

# 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

Unsettled and cool weather prevailed during the final week of August. Following last week's beneficial rainfall, scattered showers further increased soil moisture reserves that had declined last month, and corrected much of the dryness that existed for corn and soybeans in the filling stages. The rains briefly interrupted wheat and alfalfa harvesting, but aided fourth crop regrowth and newly seeded fields. Despite generally favorable growing conditions throughout August, developmental delays and the possibility of an early frost have become major considerations for Wisconsin farmers again this season. Most crops are substantially behind normal in development and require a minimum of 3-5 weeks of warm weather to properly mature. The progressively longer, cooler nights this month have reduced activity of most nocturnal pest insects, with a few exceptions.

## LOOKING AHEAD

**EUROPEAN CORN BORER:** The treatment period for second generation corn borers remains open for another 1-2 weeks in the southern and central counties. Final inspections should be performed at this time, before 2,100 degree days (base 50°F) are surpassed. Due to the variation in development in different areas of the state, sweet corn growers are advised to examine their

fields carefully and base control decisions on the specific conditions observed. Treatment of late-planted processing sweet corn is justifiable when 4-5% of plants show egg masses or small larvae.

**WESTERN BEAN CUTWORM:** Larvae are still active in Wisconsin corn fields. Most are in the late instars and should complete development by early September. Economic populations were detected this week in Adams, Green Lake, Marquette, Monroe, Rock and Waushara counties, where 5-45% of ear tips were infested. Several of the surveyed fields would have benefitted from treatment at tassel emergence, but corn is well beyond this period now and chemical control is no longer of value.

**CORN ROOTWORM:** The annual beetle survey is nearly complete, except for the northwest, north-central and northeast agricultural districts. Reports from the south-east and east-central areas show a substantial reduction in numbers as compared to 2008. Preliminary results of the survey are summarized on page 117.

**SOYBEAN APHID:** Surveys of soybeans in the southern and central counties, as well as reports from County Extension personnel and consultants, indicate that populations have surged above treatment thresholds in the last 2-3 weeks. Some late-planted soybeans may still qualify for treatment, but these must be evaluated in the

immediate future. The benefits of treatment diminish beyond R5 (beginning seed) and no yield advantage is gained by spraying fields at R6 (full seed) or later.

## ALERTS

**LATE BLIGHT:** Late blight, caused by *Phytophthora infestans*, has to date been confirmed on **TOMATO** in 13 counties (Columbia, Dane, Green, Iowa, Jefferson, Lafayette, Portage, Racine, Rock, Sauk, Waukesha, Waupaca and Walworth), and on **POTATO** in three counties. The infections on potato were in a research plot in Columbia County, a commercial production field in Portage County, and the most recent detection, a home garden in Dane County.



Late blight on potato

Walt Stevenson UW-Madison

On tomato, the UW-Extension recommends protecting uninfected plants with fungicide, although pre-harvest interval requirements limit the selection of compounds available to copper formulations. Once plants become infected, further efforts at control are usually fruitless (pun intended). Fruit from infected plants can be harvested for ripening indoors, but tomatoes from infected plants may not store well. Sound fruit from infected plants poses no threat to human health.

On potato, the recommendations are for a strict 5-day fungicide spray interval. Vine-killing (or mowing for organic growers) as soon as tubers have reached suitable size will also reduce the threat to the crop. Digging should be delayed 10-14 days after vine-killing.

Proper disposal of infected plant material is important for limiting spread of the disease. The pathogen will not

## DEGREE DAYS JANUARY 1 - AUG 27

LOCATION	50°F	2008	NORM	48°F	40°F
Dubuque, IA	2004	2217	—	2144	3395
Lone Rock	1948	2054	—	2048	3298
Beloit	2009	2266	—	2127	3401
Madison	1938	2055	2250	2063	3287
Sullivan	2003	2192	2300	2094	3375
Juneau	1961	2076	—	2073	3303
Waukesha	2024	2073	—	2117	3380
Hartford	1971	2013	—	2096	3306
Racine	1956	1992	—	2071	3280
Milwaukee	1927	1949	2113	2027	3246
Appleton	1793	1978	2105	1922	3069
Green Bay	1667	1854	2028	1798	2912
Big Flats	1764	1878	—	1871	3036
Hancock	1790	1906	2207	1865	3053
Port Edwards	1713	1836	2127	1827	2972
La Crosse	1993	2053	2443	2059	3344
Eau Claire	1869	1914	2209	1977	3181
Cumberland	1651	1711	2110	1711	2860
Bayfield	1298	1369	1666	1364	2354
Wausau	1533	1705	2035	1637	2730
Medford	1547	1637	1846	1650	2753
Crivitz	1538	1712	—	1629	2731
Crandon	1380	1535	1640	1428	2473

Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2009.  
 NORMALS based on 30-year average daily temps, 1971-2001.

overwinter in Wisconsin outside of intact host tissue, so the key is destruction of infected plant material. The best method available to most growers is chopping and tilling in where host material will freeze and decompose. Urban growers may have access to municipal composting facilities that are large and managed to achieve adequate heating. On a small scale, gardeners may dispose of infected plants with their garbage. Some rural growers have been burning infected plants, but this may be more than is necessary. *Infected plant material should not be home-composted, as most home compost piles do not heat sufficiently to kill the pathogen.*

## FORAGES

**POTATO LEAFHOPPER:** Numbers in forage legumes continue to be low, seldom exceeding 2-3 per sweep. Exceptions were noted in the Mauston area of Juneau County and near Brooks in Adams County, where a few

fields contained 4-5 per sweep and distinct yellowing was evident. In such fields, timely harvest of the third crop should effectively reduce populations. This insect has been less of a problem in second and third growth alfalfa than anticipated. In most instances, the lack of adequate precipitation or rainfall on cut hay has caused more loss in yield and quality than leafhopper injury.

## CORN

**WESTERN BEAN CUTWORM:** Damaging populations were noted in Adams, Green Lake, Juneau, Marquette, Monroe, Rock and Waushara counties this week, where 5-45% of the ears were infested with intermediate to late-instar larvae. One corn field near Brooks in Adams County had approximately 30% of the ears infested with 2-3 full-grown cutworms. Most were located in the ear tips, although some were observed at the base of the ear near the shank. The heaviest infestations generally can be found in the central counties.



Western bean cutworm larva

Krista Hamilton DATCP

**CORN ROOTWORM:** Below is a table summarizing the preliminary results of the 2009 corn rootworm beetle survey conducted between August 4 and 27. Populations decreased greatly as compared with the 2008 data, particularly in the southeast and east-central areas. The state average thus far is 0.6 beetle per plant, compared to 1.0 last season. District average populations are 0.5 per plant in the west-central district, 0.4 per plant in the central district, 0.6 per plant in the east-central district, 0.7 per plant in the southwest district, 1.1 per plant in the south-central district, and 0.3 per plant in the southeast district. Economic numbers of beetles (0.75 or more per plant) were found in 43 of 188 (23%) surveyed fields.

*Please note these results are preliminary and are subject to change as surveys of corn are completed in the northern counties. Final results will be published in the 2009 summary issue.*

### Corn Rootworm Beetle Survey Results 2005-2009

DISTRICT	2005	2006	2007	2008	2009
Northwest	0.4	0.1	0.4	0.5	—
North-central	0.8	0.9	0.7	0.9	—
Northeast	0.3	1.8	0.5	0.6	—
West-central	0.8	0.8	0.4	0.6	0.5
Central	0.9	0.7	0.8	0.5	0.4
East-central	1.1	2.2	1.4	1.0	0.3
Southwest	3.2	2.2	0.4	1.1	0.7
South-central	1.9	1.7	2.2	1.5	1.1
Southeast	3.8	1.4	1.0	1.6	0.3
AVERAGE	1.6	1.4	1.0	1.0	—

*Results based on number of beetles per 10 plants examined.*

**EUROPEAN CORN BORER:** Development of corn borers is variable, depending on area of the state. Near Arlington, Janesville, Lancaster and Mazomanie in the southwest and south-central counties, the peak of summer moth activity has subsided. In the eastern areas, the peak has yet to occur. Black light counts have been extremely light since the flight began in late July and surveys indicate that egg masses and second generation larvae are scarce. Larvae in the 3<sup>rd</sup>-5<sup>th</sup> instars were found in Marquette, Monroe and Wood counties. Practically all of the late-instar larvae present by mid-August will enter diapause and will not pupate until next spring.

## SOYBEANS

**SOYBEAN APHID:** Surveys conducted from July 15-August 11 showed 94% of 247 soybean fields examined did not develop economic infestations of 250 or more aphids per plant during the R2-R4 stages of growth, while 6% of fields did develop significant populations. Specific counties in which economic densities were noted include Columbia, Dunn, Eau Claire, Marquette, Pepin, Pierce, Taylor, St. Croix and Wood, principally in the south-central, west-central and central districts.

The vast majority of surveyed fields contained low to moderate numbers of aphids throughout July and early August. Populations in the southwest and southeastern counties were exceptionally low. Average densities per



plant by agricultural reporting district were as follows: northwest 49, north-central 89, northeast 22, west-central 102, central 93, east-central 16, southwest 6, south-central 71, and southeast 3. The 2009 state average density of 51 aphids per plant compares to 72 per plant in 2008, 164 per plant in 2007, 69 per plant in 2006, 118 per plant in 2005, 11 per plant in 2004, and 758 per plant in 2003.



Soybean aphids

Krista Hamilton DATCP

In contrast to the survey findings, soybean aphid populations are now very high in many untreated fields. Reports from County Extension agents and consultants, as well as recent field observations, indicate that populations have escalated sharply as far north as Polk County in the last 2-3 weeks. Soybean fields in the R4-R5.5 stages that still qualify for treatment must be evaluated immediately to determine if colonies have reached or surpassed the economic threshold of 250 or more aphids per plant.

**NORTHERN CORN ROOTWORM:** Soybean fields in Green County are reported to be showing defoliation by this insect. Generally the infestations are minor, but very large numbers of beetles are present.

**WHITE MOLD:** Signs and symptoms of this fungal disease, also called Sclerotinia stem rot, are appearing widely across soybean fields from Kenosha to Sauk counties. Foliar symptoms include chlorotic, wilted leaves that eventually die and turn brown, but remain attached to the stem past maturity. The disease is easily diagnosed by the presence of white, fluffy mold growth on the lower stems of plants. As the infection progresses, the fungus produces black, hardened survival structures called sclerotia that persist in plant residue and soil.

Sclerotinia is expected to be a greater problem this year than most, as a cool July and frequent periods of leaf wetness both extended the soybean flowering period (the critical time for infection) and provided appropriate conditions for pathogen survival. Ironically, sclerotinia stem rot is a greater problem for soybeans managed for high yield, since factors that create a dense canopy favor the disease.

Sclerotinia has a notably wide host range, with over 450 species of dicots having been shown to be susceptible. In some crops, such as sunflower, Sclerotinia can be a production-limiting factor under proper conditions. While varietal differences in response have been noted, useful resistance has thus far eluded plant breeders.

Management options include fungicide treatments, a biocontrol agent, and cultural practices such as longer rotations and canopy management. Further description and control recommendations may be obtained at the UW Soybean Plant Health website: <http://www.plantpath.wisc.edu/soyhealth/cause.htm>.



White mold sclerotia (survival stage)

Adrian Barta DATCP

## FRUITS

**CODLING MOTH:** Economic counts of 5 or more moths per trap were documented at fewer apple orchards in the last monitoring period, but numbers remain extremely high in some areas. Near Dodgeville in Iowa County, 68 moths were reported from August 21-27. Growers who continue to experience high numbers of these insects may need to reevaluate the effectiveness and timing of their codling moth management programs to account for late-season activity.

**APPLE MAGGOT:** Emergence continued in the southern counties where unprecedented numbers of flies were registered this month. High counts for the week were 51 flies on an unbaited red sphere at Rochester in Racine County and 48 flies on a baited red sphere at Mequon in Ozaukee County. Growers are cautioned not to cease controls prematurely. Apple maggot activity can be expected through mid-September.

**CRANBERRY REPORT:** Despite an irregular bloom period, cranberry growers are optimistic about fruit potential this season. Fruit concentrations are reported as good to excellent at most sites, but size is variable depending upon cultivar. Fruitworm infestations and fruit rot are secondary to weather concerns at this point in the season. Heat units and a late frost are needed for berries to mature and for full yield potentials to be realized.

## WEEDS

**LATE-SEASON WEED MANAGEMENT:** Several of Wisconsin's leading agricultural weeds are near maturity and will soon shed their seeds. By implementing a few simple cultural control practices now, growers can reduce the quantity of seeds that enter the soil seedbank and minimize weed pressure next year. Recommended measures include cleaning harvest equipment between fields—particularly when moving from a very weedy field to a clean field—managing fencerows, terminating crops early (either as a silage crop or green manure), and delaying fall tillage to promote seed predation.



Weedy corn field

Clarissa Hammond DATCP

Early fall is also an opportune time to evaluate the efficacy of weed management programs. The presence of

escaped weeds at this point in the season may indicate one of the following: weeds emerged after herbicides were applied or after fields were tilled, herbicides were applied under poor environmental conditions (e.g. high winds), weeds were taller than the recommended height, or skips in herbicide applications. Documenting or mapping existing infestations should help to identify priority areas for future control efforts and correct current weed management errors.

## VEGETABLES

**CORN EARWORM:** The expected increase in corn earworm numbers was not observed in the past week, except near Tomah in Monroe County where 85 moths were reported on the nights of August 22-26. Although pheromone trap counts have been very low at most locations this month, field observations suggest that larval populations are higher than traps indicate. Cool nightly temperatures may be reducing dispersal. Counts this week were as follows: Chippewa Falls 5, Janesville 1, Lancaster 5, Manitowoc 3, Marshfield 10, Sparta 4, Tomah B 85, and Wausau 0.

## NURSERY & LANDSCAPE

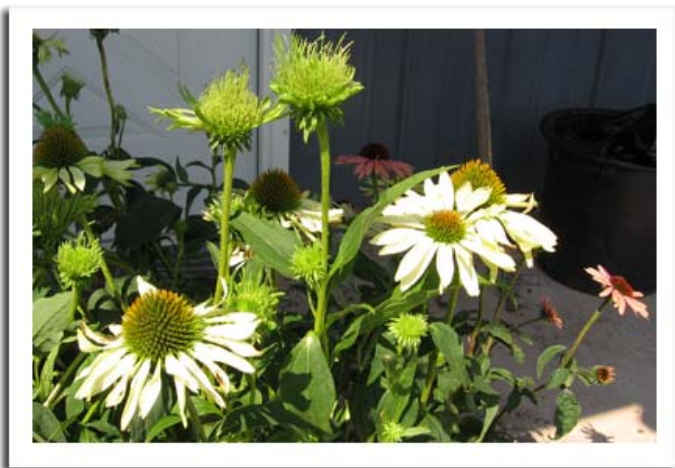
**JAPANESE BEETLE:** Adults were reportedly causing damage to roses, young Amelanchier trees and asparagus ferns in Dane County late last week. While numbers this season were generally lower than last year, populations in the DeForest area were the highest in many years.

**SPRUCE NEEDLE DROP:** Numerous Colorado blue spruce trees in Langlade and St. Croix counties are reported to be lightly infected with spruce needle drop, also called sudden needle drop. The symptoms are well described by the name "needle drop", since this disease typically defoliates second-year needles, leaving behind only the newest growth. The fungus forms small, black, round spore-producing structures on the stems and bud scales of spruce. Distribution of affected branches is non-uniform and randomly scattered throughout the crown. As with most fungal diseases, measures that increase air circulation should reduce its occurrence.

**ASTER YELLOWS:** This leafhopper-transmitted disease was observed on Echinacea 'Harvest Moon' and 'Avalanche' in Douglas County. Symptoms of infection include



abnormal flowers, irregular stem growth, and green, stunted ray and disk petals. The aster yellows phytoplasma persists in both wild and cultivated coneflowers and other perennial or biennial hosts over the winter months, thus infected plants may act as reservoirs next spring. Removal and destruction of symptomatic plants is the recommended control method.



Echinacea with aster yellows

Konnie Jerabek DATCP

**BALSAM TWIG APHID:** Balsam firs in Pierce and Polk counties are showing twisted, distorted needles caused by this insect. While light-moderate amounts of needle injury are usually inconsequential, populations may build to economic levels if left unchecked. Horticultural oils applied to the eggs in fall or spring, or insecticides directed against the immature stages in spring, can provide adequate control.



Balsam twig aphid injury

Liz Meils DATCP

**EMERALD ASH BORER:** An emerald ash borer larva was discovered in the City of Franklin in Milwaukee County on August 27. The specimen was sent to federal identifiers,

and subsequently confirmed as emerald ash borer on August 28. This tree-killing insect has now been detected in seven Wisconsin counties, Brown, Crawford, Kenosha, Milwaukee, Ozaukee, Vernon and Washington.

## TRAPPING NETWORKS

**WINTER CUTWORM:** Reports of activity were received from Dane, Monroe and Manitowoc counties in the last two weeks. Moths captured late in the season are an indication of a potentially large larval population which may or may not materialize over the winter months or next spring. Last winter considerable alarm was generated when the cold-tolerant larvae were observed invading homes and advancing over the snow, but no damage to alfalfa or small grains was reported or observed in the state in 2009.

Winter cutworm moth, *Noctua pronuba*

Willem 54 11-29-08

**BLACK LIGHT TRAPS:** Very few moths were registered in black light traps during the period of August 21-27, with the exception of dingy cutworms, which appeared in high numbers at Chippewa Falls (60), East Troy (144), Janesville (61), Manitowoc (33), Marshfield (58), Sparta (97), and Wausau (156). The second flight of corn borers continued at low levels, and spotted cutworms were reported from Manitowoc, Marshfield and Wausau.

## PEST EXTRAS

**STRAWBERRY ROOT WEEVIL:** Several inquiries have been received concerning the invasion of homes in the southern counties. These insects are merely a nuisance and do no actual damage to the structure or to humans.

## APPLE INSECT &amp; BLACK LIGHT TRAP COUNTS AUGUST 21-27

COUNTY	DATE	SITE	STLM <sup>1</sup>	RBLR <sup>2</sup>	CM <sup>3</sup>	OBLR <sup>4</sup>	OBLR <sup>5</sup>	AM RED <sup>6</sup>	AM YELLOW <sup>7</sup>
Bayfield	8/21-8/27	Keystone	23	0	0	0	—	0	0
Bayfield	8/21-8/27	Bayfield Apple	333	—	4	0	—	—	—
Bayfield	8/21-8/27	Erickson's	—	—	—	—	—	—	—
Bayfield	8/17-8/24	Orienta	8	0	0	1	—	*3	0
Brown	8/21-8/27	Oneida	—	—	—	—	—	—	—
Chippewa	8/21-8/27	Chippewa Falls 1	—	—	—	—	—	—	—
Chippewa	8/21-8/27	Chippewa Falls 2	—	—	—	—	—	—	—
Crawford	8/21-8/27	Gay Mills	—	—	—	—	—	—	—
Dane	8/20-8/27	Deerfield	484	45	2	0	—	*17	1
Dane	8/21-8/27	McFarland	—	—	—	—	—	—	—
Dane	8/21-8/27	Stoughton	48	27	3	1	—	**2	0
Dane	8/21-8/27	West Madison	—	—	—	—	—	—	—
Dodge	8/21-8/27	Brownsville	—	—	—	—	—	—	—
Fond du Lac	8/21-8/27	Campbellsport	—	—	—	—	—	—	—
Fond du Lac	8/21-8/27	Malone	20	6	2	4	—	0	0
Fond du Lac	8/21-8/27	Rosendale	114	22	1	3	—	*0	*0
Iowa	8/21-8/27	Dodgeville	156	25	68	3	2	*3	*0
Iowa	8/21-8/27	Mineral Point	8	129	5	7	—	—	—
Jackson	8/21-8/27	Hixton	17	4	0	3	0	*0	*1
Kenosha	8/21-8/27	Burlington	—	70	5	12	—	—	—
Marinette	8/21-8/27	Niagara	64	0	0	1	—	0	0
Marquette	8/21-8/27	Montello	47	7	0	0	—	*2	0
Ozaukee	8/21-8/27	Mequon	250	50	6	12	—	**48 *13	—
Pierce	8/21-8/27	Beldenville	—	—	—	—	—	—	—
Pierce	8/21-8/27	Spring Valley	128	13	1.3	5	1	**2.3 *0.5	0
Racine	8/21-8/27	Raymond	1824	23	4	6	—	0	0
Racine	8/21-8/27	Rochester	—	49	14	—	—	*51	*0
Richland	8/19-8/25	Hillpoint	145	53	1	17	—	**10	0
Walworth	8/21-8/27	East Troy	10	0	0	0	—	1	0
Walworth	8/21-8/27	Elkhorn	100	2	0	3	—	2	1
Waukesha	8/21-8/27	New Berlin	368	28	2	3	—	0	0

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

COUNTY	DATE	SITE	ECB <sup>1</sup>	TA <sup>2</sup>	BCW <sup>3</sup>	SCW <sup>4</sup>	DCW <sup>5</sup>	CE <sup>6</sup>	CEL <sup>7</sup>	WBC <sup>8</sup>	FORL <sup>9</sup>	VCW <sup>10</sup>
Chippewa	8/20-8/26	Chipp Falls	0	0	0	0	60	0	1	0	0	0
Columbia	8/21-8/27	Arlington	—	—	—	—	—	—	—	—	—	—
Dane	8/21-8/26	Mazomanie	0	0	0	0	0	0	0	0	0	0
Grant	8/21-8/27	Lancaster	0	2	0	0	0	2	0	0	0	0
Manitowoc	8/21-8/27	Manitowoc	0	0	0	22	33	0	0	0	2	0
Marathon	8/22-8/27	Wausau	5	4	0	43	156	4	1	5	2	0
Monroe	8/22-8/27	Sparta	0	0	0	0	97	0	0	0	0	0
Rock	8/20-8/27	Janesville	4	3	0	0	61	1	1	0	7	0
Walworth	8/21-8/27	East Troy	3	0	0	7	144	0	0	0	0	0
Wood	8/21-8/27	Marshfield	8	5	0	17	58	4	1	1	2	2

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