

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

Warm, seasonable weather returned this week, following the second coldest July on record. Last month's average temperature was 65.7°F at Madison, which compares to a previous record of 66.7°F set in 1891. July was also extraordinarily dry, with just 1.94 inches of precipitation measured in Madison and 0.71 inch in Milwaukee. Rain-fall totals were less than 50% of normal across much of the state. Growing conditions have been unusually poor this season, and this is reflected in the slow rate of crop development since late June. Corn and soybeans are behind both last year and the 5-year average in terms of growth, and the harvest of alfalfa, oats and winter wheat has also been significantly delayed. Isolated light rains in the past week helped to alleviate stress on field crops in the regions most affected by drought, but all areas of the state except the southwest could benefit from several more inches.

LOOKING AHEAD

EUROPEAN CORN BORER: The second flight of European corn borer moths began this week at the Arlington black light trap location. Based on current degree day accumulations, the majority of moths are likely to appear in traps during the week of August 12-19 in the southern counties and from August 17-24 in the central counties.

The optimum treatment interval for the summer generation of larvae has opened in advanced areas of the state where 1,550 degree days (base 50°F) were surpassed recently. Surveys for egg masses and small larvae should be initiated at this time.

TWO-SPOTTED SPIDER MITE: Conditions remain very conducive for outbreaks of this pest. Soybean and corn growers are advised to monitor their fields every 4-5 days for developing problems, particularly in the east-central and northern areas where moderate to severe drought conditions persist. Early detection and control is critical because damaging infestations can develop rapidly during periods of extreme dryness. Soybean fields that were treated for aphids in the last 10-14 days should be reexamined for surging mite populations.

SOYBEAN APHID: Economic populations of 250 or more aphids per plant on 80% of plants were detected in 7 of 52 fields examined during the past week as part of the annual survey, and it is evident that a large acreage of soybeans has been sprayed since late July. Consultants and growers must appraise fields in the next week to determine if colonies have exceeded the specified economic threshold. Chemical treatments may be justified for fields at the R4-R5 stages (full pod to beginning seed), but no yield benefit is gained by treating fields at R6 (full seed) or later.

JAPANESE BEETLE: These insects are still prevalent in orchards, nurseries and home gardens, although reports indicate the beetles are not as abundant as last year in most areas. Numerous corn and soybean fields as far north as Gillette in Oconto County have also been affected, but to a lesser degree.

ALERTS

LATE BLIGHT: This potentially devastating plant disease (caused by *Phytophthora infestans*) has been confirmed on tomato in two home gardens in Dane County and one commercial vegetable farm in Rock County. Infected plants at all locations have been destroyed, and survey efforts are underway to determine the prevalence of the disease in the state. Reports from the Northeast U.S. indicate an epidemic of late blight is occurring in those states, infecting both tomatoes and potatoes. No reports have been received of infection on potato in Wisconsin to date this year, but Michigan has confirmed an infected potato field. Initial indications from UW researchers suggest that the strain of the pathogen may not be the U.S. #8 genotype last detected in the state in 2003.



Late blight on tomato

Adrian Barta DATCP

Tomato and potato growers should be vigilant about scouting for symptoms of the disease, and protective measures should be undertaken wherever possible. Dr. Amanda Gevens, the UW-Extension Vegetable Pathologist, has posted updated fungicide recommendations at <http://www.plantpath.wisc.edu/wivegdis/>.

To help assess the extent of the problem in Wisconsin this season, DATCP would like to receive reports of late blight infection from the public and commercial growers.

DEGREE DAYS JANUARY 1 - AUG 6

| LOCATION | 50°F | 2008 | NORM | 48°F | 40°F |
|--------------|------|------|------|------|------|
| Dubuque, IA | 1609 | 1833 | — | 1719 | 2790 |
| Lone Rock | 1542 | 1680 | — | 1623 | 2680 |
| Beloit | 1603 | 1852 | — | 1679 | 2784 |
| Madison | 1534 | 1672 | 1848 | 1629 | 2673 |
| Sullivan | 1569 | 1772 | 1880 | 1652 | 2730 |
| Juneau | 1533 | 1689 | — | 1626 | 2664 |
| Waukesha | 1586 | 1664 | — | 1682 | 2729 |
| Hartford | 1534 | 1628 | — | 1640 | 2657 |
| Racine | 1526 | 1590 | — | 1633 | 2639 |
| Milwaukee | 1497 | 1563 | 1689 | 1590 | 2604 |
| Appleton | 1408 | 1594 | 1709 | 1506 | 2473 |
| Green Bay | 1299 | 1495 | 1647 | 1401 | 2334 |
| Big Flats | 1396 | 1537 | — | 1474 | 2459 |
| Hancock | 1421 | 1560 | 1823 | 1477 | 2474 |
| Port Edwards | 1352 | 1495 | 1743 | 1437 | 2402 |
| La Crosse | 1568 | 1682 | 2002 | 1615 | 2706 |
| Eau Claire | 1480 | 1536 | 1808 | 1558 | 2582 |
| Cumberland | 1307 | 1344 | 1720 | 1340 | 2310 |
| Bayfield | 991 | 1072 | 1330 | 1029 | 1854 |
| Wausau | 1203 | 1370 | 1659 | 1269 | 2193 |
| Medford | 1217 | 1305 | 1501 | 1283 | 2219 |
| Crivitz | 1196 | 1378 | — | 1259 | 2182 |
| Crandon | 1078 | 1228 | 1348 | 1098 | 1978 |

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

Reports may be sent to: adrian.barta@wi.gov or call 608-224-4592. Further updates will be available as the situation develops.

FORAGES

POTATO LEAFHOPPER: Numbers have not changed significantly in the past week. Representative counts in the central and west-central counties vary from 1.5-7.2 per sweep, with an average of 3.0 per sweep. Scattered fields along the Mississippi River in Buffalo, Pierce, Pepin and St. Croix counties have populations sufficient to justify treatment, but in all cases early cutting is the preferred control method. Nymphs remain abundant in most areas.

BLACK BLISTER BEETLE: Alfalfa fields surveyed in Chippewa, Pierce and St. Croix counties contained low counts of 1-2 per sweep. Blister beetles can be an indicator of

potentially high grasshopper populations since the immature stages are predaceous upon grasshopper eggs. Surveys of fields in Dunn, Eau Claire and Pepin counties failed to reveal any additional beetles.



Black blister beetle

Marlin cirrusimage.com

SOYBEANS

SOYBEAN APHID: The annual survey of soybean aphid populations should be completed by August 14, at which time the findings will be analyzed and published in this bulletin. Preliminary results indicate **VERY LOW** densities of 0-25 aphids per plant for 72% of the 234 surveyed fields, **LOW** densities of 26-100 aphids per plant for 18% of surveyed fields, **MODERATE** densities of 101-249 aphids per plant for 5% of surveyed fields, and **HIGH** densities of 250 or more aphids per plant for 5% of surveyed fields.

Examination of R3-R4 soybeans in Dunn, Pepin, Pierce and St. Croix counties in the past week revealed economic populations in 7 of 17 fields (40%). In the central and north-central areas, including Clark, Marathon, Portage, and Taylor counties, average densities ranged from 6-559 aphids per plant and just 1 of 14 fields checked had more than 250 per plant. Many acres have been treated in the last two weeks for control of aphids, particularly in the south-central and west-central areas. All soybean fields should be appraised in the immediate future, while some yield benefit can be realized by chemical treatments.

SOYBEAN APHID PARASITOID: Parasitism by the braconid wasp *Lysephlebus testaceipes* was noted as far north as Dunn, Pierce and Pepin counties in the past

week, and in Clark, Crawford, Iowa, Juneau, Racine, Rock, Sauk and Taylor counties since the annual aphid survey was initiated on July 15. These observations indicate a statewide or nearly statewide distribution for this beneficial species.

TWO-SPOTTED SPIDER MITE: Reports of significant injury to soybeans continue to circulate. Infestations appear to be most prevalent in the east-central and northern districts where moderate to severe drought conditions still exist. Heavy infestations were observed in Chippewa County on August 6. Soybean fields recently sprayed for aphids should be reexamined for surging mite populations in the 10-14 days subsequent to treatment. Spider mite problems are likely to persist throughout August.

CORN

CORN ROOTWORM: Surveys conducted in Grant, Lafayette, Ozaukee, Washington and Waukesha counties yielded averages of 0-1.4 beetles per plant, with economic populations above 0.75 per plant in 14% of fields examined. An exceptional field near Millville in Grant County had 2-3 beetles per plant on 100% of the plants. Some lodging damage has become apparent in continuous corn in Grant and Lafayette counties after the disastrous storms on July 24 and 27.

WESTERN BEAN CUTWORM: Black light and pheromone trap collections should begin to decline in advanced southern areas where the degree day standard has surpassed 1,526 (base 50°F), the point at which 75% of the moth population is expected to have emerged. High counts for the week were 146 moths in the black light trap at Arlington in Columbia County and 120 in the trap near Sparta in Monroe County. Refer to the **WESTERN BEAN CUTWORM MONITORING NETWORK** website at <http://www.ent.iastate.edu/trap/westernbeancutworm/isite> for current counts at all 138 Wisconsin pheromone trap locations.

FRUITS

APPLE MAGGOT: Activity has surged sharply in the last two weeks, with economic counts of 1 fly per **UNBAITED** trap (per week) or 5 flies per **BAITED** trap documented at 13 of 29 orchards during the July 31-August 6 monitoring period. Exceptionally high counts of 20-52 flies per baited

red ball trap were registered at McFarland, Mequon and Rochester. Growers are cautioned not to cease controls prematurely. Apple maggot activity can be expected until 2,800 degree days (base 50°F) are surpassed. Light rainfall in the intervening weeks could result in more record-high trap counts.

CRANBERRY REPORT: The cranberry crop continues to progress satisfactorily, despite the prolonged period of cool, dry weather last month. Reports from producers indicate that fruit set has been “mixed” this season. Most early cultivars have set well, but the ‘Stevens’ cultivar appears to have set in a very irregular pattern. Growing degree day accumulations continue to lag behind a normal by as much as 20% in the central and northern bogs. Warm temperatures are needed in both August and September to ensure a good cranberry harvest.

VEGETABLES

CORN EARWORM TRAPS: No large flights were registered at any of the 15 pheromone trap locations during the period of July 31-August 6. Reports and trap counts listed on the final page of each bulletin issue should be watched closely this month to identify the start of the primary flight and to appraise the progress of this insect. Network participants are reminded to replace pheromone lure on a weekly basis. Counts this week were as follows: Cashton 0, Chippewa Falls 11, Cottage Grove 1, Coon Valley 0, East Bristol 0, Janesville X, Lancaster 0, Madison 0, Manitowoc 7, Marshfield 1, Sun Prairie 3, Token Creek 0, Tomah B 0, and Wausau 3.

WEEDS

VELVETLEAF: The most advanced plants in southern Wisconsin are now forming seed pods, which suggests that the seeds should be fully mature before the end of the month. Measures such as spot treatment with an herbicide or manual removal of plants in the next 1-2 weeks will prevent new additions to the seedbank. Management programs must be implemented for several consecutive years to deplete the seedbank since velvetleaf seeds can persist in the soil and germinate after 20 years or more.

SPOTTED KNAPWEED: Surveys conducted in Clark, Marathon, Portage and Taylor counties show flowering knapweed plants are beginning to develop seeds.

Control measures directed against this increasingly prevalent, invasive plant should be initiated now, before the seeds mature.

RAGWEED: This familiar, later-summer allergen is flowering in the northern and central areas of the state, as far north as Wausau in Marathon County. In the south, both the common and giant ragweed species have been flowering since the week of July 19-25. The release of pollen during the flowering phase triggers the onset of allergy symptoms. According to the National Allergy Bureau (NAB), a **MODERATE - HIGH** weed pollen count is predicted for much of the state this weekend.



Giant ragweed

Clarissa Hammond DATCP

NURSERY & LANDSCAPE

RHIZOSPHAERA NEEDLECAST: Colorado blue spruce trees in Dane, Kenosha and Walworth counties have lower branches exhibiting purple to brown needles, a good indicator of this fungal disease of spruce. Rhizosphaera initially infects needles on the lower branches and gradually progresses up the tree. While trees usually are not killed by this disease, premature needle drop renders trees unsellable. Two successive years of fungicide treatments usually restores moderately affected trees to full foliage. The first application should be made in spring, when new needles are half elongated, and the second once the needles are fully elongated.

JAPANESE BEETLE: Large numbers of beetles were observed in nurseries in Dane, Rock and Walworth counties, where considerable defoliation of several varieties of trees was evident. Adults of this species skeletonize foliage, leaving only the network of veins,

while the subterranean grubs feed on roots of grasses and frequently damage turf in lawns, parks and golf courses. Of the range of control measures that may be directed against the adult or larval stages (i.e. trapping, insecticides, milky spore disease, insect parasitic nematodes, etc.), none is as effective as physically removing the adults from plants in the early morning or late evening hours, when they are less active. The beetles may be killed by dropping them into a container of soapy water or by placing them in a plastic bag and freezing the contents for a minimum of 72 hours.



Japanese beetles feeding on Linden

Liz Meils DATCP

FALL WEBWORM: Nests are conspicuous on crabapple, mulberry and white birch in La Crosse, Monroe and Walworth counties (and likely in many other counties). The early instar larvae are about ¼-½ inch in length.



Fall webworm nest on crabapple

Liz Meils DATCP

DOTHISTROMA NEEDLE BLIGHT: Nursery inspections in Kenosha and Walworth counties found scattered Austrian pines infected with this common fungal disease.

Characteristic symptoms consist of reddish-brown spots or bands on the needles. The tips of infected needles turn dry and brown, while the bases remain green. Pines infected with dothistroma progressively lose needles, decline, and may die within a few years. Infection is generally most severe in the lower crown. Preventative measures include maintaining vigorous trees by watering and mulching, and promoting air circulation through pruning and adequate spacing. Fungicide sprays applied twice during the season, once in mid-May and again 4-6 weeks later, may be justified when moderate symptoms are noted.

FOREST

GYPSY MOTH: The emergence of moths continues to be abnormally slow this season. Only 1,388 male gypsy moths have been registered in pheromone traps as of August 5, which is drastically fewer than the 41,000 reported at the same time in 2008. This year's low numbers can be attributed to a confluence of factors, including cool temperatures, a harsh winter, and an increase in the prevalence of both NPV virus and the *Entomophaga maimaiga* fungus. Trap removal is tentatively planned to start around August 17 in southern Wisconsin and 1-2 weeks later in northern areas, after Program officials determine the moth flight has ended.

TRAPPING NETWORKS

BLACK LIGHT TRAPS: The annual flight of western bean cutworm moths has produced large numbers at several black light and pheromone trap locations during the last reporting period. High counts for the week were 146 moths at Arlington and 120 moths at Sparta. According to the degree day model for this insect, 75% of the adult population has emerged in the southern counties, 50% has emerged in the central counties, and 25% has emerged in the northern areas. Numbers should decline to low levels at all sites by the third week of August.

European corn borer moths are appearing in very low numbers at Arlington in Columbia County. The peak of summer moth activity is projected for 1,733 degree days (base 50°F), or August 12-19 in the southern areas and August 17-24 in the central and northern areas. Near Chippewa Falls, Marshfield and Wausau, the first flight continued with low counts of 4-12 moths per trap.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 31 - AUGUST 6

| COUNTY | DATE | SITE | STLM ¹ | RBLR ² | CM ³ | OBLR ⁴ | OBLR ⁵ | AM RED ⁶ | AM YELLOW ⁷ |
|-------------|-----------|------------------|-------------------|-------------------|-----------------|-------------------|-------------------|---------------------|------------------------|
| Bayfield | 7/31-8/06 | Keystone | 33 | 112 | 0 | 44 | — | 0 | 0 |
| Bayfield | 7/31-8/06 | Bayfield Apple | 110 | — | 1 | 8 | — | — | — |
| Bayfield | 7/31-8/06 | Erickson's | 300 | 0 | 0 | 20 | — | — | — |
| Bayfield | 7/27-8/03 | Orienta | 194 | 2 | 0 | 9 | — | — | — |
| Brown | 7/31-8/06 | Oneida | 100 | 44 | 8 | 2 | — | 0 | 0 |
| Chippewa | 7/31-8/06 | Chippewa Falls 1 | — | 3 | 1.5 | 0 | 0 | *.05 | — |
| Chippewa | 7/31-8/06 | Chippewa Falls 2 | 22 | 7 | 38 | — | — | — | — |
| Crawford | 7/31-8/06 | Gay Mills | 55 | 22 | 17 | 13 | 0 | *11 | — |
| Dane | 7/30-8/06 | Deerfield | 278 | 11 | 2 | 1 | — | 5 | 0 |
| Dane | 7/30-8/06 | McFarland | 0 | 0 | 20 | 5 | — | 20 | — |
| Dane | 7/31-8/06 | Stoughton | 219 | 11 | 4.5 | 3 | — | 2 | 2.5 |
| Dane | 7/31-8/06 | West Madison | 134 | 7 | 2 | 3 | — | 0 | 0 |
| Dodge | 7/31-8/06 | Brownsville | 12 | 2 | 0 | 0 | — | 0 | 0 |
| Fond du Lac | 7/31-8/06 | Campbellsport | 110 | 16 | 0 | 25 | — | 0 | 0 |
| Fond du Lac | 7/31-8/06 | Malone | 140 | 50 | 4 | — | — | 0 | **1 |
| Fond du Lac | 7/31-8/06 | Rosendale | 81 | 13 | 0 | 4 | — | *0 | *0 |
| Iowa | 7/31-8/06 | Dodgeville | 365 | 2 | 43 | 2 | 0 | *9 | *2 |
| Iowa | 7/31-8/06 | Mineral Point | 162 | 18 | 3 | 3 | 0 | 7 | — |
| Kenosha | 7/31-8/06 | Burlington | — | 4 | 5 | 3 | — | 2 | — |
| Marinette | 7/31-8/06 | Niagara | 347 | 30 | 4 | 2 | — | — | — |
| Marquette | 7/31-8/06 | Montello | 33 | 11 | 0 | — | — | *0 | 0 |
| Ozaukee | 7/31-8/06 | Mequon | 100 | 7 | 1 | 0 | — | **52 *7 | — |
| Pierce | 7/31-8/06 | Beldenville | 750 | 12 | 5 | 0 | 0 | *0 | *1 |
| Pierce | 7/31-8/06 | Spring Valley | 604 | 148 | 1 | 1 | 0 | **5.25 *1 | 0 |
| Racine | 7/31-8/06 | Raymond | 300 | 9 | 4 | 2 | — | 0 | 0 |
| Racine | 7/31-8/06 | Rochester | 1240 | 11 | 11 | 0 | — | *20 | *2 |
| Richland | 7/29-8/05 | Hillpoint | 146 | 8 | 9 | 1 | — | **6 | 0 |
| Richland | 7/31-8/06 | Richland Center | 80 | 7 | 57 | 23 | 0 | *9 | — |
| Sauk | 7/31-8/06 | Baraboo | 118 | 31 | 4 | 7 | 1 | *2 | — |
| Sheboygan | 7/31-8/06 | Plymouth | 225 | 60 | 5 | 1 | — | **35 | 0 |
| Walworth | 7/31-8/06 | East Troy | — | — | — | — | — | — | — |
| Waukesha | 7/31-8/06 | New Berlin | 1104 | 4 | 4 | 0 | — | 0 | 0 |

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller EASTERN; ⁵Oblique-banded leafroller WESTERN; ⁶Apple maggot red ball; *Unbaited red ball; **Baited red ball; ⁷Apple 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 | 7/30-8/05 | Chipp Falls | 12 | 0 | 0 | 0 | 7 | 0 | 00 | 0 | 0 | 0 |
| Columbia | 7/31-8/06 | Arlington | 1 | 0 | 1 | 0 | 3 | 1 | 1 | 146 | 0 | 3 |
| Dane | 7/31-8/06 | Mazomanie | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 1 |
| Grant | 7/31-8/06 | Lancaster | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Manitowoc | 7/31-8/06 | Manitowoc | 0 | 7 | 2 | 0 | 3 | 0 | 1 | 3 | 17 | 0 |
| Marathon | 7/31-8/06 | Wausau | 4 | 1 | 0 | 2 | 26 | 1 | 0 | 8 | 7 | 10 |
| Monroe | 7/31-8/06 | Sparta | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 0 | 0 |
| Rock | 7/31-8/06 | Janesville | — | — | — | — | — | — | — | — | — | — |
| Walworth | 7/31-8/05 | East Troy | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 21 | 2 | 0 |
| Wood | 7/30-8/06 | Marshfield | 8 | 4 | 1 | 0 | 16 | 6 | 1 | 15 | 4 | 8 |

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