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# 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
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## WEATHER & PESTS

Hot, sunny and very windy weather prevailed in the past week. Strong southwesterly winds pushed temperatures into the 80s and 90s statewide, which is well above normal for this time of year. Several locations, including Eau Claire, Menomonie, Siren and Superior recorded afternoon highs of 90-92°F on Wednesday. In the northeastern counties, wind gusts in excess of 35 mph were reported. Based on degree day accumulations, the growing season is 3-10 days ahead of last year but 3-8 days behind average depending on the region of the state. Insect activity has advanced in the southern and western areas and should continue to increase if temperatures remain warmer than normal. Many acres of corn have emerged throughout the south and other crops such as alfalfa, oats, peas and potatoes are developing rapidly. Harvest of first crop alfalfa is expected to begin in full over the holiday weekend.

## LOOKING AHEAD

ALFALFA WEEVIL: Alfalfa fields surveyed from Rock County to Trempealeau County showed very low numbers of small, early instar larvae. Counts ranged from 0-7 per 25 sweeps, but averaged only 1 per 25 sweeps. Larvae are being swept with more frequency in comparison to last week, indicating that surveys to appraise populations and tip feeding injury should be initiated at this time. Control measures are justified when the economic threshold of 40% tip feeding is exceeded more than 7-10 days prior to harvest. Presently, tip feeding is well below 5% in the southern third of Wisconsin.

EUROPEAN CORN BORER: Larvae are pupating throughout the southern and central areas of the state. No emergence of adults was noted as of May 21. Black light traps may register the first moths of the season over the weekend, although it will be several more weeks before substantial flights occur.

BLACK CUTWORM: The larval offspring produced by moths that appeared in late April are nearly large enough to sever corn plants, and corn emerging from the soil next week should be watched closely for evidence of feeding injury. Scouting is imperative during the 10-14 days following emergence. By May 24, approximately 300 degree days (base 50°F) will have accumulated in the southwest since the first significant captures of migrant adults were registered on April 25.

BEAN LEAF BEETLE: The first appearance of this insect was noted on May 19 in Green County where a single specimen was collected from 1 of 7 alfalfa fields checked. Further sweeping in Columbia, Crawford, Dodge, Iowa, Jackson, La Crosse and Rock counties found no additional beetles. The annual distribution and

abundance survey now in progress in the southern and central areas is expected to find few overwintered beetles. Presumably, severe winter temperatures reduced the population by as much as 45-82%, according to a University of Minnesota prediction model (see Issue No. 03 May 8, 2009).

## FORAGES

ALFALFA WEEVIL: Larval populations continue to be low in Wisconsin alfalfa fields, 7 or less per 25 sweeps in the southern and west-central counties. Harvest operations are underway in the southwest and it is speculated that first growth alfalfa cut before June 1 will not suffer measurable damage. Larvae are unlikely to reach the stage at which most of the damage occurs for another two weeks, and by that time much of the acreage will have been harvested. Alfalfa fields should be watched for this pest in the next several weeks. The University of Wisconsin recommends a threshold of 40% tip feeding 7-10 days prior to harvest as the criterion for determining if control is warranted.

POTATO LEAFHOPPER: Migrants appeared this week in very low numbers. Surveys conducted in the south-central and west-central districts revealed counts of 0-2 per 25 sweeps in 14 of 49 fields checked. Adults were swept as far north as Osseo in Trempealeau County.

*Potato leafhopper* *Krista Hamilton DATCP*

PEA APHID: Populations in alfalfa ranged from 11-53 per 25 sweeps and averaged about 23 per 25 sweeps. The highest counts were documented in Dodge and Green counties. Parasitism by the braconid wasp *Aphidius* was observed in Dane, Green, La Crosse and Monroe counties and ladybeetles were likewise common in many fields, although there was no evidence of major reductions in aphid numbers due to these natural enemies. Winged individuals have been detected in alfalfa but not early peas.

CLOVER LEAF WEEVIL: Larvae of this species continue to be found in insignificant numbers in scattered alfalfa fields. Surveyed fields in Crawford, Dane, Green and La Crosse counties contained populations of less than 1-2 per 25 sweeps. Care should be taken not to confuse these insects with the larval stages of the alfalfa weevil. Clover leaf weevil larvae are pale green with brown head capsules, and in most instances are considerably larger than alfalfa weevils by now.

TARNISHED PLANT BUG: Field observations show adult numbers vary from 0-11 per 25 sweeps, with an average of 5 per 25 sweeps. A few small nymphs were noted on May 20 in La Crosse and Trempealeau counties.

## DEGREE DAYS JANUARY 1 - MAY 21

| LOCATION | 50°F | 2008 | NORM | 48°F | 40°F |
|---|---|---|---|---|---|
| *Dubuque, IA* | 361 | 306 | — | 356 | 772 |
| *Lone Rock* | 364 | 283 | — | 352 | 746 |
| *Beloit* | 373 | 337 | — | 369 | 785 |
| *Madison* | 344 | 275 | 415 | 342 | 721 |
| *Sullivan* | 364 | 323 | 399 | 359 | 757 |
| *Juneau* | 341 | 300 | — | 338 | 711 |
| *Waukesha* | 349 | 278 | — | 350 | 732 |
| *Hartford* | 332 | 269 | — | 335 | 700 |
| *Racine* | 320 | 235 | — | 323 | 676 |
| *Milwaukee* | 314 | 230 | 306 | 319 | 670 |
| *Appleton* | 278 | 234 | 332 | 266 | 595 |
| *Green Bay* | 235 | 199 | 319 | 232 | 535 |
| *Big Flats* | 331 | 255 | — | 313 | 665 |
| *Hancock* | 320 | 257 | 415 | 290 | 640 |
| *Port Edwards* | 307 | 243 | 381 | 294 | 627 |
| *La Crosse* | 362 | 270 | 447 | 328 | 746 |
| *Eau Claire* | 338 | 237 | 387 | 318 | 695 |
| *Cumberland* | 296 | 202 | 352 | 262 | 612 |
| *Bayfield* | 184 | 121 | 237 | 162 | 414 |
| *Wausau* | 249 | 212 | 331 | 238 | 540 |
| *Medford* | 268 | 190 | 284 | 245 | 569 |
| *Crivitz* | 222 | 179 | — | 208 | 498 |
| *Crandon* | 211 | 172 | 287 | 190 | 464 |

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

MEADOW SPITTLEBUG: Spittle masses are evident in southern alfalfa fields and in advanced areas of west-central Wisconsin where they occasionally average 1 per 100 stems. Nymphs are in the early instars and still quite small.

## SMALL GRAINS

BIRD OAT-CHERRY APHID: Small grains fields in the southern half of the state contain low numbers of this pest. Counts per 50 sweeps range from 2-15 in Columbia, Dane, La Crosse, Monroe, Richland and Trempealeau counties, with an average of 7 in the south-central district and 4 in the west-central district.

ENGLISH GRAIN APHID: This aphid is far less evenly distributed than the preceding species. The highest count was obtained in a field of oats in which an average of 10 per 50 sweeps was noted. Most fields are either devoid of this aphid or have populations of about 3 per 50 sweeps.

## CORN

EUROPEAN CORN BORER: The first emergence of moths can be expected over the weekend near Beloit and La Crosse where 362-373 degree days (base 50°F) had accumulated as of May 21. This annual event begins at approximately 374 degree days.

*European corn borer moth* *Steven House farm4.static.flickr.com*

BLACK CUTWORM: Small larvae were noted to have caused minor leaf injury to a few plants in a corn field near Evansville in Rock County. The infested area and degree of damage was inconsequential to the planting as a whole, but this observation emphasizes the need for surveillance of individual fields later this month. Larval development has accelerated in the last few days, and corn in advanced areas of the state will be susceptible to cutting by May 24.

## FRUITS

CODLING MOTH: Pheromone traps registered the start of the first flight of codling moths during the May 15-21 reporting period. The biofix was set at apple orchards in Crawford and Richland counties on May 19 and at several other locations in the past week. Peak emergence should not be expected until May 31 or later, after 500 degree days (base 50°F) have been surpassed.

*Codling moth* *Luciana Bartolini www.lucianabartolini.net*

GREEN FRUITWORM: Orchard IPM Specialist John Aue reports that populations are very high in some southern orchards (the highest he has ever seen). The larvae of this insect, which can be effectively controlled by sprays intended for plum curculio, currently are about half grown.

REDBANDED LEAFROLLER: A noteworthy decrease in numbers was charted in the last week. Counts averaged 26 moths per trap from May 15-21, which compares to an average of 46 moths during the previous week. Larvae are feeding in the terminals in southern and central Wisconsin orchards.

PLUM CURCULIO: Warm nighttime temperatures may have activated the movement of adults into orchards. Pyramid or screen traps used to monitor plum curculio activity should be placed near orchard perimeters and

checked weekly during the six-week migration period. Oviposition is likely to begin by May 27-28.

FALSE ARMYWORM: Numbers are increasing in the cranberry growing areas of Wisconsin. Larval populations presently are below threshold levels, but this may change with warmer conditions anticipated in the week ahead.

*Larva similar to false armyworm, Xylena sp.* *www.funet.fi*

BLACKHEADED FIREWORM: Larvae were noted for the first time this season at historic hotspots in Jackson, Monroe and Wood counties from May 8-14. Egg hatch has increased considerably since then. Small 1st instar caterpillars are appearing in higher numbers, and it is probable that the economic threshold of 2 larvae per set of 20 sweeps will be exceeded in some cranberry beds by next week. Flooding for 48 hours or more effectively controls first generation larvae.

SPINY LOOPER: First instar loopers were collected by sweeping in Adams, Jackson, Juneau, Monroe and Wood counties in the past week, according to reports from cranberry scouts. Defoliation by the larval stages is very characteristic and usually occurs in circular areas within beds, a pattern which reflects the manner of egg deposition by the flightless adult females. The economic threshold for this insect is 3-5 larvae in a continuous set of 20 sweeps.

BLACK SPANWORM/BLUEBERRY SPANWORM: Larvae of this insect are feeding on the new growth of developing cranberry buds in Jackson, Juneau and Wood counties. These black caterpillars with well-defined yellowish-orange sections and rows of black spots often appear on plants in large numbers at night. There is one generation per year in Wisconsin.

CRANBERRY REPORT: Cool weather conditions prevailed during the first weeks of May, and this resulted in a slow start for cranberry plantings. The accumulation of growing degree days has accelerated sharply in the last few days, but the season continues to lag behind normal. Low soil temperatures in the upper 40s to mid-50s earlier this month caused an uneven break in cranberry plant dormancy in some beds. Crop scouts report that insect activity has escalated noticeably in areas where 250-300 degree days have been surpassed. Warmer temperatures predicted for next week should help to advance development of the 2009 cranberry crop.

## WEEDS

CRITICAL PERIOD OF WEED CONTROL: Emerging corn is now entering the critical period of weed control, the interval in the crop life cycle during which weeds must be controlled to prevent yield loss. Corn fields kept relatively weed-free through the V6-V8 stages are unlikely to incur significant yield losses. For soybeans, the critical period of control extends through the V3 stage.

COMMON RAGWEED: Seedlings in corn fields averaged ¾ inch tall on May 20 in Dane, Green and Rock counties. Densities of 1-2 plants per $m^2$ were noted. A majority of plants are expected to have emerged following the accumulation of 305 degree days (base 50°F). This point has been surpassed throughout southern Wisconsin and in advanced west-central areas.

*Common ragweed in corn* *Clarissa Hammond DATCP*

VELVETLEAF: Secondary flushes of velvetleaf seedlings are appearing in V1-V3 Rock County corn fields. Densities currently are low, and range from 1-2 plants per $m^2$.

Velvetleaf is found principally in row crops, but may also be a problem in gardens and disturbed habitats. In corn fields, just 3 plants per foot of row can cause yield losses of 20% or more. In soybeans, 5 plants per $m^2$ may result in losses of 20-25%. This prolific producer of seeds will emerge in successive flushes over the next 6-8 weeks.

GARLIC MUSTARD: Second-year plants in the southern counties have begun to develop seed capsules. Because the seeds continue to mature even after garlic mustard is uprooted, plants must be bagged and disposed of to prevent seed dispersal. Pulled plants should not be composted since most piles do not generate sufficient heat to destroy all seeds.

GRASSES: Annual grasses such as giant foxtail, wild proso millet, and woolly cupgrass continued to appear this week in fields in the southern and central areas. Small ¼-1 inch seedlings were found in V1-V3 corn in Dane, Green and Rock counties, where densities ranged from 1-10 plants per $m^2$. At these levels, yield losses of 2-10% can be expected if herbicide applications are improperly timed.

## NURSERY & LANDSCAPE

GIRDLING ROOTS: Fraser firs in a Portage County tree farm died due to self-girdling roots, a condition aggravated by drought stress and severe winter temperatures. Laboratory testing eliminated fungal root rots, tip blight and cankers as potential causes of decline among the two-foot tall trees. Malformations of the root system, such as circling roots or roots that expand bilaterally rather than spreading out in all directions may result from machine planting. Abnormal growth patterns restrict water uptake and transport from the roots to the tree crown, eventually leading to decline and dieback of the crown from the top down. This disorder is a common cause of conifer decline and death in drought stressed areas of the state.

BACTERIAL BLIGHT OF PEAR: Pear trees of the variety 'Aristocrat' from a retailer in Rock County were found to be infected with the plant pathogenic bacterium *Pseudomonas syringae*. Symptoms of this disease can be strikingly similar to fire blight. In the sample submitted to the Plant Industry Laboratory, the new growth of branches and leaves had turned black and the succulent branch tips were withered. Blossoms and fruit can also be affected. Laboratory testing is required to differentiate between fire blight and bacterial blight. Bacterial blight is a common disease that also affects many species of trees and shrubs, including apple, lilac and roses.

BOTRYTIS: Botrytis or gray mold of geraniums was reported by DATCP nursery inspectors in Milwaukee, Racine and Walworth counties. This disease of greenhouse floral crops is characterized by chlorotic lower leaves or distinct brown leaf lesions that develop a grayish brown mass of fungal spores. Symptoms can develop at any stage and may affect any plant part. Measures that increase air circulation and reduce humidity levels should minimize its occurrence.

*Botrytis on geranium leaves* *Peg McMahon 2006*

VIRUSES: Inspectors found an assortment of viruses in Wisconsin nurseries this week. Tobacco rattle virus was observed on potted *Dicentra* plants in Iowa, Milwaukee, Racine, Sheboygan and Walworth counties. Hosta Virus X, perhaps the most prevalent disease affecting hostas, was detected in Clark, Eau Claire, Milwaukee, Oneida, Sheboygan and St. Croix counties. Rose mosaic virus was found on hybrid tea roses in Clark, Dane and Sheboygan counties. All of these viruses are spread mechanically through infected sap on tools. Proper sanitation is both an effective and practical control measure.

NON-HARDY STOCK: Routine inspections of nursery dealers frequently detect improperly labeled stock suited for warmer hardiness zones. For example, the large-leaf rhododendron varieties 'Lee's Pink Purple' and 'Ahah Kruschke' are not adapted to Zone 3 conditions in the far northern areas of the state, but nevertheless were offered for sale. It is illegal to sell or distribute non-hardy stock that cannot survive or grow in Wisconsin. Retailers are

required to provide signage or label woody landscape plants with the appropriate hardiness rating.

ANTHRACNOSE: Light amounts of this fungal disease were found on hostas in Racine County. Symptoms vary by plant species, but typically appear as irregular necrotic spots on the leaves that merge to form large dead areas. Leaves become increasingly less susceptible to infection as they reach full size. No corrective action is needed, aside from removing infected leaf litter and debris to reduce inoculum levels.

*Anthracnose on hosta* *www.mobot.org*

## TRAPPING NETWORKS

BLACK LIGHT TRAPS: Moth counts remained very low at all trapping locations during the May 15-21 reporting period. A few black cutworms, celery loopers, forage loopers, true armyworms and variegated cutworms were registered in the southern and east-central areas.

CORN EARWORM: Network cooperators should place traps by Thursday, May 28 to monitor the early migration of this pest into Wisconsin. In most years significant flights are not observed until late July or August, but on rare occasions problems have resulted from moths arriving in June. Begin reporting trap counts on June 4.

## FOREST

GYPSY MOTH SPRAY PROGRAM: The first of two aerial applications of Btk were made in Crawford, Grant, Green, Iowa and La Crosse counties on May 15 and in Vernon and Monroe counties on May 18 and 19. Approximately 15,720 acres were treated. Green County received a second application on May 21 to kill any late hatching larvae. Other counties scheduled to receive treatments next week are Clark, Chippewa and Eau Claire.

Btk is a naturally occurring soil bacterium that acts as a poison when digested by gypsy moth larvae. It is not toxic to people, pets, bees, plants or other wildlife. This product is listed as acceptable for use in organic food production by the Organic Materials Review Institute.

EASTERN TENT CATERPILLAR: Most larvae were in the 3rd and 4th instars as of May 21. The largest tents in the southern and central areas measure 16 inches long and 8 inches across, and complete defoliation of scattered roadside wild cherry trees is evident in Adams, Columbia, Juneau, Marquette and Waushara counties. In contrast to last spring when countless trees were infested with only a few tents, this season it appears that fewer trees are infested with multiple large tents. In some instances the available foliage in these heavily infested trees is insufficient to support the many developing larvae, which may lead to lower populations next year. Larvae should begin to migrate and show signs of pupation before the end of the month.

*Eastern tent caterpillar* *William Vann www.edupic.net*

# APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 15 - 21

| COUNTY | DATE | SITE | STLM[1] | RBLR[2] | CM[3] | OBLR[4] | OBLR[5] | AM RED[6] | AM YELLOW[7] |
|---|---|---|---|---|---|---|---|---|---|
| Bayfield | 5/15-5/21 | Keystone | 18 | 43 | — | — | | | |
| Bayfield | 5/15-5/21 | Bayfield Apple | 109 | — | 0 | — | | | |
| Bayfield | 5/12-5/18 | Port Wing | 23 | 2 | — | — | | | |
| Brown | 5/15-5/21 | Oneida | 650 | 55 | 4 | — | | | |
| Chippewa | 5/15-5/21 | Chippewa Falls 1 | — | — | 3 | 0 | 0 | | |
| Crawford | 5/15-5/21 | Gays Mills E | 160 | 44 | 6 | — | | | |
| Dane | 5/15-5/21 | Deerfield | 140 | 26 | 0 | — | | | |
| Dane | 5/15-5/21 | Stoughton | 37 | 52 | 5.5 | — | | | |
| Dane | 5/15-5/20 | West Madison | 17 | 2 | 0 | 0 | | | |
| Dodge | 5/15-5/21 | Brownsville | 5 | 4 | 0 | — | | | |
| Fond du Lac | 5/15-5/21 | Campbellsport | 80 | 25 | 0 | 10 | | | |
| Fond du Lac | 5/15-5/21 | Malone | 405 | 25 | 0.4 | — | | | |
| Fond du Lac | 5/15-5/21 | Rosendale | — | — | — | — | | | |
| Grant | 5/15-5/21 | Sinsinawa | 0 | 0 | 0 | 0 | | | |
| Green | 5/15-5/21 | Brodhead | 10 | 20 | 0 | 0 | | | |
| Iowa | 5/15-5/21 | Dodgeville | 68 | 10 | 0 | 2 | 5 | | |
| Iowa | 5/15-5/21 | Mineral Point | 33 | 20 | 2 | 4 | | | |
| Jackson | 5/15-5/21 | Hixton | 88 | 16 | 1 | 0 | | | |
| Kenosha | 5/15-5/21 | Burlington | 125 | 25 | 1 | 0 | | | |
| Marinette | 5/15-5/21 | Niagara | 1630 | 13 | — | — | | | |
| Marquette | 5/15-5/21 | Montello | 252 | 24 | 0 | 0 | | | |
| Ozaukee | 5/15-5/20 | Mequon | 60 | 4.5 | 0.1 | 0 | | | |
| Pierce | 5/15-5/21 | Beldenville | 2 | 3 | 16 | 0 | 1 | | |
| Pierce | 5/14-5/21 | Spring Valley | 192 | 80 | 0 | 0 | 0 | | |
| Racine | 5/15-5/21 | Raymond | 239 | 10 | 3 | 7 | | | |
| Racine | 5/15-5/21 | Rochester | 240 | 55 | 1 | — | | | |
| Richland | 5/13-5/20 | Hillpoint | 60 | 35 | 4 | — | | | |
| Richland | 5/15-5/21 | Richland Center | 225 | 70 | 19 | — | | | |
| Sheboygan | 5/15-5/21 | Plymouth | 125 | 56 | 0 | — | | | |
| Waukesha | 5/15-5/21 | New Berlin | 292 | 23 | 7 | 2 | | | |
| Walworth | 5/15-5/21 | East Troy | 50 | 5 | 0 | 0 | | | |
| Walworth | 5/15-5/21 | Elkhorn | 100 | 30 | 0 | 0 | | | |

[1]Spotted tentiform leafminer; [2]Redbanded leafroller; [3]Codling moth; [4]Obliquebanded leafroller EASTERN; [5]Oblique-banded leafroller WESTERN; [6]Apple maggot red ball; *Unbaited red ball; **Baited red ball; [7]Apple 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 | 5/15-5/21 | Chipp Falls | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Columbia | 5/15-5/21 | Arlington | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Dane | 5/15-5/21 | Mazomanie | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grant | 5/15-5/21 | Lancaster | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Manitowoc | 5/15-5/21 | Manitowoc | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Marathon | 5/15-5/21 | Wausau | — | — | — | — | — | — | — | — | — | — |
| Monroe | 5/15-5/21 | Sparta | — | — | — | — | — | — | — | — | — | — |
| Rock | 5/15-5/21 | Janesville | 0 | 6 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 |
| Walworth | 5/15-5/21 | East Troy | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wood | 5/15-5/21 | Marshfield | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 2 |

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