

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

The weather remained hot and humid in the past week. No significant change in normal insect development was charted, except a trend toward increased numbers of mosquitoes, Japanese beetles and soybean aphids. Development of corn, alfalfa and soybeans and the insects affecting these crops has been rapid, although general progress continued to be behind last year and the 5-year average. The state average corn height was 69 inches this week, with 32% tasseled. Soybeans are reported at 60% bloomed, with 17% showing pods. Harvesting of second crop alfalfa is 71% complete statewide, and the yield and quality of the crop is reported to be average to very high in several counties. The outlook is for continued fast development of most crops and insects if warm summer temperatures persist, but rain is needed in many areas, especially for unirrigated crops on sandy soils.

LOOKING AHEAD

EUROPEAN CORN BORER: The second flight of European corn borer moths has begun in the southern and central portions of Wisconsin where black light traps registered counts ranging from 1-10 moths in the past week. The recurrence of adult corn borers signals that

second generation eggs are being deposited in corn fields. The optimum treatment interval for small second generation larvae, which extends from 1,550-2,100 degree days (base 50°F), has opened in the most advanced southern areas of the state, including Beloit, Lancaster and Sullivan.

SOYBEAN APHID: The first economic population densities of the 2008 growing season were detected this week in Columbia, Dane, Green Lake and Marquette counties. Fields must be evaluated in the week ahead to determine if colonies have reached or surpassed the economic threshold of 250 aphids per plant on 80% of the plants. Chemical treatments are most effective in controlling aphids and minimizing their resurgence when applied during the R2-R4 (full bloom to full pod) stages.

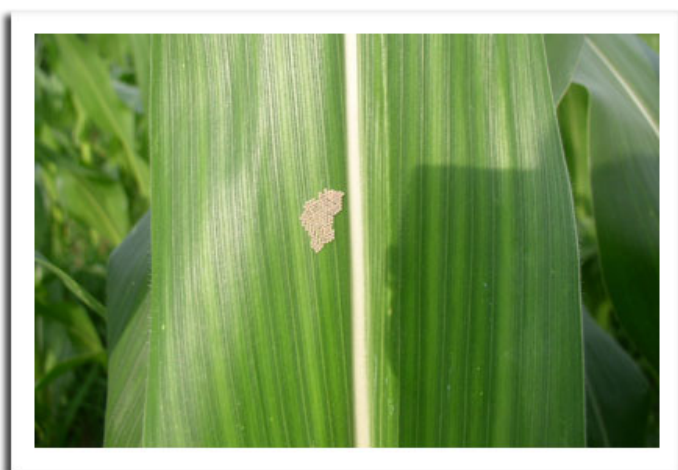
WESTERN BEAN CUTWORM: Egg deposition and larval hatch are occurring in corn fields statewide. Surveys found white (recently deposited) and purple (likely to hatch in 12-24 hours) egg masses on 4% of the plants in a corn field near Westfield in Marquette County on July 29. Corn fields should be inspected closely at this time to determine the percentage of plants infested with egg masses and small larvae. An insecticide treatment is justified if 8% of the plants are infested (4% for processing sweet corn), and should be applied at 90-95% tassel emergence. In fields where this event has already occur-

red, the application should coincide with 70-90% egg hatch. Insecticides must be applied before larvae reach the ear tip in order to be effective.

DEGREE DAYS MARCH 1 - JULY 31

LOCATION	50°F	2007	NORM	48°F	40°F
Dubuque, IA	1696	1898	—	1771	2760
Lone Rock	1552	1832	—	1631	2556
Beloit	1708	1868	—	1740	2766
Madison	1541	1793	1729	1640	2544
Sullivan	1628	1714	1759	1668	2658
Juneau	1554	1712	—	1634	2553
Waukesha	1523	1671	—	1605	2524
Hartford	1492	1697	—	1594	2485
Racine	1451	1657	—	1538	2445
Milwaukee	1426	1656	1564	1513	2414
Appleton	1457	1669	1593	1558	2419
Green Bay	1365	1548	1535	1469	2323
Big Flats	1421	1691	—	1499	2358
Hancock	1441	1677	1710	1523	2382
Port Edwards	1378	1672	1629	1460	2303
La Crosse	1556	1970	1874	1616	2551
Eau Claire	1411	1804	1688	1483	2360
Cumberland	1226	1650	1602	1292	2120
Bayfield	971	1301	1230	1030	1791
Wausau	1254	1556	1546	1334	2144
Medford	1192	1509	1397	1272	2073
Crivitz	1259	1491	—	1357	2183
Crandon	1125	1411	1259	1186	1970

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



Western bean cutworm egg mass

Krista Hamilton DATCP

FORAGES

POTATO LEAFHOPPER: Counts in alfalfa remain nearly the same as last week. Nymphs still comprise approximately 50% of the population and numbers rarely exceed 2.5 per sweep, except in occasional fields on sandy soils where counts of 3-5 per sweep were detected. A few alfalfa fields in Columbia and Marquette counties are exhibiting minor yellowing symptoms, but this condition is not apparent in most areas. Yellowing caused by this insect can be confused with nutrient deficiencies, both of which are magnified by dry weather. Timely harvest should effectively reduce leafhopper populations in those fields with counts at or above the economic threshold of 2.0 per sweep.



Potato leafhoppers

Krista Hamilton DATCP

PEA APHID: Populations in alfalfa have declined noticeably in the past 2 weeks, possibly due to an increase in parasitism by braconid wasps, predation by ladybeetles and damsel bugs, or other factors. Sampling in the south central and central districts found an average of 1.8 aphids per sweep, and a range of 1-4 per sweep.

PLANT BUG: Economic populations of 5-6 adults and nymphs per sweep were encountered in a few Marquette County alfalfa fields. The proportion of small nymphs to adults indicates that reproduction is heavy at this time.

ALFALFA CATERPILLAR: Larvae in all stages of development (½-1¼ inches long) are common in alfalfa in most areas. Counts ranged from 2-6 per sweep in Columbia, Dane, Juneau and Marquette counties, which represents a small increase over last week. Parasitism rates of 10-20% were noted in a few fields.

CORN

EUROPEAN CORN BORER: Dissections of corn plants found 4th and 5th instar larvae to be the most prevalent development stages in the central counties, as far north as Stevens Point. The low number of empty pupal cases found in Juneau, Green Lake and Marquette counties indicates that the peak of moth activity is about 2 weeks in the future, depending upon weather conditions. In advanced southern areas such as Beloit and Lancaster, peak emergence of the second flight of moths is expected to occur by August 2-4. Infestations generally are light in most sections of the state. The heaviest injury rate to corn was observed near Westfield in Marquette County, where 32% of the plants are infested with first generation larvae. In the other counties mentioned, fewer than 13% of the plants are infested.



European corn borer tassel feeding injury

Krista Hamilton DATCP

CORN ROOTWORM: Western and northern corn rootworm beetles continue to emerge from the soil in the southern and central areas. Counts presently are low at less than 1-2 per 10 plants, but should continue to increase over the next 2 weeks. The western species is more prevalent and abundant at this time. Some lodging attributed to this insect was noted in a northern Marquette County field.

CORN RUST: Common maize rust has been reported across a wide area of the state, from Racine to Grant counties. Severity is generally at trace to low levels, but one Columbia County crop consultant reported several hybrids in variety trials were showing moderate to heavy infection. Common maize rust is usually a greater problem in sweet corn and seed production fields where

less resistance is evident. The disease is favored by cool temperatures (59-69°F) and requires long periods of dew for infection, so recent weather has not been favorable for disease buildup. However, sweet corn and seed growers should be alert for conditions that favor rust, and field corn growers may want to visit nearby variety trials for a look at different responses among hybrids.



Corn rust

Anette Phibbs DATCP

WESTERN BEAN CUTWORM: It is estimated that 75% of the season's moth population has emerged in the southwest, south central and west central counties, where accumulations of 1,526 degree days (base 50°F) were surpassed in the last reporting period. Pheromone and black light trap counts in these areas should begin to decline noticeably during the first week of August. By contrast, about 25% of the population has emerged in the east central and northern counties and the peak of the flight period remains about 1 week away. High counts for the week were 118 moths in a black light trap near Sparta in Monroe County and 108 moths in a pheromone trap near Princeton in Green Lake County.

SOYBEANS

SOYBEAN APHID: The annual survey found population densities above the economic threshold of 250 aphids per plant on 80% of the plants in scattered fields in Columbia, Dane, Green Lake and Marquette counties, and a greater proportion of fields in the southern and central areas are now 100% infested. Of the 77 soybean fields examined during the July 24-31 survey period, 55 contained low densities of 1-100 aphids per plant, 18 contained moderate densities of 101-249 aphids per plant, and 4 contained high densities of 250 or more

aphids per plant. High average densities per 20 plants examined were 89.3 aphids per plant in 13 fields in the southwest counties, 293.8 aphids per plant in 6 fields the south central counties, 228 aphids per plant in 8 fields in the southeast counties, 132.2 aphids per plant in 18 fields the west central counties, 568.5 aphids per plant in 9 fields in the central counties, and 233 aphids per plant in 23 fields the east central counties. The highest single plant count this week was 1,300 aphids in Marquette County. Many of those fields with moderate numbers, including several in Brown, Buffalo, Calumet, Kewaunee, Manitowoc, Trempealeau and Walworth counties, are likely to develop economic infestations this month. Final survey results will be published in the August 15 issue of the Wisconsin Pest Bulletin.

JAPANESE BEETLE: This insect continues to cause light to moderate (5-15%) defoliation of soybeans in the southern and central areas, particularly along field margins. Feeding damage was noted in Columbia, Dane, Grant, Jackson and Monroe counties this week. The economic threshold for Japanese beetle and other leaf feeding insects in soybeans is 20% defoliation between bloom and pod fill. Spot treatments are a satisfactory control measure for those fields with the heaviest injury occurring in the peripheral rows.



Japanese beetle feeding on soybean leaf

Krista Hamilton DATCP

ASIAN SOYBEAN RUST: No soybean rust has been reported in any state near Wisconsin yet this season. According to the July 24 Wisconsin commentary from Dr. Paul Esker on the IPM-PIPE web site <http://sbr.ipmpipe.org/cgi-bin/sbr/public.cgi>, soybean rust sentinel plots have been established in 14 Wisconsin counties and are being monitored regularly. Wisconsin has not yet had a

confirmed case of the disease in the 4 growing seasons since Asian soybean rust was detected in North America. Growers are encouraged to monitor the PIPE site for updates, spore movement forecasts and state observations as the season develops.

FRUITS

CODLING MOTH: The BIOFIX or continued capture of moths (of the second flight) was established between July 17 and 25 at a majority of southern Wisconsin orchards. Traps should be monitored regularly and treatments applied when the economic threshold of 5 moths per trap per week is exceeded. The peak of the second flight of moths is projected to occur in areas where degree day accumulations exceed 1,577 (base 50°F) in the week ahead. High counts for the July 25-31 reporting period were 59 moths at Dodgeville in Iowa County and 24 moths at Deerfield in Dane County.

APPLE MAGGOT: The emergence of apple maggot flies has been widespread, but not particularly heavy this season. Counts ranging from 1-8 moths per trap were reported this week.

EUROPEAN RED MITE: Populations of this mite are increasing with the recent high temperatures. Apple growers are advised to inspect leaves for motile mites to determine if the economic threshold of 7.5 mites per leaf has been reached.

SPOTTED TENTIFORM LEAFMINER: The third flight of moths theoretically has begun in southern orchards where 1,479-1,523 degree days (base 50°F) were surpassed by August 1, although counts of moths from the second flight have not declined to zero. The economic threshold for the third and final generation increases to 5 mines per leaf.

OBLIQUEBANDED LEAFROLLER: The smallest larvae present in orchards are in the 3rd instar development stage, according to Orchard IPM Specialist John Aue. Beyond the 1st and 2nd instars, obliquebanded leafrollers become increasingly difficult to control, and much of their feeding damage has already occurred.

POTATO LEAFHOPPER: Orchardists should continue to inspect the undersides of leaves for leafhopper nymphs as more acres of alfalfa are harvested next week,

particularly in non-bearing orchard blocks. On the basis of the ratio of nymphs collected in sweep nets, reproduction in alfalfa appears to be intense. The presence of only 1 or 2 nymphs per leaf can cause symptoms such as leaf curling.

WEEDS

GIANT RAGWEED: This plant continues to grow rapidly and is now more than 72 inches tall in the southern and central areas. Although measures available for its control are limited at this point (without destruction to the crop), better control can be achieved next season by taking note of population densities and distribution this month. The tall giant ragweed plants present in agricultural fields and along margins either evaded herbicides applied under less than ideal conditions in June or are the result of late germination. No cases of glyphosate-resistance in giant ragweed have been confirmed in Wisconsin to date, but resistant plants have been documented in Arkansas, Indiana, Kansas, Minnesota, Ohio, and Tennessee.

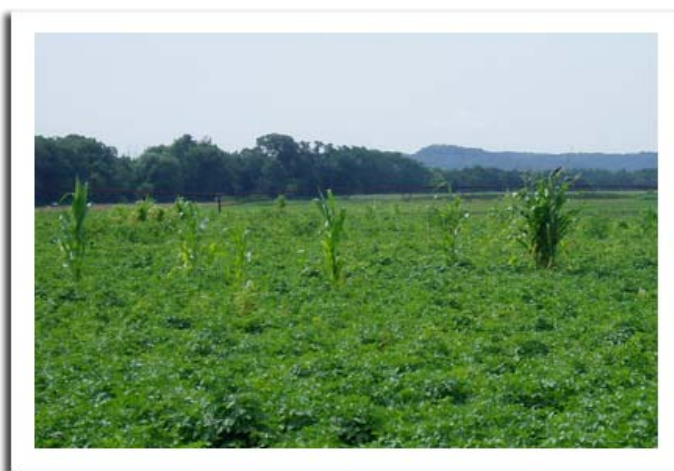


Giant ragweed

Krista Hamilton DATCP

RAGWEED ALLERGENS: Giant ragweed plants are expected to flower in the coming weeks, sending pollen through the air and triggering late summer and fall allergy symptoms. The weed pollen count forecast for the weekend of August 1-3 is **HIGH-VERY HIGH**, in contrast to previous forecasts this month that predicted low to moderate pollen levels. The weed pollen period varies by season, but in Wisconsin it typically begins around mid-August, peaks late August and ends by mid-October. Both common and giant ragweed are large contributors to pollen levels in the state and throughout the Midwest.

VOLUNTEER CORN: Volunteer glyphosate-resistant corn is apparent at low to moderate levels in many soybean fields that were likely sprayed with glyphosate last month. The prevalence of volunteer corn has increased in recent years in fields where glyphosate-resistant corn and soybeans are grown in rotation. There are several post-emergence herbicides available for control of volunteer corn in soybeans, but including a grass herbicide as a tank mix should provide satisfactory control and eliminate the need for a second herbicide application. Specific herbicide recommendations are provided in the Wisconsin Crop Manager (June 4, 2008) at <http://ipcm.wisc.edu/Default.aspx?tabid=53&EntryID=54>.



Volunteer corn

Clarissa Hammond DATCP

NURSERY & LANDSCAPE

WOOLLY APPLE APHID: Inspections in Dane County found light colonies of this distinctive, cottony aphid on crabapple trees. Woolly apple aphids feed in pruning cuts and wounds on the trunk and branches of trees, causing knots or galls on the twigs or roots. Underground colonies also form galls on the roots. Control is seldom warranted as there are many natural enemies that regulate populations. Other hosts include apple, elm, hawthorn, mountain ash and pear.

FIR-FERN RUST: This needle rust is prevalent on balsam firs grown in close proximity to ferns in northern Wisconsin fields. Symptoms on firs include chlorotic, yellow needles with white pustules that develop on the undersurfaces. The infected needles dry out and fall prematurely, often in quantities that render the trees unmarketable. Management options include removing the alternate hosts, particularly bracken ferns, from the

periphery and within the field by mowing or applying herbicide sprays.



Fern rust pustules on underside of needles Konnie Jerabek DATCP

FALL WEBWORM: Nests are conspicuous on mulberries, crabapples and elms in Columbia, Dane and Sauk counties. The larvae are about ½ inch in length.



Fall webworm webbing in mulberry tree Krista Hamilton DATCP

FOREST

GYPSY MOTH TRAPPING PROGRAM: Large numbers of moths continue to be registered in Adams, Columbia, Dane and Juneau counties, and to a lesser extent in the surrounding counties. The statewide count was 16,105 male gypsy moths as of July 30, which compares to 77,000 moths at this time last year and 12,000 moths in 2006. Approximately 19% of the 29,941 traps distributed in 52 Wisconsin counties have been checked. The peak of the adult flight is expected to occur soon in the southern areas of the state. Flight activity has been

significantly slower in the central and northern counties where few or no moths have been detected. Hot and humid weather in the past week probably has accelerated the emergence of adults in these areas.

TRAPPING NETWORKS

BLACK LIGHT TRAPS: The annual flight of western bean cutworm moths continued for the 3rd week, with counts as high as 118 moths reported at Sparta. Moths were registered for the first time near Chippewa Falls, marking the northernmost detection this season. European corn borer moths are appearing in low numbers and the peak of the summer moth activity is projected for 1,733 degree days (base 50°F), or August 2 near Beloit, August 8 near Madison, and August 13 near Eau Claire. Near Marshfield and Wausau, the first flight of moths continued. True armyworm numbers have declined to below 7 at all trap locations. The seasonal high count of 96 moths per week was registered at Janesville during the June 12-18 reporting period. Low numbers of forage and celery loopers were collected at nearly every trap site, and counts of dingy cutworms are on the increase.

TOMATO HORNWORM: The capture of 2 moths in the black light trap located near Mazomanie in western Dane County indicates that the adult flight period is underway in southern counties, and egg laying is occurring on tomatoes, tobacco and other hosts.

CORN EARWORM TRAPS: Few moths were registered this week at 11 pheromone trap locations in the state. Sweet corn producers should continue to follow weekly trap reports for a sharp increase in moth numbers, indicating the start of the primary flight. This event was documented between July 23 and September 5 in 2007, between August 4 and 29 in 2006, and between August 18 and September 1 in 2005. Cooperators are reminded to replace pheromone lure on a weekly basis.

CABBAGE LOOPER TRAPS: Counts ranging only as high as 24 moths have been reported since July 23. A total of 24 moths were registered on the evenings of July 28-29 at the Bourbonnais, IL trap location. Cabbage growers are advised to monitor fields for new egg masses and small larvae.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 25 - 31

COUNTY	DATE	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	AM RED ⁵	AM YELLOW ⁶
Bayfield	7/25-7/31	Bayfield Apple			2.4 max ⁸			
Bayfield	7/25-7/31	Lobermeier	91	101	2	22	0	0
Bayfield	7/22-7/28	Oriente	57	0	0	3	—	—
Brown	7/25-7/31	Oneida	1215	131	17	1	0	1
Dane	7/25-7/31	Deerfield	362	32	24	0	2	0
Dane	7/25-7/31	Stoughton	198	44	6	1	1	2.5
Dane	7/25-7/31	West Madison	36	33	16	0	1	0
Dodge	7/25-7/31	Brownsville	8	12	0	0	0	0
Fond du Lac	7/25-8/01	Campbellsport 1	50	10	0	30	0	0
Fond du Lac	7/25-8/01	Campbellsport 2	40	7	0	30	0	0
Fond du Lac	7/25-7/31	Malone	250	99	4 max ¹⁴	0	0	0
Fond du Lac	7/25-7/31	Rosendale	42	27	4	1	1	0
Green	7/25-7/31	Brodhead	20	8	4	0	0	0
Iowa	7/30-7/31	Dodgeville	50	3	59	0	8	6
Iowa	7/25-7/31	Mineral Point	17	49	0	0	0	0
Kenosha	7/25-7/31	Burlington	192	15.6	3.5	2	2	0
Marinette	7/25-7/31	Niagara	717	19	6	0	0	0
Marquette	7/25-7/31	Montello	301	23	1	0	*1	0
Ozaukee	7/25-7/31	Mequon	25	9	2.3	0	**1.1 *0.6	0
Pierce	7/25-7/31	Beldenville	65	32	1	0	0	0
Pierce	7/24-7/31	Spring Valley	432	93	0.75	0	*1.5	0
Racine	7/25-7/31	Raymond	495	38	5	0	0	0
Racine	7/24-7/31	Rochester	35	6	2.64	0	*1.8	0
Richland	7/25-7/31	Hill Point	1215	131	17	1	0	1
Sheboygan	7/25-7/31	Plymouth	120	70	2	3	**6	0
Waukesha	7/25-7/31	New Berlin	250	7	3	4	0	0

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

COUNTY	DATE	SITE	ECB ¹	TA ²	BCW ³	SCW ⁴	DCW ⁵	CE ⁶	CEL ⁷	WBC ⁸	FORL ⁹	VCW ¹⁰
Chippewa	7/24-7/30	Chipp. Falls	10	0	0	0	7	0	1	2	6	0
Columbia	7/25-7/31	Arlington	2	4	1	0	0	0	4	73	4	0
Dane	7/24-7/31	Mazomanie	5	5	0	0	0	0	2	93	0	0
Grant	7/24-7/31	Lancaster	1	6	1	1	1	9	10	16	11	0
Manitowoc	7/25-7/31	Manitowoc	1	7	2	3	0	0	3	0	36	0
Marathon	7/25-7/31	Wausau	6	3	4	5	37	2	1	1	0	0
Monroe	7/24-7/31	Sparta	0	3	0	0	0	0	1	118	2	0
Rock	7/24-7/30	Janesville	5	7	3	0	0	2	5	4	2	0
Walworth	7/25-7/31	East Troy	0	0	1	0	5	0	0	13	1	0
Wood	7/25-7/31	Marshfield	30	6	2	0	16	1	7	8	18	9

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