., Madison, WI 53718 • <http://pestbulletin.wisconsin.gov>

WEATHER & PESTS

Mostly dry weather with seasonal temperatures and lower humidity maintained favorable conditions for summer crop development in Wisconsin. Temperatures were near normal for late July, with highs in the 70s and 80s and lows ranging from the upper 40s to upper 60s. Aside from early-week storms, calm, comfortable conditions prevailed across the state. The partly sunny, drier weather facilitated harvesting of third-crop alfalfa and winter wheat, reported as 9% complete, or eight days ahead of last year and equal to the 5-year average, at the start of the week. Corn and soybean development also continued to outpace last year's rates and long-term averages, with corn silking progress advancing 24 points during the week to 34% complete, and 32% of soybeans setting pods. The latest USDA NASS report ranks 80-94% of alfalfa, corn, oats, potatoes, soybeans, and wheat in good to excellent condition, far better than last year's ratings of 49-74%. Soil moisture levels have improved and are generally adequate or surplus after the recent storms, but portions of the southeast and west-central regions have become dry and could benefit from timely rain.

LOOKING AHEAD

WESTERN BEAN CUTWORM: Moth emergence increased sharply and has peaked at most southern and central

monitoring sites. The cumulative state total capture as of July 22 is 1,089 moths in 58 pheromone traps, with 972 of those (89%) appearing in the past week. Counts are considerably higher than at this time last season when 314 moths had been caught in 57 traps.

SOYBEAN APHID: Scouting is strongly advised in the week ahead as more soybean fields reach the mid-reproductive stages. DATCP surveys indicate average densities are low at fewer than 15 aphids per plant, though aphid pressure usually intensifies by late July, and individual fields could require treatment. Control is not recommended until fields have been thoroughly sampled to determine if the established threshold of 250 aphids per plant on 80% of the plants has been exceeded.

EUROPEAN CORN BORER: The treatment window for second-generation larvae has opened in advanced southern locations with the accumulation of 1,550 degree days (modified base 50°F). Susceptible corn should be inspected in the week ahead 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 reached.

CORN EARWORM: Migration flights were registered for the third consecutive week. DATCP's network of pheromone traps captured 211 moths from July 16-22, with counts recorded at 13 of the 16 sites. The high individual

trap count of 133 moths was reported from Arlington in Columbia County. The increase in moths signals that scouting of silking sweet corn is in order. Trapping network participants are reminded to replace lures on a weekly basis.

BROWN MARMORATED STINK BUG: This invasive pest has been captured on several orchard traps this month, in Dane, Fond du Lac, Racine, and Walworth counties. Counts have been low, but growers in orchards where BMSB is known to occur should begin scouting for minor damage to fruits in the perimeter rows. BMSB is now established in at least 32 Wisconsin counties.



Brown marmorated stink bug Krista Hamilton DATCP

JAPANESE BEETLE: Continued weekly scouting is advised well into August for apples, corn, grapes, soybeans, and all other susceptible crops, as long as the beetles are present. Reports suggest that significant damage is occurring in many apple orchards, nurseries and vineyards.

FORAGES & GRAINS

PLANT BUG: All fields surveyed in the previous two weeks had fewer than 1.6 plant bugs per sweep, which is less than half of the economic threshold of five per sweep. Plant bug populations in alfalfa have been relatively low so far this season.

POTATO LEAFHOPPER: Populations of this pest have been mostly moderate throughout July. The monthly average count in 60 alfalfa fields sampled from July 1-22

DEGREE DAYS JANUARY 1 - JULY 22

LOCATION	50°F	2019	NORM	40°F
Dubuque, IA	1748	1705	1604	2804
Lone Rock	1572	1549	—	2585
Beloit	1653	1582	1623	2687
Sullivan	1513	1446	1527	2498
Madison	1605	1546	1547	2614
Juneau	1439	1384	—	2388
Racine	1431	1295	—	2402
Waukesha	1507	1408	—	2477
Milwaukee	1462	1339	1418	2428
Hartford	1406	1361	—	2346
Appleton	1462	1332	—	2391
Green Bay	1417	1289	1361	2323
Big Flats	1445	1351	—	2395
Hancock	1371	1294	1501	2294
Port Edwards	1383	1290	1466	2310
La Crosse	1583	1490	1693	2586
Eau Claire	1585	1407	1517	2562
Cumberland	1258	1197	1409	2134
Bayfield	1160	1008	—	1985
Wausau	1205	1125	1376	2072
Medford	1170	1107	1256	2038
Crivitz	1303	1208	—	2162
Crandon	1174	1106	1079	2001

Method: Modified B50; Modified B40 as of January 1, 2020.
 NORMALS based on 30-year average daily temps, 1981-2010.

was 1.1 adults and nymphs per sweep, with above-threshold counts (2.0 per sweep in alfalfa taller than 12 inches) recorded at 18% of the sites. Continued monitoring of third-crop alfalfa is recommended since populations are variable and scattered fields have high leafhopper pressure.

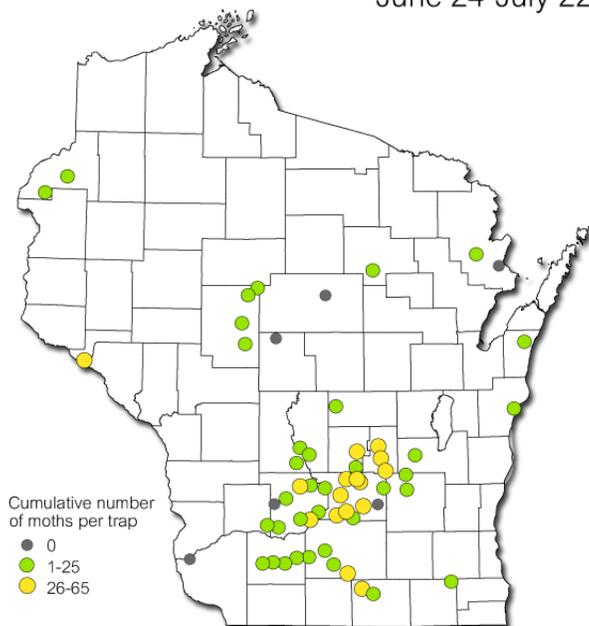
PEA APHID: Counts were below 2.4 aphids per sweep in all alfalfa fields recently surveyed. Across southern and much of central Wisconsin, pea aphid pressure declined sharply earlier this month from peak levels recorded in June (< 29 per sweep). However, populations in the east-central Wisconsin have been very high in recent weeks, and scouting is suggested until all second crop hay has been harvested.

JAPANESE BEETLE: Adults remain common in sweep net collections. The highest count recorded as of July 22 was 21 beetles per 100 sweep (0.2 per sweep) in a Green County alfalfa field.

CORN

WESTERN BEAN CUTWORM: The annual moth flight is 25-50% complete across southern and central Wisconsin. Emergence is just beginning near Wausau and areas to the north, where 25% of the population should emerge by July 30. Counts in pheromone traps rose sharply in the past week with the capture of 972 moths. The cumulative state count to date is 1,089 moths in 58 pheromone traps, which is significantly higher than 314 moths in 57 pheromone traps at the same time last year. The highest count for the July 16-22 monitoring period was 65 moths in the trap near Caledonia in Columbia County.

Western Bean Cutworm Moth Counts 2020
June 24-July 22



Wisconsin Department of Agriculture, Trade and Consumer Protection 

EUROPEAN CORN BORER: Summer moths continue to appear in black light traps, signaling that eggs are being deposited on corn and other hosts. The traps near Beaver Dam, Hancock, Janesville, Ripon, Pardeeville and Wausau registered low counts of 2-20 moths in the past week. Peak summer moth activity will occur across southern and most of central Wisconsin (areas south of Highway 10) by August 6. 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.

CORN EARWORM: Moth counts increased at most sites this week, with the pheromone traps near Arlington, Beaver Dam, Bristol, Cottage Grove, Madison, Marshfield, Mayville, Pardeeville, Ripon, Sun Prairie and Watertown registering captures of 1-133 migrants per trap, for a weekly total of 211 moths. The high count of 133 moths was reported from Arlington, while two monitoring locations captured no moths during the week. Protective treatment of sweet corn fields with green silks is recommended once pheromone traps begin registering 5-10 moths per night for three consecutive nights.



Corn earworm moth B. Cissel UD Cooperative Extension

JAPANESE BEETLE: Low to moderate infestations of 1-40 beetles per 100 plants have been observed since early July in Wisconsin corn. The greatest threat to fields at this time of year is when large numbers of beetles converge on the silks, potentially impairing pollination. Control is warranted if populations exceed 3 beetles per ear when pollination is occurring.



Japanese beetles feeding on corn silks Krista Hamilton DATCP

TRUE ARMYWORM: Damaging second-generation armyworm infestations have not been found by DATCP as of July 22, but locally heavy populations may sporadically develop in corn, barley and wheat at this time of year. Crop scouts and growers should remain alert for potential problems over the next 2-3 weeks. Armyworm outbreaks occur in an irregular geographical pattern and are difficult to accurately predict, making early detection imperative.

SOYBEANS

SOYBEAN APHID: The annual aphid survey now underway suggests populations in R3-R5 soybeans are low for late July. All but one of the 51 soybean fields sampled in the past week had fieldwide average counts of less than 15 aphids per plant. The exception was a site south of Oconomowoc in Waukesha County with an average of 64 aphids per plant, which is also the highest count documented so far this season. Individual plants in the margins of the Oconomowoc field were infested with up to 850 aphids.



Soybean aphids

Tracy Schilder DATCP

Soybean producers and crop advisors are reminded that insecticide treatment is not advised until the threshold of 250 aphids per plant on 80% of the plants throughout the field has been exceeded. Insecticide treatment, if required, is usually most advantageous when applied during the R2-R4 (full bloom to full pod) stages.

JAPANESE BEETLE: Defoliation is prevalent in Wisconsin soybeans. Recent surveys found a few fields in Crawford and Lafayette counties with above-threshold ($\geq 30\%$) injury, although in the vast majority of soybean acres the

damage is light or moderate and restricted to the perimeter. The economic threshold for Japanese beetle and other leaf feeding soybean pests is 20% defoliation between bloom and pod fill. Spot treatment is acceptable for fields with the heaviest injury occurring in the margins.



Japanese beetles

Randy Wendler DATCP

WHITEFLY: Minor infestations were observed this week in Dane, Grant, Green, Iowa, Lafayette and Rock counties. Whiteflies are a familiar pest of greenhouse plants and commercial vegetables, with high reproductive potential and known resistance to several insecticides. Their sporadic appearance in the state's soybeans is mainly a curiosity since yield reductions have never been documented.



Whiteflies on underside of soybean leaf

Joe Spencer Illinois NHS

TWO-SPOTTED SPIDER MITE: Symptoms associated with mite infestation are appearing in soybeans on lighter soils the west-central counties. Consultants and soybean growers are advised to monitor fields every 4-5 days for the bronzing and stippling of lower leaves indicative of active

mite populations, especially where soils are dry and measurable rainfall is not expected. Since most pyrethroid products that control Japanese beetles also eliminate beneficial insects and can cause mite levels to surge, soybeans should not be treated for Japanese beetle unless the defoliation threshold of 20% is exceeded. Fields recently treated for aphids or Japanese beetle will require scouting in August for mite flare-ups.

No economic threshold has been developed for two-spotted spider mite on soybeans in Wisconsin, but a field may qualify for treatment if 10-15% of leaves show stippling or discoloration and mite infestation has been confirmed. As is the case with the soybean aphid, treatment of this pest is only useful prior to the R5 to R5.5 or full pod growth stages.

GREEN CLOVERWORM: Larvae were collected in 65% of the 51 sites sampled July 16-22. Numbers are currently low at 0-9 per 100 sweeps and defoliation is generally very light, with <10% of plants with minor leaf feeding fieldwide.



Green cloverworm larva

Randy Wendler DATCP

OBLIQUEBANDED LEAFROLLER: Surveys suggest that this generalist leafroller, with an extremely broad host plant range that includes fruit trees, hardwoods, and some field crops, is common this season. Late-instar larvae were noted this week in about 40% of sampled fields. Adult moths should begin emerging before the end of the month.

FRUITS

BROWN MARMORATED STINK BUG: Adults have been captured on clear sticky traps in orchards in Dane,

Fond du Lac, Racine, and Walworth counties this month. Although the weekly counts of one stink bug per trap are considered low, growers should still pay close attention for late summer activity and injury. USDA ARS studies indicate that BMSB pressure is usually markedly higher (3-4 times) on the border of blocks compared to the interior. Apple growers are advised to begin inspecting fruits for dimples or dark circular depressions typical of stink bug feeding, taking note of specific areas in the orchard with multiple depressions on the same fruit or tree to determine where damage is concentrated. A treatment threshold has not been finalized for the clear sticky traps currently used by DATCP cooperators, but a cumulative count of 5-8 adults per trap, or if many nymphs are appearing, has been proposed.



Brown marmorated stink bug damage

www.carrollcountytimes.com

JAPANESE BEETLE: Apple orchards in southern and western Wisconsin are reporting heavy beetle populations, with damage to foliage and the terminal ends of branches along orchard perimeters. If the beetles are causing severe injury and treatment is required, growers can minimize insecticide use by spot treating only the most infested varieties. Because sprayed trees can be reinvaded, infested orchard blocks should be inspected weekly as long as beetles are present. Never spray when bees are foraging.

CODLING MOTH: The summer biofix has been set in most southern and central apple orchards. Regular trap checks should continue into August to determine if the economic threshold of five moths per trap per week is exceeded. The need for treatment of the second larval generation is less consistent than with the first generation, and depends upon the success of spring CM controls and whether pressure is coming from wild trees

outside the orchard. Spot treatment is usually an effective approach for managing second-generation larvae.



Codling moth larva

Barry Potter fruitforum.wordpress.com

WHITE APPLE LEAFHOPPER: Peak egg laying is expected to occur by August 1 across much of southern and west-central Wisconsin with the accumulation of 1,750 degree days (base 48°F). Apple growers who observed damage from the first generation several weeks ago should scout for stippling and whitish spots on leaves in the interior of tree canopies. The summer nymphs feed well into September and can cause significant chlorophyll loss. Ordinarily, control should target first-generation nymphs, but if justified, treatments against the second generation can also be effective.



White apple leafhoppers

utahpests.usu.edu

APPLE MAGGOT: Captures of flies on orchard traps remain variable. Most sites reported 1-5 flies per trap this week, though very high counts of eight flies per unbaited red sphere trap were reported from Racine County. Peak

adult emergence is approaching, and oviposition on apples can be expected for several more weeks.

JAPANESE BEETLE: Apple orchards in southern and western Wisconsin are reporting heavy beetle populations, with damage to foliage and the terminal ends of branches along orchard perimeters. If the beetles are causing severe injury and treatment is required, growers can minimize insecticide use by spot treating only the most infested varieties. Because sprayed trees can be reinvaded, infested orchard blocks should be inspected weekly as long as beetles are present. Never spray when bees are foraging.

VEGETABLES

SQUASH BUG: Vegetable growers are reporting a noticeable increase in squash bug populations on cucumber, summer squash and zucchini in the past week. The simplest control is to remove the eggs, nymphs, and adults from plants and submerge them in a bucket of soapy water. Disposing of all dead foliage and other plant material that can harbor large numbers of nymphs is also important for control.



Squash bug nymphs

vegedge.umn.edu

BLOSSOM END ROT: This physiological disorder is appearing as tomatoes ripen. The dark, water-soaked spot that starts at the blossom end of the fruit and enlarges around the fruit surface is caused by calcium imbalance and fluctuations in soil moisture. Blossom-end rot is most common when the growing season begins wet and later becomes dry as fruit is setting. Fungicides and insecticides are not an effective control against end rot. Maintaining consistent soil moisture levels throughout the

growing season is necessary for reducing its occurrence. During periods of dry weather, watering thoroughly once or twice each week to moisten the soil to a depth of six inches is advised.



Blossom end rot on tomato

Krista Hamilton DATCP

IMPORTED CABBAGEWORM: Pupae and newly-emerged butterflies were very common in southern and western Wisconsin vegetable sites recently visited. The abundance of butterflies signals that an increase in egg laying should be expected, along with the potential for damaging larval populations in August. Scouting is recommended through harvest.



Imported cabbageworm butterflies

naturephoto-cz-eu

JAPANESE BEETLE: Surveys of vegetable gardens and farms in Dane, La Crosse, Milwaukee, Pierce and St. Croix counties found beetles on a wide variety of plants, including basil, beans, corn, eggplant, and peppers, to name a few. As is the case for squash bugs and many other garden pests, physical removal is the prefer-

red control option for small gardens and plantings. The best times to handpick beetles are either in the early morning or evening when they are less active. Pheromone traps attract more beetles than they catch and should not be used as a form of control.

CABBAGE LOOPER: Surveys indicate that populations of this cole crop pest are currently high, and growers should be aware that the second larval generation that will appear next month is usually even more damaging than the first generation. From early heading until harvest, control is justified when 10% of plants are infested, to maintain marketability.



Cabbage looper larva

Krista Hamilton DATCP

NURSERY & FOREST

LEAF SCORCH: Many varieties of nursery plants state-wide are exhibiting leaf scorch brought on by the stresses of extended retail display, container compaction, nutrient deficiency, extreme heat, drought, and over watering. This disorder is characterized by the browning of leaf margins and yellowing or darkening of the tissues between the primary veins. Most affected plants will generally recover once the stress factors have been resolved. However, in retail situations, non-viable ornamental plants and trees that have been impacted beyond reversible levels of physiological damage, have regulated pest or disease infestations, or fail to reach acceptable standards of cleanliness, labeling, and plant quality, must be removed from sales areas.

REDHEADED FLEA BEETLE: These shiny black beetles with prominent reddish heads were prevalent on a wide variety of nursery plants in the past week. 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.



Redheaded flea beetle

Steven Rettke rutgers.edu

Beetle injury may reduce the aesthetic quality and marketability of stock, but insecticides directed against the adults should only be considered for severe cases. A few cultivars highly susceptible to RHFB damage include Virginia sweetspire 'Little Henry,' hydrangea 'Vanilla Strawberry' and 'Bobo,' red osier dogwood 'Kelseyi,' and weigela 'Fine Wine.'

MAPLE LEAF TAR SPOT: Early signs of this normally-late-season leaf blight disease of maple were observed this week on Freeman and Norway maples in southern and western Wisconsin. Symptoms first appear as pale yellow, raised spots on the upper leaf surfaces that later develop into distinctive black, tar-like lesions. Tar spot of maple is usually an aesthetic disorder, but the noticeable leaf lesions can affect the marketability of landscape trees. For severe cases that warrant treatment, three fungicide applications are necessary for control: at bud break, when the leaves are half expanded, and when the leaves become fully expanded. Clearing and disposing of all infected leaves in fall is essential where tar spot is a recurring problem. Growers who experience problems with tar spot this year should mark their calendars to consider treatment next year.

SPINY WITCHHAZEL GALL APHID: DATCP inspectors found these aphids on river birch at a nursery in Marinette County. The eggs of the witchhazel gall aphid overwinter on witchhazel, then hatch and feed on the flower buds, forming a spiny gall, before migrating to river birch. Fe-

eding by the female aphids on birch foliage causes the leaves to pucker and become corrugated in appearance. Birch leaves often turn yellow and may drop prematurely. The aphids, which are covered in a white, waxy coating, live on the underside of these distorted leaves. If aphid populations are high, a fall soil drench of a systemic insecticide such as imidicloprid may be applied to the infested birch tree.



Spiny witchhazel gall aphid damage

Jen Oestreich DATCP

NINEBARK LEAF BEETLE: Adults were observed on ninebark plants in Waukesha County nursery last week. The distinctive reddish brown beetles with ornate black and gold markings are present from July to August and may feed heavily on ninebark foliage. Healthy plants can usually tolerate the feeding, and treatment of this native leaf beetle species discouraged.



Ninebark leaf beetle

apps.extension.UMN.edu

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 16 - 22

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	DWB ⁵	LPTB ⁶	BMSB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	17	8	0	2	7	12	0	2	4
Bayfield	Oriente	11	0	0	2	4	5	0	0	0
Brown	Oneida	350	69	0	2	49	6	0	0	0
Columbia	Rio	41	55	1	0	5	2	—	0	1
Crawford	Gays Mills	—	71	0 MD	18	—	4	—	1*	0
Dane	Mt. Horeb	15	215	5	0	9	0	0	0	0
Dane	McFarland	30	45	0	9	2	3	0	0	0
Dane	Stoughton	91	217	5	0	16	7	0	0	0
Fond du Lac	Campbellsport	123	89	0	10	0	—	—	—	—
Fond du Lac	Malone	23	16	6	0	2	0	0	3**	0
Fond du Lac	Rosendale	12	32	0	4	3	0	0	0	1
Green	Brodhead	—	12	1	1	42	2	0	0	0
Iowa	Mineral Point	210	10	16 MD	0 MD	44	16	0	3**	3
Jackson	Hixton	90	17	1	0	14	1	0	0	1
Kenosha	Burlington	148	63	3	0	78	0	0	5**	—
Lafayette	Belmont	29	42	0 MD	0	0	0	0	0	0
Marathon	Edgar	826	65	2	2	63	2	0	0	2
Marinette	Niagara	33	15	0 MD	1	33	4	0	0	0
Marquette	Montello	79	65	3	0	12	8	0	0	0
Ozaukee	Mequon	20	0	2	0	18	0	0	1	0
Pierce	Beldenville	123	14	3	1	1	0	—	2	0
Pierce	Spring Valley	69	57	0 MD	0	54	13	0	1*	2
Racine	Raymond	155	52	3	0	31	3	—	0	0
Racine	Rochester	91	66	18	0	29	0	0	8*	0
Richland	Hill Point	12	140	3	0	39	21	0	0**	1**
Sheboygan	Plymouth	571	27	0 MD	1	46	4	0	1**	0**
Walworth	East Troy	22	3	0 MD	6	2	2	0	1	0
Walworth	Elkhorn	33	12	0 MD	21	0	3	1	0	0
Waukesha	New Berlin	10	11	0	0	5	2	—	0	0

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Dogwood borer; ⁶Lesser peachtree borer; ⁷Brown marmorated stink bug; 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	2	0	6	0	3
Columbia	Pardeeville	1	2	0	2	20	5	0	45	0	128
Dodge	Beaver Dam	0	0	0	6	5	2	0	27	0	18
Fond du Lac	Ripon	2	0	1	2	11	10	3	47	1	20
Grant	Prairie du Chien	0	0	0	0	0	1	0	0	0	0
Langlade	Antigo	0	0	0	0	0	8	0	0	0	4
Manitowoc	Manitowoc	0	0	0	0	0	0	4	22	0	0
Marathon	Wausau	2	0	0	2	2	8	0	11	0	5
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	0	12	0	9	0	0	13	0	6
Walworth	East Troy	0	0	0	0	0	0	0	8	0	140
Waushara	Hancock	0	1	3	1	6	0	0	0	0	21
Wood	Marshfield	3	10	0	2	0	12	0	11	2	5

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