

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

Devastatingly hot, dry conditions persisted across much of the state. Another brief heat wave arrived at the start of the week and continued through Tuesday, with high temperatures ranging from the lower to mid-90s across northern Wisconsin to around 100°F in the south. Record highs of 100°F were reported at Milwaukee and Madison on July 17. Some relief came late on Tuesday as a passing cold front brought cooler air along with showers and storms to the state. Rainfall totals of 2.2 and 1.85 inches were recorded on Wednesday from Dodgeville and Kenosha, respectively, but most locations received less than half an inch. Despite the first beneficial rain in several weeks, short-term precipitation deficits for June and early July are an average of five inches in the severe drought region of southern Wisconsin, which corresponds to less than 20% of normal and much less in some areas. Unirrigated crops are in very poor condition and loss is likely.

LOOKING AHEAD

EUROPEAN CORN BORER: Egg deposition has intensified since the last report. The phenology model for this pest suggests that the peak in summer moth activity has occurred in the south-central, southwest and lower west-central areas of the state. Susceptible corn fields should be inspected for egg masses and larvae before

2,100 degree days (base 50°F) are surpassed and the treatment window for second generation corn borers has closed.

SOYBEAN APHID: Densities remain remarkably low for this time of year. Surveyed soybean fields as far north as Price County contained fewer than seven aphids per 20 plants and most still have no detectable population. Foliar insecticide treatment may not be required for many fields this year if the heat continues to limit aphid population growth.

WESTERN BEAN CUTWORM: The annual flight has peaked statewide and is now declining. The DATCP network of 124 pheromone traps registered 518 moths from July 12-18, a substantial decrease from the 1,207 moths reported during the previous week. The state cumulative moth count thus far is 2,574. Based on the latest activity, growers can anticipate small larvae appearing in fields for 1-3 more weeks. Moth flight is expected to subside by late July or early August at most monitoring sites.

TWO-SPOTTED SPIDER MITE: Reports of significant injury to soybeans continue to circulate. Infestations appear to be most prevalent in the southwestern and south-central districts where drought conditions have worsened from moderate to severe. Heavy infestations were observed in the edges of fields in Juneau, Richland and Sauk count-

ies on July 16. Spider mite problems are likely to persist as long as hot, dry weather prevails.



Soybean leaf stippling caused by spider mites

agfax.com

CORN ROOTWORM: Numbers have been on the increase since emergence began last month. Surveys this week found counts of 0.1-15 beetles per plant, with the highest populations of 13-15 beetles per plant observed in a few corn fields in Dodge, Green and Washington counties. Peak beetle emergence remains approximately two weeks away.

FORAGES

POTATO LEAFHOPPER: Excessively dry weather continues to favor leafhopper reproduction and activity. Approximately 35% of alfalfa fields surveyed in the central and south-central counties had economic infestations of 2.0-5.0 per sweep, an increase from 32% the week before. The highest densities were found in Green Lake and Marquette counties. Potato leafhopper feeding results in even greater stunting during extended dry periods; therefore, monitoring is strongly advised for drought-stressed alfalfa.

PLANT BUG: Representative counts in the southern half of the state range from 0.1-2.2 per sweep. The average is less than one per sweep, based on a sample size of 31 fields. Nymphs of various maturities are common in most alfalfa plantings.

PEA APHID: Populations remain low in most fields, with a few exceptions. One field in the Monticello area of Green County had a very high count of 23 per sweep and another in Columbia County showed 19 per sweep.

DEGREE DAYS JANUARY 1 - JULY 18

| LOCATION | 50°F | 2011 | NORM | 48°F | 40°F |
|--------------|------|------|------|------|------|
| Dubuque, IA | 1942 | 1528 | 1513 | 1761 | 3154 |
| Lone Rock | 1915 | 1468 | — | 1686 | 3096 |
| Beloit | 1999 | 1542 | 1532 | 1742 | 3235 |
| Madison | 1912 | 1407 | 1461 | 1679 | 3105 |
| Sullivan | 1886 | 1403 | 1439 | 1647 | 3076 |
| Juneau | 1826 | 1335 | — | 1596 | 2980 |
| Waukesha | 1710 | 1220 | — | 1537 | 2825 |
| Hartford | 1695 | 1210 | — | 1531 | 2803 |
| Racine | 1670 | 1133 | — | 1548 | 2774 |
| Milwaukee | 1640 | 1125 | 1331 | 1505 | 2735 |
| Appleton | 1676 | 1185 | 1379 | 1528 | 2767 |
| Green Bay | 1588 | 1087 | 1280 | 1481 | 2655 |
| Big Flats | 1720 | 1239 | — | 1523 | 2811 |
| Hancock | 1724 | 1247 | 1418 | 1514 | 2829 |
| Port Edwards | 1660 | 1214 | 1383 | 1517 | 2731 |
| La Crosse | 1891 | 1422 | 1599 | 1684 | 3060 |
| Eau Claire | 1713 | 1291 | 1432 | 1571 | 2817 |
| Cumberland | 1471 | 1150 | 1326 | 1426 | 2506 |
| Bayfield | 1200 | 862 | — | 1238 | 2092 |
| Wausau | 1491 | 1108 | 1295 | 1423 | 2498 |
| Medford | 1484 | 1138 | 1181 | 1477 | 2501 |
| Crivitz | 1470 | 1028 | — | 1421 | 2483 |
| Crandon | 1325 | 999 | 1017 | 1299 | 2273 |

Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2012.
 NORMALS based on 30-year average daily temps, 1981-2010.

Counts at other sites in the south-central, southeast and central districts were much lower and ranged from 0.4-4.1 per sweep. Pea aphid levels in alfalfa have been very low since May, although localized fields have developed moderate to high populations in the last 2-3 weeks.

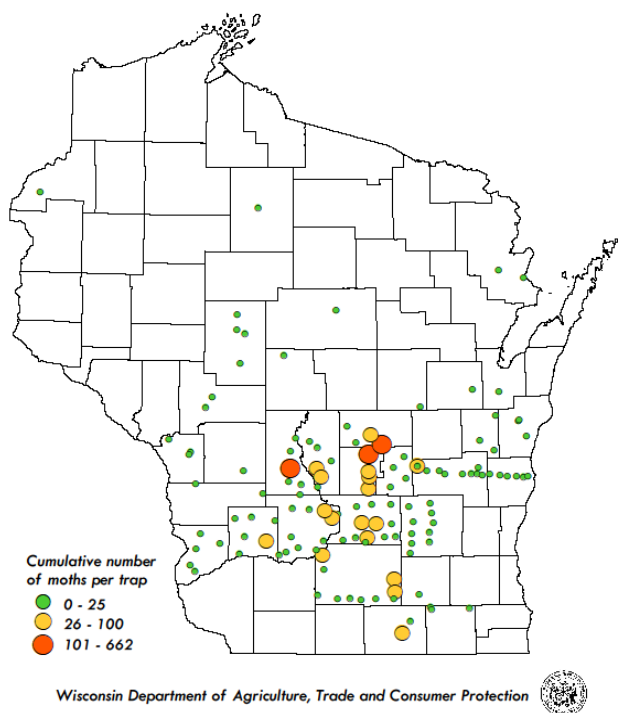
GRASSHOPPER: Natural controls are not sufficiently regulating populations and grasshoppers are now numerous across the state. A very large population of 17 per sweep was observed in alfalfa near Mauston in Juneau County, and many other fields are infested to some degree. Under current poor growing conditions and with limited food sources, grasshoppers could become especially damaging this season. All types of field crops, vegetable crops, fruit crops, flowers and shrubs are subject to attack.

CORN

WESTERN BEAN CUTWORM: The western bean cutworm degree day model indicates that 75% or more of the adult

population has emerged as far north as Stevens Point in Portage County. Moth counts have begun to decline across the southern half of the state. By contrast, emergence is about 50% complete in the north-central and northeastern counties where activity peaked in the past week. High counts for the period of July 12-18 were 135 moths in the black light trap near Sparta in Monroe County and 96 moths in the pheromone trap near Wautoma in Waushara County.

2012 Western Bean Cutworm Trap Counts



CORN ROOTWORM: Beetles continue to emerge throughout the state. Counts in grain corn have increased considerably since early July and are now as high as 13-15 per plant in exceptional fields, although the average is about 2-3 per plant. Sixty-three percent of fields examined this week had economic populations of 0.75 or more beetle per plant. This figure suggests that silking corn is at very high risk of silk pruning and should be checked before and during early pollination to ensure pollination is not being impaired. An insecticide application is justified for infestations of five or more beetles per plant when the silks have been pruned to less than ½ inch and pollination is incomplete.

CORN EARWORM: The Hancock, Janesville and Ripon pheromone traps registered moderate numbers of 22-83 moths in the last reporting period, and 10-194 moths per trap the previous week. No moths were captured at 5 of

the 10 trap sites from July 12-18. The significant migration could occur soon, so corn earworm monitoring network participants should begin checking traps often and replacing lures on a weekly basis. Counts in the past week were as follows: Bloomington 0, Chippewa Falls 0, Coon Valley 0, Hancock 40, Janesville 22, Manitowoc 0, Marshfield 15, Ripon^a 49; Ripon^b 83 and Wausau 0.



Corn earworm larva

Mark Moore Moore Communications

EUROPEAN CORN BORER: The peak in summer moth activity has likely occurred in the southern and central areas of the state, where 1,733 degree days were surpassed as of July 18. At the Chippewa Falls black light trap site in northwestern Wisconsin, the moth count increased markedly from 18 per trap last week to 168 this week. Egg deposition is occurring on corn, snap beans, potatoes and other hosts. Susceptible corn fields should be closely inspected for eggs and small larvae before 2,100 degree days (base 50°F) accumulate to determine the need for control of second generation borers. Nightly temperatures have been very favorable for oviposition, which is expected to continue through the second week of August.

SOYBEANS

TWO-SPOTTED SPIDER MITE: Damage to soybeans, corn and many other plants continues to be reported. This mite has become the leading threat to drought-stressed soybeans in the state. Infestations affecting 5-40% of leaves were noted in the past 2-3 weeks in Columbia, Dane, Richland, Iowa and Monroe counties and the problem is unlikely to subside unless there is meaningful rainfall soon. Reports from Fond du Lac, Grant, Lafayette, Manitowoc, Rock, Sauk, Vernon

and Washington counties indicate that the mites are numerous enough in soybeans to require treatment. Scouting and control measures are in order for all susceptible crops.

SOYBEAN APHID: Densities remain extraordinarily low for this time of year. A very small proportion of soybean fields have populations of 20-100 aphids per 20 plants, but most sites contain fewer than 10 aphids per 20 plants or none at all. Insecticidal controls against this pest should not be considered for any field until the established threshold of 250 aphids per plant on 80% of the plants has been exceeded.



Soybean aphids

Krista Hamilton DATCP

FALSE CHINCH BUG: These insects are appearing in soybeans in the south-central area. According to UW-Madison Entomologist Dave Hogg, infestations were noted this week in fields and on the sides of buildings at the Arlington Research Station in Columbia County. False chinch bugs are generalist feeders that prefer plants in the mustard and beet families, but migrate in large numbers to nearby no-till corn and soybeans as their weed hosts are killed by herbicide in the field. Outbreaks are associated with hot, dry weather, and have not been observed in Wisconsin since the last serious drought in 1988-89.

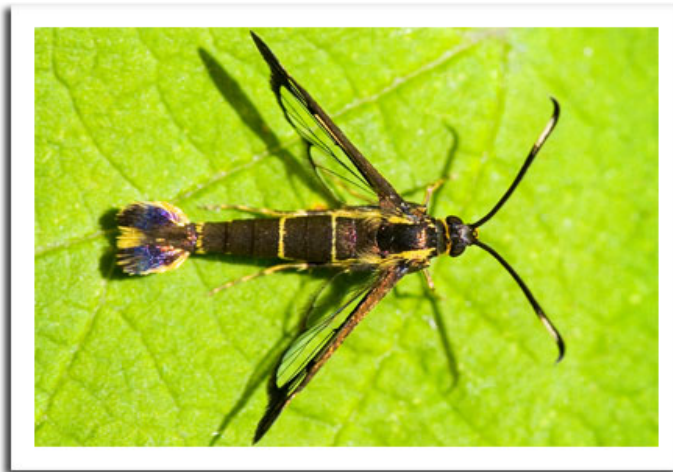
FRUITS

APPLE MAGGOT: Captures of flies on red spheres and yellow sticky traps increased slightly in the past week, with counts ranging from 1-8 per trap. Some of the activity has been noted in irrigated orchards where the supplemental water is stimulating their emergence.

Based on the apple maggot degree day model, peak emergence should have occurred by now in the southern and central areas of the state where 1,600 (base 50°F) heat units have been surpassed as of July 18.

REDBANDED LEAFROLLER: Orchard IPM Specialist, John Aue reports that high temperatures and dryness have caused substantial mortality among redbanded leafroller (RBLR) populations in apple orchards. Despite a significant hatch in late June and early July, larval numbers are now very low and live larvae are apparently scarce. John's report speculates that the larvae hatched, fed briefly in terminals, and then died due to extreme heat. The reduced populations of second generation RBLR larvae (the overwintering generation) may result in lower numbers of first brood moths, and potentially fewer first generation larvae early next spring.

DOGWOOD BORER: Substantial flights are occurring at southern Wisconsin monitoring sites. Apple growers are advised to begin scouting susceptible rootstocks (like M-9) for frass or sawdust around graft unions. In a dry year such as this one, the larvae may penetrate further into the trunk seeking water and food and could be more damaging. Borer activity is expected to continue for 5-6 more weeks.



Dogwood borer moth

Jim Gilbert flicker.com

EUROPEAN RED MITE: Apple trees affected by this species and the two-spotted spider mite should be inspected and treated if necessary. At some orchard locations, predatory mites are controlling populations, but at others, chemical intervention may be necessary. Trees exhibiting light bronzing should be inspected for adult females on the upper and lower leaf surfaces and eggs near the midrib (using a 10x hand lens). Control of ERM is sugg-

ested if the economic threshold of 7.5 mites per leaf is reached. Trees with large amounts of bronzed foliage are already damaged and should not be treated with a miticide.

JAPANESE BEETLE: Numbers are considerably lower than last year. This development could be due to delayed emergence resulting from lack of precipitation in drought-stricken areas, or the larvae may be desiccating in parched soils. A few growers have noted light damage to 'Honeycrisp' apples, but beetle populations levels are generally low for late July.

VEGETABLES

COLORADO POTATO BEETLE: Second generation larvae are appearing in potatoes in the southern and central areas. Late-season control of this pest may be warranted if defoliation exceeds 30% during tuber formation. Treatments should be applied when most of the population reaches the intermediate third instar stage, presuming this does not conflict with label recommendations or resistance management. Proper timing permits most eggs to hatch, but kills the larvae before they reach the destructive fourth instar. Potato producers are reminded to avoid the consecutive use of the same insecticide product or use of different products with similar modes of action.



Colorado potato beetle larvae

Krista Hamilton DATCP

TWO-SPOTTED SPIDER MITE: Reports indicate that mite infestations are developing in cucumbers, squash and other vegetables. Scouting for mites in larger plantings consists of inspecting 10 plants in 10 locations along field edges for yellowed or stippled leaves. The mites are

usually evident on the lower leaf surfaces at the junction of the veins and petioles. Economic thresholds are not available for specific vegetables, but control may be considered if plants are symptomatic and mites are present.



Spider mite damage on cucumber leaves

azplantlady.com

In home gardens, an insecticidal soap spray solution consisting of five tablespoons of liquid dish detergent in one gallon of water can be applied to mite-infested plants. Soap sprays have no residual activity and only control mites and insects that are contacted directly. Complete coverage, especially of the undersides of leaves, is important for control.

ONION MAGGOT: The third generation of flies is expected to begin emerging in the southwest, south-central and west-central areas in the week ahead, following the accumulation of 3,230 degree days (base 40°F). Since this final generation will produce larvae that overwinter in cull onions and old bulbs left behind in fields, thorough sanitation or rotating to a non-crop host is recommended for growers who experienced onion maggot problems earlier this season.

WEEDS

PLUMELESS THISTLE: Seeds are forming on plants found along roadsides and in pastures. Measures that may contribute to seed dispersal, such as mowing, should be avoided at this time or as soon as the flowers start showing color. Biennial thistles are intolerant of competition, so the establishment of a healthy pasture or rotation to a perennial crop on row crop land can be a very effective form of management. Herbicide applications to this weed and other biennial thistles such as

bull and musk thistle are best applied to the rosettes in late fall.



Plumeless thistle

Clarissa Hammond DATCP

HEDGE BINDWEED: This perennial, drought-tolerant vine is in full bloom in the southern counties. Herbicide treatment is recommended for problem populations when plants are at or past the full bloom stage, to ensure adequate control of underground plant parts. Both hedge and field bindweed reduce yield and their tangled stems can interfere with harvest operations in row crops. A combination of chemical, mechanical and cultural methods is usually required to eliminate bindweed populations over time.

NURSERY & FOREST

VIBURNUM CROWN BORER: Larvae, exit holes and empty pupal cases of this clearwing moth were observed on American cranberrybush viburnum in Jefferson County. Diagnostic characteristics are swellings or cracks on the main stems and branches, as well as sawdust-like frass which exudes from the entrance site at the base of infested plants. Immediate removal and destruction of infested nursery stock is recommended since the viburnum crown borer eventually kills its host plant.

SPRUCE NEEDLE RUST: Nursery inspectors noted this rust disease on Colorado blue spruce trees in Marquette and Sawyer counties. The symptoms are orange, powdery spores that appear on the undersides of current-year needles. Spruce needle rust has two hosts, alternating from Labrador tea to spruce in spring, and from infected spruce to Labrador tea in summer. Infected needles turn

yellow and fall off by the end of the growing season. In most instances, this rust is an aesthetic problem and no control is needed. Removal of all alternate host plants within 1,000 feet will reduce disease on spruce but is usually impractical.

ERIOPHYID MITE: Light infestations of this mite were found on river birch in Marquette, Ozaukee and Rock counties. Their pattern of feeding causes very distinct erineum galls—essentially a mass of leaf hairs containing thousands of tiny mites—to develop on the undersides of leaves. Damaged foliage becomes wrinkled and turns reddish. Activity should subside this month and no corrective action is needed.

LEAF TATTERS: Maples and oaks, along with numerous other tree species around the state, are showing lacy, ragged leaves, a condition known as leaf tatters. This disorder appears at leaf emergence and may affect trees of all sizes and ages. The specific cause is unknown, although environmental stress and herbicide drift have been implicated. Most trees eventually produce a new flush of healthy replacement leaves. Adequate watering, mulching and fertilization are all recommended to minimize tree stress and the occurrence of tatters.



Oak tatters

Liz Meils DATCP

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 12-19

| COUNTY | SITE | STLM ¹ | RBLR ² | CM ³ | OBLR ⁴ | OBLR ⁵ | AM RED ⁶ | YELLOW ⁷ | GDD 50°F |
|-------------|----------------|-------------------|-------------------|-----------------|-------------------|-------------------|---------------------|---------------------|----------|
| Bayfield | Keystone | 11 | 53 | 6 | 8 | | 0 | 0 | |
| Bayfield | Orienta | 22 | 7 | 0 | 1 | 11 | 0 | 0 | |
| Brown | Oneida | 650 | 77 | 18 | 2 | | 0 | 0 | |
| Chippewa | Chippewa Falls | — | — | 7 | 2 | | *2 | — | |
| Crawford | Gays Mills | 130 | 7 | 7 | 4 | | *4 | — | |
| Dane | Deerfield | 0 | 0 | 0 | — | | *1 | 0 | |
| Dane | McFarland | — | — | — | — | | — | — | |
| Dane | Mt. Horeb | 15 | 8 | 11 | 2 | | 0 | 0 | |
| Dane | Stoughton | 103 | 10 | 12 | 0 | | 0 | 0 | |
| Dane | West Madison | — | 0 | 6 | 2 | | 0 | 0 | |
| Fond du Lac | Campbellsport | — | — | — | — | | — | — | |
| Fond du Lac | Malone | 27 | 7 | 4 | 2 | | 0 | **1 | |
| Fond du Lac | Rosendale | 33 | 41 | 0 | 0 | | 0 | 0 | |
| Green | Brodhead | 0 | 0 | 0 | 1 | | 0 | 0 | |
| Iowa | Mineral Point | 540 | 67 | 36 | 7 | | — | — | |
| Jackson | Hixton | 30 | 9 | 2 | 0 | | 0 | 1 | |
| Kenosha | Burlington | 145 | 3 | 1 | 6 | | 3 | 0 | |
| Marathon | Edgar | — | — | — | — | | — | — | |
| Marinette | Niagara | 317 | 14 | 0 | 3 | | 0 | 0 | |
| Marquette | Montello | 13 | 4 | 1 | 0 | | *8 | **2 | |
| Ozaukee | Mequon | 25 | 11 | 2 | 3 | | *1 | 0 | |
| Pierce | Beldenville | 486 | 152 | 1 | 1 | | 0 | 0 | |
| Pierce | Spring Valley | 34 | 30 | 0 | 0 | | 0 | *2 | |
| Polk | Turtle Lake | 217 | 107 | 16 | 5 | | **0 | 0 | |
| Racine | Raymond | 96 | 0 | 8 | 5 | | 0 | 0 | |
| Racine | Rochester | 100 | 5 | 20 | 0 | | *1 | 0 | |
| Richland | Hillpoint | 565 | 10 | 12 | 3 | | 0 | **0 | |
| Sheboygan | Plymouth | — | — | — | — | | — | — | |
| Waukesha | New Berlin | 159 | 2 | 4 | 2 | | 0 | 0 | |

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller EASTERN; ⁵Obliquebanded leafroller WESTERN; ⁶Apple maggot red ball; *Unbaited AM trap; **Baited AM trap; ⁷AM yellow board; *Two-week counts.

| COUNTY | SITE | ECB ¹ | TA ² | BCW ³ | SCW ⁴ | DCW ⁵ | CE ⁶ | CEL ⁷ | WBC ⁸ | FORL ⁹ | VCW ¹⁰ |
|-------------|------------------|------------------|-----------------|------------------|------------------|------------------|-----------------|------------------|------------------|-------------------|-------------------|
| Chippewa | Chippewa Falls | 168 | 2 | 0 | 0 | 4 | 0 | 1 | 16 | 0 | 0 |
| Columbia | Arlington | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 6 | 0 |
| Crawford | Prairie du Chien | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dane | Mazomanie | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 |
| Fond du Lac | Ripon | 11 | 0 | 0 | 0 | 0 | 2 | 0 | 9 | 0 | 0 |
| Manitowoc | Manitowoc | 0 | 10 | 8 | 0 | 0 | 0 | 0 | 2 | 15 | 0 |
| Marathon | Wausau | 4 | 11 | 11 | 1 | 4 | 1 | 5 | 9 | 38 | 0 |
| Monroe | Sparta | 47 | 2 | 2 | 0 | 0 | 2 | 0 | 135 | 3 | 0 |
| Portage | Plover | — | — | — | — | — | — | — | — | — | — |
| Rock | Janesville | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| Vernon | Coon Valley | 4 | 2 | 0 | 0 | 0 | 0 | 3 | 2 | 10 | 0 |
| Walworth | East Troy | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 7 | 0 |
| Wood | Marshfield | 6 | 5 | 7 | 0 | 0 | 3 | 12 | 13 | 24 | 5 |

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