

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

Sweltering conditions persisted across the state during the week. Excessive heat warnings were issued for most areas as afternoon and evening heat index values surged to 100-114°F. A line of strong to severe thunderstorms provided rain and some relief from the heat early in the week, but several of the stronger storms produced large hail and caused minor wind damage in portions of northern and central Wisconsin. Dangerously hot weather continued through Wednesday. The record temperatures and humidity promoted rapid development of summer crops, especially corn and soybeans. Earliest planted sweet corn is tasseling across the state and most soybeans are in the reproductive stages. After this week's extended heat wave, the season is still an average of 11 days behind last year and 2-9 days behind the 30-year average. The degree day accumulation at Madison was 1,467 on July 20 using a base of 50°F, which compares to 1,810 degree days on the same date last summer and a normal accumulation of 1,504 degree days.

LOOKING AHEAD

WESTERN BEAN CUTWORM: Moth emergence continued at very low levels in the last week and may have peaked in some areas. The Wisconsin network of 164 pheromone traps has registered a cumulative total of

only 186 moths thus far, which compares to 7,631 at the same time last year when the flight was 50-75% complete statewide. Degree day accumulations (base 50°F) as of July 20 were 1,605 at Beloit, 1,485 at La Crosse, 1,467 at Madison, 1,305 at Hancock, and 1,163 at Wausau. Peak flight, or 50% emergence of the population, should occur by 1,422 degree days. Moth activity is expected to increase markedly in the week ahead. Oviposition on corn and dry beans is intensifying.

EUROPEAN CORN BORER: The first summer moths are appearing in black light traps at locations where 1,400 degree days (base 50°F) have been surpassed. The predominant stages present this week were fourth and fifth instar larvae in the southern and western areas and second and third instar larvae elsewhere. The optimal treatment window for first generation larvae has closed statewide.

CORN ROOTWORM: Beetles are gradually becoming more abundant across southern and central Wisconsin. Peak emergence of the adult population is anticipated in the next 1-3 weeks. Corn acreage that has not been pollinated by early August may suffer from silk clipping, reduced pollination and poor kernel set. A threshold of five or more beetles per plant is recommended when the silks have been clipped to less than ½ inch and pollination is incomplete. Scouting should occur before 70% of plants are silking.

POTATO LEAFHOPPER: Reproduction has intensified with the latest hot weather. Nymph and adult counts have surpassed the economic threshold of 2.0 per sweep in a few in Richland, Sauk and Vernon County alfalfa fields. Routine monitoring is advised since counts still vary and are not uniformly above action thresholds. Treatment decisions must be made on a field-by-field basis, only after alfalfa has been systematically sampled to determine if the economic threshold has been exceeded. If treatment is justified, plants should be harvested early rather than treated during the bloom stage.

JAPANESE BEETLE: Damage to apples, corn, grapes, roses, soybeans and many other plants continues to be reported. In Jefferson and Sauk County corn fields, surveys found as many as 14 beetles per plant feeding on emerging tassels and silks. Reports from Dane, Kenosha and Racine counties indicate that the beetles are abundant enough in some apple orchards to require treatment. Scouting and control measures are in order for all susceptible crops. Economic thresholds vary by crop and are listed under the **CORN**, **SOYBEAN** and **FRUIT** sections.



Japanese beetles on grape leaves

danio43 flickr.com

FORAGES

POTATO LEAFHOPPER: Counts in alfalfa are variable. Surveys in the southwest and central areas yielded 0.1-2.8 per sweep, including four sites with economic levels of 2.0 or more per sweep. In the Richland Center area, leafhoppers were apparently numerous enough to require treatment since several fields had fresh tire tracks and no detectable insect population. Reproduction has increased and nymphs now constitute 30-50% of the population in most sampled fields.

DEGREE DAYS JANUARY 1 - JULY 20

LOCATION	50°F	2010	NORM	48°F	40°F
Dubuque, IA	1591	1763	—	1438	2613
Lone Rock	1529	1721	—	1362	2534
Beloit	1605	1858	—	1440	2636
Madison	1467	1703	1504	1330	2444
Sullivan	1462	1756	1524	1328	2436
Juneau	1393	1678	—	1269	2331
Waukesha	1277	1589	—	1255	2189
Hartford	1267	1555	—	1252	2159
Racine	1191	1537	—	1182	2088
Milwaukee	1182	1493	1332	1180	2059
Appleton	1243	1537	1370	1209	2117
Green Bay	1145	1401	1320	1174	1992
Big Flats	1296	1561	—	1228	2193
Hancock	1305	1587	1490	1211	2205
Port Edwards	1271	1521	1410	1200	2152
La Crosse	1485	1716	1627	1336	2475
Eau Claire	1350	1565	1461	1271	2265
Cumberland	1207	1411	1388	1158	2071
Bayfield	913	1098	1043	915	1679
Wausau	1163	1398	1332	1130	1995
Medford	1194	1391	1200	1149	2028
Crivitz	1084	1340	—	1100	1907
Crandon	1052	1269	1094	1015	1838

Method: ModifiedB50: Sine48: ModifiedB40 as of Jan 1, 2011.
 NORMALS based on 30-year average daily temps, 1971-2001.

PEA APHID: Alfalfa fields surveyed in the southwest counties showed low populations of 0.5-3.8 per sweep, with an average of only 1.0 per sweep. Counts in the west-central counties were comparable and ranged from 0.2-2.9 per sweep. Aphid fungal pathogens, which can limit population growth under moist, humid conditions, may be having a suppressive effect on populations in some areas.

PLANT BUG: Representative counts in the southern half of the state range from 0.3-5.2 per sweep. The average is 1.2 per sweep, based on a sample size of 26 fields. Nymphs of various maturities are abundant in nearly all alfalfa plantings.

CORN

EUROPEAN CORN BORER: The hot weather has accelerated development of the later instars, and pupae are appearing in advanced locations. Surveys in the south-

west and central areas found infestations of 4-32% in V16-VT grain corn. The dominant stages south of Hancock in Waushara County were fourth and fifth instar larvae, although development is inconsistent and the second and third instars prevail from Racine to Green Bay, and across the northern counties. The first summer moths have been registered in the black light trap at Coon Valley.



European corn borer 5th instar larva

Krista Hamilton DATCP

CORN ROOTWORM BEETLE: Numbers have been on the increase since emergence began earlier this month. Counts for the period of July 14-20 ranged from 0.1-1.7 beetles per plant, with the highest population observed in corn near Richland Center. Peak beetle emergence remains approximately 1-3 weeks away. Late-planted corn is at risk of silk pruning and should be checked in the next two weeks to ensure pollination is not being impaired.

CORN EARWORM: The Coles Valley, Hancock, Sparta and Wausau pheromone traps registered very low numbers of moths in the last reporting period, and 6-9 moths per trap the previous week. No moths were captured at 6 of 11 trap sites from July 14-20. The significant migration could occur soon, so corn earworm monitoring network participants should begin checking traps often and replacing lures on a weekly basis. Counts in the past week were as follows: Chippewa Falls 0, Coles Valley 1, Coon Valley 0, East Troy 1, Hancock 2, Janesville 0, Manitowoc 0, Marshfield 0, Mazomanie 0, Prairie du Chien 1, and Wausau 4.

JAPANESE BEETLE: Damage is apparent in scattered corn fields throughout the state. Japanese beetles are a common problem this season and are likely to remain so for

several more weeks. Large numbers were observed in corn in Jefferson and Sauk counties and treatment may have been justified in a few instances. Near Watertown, the beetles were as numerous as 14 per plant on 5-10% of plants in one field. Control is justified for infestations of three beetles per ear when corn silks have been pruned to ½ inch and pollination is less than 50% complete.

SOYBEANS

SOYBEAN APHID: Densities remain much the same as previously reported. Counts have not yet surpassed the 250 aphids per plant threshold and most fields still contain fewer than 20 per plant. Crop advisors and growers are reminded that insecticidal seed treatments provide limited residual activity for reproductive soybeans and the protective effects have diminished by now. Scouting is in order for all soybean fields, aphid-tolerant or non-tolerant, seed treated or untreated. The standard 250 aphid per plant treatment threshold applies to both aphid-tolerant and non-tolerant soybean varieties.



Soybean aphids

Krista Hamilton DATCP

JAPANESE BEETLE: Defoliation has been observed at the rate of 4-17% in soybeans as far north as Barron County. The most serious infestations were found in the south-central and southeast areas in the past week. Leaf injury by the combination of Japanese beetles, grasshoppers, green cloverworms and various other defoliators should not exceed 20% between the bloom and pod-fill stages.

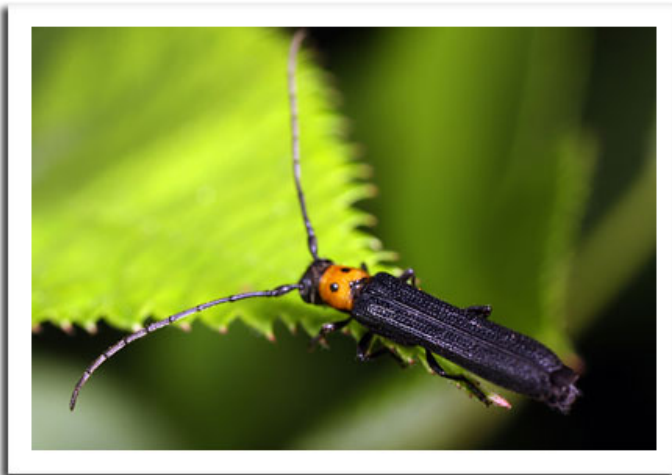
GREEN CLOVERWORM: Larvae are beginning to appear in soybeans in the southwest and west-central areas. Counts are currently below 3 per 100 sweeps. Those noted in Richland and Vernon counties were in the early

and intermediate instars as of July 20. If last year's outbreak is an indicator, then larval populations could be extremely high again this year, particularly in southern Wisconsin.

FRUITS

APPLE MAGGOT: Emergence has increased in some orchards, while others have not yet captured a single fly. The high count for the period of July 14-20 was 18 flies on a baited red ball trap at Stoughton in Dane County. On the basis of current degree day accumulations, peak emergence of the fly population should occur from July 26-August 9 at most sites.

RASPERRY CANE BORER: Raspberry canes in Racine and Walworth counties are showing wilted, blackened tips caused by this longhorned wood-boring beetle. Damage is readily identified by two rings about ½ inch apart and located 4-6 inches below the growing tip. An egg is inserted into the plant between the two rings. Symptoms become more pronounced as the larva burrows to the base of the cane, causing the entire cane to die before the fruit matures. Infested tips should be pruned several inches below the lowest girdle mark as soon as they are noticed.



Raspberry cane borer adult

Goshzilla-Dann flickr.com

CODLING MOTH: The second biofix has been registered at a few locations. Pheromone trap counts are expected to increase over the next two weeks, marking the start of the summer moth flight. Most apple orchards are in between flights and can anticipate the second biofix approximately 1,000 degree days (base 50°F) from the first biofix, or in the next 1-2 weeks.

BROWN MARMORATED STINK BUG: The detection survey for this insect is still underway. As of July 21, none had been found in the state.

VEGETABLES

SQUASH VINE BORER: Moths were noted on summer squash in La Crosse County earlier this week. Growers of pumpkins, squash and zucchini in the west-central area should continue checking susceptible plants for flat, brown eggs deposited at the base of stems. Larvae bore into the stems of crops upon hatch, necessitating control as soon as the eggs are noticed. The first sign of infestation is when plants wilt midday.



Squash vine borer moth

Krista Hamilton DATCP

CABBAGE LOOPER: A cooperator near Newburg in Ozaukee County reports that the first migrants have been registered in pheromone traps. Fresh market and industry cabbage growers concerned about quality issues should begin inspecting fields for egg masses and small larvae. *Bacillus thuringiensis* (Bt) is usually very effective against most cole crop caterpillars, but is only moderately useful in controlling this pest.

CUCURBIT DOWNY MILDEW: This disease (caused by *Pseudoperonospora cubensis*) has been verified for the first time this season in Columbia County. Other states reporting outbreaks since late May include Alabama, Delaware, Georgia, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia and Ontario, Canada. Disease development is favored by warm, rainy weather and high relative humidity. Early detection and preventive fungicide applications are critical for suppressing epidemics. The

ipmPIPE website at <http://cdm.ipmpipe.org> provides the current downy mildew forecast.

POTATO LEAFHOPPER: This insect has now exceeded thresholds in potatoes and alfalfa at some sites in southern Wisconsin. Populations at the Arlington Agricultural Research Station have reportedly surpassed the established threshold of 1.0 adult per sweep, with an average of 1.4 adults per sweep and nymph populations in excess of 1.0 per leaf. Continued scouting is recommended.

APHIDS: An unidentified aphid was found in moderate numbers on 'habanero' peppers in a Dane County home garden. In larger plantings, heavy aphid populations can decrease yield and quality through virus transmission and honeydew secretion. Some aphids are very efficient vectors, transmitting viruses in as few as 30 seconds after feeding on plants. Natural enemies are often influential in aphid control. Light colored or reflective mulch can help deter aphids from colonizing host plants.



Aphids on peppers

Clarissa Hammond DATCP

LATE BLIGHT: A report from UW-Madison Plant Pathologist Dr. Amanda Gevens states that the late blight threat has not escalated since the first case on tomato was verified in Waukesha County on July 6. According to her report, there have been no additional cases of late blight in Wisconsin to date. The *Phytophthora infestans* genotype collected has been identified as US-23, one of the three genotypes found in the state last year.

WEEDS

BIOLOGICAL CONTROL: DNR Wildlife Biologist Wade Oehmichen reports that 58,000 spotted knapweed

weevils (*Larinus* spp.) were introduced at 147 new locations earlier this month. Most releases were made along the Hwy 39/51 corridor from Portage to Wausau, and along Hwy 22 in Columbia, Marquette and Waushara counties. Another 43,000 leafy spurge biocontrol agents were also released at 43 sites in 11 counties in June. The effort was largely funded by the Department of Transportation and carried out by DOT personnel. The objective of the biological control program is to establish natural enemies of leafy spurge and spotted knapweed for eventual control of these invasive weeds.



Larinus minutus weevil on spotted knapweed

www.ksda.gov

HEDGE BINDWEED: This perennial vine is in full bloom in the southern counties. Herbicide treatment is recommended for problem populations when plants are at or past the full bloom stage, to ensure sufficient control of underground plant parts. Both the hedge and field bindweed species reduce yield and their tangled stems can interfere with harvest operations in row crops. A combination of chemical, mechanical and cultural methods is usually required to eliminate bindweed populations over time.

NURSERY & FOREST

COOLEY SPRUCE GALL ADLEPID: Nursery inspectors report that the pine cone-shaped galls of this insect are forming on Serbian spruce trees in a Chippewa County nursery. The Cooley spruce gall adelgid has a complex, two-year lifecycle in which it transitions into five different morphological forms and moves between firs and spruce. The galls are visible from early to late summer in Wisconsin. Horticultural oil sprays should be applied in the spring before new growth starts or in the fall when overwintering stages of the insect have returned to the tree.

Treatment is ineffective once the galls have formed. Adequate spacing of Douglas firs and Colorado blue spruce trees may help to limit movement between the two conifer hosts.



Cooley spruce gall adelgid gall

PG Dan flickr.com

TUBAKIA LEAF SPOT: This common, late-season fungal disease was diagnosed on red oaks from a Marquette County nursery. The symptoms are well described by the name “leaf spot” and include dark brown or reddish-brown spots or blotches on the foliage. Spots that occur on leaf veins may develop into large, extensive areas of dead leaf tissue. Premature defoliation is common in heavily infected trees. Due to the late onset of symptoms, fungicide sprays are not recommended. Maintaining tree health by adequate watering and fertilization will usually reduce occurrence of this disease.

GYPSY MOTH: The final mating disruption treatment was applied in the Superior area of Douglas County on July 19, marking the end of the annual gypsy moth spraying season. Treatment began on May 23 and was delayed in many instances by rain and strong winds. More than 250,000 acres in 22 counties were treated by DATCP’s Slow the Spread Program this year.

VENTURIA SHOOT BLIGHT: Quaking aspens at a nursery in Jefferson County are showing the black, blighted shoots indicative of this fungal disorder. The initial symptoms appear in May as irregular brown or black spots on the leaf surfaces, which later expand to new shoots and cause a characteristic shepherd’s crook. Secondary infection cycles can occur throughout the shoot elongation period, particularly during prolonged wet periods. The fungus overwinters in infected shoots, so

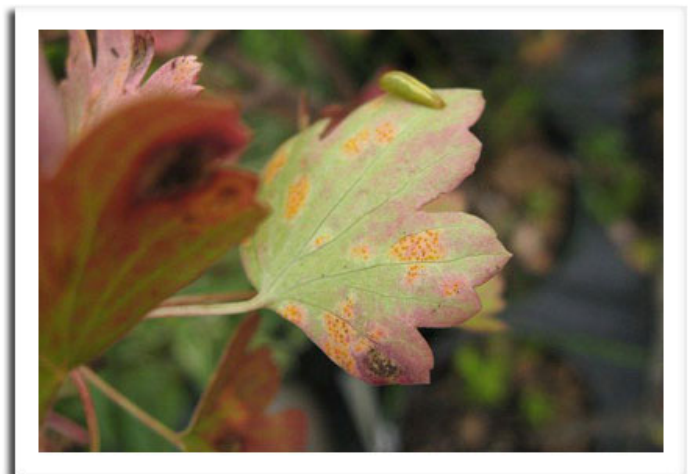
pruning blighted shoots below the margin between healthy and diseased tissue is recommended.



Venturia shoot blight on aspen

Liz Meils DATCP

WHITE PINE BLISTER RUST: Yellow currant shrubs at a nursery retailer in Clark County were moderately infected with white pine blister rust. This two-host fungal disease spreads from currants (*Ribes* spp.) to eastern white pine from mid-July through late fall, and requires both plants to complete its life cycle. Symptoms on infected currants are the orange spores produced on the undersides of leaves. Moderate to high densities of both host plants in the same general area can result in severe infection and mortality of white pines.



Rust spores on underside of Ribes leaf

Konnie Jerabek DATCP

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 14 - 20

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	OBLR ⁵	AM RED ⁶	YELLOW ⁷	GDD 50°F
Bayfield	Keystone	35	1	0	5	—	0	8	
Bayfield	Oriente	0	0	0	4	7	—	—	
Brown	Oneida	90	11	3	5	—	0	0	
Chippewa	Chippewa Falls	0	31	2	13	0	0	0	
Columbia	Rio	4	15	0	0	—	0	0	
Dane	Deerfield	735	164	3	5	—	0	0	
Dane	Mt. Horeb	60	231	0	7	—	0	0	
Dane	McFarland	0	10	0	0	—	*20	—	
Dane	Stoughton	65	196	19	0	0	*3	**18	1340
Dane	West Madison	20	9	3	0	—	2	**18	
Fond du Lac	Campbellsport	500	100	0	4	—	0	0	
Fond du Lac	Malone	32	110	9	13	—	0	0	
Fond du Lac	Rosendale	—	—	—	—	—	—	—	
Grant	Sinsinawa	0	8	3	0	—	4	—	
Green	Brodhead	10	—	—	—	6	0	0	
Iowa	Mineral Point	79	120	0	2	0	0	0	1440
Jackson	Hixton	285	52	2	58	13	0	0	
Kenosha	Burlington	160	150	3	6	—	0	0	1192
Marinette	Niagara	117	26	8	0	—	0	0	1001
Marquette	Montello	11	0	0	0	—	0	0	1381
Ozaukee	Mequon	55	44	3	7	—	*0	*0	1194
Pierce	Beldenville	276	2	10	7	2	*0	*1	
Pierce	Spring Valley	136	74	0	0	0	*0	*0	
Polk	Turtle Lake	311	149	1	5	—	*3	0	
Racine	Raymond	388	157	12	9	—	0	0	
Racine	Rochester	210	220	7	6	—	*2	*0	1236
Richland	Hillpoint	150	110	0	6	0	**1	0	
Sheboygan	Plymouth	575	82	9	9	—	**4	0	1125
Walworth	East Troy	25	29	0	3	—	**1	**0	
Walworth	Elkhorn	35	10	0	5	—	**0	**0	
Waukesha	New Berlin	85	56	3	2	—	0	0	

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller EASTERN; ⁵Obliquebanded leafroller WESTERN; ⁶Apple maggot red ball; *Unbaited AM trap; **Baited AM trap; ⁷Apple maggot yellow board.

COUNTY	SITE	ECB ¹	TA ²	BCW ³	SCW ⁴	DCW ⁵	CE ⁶	CEL ⁷	WBC ⁸	FORL ⁹	VCW ¹⁰
Chippewa	Chippewa Falls	6	0	2	0	0	0	0	0	0	0
Columbia	Arlington	0	3	3	0	0	0	4	0	0	0
Dane	Mazomanie	0	0	0	0	0	0	0	7	2	0
Grant	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Manitowoc	Manitowoc	0	17	0	0	0	0	0	0	7	0
Marathon	Wausau	6	1	2	5	1	1	3	1	11	0
Monroe	Sparta	0	0	0	0	0	0	0	83	0	0
Rock	Janesville	0	2	2	0	0	0	7	1	5	0
Walworth	East Troy	0	0	0	0	0	0	1	11	5	0
Wood	Marshfield	24	10	5	5	0	2	16	4	12	1
Vernon	Coon Valley	5	12	4	4	0	2	0	9	5	0

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