

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

An unusually strong cold front settled over the Great Lakes Region early in the week. Daytime high temperatures were 5-17°F below-normal and remained unseasonably cool in the upper 50s to lower 70s. Record low maximum temperatures were set on July 14 and 15 at numerous locations, including Eau Claire, which reported only 67°F on July 14, breaking the previous record of 68°F set in 1994 and 1952. Other cities establishing new records were Appleton (66°F), Madison (67°F), Marshfield (68°F), Rhinelander (62°F) and Sturgeon Bay (63°F) on July 15. Rain showers and locally severe storms accompanied the cooling trend, and in the Sevastopol area of Door County, an intense hailstorm decimated crops and left hail accumulations of 3-4 inches which required snow plows to clear. The mid-July cold spell slowed development of summer crops and increased concerns about developmental delays for late-planted corn and soybeans. Reports from the USDA NASS depict generally favorable crop conditions, though an extended period of warmer, drier weather will be critical as crops advance through reproduction.

LOOKING AHEAD

WESTERN BEAN CUTWORM: The annual flight is slowly accelerating across southern and central Wisconsin.

Pheromone traps registered moths at 13 of 98 monitoring sites, with a high count of seven moths near Arlington in Columbia County. Emergence is approximately 10-25% complete in the southern half of the state. Egg deposition on corn and dry beans is occurring at advanced locations.

EUROPEAN CORN BORER: 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 by July 20. Larvae from the spring flight presently range in development from second to fifth instar. The treatment window for first generation larvae has closed over the southern two-thirds of the state with the accumulation of 1,100 degree days (modified base 50°F).

SPOTTED WING DROSOPHILA: Additional flies have been trapped in Dane, Door, Iowa, La Crosse and Rock counties since the last report, bringing the total number of counties with confirmed SWD detections this season to six. The first flies of 2014 were captured in Vernon County on June 30 by UW-Madison researchers. The appearance of SWD should be viewed as an early warning to fruit growers to increase monitoring efforts (checking traps twice weekly), install barrier netting, or make preparations for possible insecticidal control. The use of insecticides is not advised until SWD infestation is verified by trapping or visual inspection.

SOYBEAN APHID: The first economic infestations of the year may develop before the end of the month. Densities have increased to moderate levels in a few Dane and Sauk County fields, although the typical average is less than five per plant. Historically, the first economic populations of 250 or more aphids per plant have been detected in Wisconsin by the third week of July. This pest requires consistent monitoring from now until the R5.5 stage of soybean growth in August.



Soybean aphids

Krista Hamilton DATCP

STALK BORER: Larvae ranging in size from 3/4-1 1/4 inches were noted to have caused extensive damage to the peripheral rows of corn at a few sites in Dane, Richland and Vernon counties. In one Dane County field, 43% of plants in the third row from the edge were severely damaged. Spot treatment is no longer advised now that larvae have bored into the stalks and unemerged tassels, and most corn is beyond the susceptible V7 stage.

FORAGES & GRAINS

POTATO LEAFHOPPER: Counts in alfalfa remain low to moderate. Surveys conducted in Buffalo, Crawford, Dane, Eau Claire, Iowa, Kenosha, Richland, Trempealeau, Sauk and Walworth counties found a range of 0.1-0.9 adults and nymphs per sweep and an average of 0.5 per sweep. Nymphs now constitute 10-45% of the population in some fields, indicating potential for population increase in the third crop.

PEA APHID: Alfalfa fields surveyed in the southern counties contained remarkably low populations of less than 0.3 aphids per sweep or 30 per 100 sweeps. Counts in the west-central area were comparable at less than 0.2

DEGREE DAYS JANUARY 1 - JULY 16

LOCATION	50°F	2013	NORM	48°F	40°F
Dubuque, IA	1386	1378	1466	1482	2201
Lone Rock	1359	1336	—	1446	2165
Beloit	1409	1470	1484	1482	2238
Sullivan	1102	1333	1392	1200	1864
Madison	1296	1329	1414	1384	2100
Juneau	1181	1244	—	1287	1953
Racine	1052	1144	—	1166	1834
Waukesha	1102	1188	—	1200	1864
Milwaukee	1049	1120	1263	1153	1812
Hartford	1102	1155	—	1200	1864
Appleton	1081	1158	—	1184	1834
Green Bay	994	1080	1237	1102	1741
Big Flats	1196	1171	—	1259	1907
Hancock	1196	1179	1372	1259	1907
Port Edwards	1151	1138	1339	1221	1853
La Crosse	1340	1298	1550	1431	2126
Eau Claire	1182	1208	1388	1272	1926
Cumberland	1015	1075	1282	1099	1688
Bayfield	707	756	—	747	1243
Wausau	999	1051	1252	1079	1673
Medford	961	1079	1140	1042	1630
Crivitz	934	1009	—	1025	1615
Crandon	870	977	982	930	1477

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

per sweep. Aphid fungal pathogens, which are thought to have caused an abrupt population collapse two weeks ago, are continuing to limit aphid activity.

PLANT BUG: Representative counts in the southern half of the state range from 0.1-1.7 per sweep. The average is only 0.3 per sweep, based on a sample size of 27 fields. Nymphs of various maturities are still common in most fields and reports indicate damaging populations are appearing in some apple orchards.

CORN

WESTERN BEAN CUTWORM: Moth emergence continued at low levels for the second consecutive week. The Wisconsin network of 98 pheromone traps registered a cumulative total of 50 moths as of July 16, which compares to 26 moths at the same time last year. Black light traps captured another 40 specimens, including the

week's highest count of 35 moths at Sparta in Monroe County. Approximately 10-25% of the population has emerged across the southern half of the state.

Close inspection of corn for egg masses and small larvae should be under way. The eggs are deposited in groups of 5-200 on the upper leaf surfaces and the larvae can be found in developing tassels. An economic threshold of 8% of plants infested for field corn and 4% infestation for processing sweet corn has been calculated by the University of Wisconsin. Insecticide treatments applied at 90-95% tassel emergence are most effective.

JAPANESE BEETLE: Minor infestations of 1-19 beetles per 100 plants have been observed since early July in scattered fields in the southern and 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

EUROPEAN CORN BORER: Larval infestation rates remain about the same as reported in previous weeks, with the typical population affecting fewer than 5% of the plants and occasional fields showing 10-15% whorl feeding. Larvae ranged in development from second to fifth instar in the areas surveyed this week. The most prevalent stage was the third instar.

TRUE ARMYWORM: The significant flight of 82 moths reported from Janesville last week declined to 33 this week, but continued scouting of corn and wheat is recommended. Larvae of the second generation,

expected to emerge soon, can occasionally reach damaging levels in corn. The last major outbreak of second generation larvae was in August of 2005.

SOYBEANS

SOYBEAN APHID: Densities in soybean fields surveyed from July 10-16 were very low at less than eight aphids per plant. A consultant's report indicates an exceptional site north of Prairie du Sac in Sauk County qualified for treatment on July 11 (250 aphids per plant), suggesting that aphid pressure is intensifying in a few individual fields. Chemical treatment has not been justified for any soybean field surveyed by DATCP so far this season, but this may change in the next 2-3 weeks. Monitoring efforts should be increased in all areas of the state as soybeans develop through the early reproductive growth stages when aphid populations usually peak.

WHITE MOLD: This soybean disease could become severe if conditions conducive to its development continue. Cool, cloudy weather and surplus soil moisture promote growth and pathogenicity of the white mold fungus, especially when these conditions occur during the two weeks prior to peak flowering.

Scouting at canopy closure for tan, mushroom-like apothecia on the soil surface is recommended. Fungicides can suppress disease development if applied at or close to R1 (plants have at least one open flower at any node), with diminishing effectiveness by R3 and beyond. Once white mold symptoms are evident, fungicides will have no effect on reducing its severity.



Soybean plant with white mold

Carl Bradley University of IL Extension

JAPANESE BEETLE: Low numbers of this beetle and the sand chafer (also known as the spring rose beetle) were feeding on soybean foliage in Columbia, La Crosse and Richland counties. Defoliation by a combination of these scarab beetles and other soybean pests, such as bean leaf beetles, grasshoppers and various caterpillars, should not be allowed to exceed 30% prior to bloom (R1) or 20% between bloom and pod fill (R1-R6).

FRUITS

APPLE MAGGOT: Emergence of flies continued for the third week, with a high count of 15 flies on an unbaited red sphere trap reported from Rochester in Racine County. Apple orchards affected by recent hailstorms are at increased risk of infestation by this pest since hail-damaged fruits release volatiles that can attract flies from long distances. Apple maggot traps should be cleaned of non-target flies periodically and recoated with insect sticky trap material if necessary.



Apple maggot fly

Werner Eigelsreiter bugguide.net

CODLING MOTH: Counts have decreased in most orchards as the first flight subsides. Orchardists who have not observed a distinct decline in moth activity and are having difficulty determining the most effective treatment window should use an accumulation of 1,000 degree days from the spring biofix in late May to time the start of larvicide applications. As a general rule, approximately 1,000 degree days are required between the first and second larval generations.

JAPANESE BEETLE: Numbers are increasing in fruit and field crops over much of the state, particularly in the east-central and northwestern counties. This beetle could be a

more serious problem this season than in the last two or three years since soil moisture levels have been very favorable for larval survival. Spot treatment of individual trees may be warranted for orchards that experience problems.

SPOTTED TENTIFORM LEAFMINER: The second flight has peaked and counts are declining at most monitoring sites. Egg laying is expected to be heavy as long as the moths are numerous. Apple orchards with populations greater than one mine per leaf or a history of infestation should consider treatment of second generation larvae to reduce build-up of leafminers before the third flight begins next month.

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. Apple growers should not mow cover crops or weeds when stink bugs are present to prevent the insects from moving into the trees.



Green stink bug

annkelliot flickr.com

VEGETABLES

SQUASH VINE BORER: The early-stage larvae of this insect are excavating the stems and runner vines, causing squash plants to wilt. Closer examination of the vines should reveal entrance holes from which their

sawdust-like frass is expelled. Varieties most susceptible to squash vine borer damage are 'Blue Hubbard', 'Boston Marrow' and 'Golden Delicious', while 'Butternut', 'Dickenson Pumpkin' and 'Green Striped Cushaw' have shown resistance.

TOMATO HORNWORM: Moths are active and laying eggs on the undersides of tomato leaves. Tomato growers who have experienced past problems with this pest should inspect the undersides of leaves for individually laid eggs that are smooth, spherical and pale green in color. Once the eggs hatch, the larvae grow very rapidly and quickly defoliate plants. Spot treatment may be justified for infestations of one or more larva per plant on a minimum of 10 plants. Prompt removal of the larvae is the best control measure.



Tomato hornworm larva

braddock outdoor.blogging.com

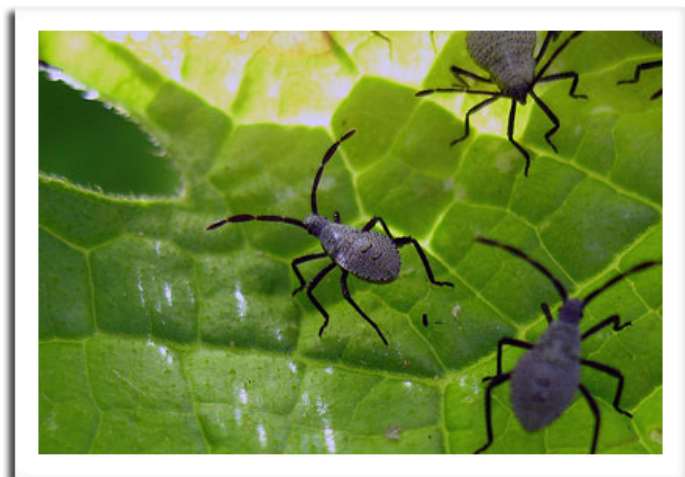
ONION MAGGOT: Second generation flies are emerging near Madison, La Crosse, Spring Green and other locations where 1,950 GDD (base 40°F) have been surpassed. Emergence is anticipated near Fond du Lac, Hancock and Waukesha in the week ahead. Management of the summer generation is less critical than spring and fall populations since egg desiccation and mortality rates are higher at warmer temperatures, but season-long sanitation is still important for preventing future infestations. Second brood eggs are deposited near previously-damaged onions.

CORN EARWORM: Fourteen specimens were captured in the Green Lake County pheromone trap and 23 others were reported from sites in Dane, Dodge and Fond du Lac counties during the last monitoring period. The primary migration of moths from the southern U.S. could begin by late July or early August. Participants in the corn

earworm trapping network should begin replacing lures on a weekly basis.

COLORADO POTATO BEETLE: The summer generation of beetles is expected to begin appearing in potatoes in the next two weeks. Pupation occurs in 7-10 days at this time of year and larval development proceeds much more rapidly under normal July temperatures. Summer beetles and all second generation larval stages are considered damaging.

SQUASH BUG: Reports suggest these difficult-to-control insects are a common problem in pumpkin, squash and melon crops again this season. The treatment threshold for squash bugs is based on an average count of one egg mass per plant, although scouting for tiny eggs is often impractical in larger plantings. If the insects are numerous and wilting is observed, pyrethroid insecticides such as permethrin directed against the nymphs are an effective control. Growers should be aware that the efficacy of these materials is reduced at temperatures above 80°F and the smaller nymphs are more readily killed than the adults. Refer to UWEX publication A3422 "Commercial Vegetable Production in Wisconsin" for a list of registered insecticides.



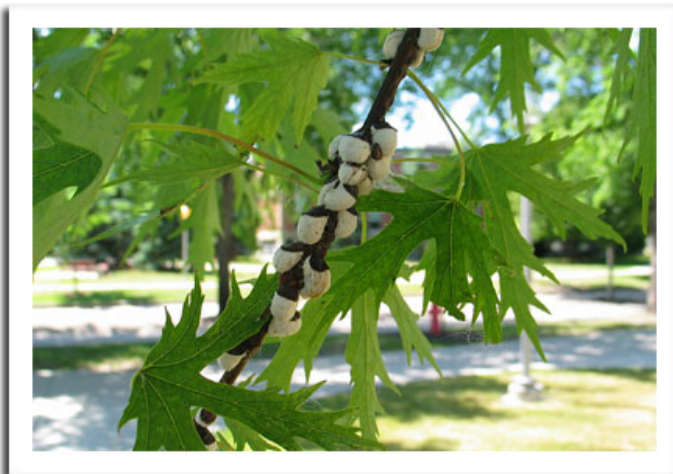
Squash bug nymphs

shyzaboy flickr.com

NURSERY & FOREST

COTTONY MAPLE SCALE: The white, cottony egg masses produced by this pest of deciduous trees and shrubs were observed on maple 'Autumn Blaze' trees at a nursery in Winnebago County. Hatch of mobile crawlers is under way in southern and central areas of the state where 900-1,200 degree days (base 50°F) have been

surpassed, as far north as Eau Claire and Hancock. Cottony maple scale is generally considered only a nuisance pest, populations are cyclical and peak every few years, causing significant branch and twig dieback when levels are high. Chemical treatments directed against the crawler stage should be considered only after two consecutive years of heavy infestation. Light infestations may be pruned out and destroyed.



Cottony maple scale

www.vniles.com

FLETCHER SCALE: Nursery inspectors report that mobile crawlers, the life stage most susceptible to insecticidal control, are emerging in Rock County. This scale pest of arborvitae, juniper and yew can cause yellowing, premature needle drop or branch dieback. For severe infestations, horticultural oils or soaps, insect growth regulators, or conventional insecticides may be used as soon as the crawlers are noticed.



Fletcher scale on arborvitae

Konnie Jerabek DATCP

VENTURIA SHOOT BLIGHT: Quaking aspens at nurseries in Jackson and Winnebago counties 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. Only young shoots and leaves are susceptible to this disease, though repeated attacks of the fungus on new growth can weaken and predispose trees to invasion by other pathogens. 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

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 10 - 16

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	AM RED ⁵	YELLOW ⁶
Bayfield	Keystone	3	0	0	13	—	—
Bayfield	Oriente	0	0	0	53	—	—
Brown	Oneida	800	42	8	14	—	—
Columbia	Rio	—	—	—	—	—	—
Crawford	Gays Mills	369	15	0	0	0	—
Dane	Deerfield	—	—	—	—	—	—
Dane	McFarland	230	126	0	0	—	—
Dane	Mt. Horeb	480	83	0	5	—	—
Dane	Stoughton	114	104	4	2	0	0
Dane	West Madison	67	51	3	0	0	0
Fond du Lac	Campbellsport	200	43	0	6	*1	0
Fond du Lac	Malone	150	140	1	10	—	—
Fond du Lac	Rosendale	—	—	—	—	—	—
Grant	Sinsinawa	42	19	4	0	0	0
Green	Brodhead	16	27	1	5	0	0
Iowa	Mineral Point	385	136	0	2	0	**0
Jackson	Hixton	—	—	—	—	—	—
Kenosha	Burlington	375	135	5	7	0	0
Marathon	Edgar	—	—	—	—	—	—
Marinette	Niagara	135	35	1	34	—	—
Marquette	Montello	567	47	0	3	0	0
Ozaukee	Mequon	375	19	12	2	*1	—
Pierce	Beldenville	498	180	5	0	0	0
Pierce	Spring Valley	91	76	0	1	0	0
Racine	Raymond	585	107	7	12	0	0
Racine	Rochester	330	24	2	3	*15	0
Richland	Hillpoint	—	—	—	—	—	—
Sheboygan	Plymouth	432	53	7	22	**0	0
Walworth	East Troy	22	11	0	6	—	—
Walworth	Elkhorn	33	18	1	11	—	—
Waukesha	New Berlin	110	25	7	3	0	0

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Apple maggot red ball; ⁶Unbaited AM trap; ^{**}Baited AM trap; ⁶Apple 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
Chippewa	Chippewa Falls	—	—	—	—	—	—	—	—	—	—
Crawford	Prairie du Chien	—	—	—	—	—	—	—	—	—	—
Dane	Mazomanie	1	0	0	0	3	2	0	4	3	1
Fond du Lac	Ripon	0	0	0	0	2	16	0	3	0	1
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	0	0	1	0	0	2	0	1	0	1
Monroe	Sparta	0	3	2	0	3	0	0	2	0	35
Rock	Janesville	1	22	0	0	0	23	0	33	0	0
Vernon	Coon Valley	0	7	0	0	0	12	0	16	0	2
Walworth	East Troy	1	0	0	0	1	6	0	2	0	0
Wood	Marshfield	1	8	0	0	2	2	1	2	1	0

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