

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

Redeveloping thunderstorms and record amounts of rainfall throughout southern Wisconsin have dramatically changed prospects for the growing season. Weekend storms accompanied by 3-10 inches of rain caused widespread flooding from Sauk County southeast to Milwaukee County, and left southern and central farmlands submerged. Considerable flash flooding occurred in Madison where a record daily maximum rainfall of 4.11 inches was set on June 8, surpassing the previous record of 1.4 set in 1874. The weather remained unstable throughout the week, and 4-5 additional inches of rain fell over southern Wisconsin on June 12, which intensified existing flooding problems. Numerous rivers are at or above historical flood levels, roads and highways are closed, and portions of cities and villages have been evacuated. The magnitude of the storm and flood damage is only beginning to be assessed.

LOOKING AHEAD

CORN EARWORM: Significant captures of 23 moths at Arlington, 18 moths at Janesville, and 99 moths at Lancaster were registered in the last reporting period. The main flight ordinarily does not occur until August, but early attention to this species may be in order this

season. Close observation of corn and other hosts such as tomatoes, cabbage, and soybeans should begin.

MOSQUITOES: Due to the extensive flooding and saturated conditions there are abundant breeding sites available for the continuance of more broods. Hot, humid weather is expected to amplify emergence in the week ahead.

COLORADO POTATO BEETLE: Adults continue to emerge and colonize potato fields in the central counties, and the period of peak egg deposition is underway. The first of 2 foliar applications of an insect growth regulator or the biological insecticide *Bacillus thuringiensis* (Bt) should be applied at the beginning of egg hatch, and again 10-14 days later.

SLUGS: Several light infestations were observed in damp, weedy corn fields and minor feeding was noted in Columbia and Marquette counties. Slugs will become an increasing problem in areas that remain wet, particularly those in the southern third of the state.

CORN ROOTWORM: Larvae hatching from overwintered eggs over the next several weeks will likely encounter very saturated soil conditions, causing high mortality in the areas affected by flooding. Corn rootworm larvae cannot access the roots under extreme wet conditions.

EUROPEAN CORN BORER: Moths are very active in dense grasses, weeds and alfalfa. The first egg masses of the season were detected on June 9 in Dane and Columbia counties. An increase in black light trap collections indicates that egg laying should increase over the next week.



Male European corn borer moth in alfalfa Krista Hamilton DATCP

FORAGES

ALFALFA WEEVIL: A confluence of ecological and climatic factors has prevented the timely harvest of alfalfa, with the result that quality has declined, many acres have lodged, and several pests that normally would be eliminated by harvesting were permitted to continue their life cycles. Populations of 3rd and 4th instar larvae in uncut first crop growth averaged 4.1 per sweep and tip feeding injury ranged from 40-100%. Several second growth alfalfa fields in Dane, Columbia, Marquette, Portage, Richland, and Sheboygan counties were swept, and all yielded 0.04-2.4 larvae per sweep and 10-80% tip feeding. These observations suggest a portion of the larval population has carried over into the second crop. Many of the mature larvae are now entering the pupal stage, at which time they are most susceptible to control by mechanical action when alfalfa is cut. The best control measure is to harvest dense first crop fields immediately and monitor the regrowth for carryover of larvae.

MEADOW SPITTLEBUG: Low to moderate numbers of spittle masses are present in alfalfa fields statewide. The masses have grown noticeably larger since last week, as have the immature spittlebugs inside. With most

DEGREE DAYS MARCH 1 - JUNE 12

LOCATION	50°F	2007	NORM	48°F	40°F
Dubuque, IA	658	883	—	691	1230
Lone Rock	601	838	—	618	1118
Beloit	689	858	—	710	1250
Madison	586	792	734	608	1098
Sullivan	649	762	728	665	1176
Juneau	605	750	—	619	1113
Waukesha	573	727	—	590	1082
Hartford	553	733	—	569	1055
Racine	499	684	—	522	1002
Milwaukee	486	687	580	507	982
Appleton	513	709	630	526	985
Green Bay	455	628	603	470	921
Big Flats	541	756	—	538	996
Hancock	543	735	—	542	1000
Port Edwards	507	733	685	507	948
La Crosse	581	890	796	599	1085
Eau Claire	504	789	704	513	963
Cumberland	420	722	662	414	841
Bayfield	278	504	464	263	637
Wausau	447	667	623	438	858
Medford	414	651	551	407	818
Crivitz	410	607	—	411	846
Crandon	386	601	529	363	757

Method: ModifiedB50; Sine48; ModifiedB40 as of March 1, 2008. NORMALS based on 30-year average daily temps, 1971-2001.

nymphs nearly mature as of June 12, adults should begin to appear in alfalfa by next week.

POTATO LEAFHOPPER: Populations of migrant adults in the central and east central counties varied from 0-5 per 20 sweeps and averaged 2.5 per 20 sweeps, which is a noteworthy increase over the numbers obtained by sweeping alfalfa fields last week. Reproduction of nymphs was not observed in the areas sampled this week.

PEA APHID: An increase in numbers is evident in alfalfa. Surveys revealed an average of 0.7 per sweep in Dane County, 1.7 per sweep in Marquette County, 1.8 per sweep in Portage County, 1.0 per sweep in Richland County, and 0.5 per sweep in Sheboygan County. The highest count of 7.3 per sweep was detected in a Portage County alfalfa field. Control treatments in peas in the Central Sands appeared to have started by June 10.

PLANT BUG: Reproduction by this insect has accelerated in southern and central alfalfa fields. Nymphs of varying maturities now outnumber the adults. Combined counts of adults and nymphs averaged 0.4 per sweep in Dane County, 2.4 per sweep in Marquette County, 1.4 per sweep in Portage County, and 1.2 per sweep in Sheboygan County. The tarnished plant bug continues to be more abundant than the alfalfa plant bug in the southern one-third of the state. Nymphs comprised approximately 85% of the populations this week.

RED TURNIP BEETLE: Surveys in the central counties detected moderate numbers of adults in alfalfa, principally in the field margins on scattered hoary alyssum weeds. As many as 10 beetles per plant were noted to be feeding on a single hoary alyssum plant. On the basis of recent reports and observations, the red turnip beetle appears to be more abundant this season than in previous years in the central district, namely in Marquette, Portage, Waushara and Wood counties.



Red turnip beetles on yarrow, Portage Co.

Krista Hamilton DATCP

ALFALFA BLOTCH LEAFMINER: Leaf mines and pinhole feeding have become increasingly evident in the last reporting period, and were noted on approximately 5-45% of alfalfa leaflets during surveys in the southern and central counties. Excessive leaf mining reduces forage quality, but rarely results in yield loss. Control is justified when 30-40% of leaflets show pinhole feeding.

CORN

STALK BORER: Feeding injury was apparent in the edge rows and scattered throughout a few no-till corn fields. In Columbia, Dane and Richland counties, 0-16% of the

plants in the marginal rows and 0-9% of the plants in the interior rows were damaged or infested with small larvae. Similar levels of injury were found as far north as Portage County.

EUROPEAN CORN BORER: The expected increase in moth numbers in black light traps was observed at some locations during the past week. Counts averaged 4.4 moths per trap from June 6-12, which compares to 1.9 moths per trap from May 30-June 5 and 0.2 moths per trap from May 22-29. Moths are being caught regularly as far north as Chippewa Falls, and the high count for the week was 18 moths at Mazomanie. The majority of corn borer adults should appear in traps next week in the southern and central counties and a week or more later in the east central and northern counties.

TRUE ARMYWORM: Conditions in corn, small grains and peas are favorable for outbreaks of this pest throughout much of the state. Grassy corn and peas are common and many fields of small grains are lodged or have dense foliage. Moth captures in black light traps are not particularly high, but field observations suggest that infestations are more prevalent than the traps indicate. Feeding damage was noted on 0-14% of the plants in corn fields examined from June 10-12 in Columbia, Marquette, Portage and Richland counties.

CORN LEAF APHID: Few winged aphids were observed in the whorls of field corn in Portage County. No colonies had developed as of June 12.

NUTRIENT DEFICIENCY: Corn plants in a Richland County field showed the characteristic yellow streaking between veins of lower leaves indicative of magnesium deficiency. This rare malady can be remedied after emergence with a soil test to measure exchangeable Mg, followed by the application of dolomitic limestone, soluble magnesium, or a foliar spray of magnesium sulfate (Epsom salts). Approximately 25% of the plants were symptomatic.

SOYBEANS

BEAN LEAF BEETLE: Examination of soybeans in the south central counties revealed no defoliation or evidence of this pest, which is unusual for mid-June. This pest generally disperses from forage crops to soybeans immediately after the earliest soybeans emerge. Nonetheless, surveillance of soybean fields for indicators

of bean leaf beetles, including round holes in the foliage and injury to the cotyledons, is advised.

SOYBEAN APHID: No reports or observations regarding this insect were received as of June 12. Typically, movement of aphids from common buckthorn to emerging soybeans occurs by late May to early June, but due to the relatively late start to planting this season many fields may not be colonized until July. Research on the spring migration pattern of aphids has found that soybean fields that are sufficiently emerged by late May or early June are colonized early by the first winged aphids migrating from buckthorn, while late planted soybeans in the same region usually are not colonized until July. With few exceptions, Wisconsin soybeans were not well emerged by the first week of June, suggesting that initial colonization may not occur for several more weeks.

SOYBEAN CYST NEMATODE: This season marks 50 years of surveillance and 30 years of annual statewide soil testing for SCN by DATCP and the University of Wisconsin. Early surveys in northwest Wisconsin in the years 1957, 1958 and 1962 revealed no infestations. The nematode was first detected in Racine County in 1981 by Dr. Robert Norgren of the DATCP Plant Industry Lab. Twenty-seven years and 7,583 soil samples later, it has been documented in 44 counties representing 81% of the state's soybean growing areas. The SCN is perhaps the most severe economic pest of soybeans grown in Wisconsin and the U.S., causing millions of dollars in hidden soybean yield losses annually. Free testing of field soils is being sponsored by the Wisconsin Soybean Marketing Board and conducted through the UW-Madison Department of Agronomy. Test packets may be requested from Colleen Smith at clsmith8@wisc.edu or by calling (608) 262-7702. Refer to the UW Soybean Plant Health SCN website at <http://www.plantpath.wisc.edu/soyhealth/scn.htm> for further information.

SMALL GRAINS

POWDERY MILDEW: Powdery mildew (*Blumeria graminis* f. sp. *tritici*) continues to be the most common pathogen encountered in wheat fields, favored by high humidity and wet conditions. This fungal disease was present in 11 of 13 fields surveyed in Brown, Kewaunee and Manitowoc Counties in the past week. Most wheat

fields visited were flowering, which indicates the window for treatment options has closed.

LEAF RUST AND STRIPE RUST: Dr. Paul Esker of the UW-Madison reports finding both leaf rust (*Puccinia triticina*) and stripe rust (*Puccinia striiformis*) in variety trials at the Arlington and Lancaster Agricultural Research Stations. The rusts varied in severity, but occurred only at very light levels. Of the 13 commercial fields surveyed in the northeast, leaf rust was found at trace levels in 1 field.

LOOSE SMUT: The incidence of loose smut is very low this year, with only 1 in 45 wheat fields visited in the previous 2 weeks showing evidence of the disease. The infested field was located in Fond du Lac County.

SEPTORIA BLOTCH: Symptoms of Septoria blotch, caused by *Septoria tritici*, were found in 3 of 13 wheat fields surveyed.

APHIDS: Aphid levels remain low in surveyed wheat fields in the northeast. The bird cherry oat-aphid was the predominant species, collected in 3 of 13 fields at numbers less than 5 per 50 sweeps. The English grain aphid was found in 1 field at the rate of 6 per 50 sweeps.

CROWN RUST OF OATS: Buckthorn, the alternate host of this rust disease, began developing orange cluster cups on the undersides of leaves by late May in Dane County. Symptoms were obvious and increasing last week as a result of the rainy weather. Eradicating buckthorn plants that border or are in the vicinity of oat fields can reduce the incidence of this rust.

WEEDS

GIANT RAGWEED: Examination of corn fields found giant ragweed plants ranging from 1-10 inches tall and densities of 1-100 plants per m² at 5 of 31 locations. Post-emergence herbicides may not provide adequate control against some of the larger ragweed plants, especially if timely applications continue to be delayed by torrential rains and windy conditions.

COMMON LAMBSQUARTERS: A systematic survey of weeds in corn is presently underway in 10 counties. Preliminary observations indicate that common lambsquarters is the most prevalent weed species for now. Twenty seven of 31 fields assessed from Grant

County in the southwest district to Sheboygan County in the east central district were populated with lambsquarters plants ranging from 2-6 inches tall. Densities varied from 1 -50 plants per m² in 21 fields, 51-100 per m² in 4 fields, and 101-500 per m² at sites within 2 fields. Surveyors noted that seedlings were just beginning to emerge in several of the fields checked.



Common lambsquarters

Clarissa Hammond DATCP

GRASSES: Grassy weed growth is a pervasive problem in corn at this time, and the majority of fields surveyed contained grasses measuring 2-8 inches tall. One site that had been treated with a pre-emergence herbicide contained high densities of 11-50 plants per m² and grasses that averaged 7 inches tall. Sufficient rainfall to activate the herbicide did not occur in May following the first application.

EASTERN BLACK NIGHTSHADE: Seedlings of this comparatively late emerging species were noted in 8 of 16 corn fields examined from June 9-12 in Dane, Jefferson and Sheboygan counties. In the early stages of development, nightshade leaves closely resemble those of redroot pigweed in shape and color, but they are not notched at the tip.

COW PARSNIP: This tall, perennial forb is flowering in Grant County and throughout southern Wisconsin. Cow parsnip occupies well shaded habitats, especially along streams, woodlands and moist ditches. Similar to wild parsnip, its toxic sap causes photophyodermatitis, which irritates sensitive skin with exposure to UV radiation and leads to blisters that may persist for several years.

FRUITS

CODLING MOTH: The peak of the first flight of codling moths has occurred in most southern and central orchards. Reports of high captures exceeding 5 moths per trap were received from 14 of the 33 reporting orchards during the June 6-12 monitoring period, and the high count for the week was 67 moths registered near Plymouth in Sheboygan County. First generation larvae are active in the southern third of the state, and degree day accumulations were adequate for first generation eggs to begin hatching this week near Appleton, Wisconsin Rapids, and Eau Claire.

REDBANDED LEAFROLLER: Pheromone trap counts are expected to escalate in the week ahead as the second flight of moths begins at locations where 780 degree days (base 50°F) are surpassed, including Brodhead, Dodgeville, and Sinsinawa. Average weekly redbanded leafroller counts from 24 consistently reporting orchards were as follows: 6 per trap (June 6-12); 11 per trap (May 30-June 5); 19 per trap (May 23-29); 50 per trap (May 16-22); 55 per trap (May 9-15); 83 per trap (May 2-8).

PLUM CURCULIO: Adult emergence and migration into orchards continued for the second week, with the capture of 1 weevil reported at Chippewa Falls. The feeding and oviposition period generally extends for 6 weeks, indicating that pyramid traps used to monitor this pest should be maintained through early July. Spray applications to prevent egg laying are recommended when 0.5-1% fruit injury is detected.

LIGHT BROWN APPLE MOTH: Cooperator reports indicate that Light Brown Apple Moth (LBAM) suspects are beginning to appear in pheromone traps. These unknown moths are probably native tortricids in the genus *Sparganothis*, which were collected in traps in at least 5 orchards about the same time last season. However, any moths in LBAM traps should be submitted to Krista Hamilton, 2811 Agriculture Drive, Madison, WI 53718 for identification.

NURSERY & LANDSCAPE

WEIR'S CUSHION RUST: This aggressive rust is developing on the needles of Colorado blue spruce in Bayfield County, and its bright orange spores have

begun to disseminate to the new growth. Spruce trees grown as nursery stock or Christmas trees may be preventatively treated with a series of 3 fungicide sprays (at 7-10 day intervals) after 10% of the buds have opened. Infected trees should be isolated until they are treated to prevent the fungus from spreading.



Weir's cushion rust pustule on 2nd year needle Anette Phibbs DATCP

EASTERN SPRUCE GALL ADELGID: In Bayfield County nymphs are beginning to emerge from overwintered eggs at the bases of spruce buds. Horticultural oil sprays directed against the new nymphs should be applied at this time. Treatments are ineffective after the galls have formed.

MEADOW SPITTLEBUG: Spittle masses were noted on Weigela 'Red Prince' in Rock County and potentilla in Crawford County. The nymphs inside are nearly full grown and will develop into adults in the next two weeks. Spittlebug populations seldom build to damaging levels in Wisconsin, and no control measures are needed.



Meadow spittlebug spittle mass

sacbee.com

FOREST

GYPSY MOTH: The "black worms" crawling on sides of homes near Lake Geneva, Lake Wisconsin, Madison, Pardeeville and Rio were identified as 3rd and 4th instar gypsy moth caterpillars by Phil Pellitteri of the UW-Madison Insect Diagnostic Lab. Larvae were also noted this week on the UW-Madison campus.

GYPSY MOTH SPRAY PROGRAM: The first of two aerial Btk treatments was applied to sites in Bayfield and Ashland counties on June 7 and 9, respectively. Treatments in Rusk County were completed on June 9 after a second application was made to 1 site covering 950 acres. If the weather permits and the final applications planned for June 13 in Bayfield and Ashland counties are accomplished, Btk treatments will be completed for the season. Pupation of gypsy moth larvae is projected for late June or early July, and the first moths of the season should begin to appear by mid-July.

TRAPPING NETWORKS

BLACK LIGHT TRAPS: Numbers of true armyworm moths escalated at the Janesville and Marshfield black light trap locations, with reports of 46 and 21 moths, respectively. Counts of European corn borer near Mazomanie increased from 5 last week to 18 this week as the peak of the first flight approaches in the southern counties. The first bristly cutworm moth of the season was registered near Janesville, while other moth counts remained low and in the single digits.

CORN EARWORM TRAPS: Strong storm systems and high winds over the weekend are credited with the delivery of an exceptionally early flight of migratory corn earworm moths into southwest and south central Wisconsin. Pheromone traps registered 31 moths from June 9-12 at Janesville, 99 moths from June 6-11 at Lancaster, and 23 moths on the evening of June 11 at Arlington. Bryan Jensen of the UW-Madison IPM Program noted this is one of the earlier flights that he has observed and certainly one of the more intense flights since pheromone traps were implemented to monitor corn earworm flights. Few corn earworm moths have been reported elsewhere in the Midwest, according to the Zea Map network website at <http://www.vegedge.umn.edu/ZeaMap/zeamap.htm>.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 6 - JUNE 12

COUNTY	DATE	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	AM RED ⁵	AM ⁶
Bayfield	6/06-6/12	Apple Hill	491		1.5			
Bayfield	6/06-6/12	Bayfield Apple	54		4.8			
Bayfield	6/06-6/12	Blue Vista	360		3.3			
Bayfield	6/06-6/12	Erickson's	91		1.2			
Bayfield	6/06-6/12	Lobermeier	20	34	0	0		
Bayfield	6/02-6/09	Orienta	28	0				
Brown	6/06-6/12	Oneida	160	6	19	5		
Chippewa	6/04-6/11	Chippewa Falls	950	63	5.8	3	0.25 PC	
Crawford	6/06-6/12	Gays Mills	0	1	64	0		
Dane	6/06-6/12	Stoughton	2	3	7	1		
Dane	6/06-6/12	West Madison	12	0	25	2		
Dodge	6/06-6/12	Brownsville	0	4	2	1		
Fond du Lac	6/06-6/12	Campbellsport 1	0	7	0	10		
Fond du Lac	6/06-6/12	Campbellsport 2	0	0	0	0		
Fond du Lac	6/06-6/12	Malone	0	6	3	0		
Grant	6/06-6/12	Sinsinawa	5	0	10	5		
Green	6/06-6/12	Brodhead	0	0	3	2		
Iowa	6/06-6/12	Dodgeville	3	0	38	0		
Iowa	6/06-6/12	Mineral Point	0	0	0	0		
Jackson	6/06-6/12	Hixton	12	0	1	0		
Kenosha	6/06-6/12	Burlington	0	0	4	12		
Marquette	6/04-6/10	Montello	180	0	0			
Marinette	6/06-6/12	Niagara	85	2	12	0		
Ozaukee	6/05-6/11	Mequon	0	0	11	0		
Pierce	6/06-6/12	Beldenville	2	12	24	0		
Pierce	6/05-6/12	Spring Valley	12	14	1	0		
Racine	6/06-6/12	Rochester	0	3	4.5	1		
Racine	6/06-6/12	Raymond	8	0	26	0		
Richland	6/05-6/12	Hill Point	11	6	40	1		
Sheboygan	6/06-6/12	Plymouth	5	20	67	4		
Waukesha	6/06-6/12	New Berlin	2	1	48	0		
Walworth	6/06-6/12	Elkhorn	12	20	2	0		
Walworth	6/06-6/12	East Troy	10	6	3	5		

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Apple maggot red ball; ⁶Unbaited red ball; ^{**}Baited red ball; ⁶Apple maggot yellow board; *Counts were averaged; **Two weeks, May 22-June 5.

COUNTY	DATE	SITE	ECB ¹	TA ²	BCW ³	SCW ⁴	DCW ⁵	CE ⁶	CEL ⁷	ALFL ⁸	FORL ⁹	VCW ¹⁰
Chippewa	6/05-6/11	Chipp. Falls	1	2	0	0	0	0	0	0	2	0
Dane	6/06-6/12	Mazomanie	18	1	0	0	0	0	1	0	0	0
Grant	6/05-6/11	Lancaster*	0	2	0	0	0	0	1	0	0	0
Manitowoc	6/06-6/12	Manitowoc	0	5	1	0	0	0	2	2	6	0
Marathon	FLOODED	Wausau	---	---	---	---	---	---	---	---	---	---
Monroe	6/06-6/12	Sparta	6	2	0	3	0	0	0	2	4	0
Rock	6/06-6/12	Janesville	3	46	0	0	0	0	4	0	0	0
Walworth	6/06-6/12	East Troy	4	0	0	3	0	0	0	0	0	0
Wood	6/06-6/12	Marshfield	3	21	0	1	0	0	4	1	4	5

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