

# 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

Cooler and less humid weather arrived following last week's scorching heat wave. High temperatures ranged from the mid-60s to mid-80s during the week and were 5-10 degrees below normal seasonal values. Numerous thunderstorms with heavy rain developed in southern Wisconsin on July 21 as high pressure departed the region and low pressure approached from the northwest. Rainfall totals of 1-4 inches were recorded in several south-central and southeastern locations, with the heaviest amounts (3½-4 inches) falling near Racine in Racine County and Palmyra in Jefferson County. Rainfall in other parts of the state was scattered and mostly light. Although the precipitation provided relief to farmers and reproductive summer crops, most areas are still in need of moisture after a drier-than-normal July. Topsoil moisture is currently very short or short for 41% of Wisconsin crop lands, according to the USDA NASS Wisconsin Field Office.

## LOOKING AHEAD

**SOYBEAN APHID:** The first economic infestations of the year were found on July 22 in Waushara and Waupaca counties. Densities in 86 other fields sampled during the last reporting period ranged from 1-172 per plant, indicating wide variation in aphid pressure. Routine sampling

is especially critical at this time. Populations must reach or exceed the 250 per plant threshold for fields to qualify for treatment.

**WESTERN BEAN CUTWORM:** The emergence of western bean cutworm moths continued this week at southern and central monitoring locations. Egg deposition on corn and dry beans has intensified. The high count for the reporting period of July 17-24 was 29 moths near Marcellon in Columbia County.

**EUROPEAN CORN BORER:** Moths of the second flight are appearing in very low numbers in black light traps. The peak of summer moth activity is projected for 1,733 degree days (base 50°F), or the week of August 4-10 across most of southern Wisconsin. The optimal treatment window for second generation larvae has opened in the warmest areas of the state with the accumulation of 1,550 degree days.

**CORN ROOTWORM:** Beetles have become slightly more common in the past week. Peak emergence of the adult population is anticipated by early to mid-August. Corn acreage that has not been pollinated by early August will be at increased risk of silk clipping, reduced pollination and poor kernel set. A rescue treatment may be considered for infestations of five or more beetles per plant when the silks have been clipped to less than ½ inch and pollination is incomplete.

**APPLE MAGGOT:** Emergence increased in a few apple orchards, while most have not yet captured any flies this season. The high count for the period of July 18-24 was six flies on an unbaited red ball trap at Gays Mills in Crawford County. On the basis of projected degree day accumulations, peak emergence of the fly population should occur in the next two weeks at most southern monitoring sites.



Apple maggot fly

Werner Eigelsreiter bugguide.net

## FORAGES

**POTATO LEAFHOPPER:** Counts remain below two per sweep, despite this month's hot and mostly dry weather pattern. Surveys in Juneau, Monroe, Portage, Waupaca and Waushara counties yielded a range of 0.1-1.7 per sweep and an average of only 0.5. Scouting is recommended as long as counts continue to be variable.

**PEA APHID:** After several weeks of declining populations, individual alfalfa fields are again showing moderate to high numbers of aphids. Counts of 11-22 aphids per sweep were found at sites in Juneau, Monroe, and Waushara counties in the past week, although averages in most fields ranged from 1-3 per sweep. Pea aphid populations reached the highest levels of the season (20-29 per sweep) during the first two weeks of June and have been low relatively until now. Their resurgence in some fields suggests aphid fungal pathogens may not be regulating populations as conditions have become increasingly dry this month.

**GRASSHOPPER:** Moderate to high populations exist in fields on sandy soils in the central area. Average counts in the past week varied from 1-4 per sweep, but except-

## DEGREE DAYS JANUARY 1 - JULY 24

| LOCATION     | 50°F | 2012 | NORM | 48°F | 40°F |
|--------------|------|------|------|------|------|
| Dubuque, IA  | 1564 | 2098 | 1644 | 1565 | 2522 |
| Lone Rock    | 1516 | 2060 | —    | 1495 | 2461 |
| Beloit       | 1665 | 2159 | 1666 | 1608 | 2645 |
| Madison      | 1512 | 2062 | 1589 | 1522 | 2450 |
| Sullivan     | 1516 | 2041 | 1568 | 1529 | 2452 |
| Juneau       | 1420 | 1974 | —    | 1487 | 2335 |
| Waukesha     | 1363 | 1858 | —    | 1420 | 2263 |
| Hartford     | 1327 | 1841 | —    | 1387 | 2217 |
| Racine       | 1329 | 1822 | —    | 1402 | 2230 |
| Milwaukee    | 1298 | 1788 | 1462 | 1368 | 2184 |
| Appleton     | 1322 | 1817 | 1508 | 1374 | 2188 |
| Green Bay    | 1244 | 1729 | 1400 | 1303 | 2103 |
| Big Flats    | 1333 | 1850 | —    | 1337 | 2201 |
| Hancock      | 1342 | 1857 | 1541 | 1368 | 2208 |
| Port Edwards | 1298 | 1793 | 1506 | 1344 | 2139 |
| La Crosse    | 1480 | 2040 | 1739 | 1448 | 2399 |
| Eau Claire   | 1383 | 1863 | 1559 | 1425 | 2234 |
| Cumberland   | 1235 | 1611 | 1448 | 1278 | 2030 |
| Bayfield     | 879  | 1316 | —    | 892  | 1555 |
| Wausau       | 1201 | 1619 | 1416 | 1254 | 1993 |
| Medford      | 1234 | 1617 | 1292 | 1293 | 2030 |
| Crivitz      | 1156 | 1600 | —    | 1195 | 1963 |
| Crandon      | 1109 | 1440 | 1108 | 1141 | 1845 |

*Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2013.  
NORMALS based on 30-year average daily temps, 1981-2010.*

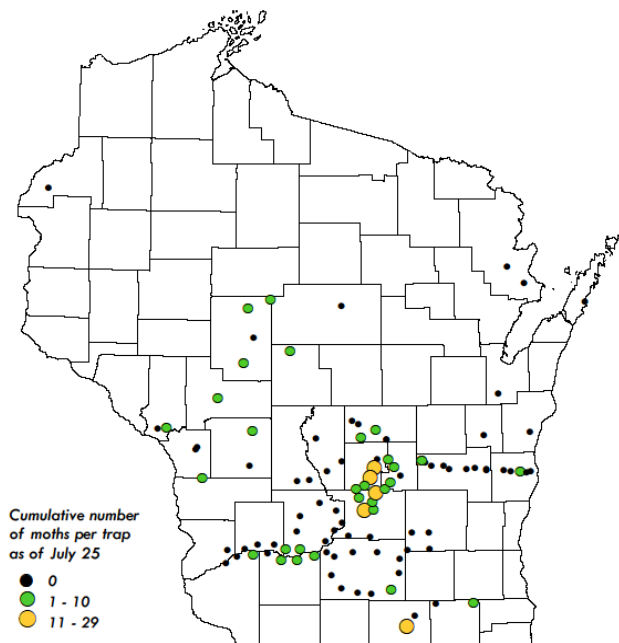
ional fields contained as many as 9-10 per sweep. Grasshoppers, like pea aphids, have become abundant in recent weeks because the bacteria and fungi that normally provide natural control are not as effective under hot, dry conditions. Alfalfa growers are advised to monitor the edges of fields for initial signs of grasshopper activity. Problems usually begin in the field margins and extensive damage can occur quickly, before the grasshoppers are noticed.

## CORN

**WESTERN BEAN CUTWORM:** Pheromone traps produced very few moths in the past week, despite very favorable nightly temperatures. The highest count was 29 moths near Marcellon in Columbia County. Peak flight, or 50% emergence of the adult population, should occur around 1,422 degree days, or from August 1-8 at most southern and central sites. Degree day accumulations (base 50°F) as of July 24 were 1,512 at Madison, 1,383

at Eau Claire, 1,342 at Hancock and 1,322 at Appleton. Oviposition on corn and dry beans has been under way since early July and is increasing. Treatment may be required for field corn with infestations affecting 5% of the plants at 90-95% tassel emergence. The economic threshold is 4% for processing sweet corn.

### 2013 Western Bean Cutworm Trap Counts



Wisconsin Department of Agriculture, Trade and Consumer Protection



**EUROPEAN CORN BORER:** The second flight began in the last reporting period with the capture of 1-11 moths from Janesville to Chippewa Falls. The appearance of summer moths signals that eggs are being deposited on corn, pepper, potato, snap beans and other vegetable hosts. At current temperatures, black light traps could register peak emergence during the second week of August in the southern and central districts. The treatment window for second generation larvae extends from 1,550-2,100 degree days (base 50°F).

**CORN EARWORM:** Moderate flights of 20-47 moths were registered at the Chippewa Falls, Sun Prairie, Wausau and Watertown pheromone trap sites during the last reporting period. Sweet corn growers statewide can expect corn earworm infestations by early to mid-August if silking fields are not monitored and treated promptly. Control is advised for counts of 5-10 moths in three consecutive nights and should be applied every 2-5 days until silks turn brown. The economic threshold for

tomatoes is seven moths per trap per week. Counts in the past week were as follows: Chippewa Falls 21, Coon Valley 0, Cottage Grove N 8, Green Lake 5, Janesville 1, Marshfield 2, McFarland 2, Ripon 4, Sun Prairie N 20, Sun Prairie W 6, Watertown 28 and Wausau 47.

## SOYBEANS

**SOYBEAN APHID:** Preliminary results of the annual survey now in progress indicate aphid populations have exceeded the economic threshold of 250 per plant in a very small percentage of Wisconsin soybean fields, while counts at most sites remain low. Examination of 88 soybean fields (R2-R3) as far north as Chippewa County during the period of July 16-24 found very low densities of 0-25 aphids per plant in 86% of fields, low densities of 26-100 per plant in 10% of fields, moderate densities of 101-249 per plant in 2% of fields, and economic densities of 309-325 per plant in 2% of fields (one field each in Waupaca and Waushara counties). Populations appear to be highest in the central districts at this time.

Surveys found many winged adults (alates) this week, indicating the aphids are redistributing within fields and may soon disperse to infest other fields. Also observed were significant populations of ladybeetles and parasitic wasps in the most heavily infested fields.

Soybean aphid populations build most rapidly at temperatures of 70-80°F and could increase markedly with the cooler weather predicted for the next several days. All soybean fields entering the early reproductive stages should be evaluated in the week ahead to assess aphid densities.



Soybean aphids

Krista Hamilton DATCP

**JAPANESE BEETLE:** Defoliation is increasing in soybeans and other crops. Beetles were observed in 42% of soybean fields sampled in the past week and leaf injury generally ranged from 5-10% field wide. Damage thus far has not justified treatment, but defoliation levels at some sites are approaching the 20% economic threshold for early reproductive (R1-R2) soybeans.

**GREEN CLOVERWORM:** Larvae of various sizes are causing light defoliation of soybeans from Kenosha County in the southeast to Chippewa County in the northwest. Counts are currently less than six per 100 sweeps. Larval populations should be monitored throughout August since treatment is occasionally required to prevent economic defoliation.



Defoliation caused by green cloverworm

Krista Hamilton DATCP

## FRUITS

**APPLE MAGGOT:** Captures on red spheres and yellow sticky traps increased slightly in the past week, with reports of flies from 11 of 32 monitoring locations. One half of the adult population is expected to appear by 1,600 heat units (base 50°F), which would place 50% emergence from July 24-August 7 in the southern half of the state and 1-2 weeks later in areas north of Green Bay. Counts have been low since emergence began three weeks ago and most sites have not reported any flies. The highest weekly count as of July 24 was six flies on a red sphere at Gays Mills in Crawford County. Continued maintenance of traps will be imperative as emergence increases in the next 2-3 weeks.

**SPOTTED WING DROSOPHILA:** Additional flies were trapped in Iowa County on July 18, bringing the total

number of counties with confirmed SWD detections this season to three. The flies were first collected in Vernon County on June 24 and a few others were trapped by UW-Madison researchers in Crawford County on July 16. As stated last week, the appearance of SWD should be viewed as an early warning to fruit growers to escalate monitoring efforts (checking traps twice weekly), install barrier netting, or make preparations for possible insecticidal control. The use of insecticides is not advised until SWD infestation is verified by trapping or visual inspection.



Spotted wing drosophila larva in raspberry

wrir4.ucdavis.edu

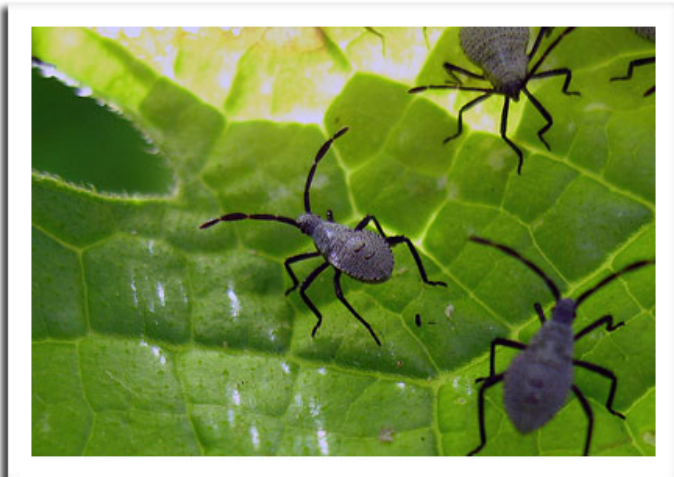
**SPOTTED TENTIFORM LEAFMINER:** The peak of flight activity appears to have occurred throughout southern and central Wisconsin where counts ranged as high as 795 per trap in the past week. Egg laying is likely to be very heavy as long as the moths are numerous. Apple orchards with populations greater than one mine per leaf or a history of infestation may consider treatment of second generation leafminer larvae to reduce build-up of leafminers after the third flight begins next month.

**CODLING MOTH:** Most apple orchards are 250 or more degree days (base 50°F) beyond the second biofix and treatment for second generation larvae has begun. An increase in moth counts from the spring to summer flight suggests that some degree of fruit injury is probable early next month and fruits should be closely inspected for damage. Apple growers are reminded to rotate insecticides between generations to prevent resistance to chemical materials. Selective larvicide applications are usually an acceptable alternative to orchard-wide treatment for sites with variable larval pressure between cultivars or blocks.

## VEGETABLES

**IMPORTED CABBAGEWORM:** Defoliation has become more prevalent and pronounced in cole crop plantings since early July. The larger larvae (approx. one inch in length) noted in Grant and La Crosse counties this week are capable of consuming more leaf area, causing larger holes in the leaves and producing more frass (fecal matter). The worms usually can be found on leaf undersides and inside the developing heads or growing points of plants. Treatment thresholds for this pest range from 10-75%, depending on whether the crop is intended for fresh market sale or processing.

**SQUASH BUG:** Reports suggest these difficult-to-control insects are a common problem in pumpkin, squash and melon crops this season. The treatment threshold for squash bugs is based on an average count of one egg mass per plant, although scouting for tiny eggs is often impractical in larger plantings. If the insects are numerous and wilting is observed, pyrethroid insecticides such as permethrin directed against the nymphs are an effective control. Growers should be aware that the efficacy of these materials is reduced at temperatures above 80°F and the smaller nymphs are more readily killed than the adults. Refer to UWEX publication A3422 "Commercial Vegetable Production in Wisconsin" for a list of registered insecticides.



Squash bug nymphs

shyzaboy flickr.com

## NURSERY & FOREST

**EUROPEAN ELM FLEA WEEVIL:** Moderate infestations of this pest were noted on several elm varieties in Dodge

and Jefferson counties. Damaged foliage showed the characteristic blotchy leaf mines resulting from larval feeding between the leaf tissues. Larvae pupate in the leaves and emerge as adult weevils by early July. Adults also cause feeding damage by chewing pinhead-sized, round holes in the foliage. Damage from this insect is primarily cosmetic and maintaining tree health is usually sufficient. If control is required, insecticides are effective against the adults and should be applied at emergence.

**DOTHISTROMA NEEDLE BLIGHT:** This damaging foliar disease was noted on Austrian pines at a nursery in Outagamie County. The causal fungus infects foliage and may kill pines after successive years of severe infection. Symptoms are usually most severe in the lower crown. Pines with dothistroma have needles that progressively turn light green, tan, and brown, while the bases remain green. Copper fungicides can be used to prevent infection. A mid-May application protects needles from previous seasons and a second application 4-6 weeks later protects current-year needles.



Dothistroma needle blight

A. Yanchuk

**RHIZOSPHAERA NEEDLECAST:** Discoloration of spruce trees in Outagamie County has been attributed to this fungal disease, characterized by browning and early needle loss starting on the lower branches. Needles are infected in spring, turn yellow in July, and then become purplish-brown by late summer and fall. Spruce trees may be treated with a fungicide in spring when the new growth reaches ½-2 inches long, and again 4-6 weeks later to prevent infection.

**OAK LEAF ROLLER:** The damage to red oaks in Price and Washburn counties caused by this leaf rolling insect is

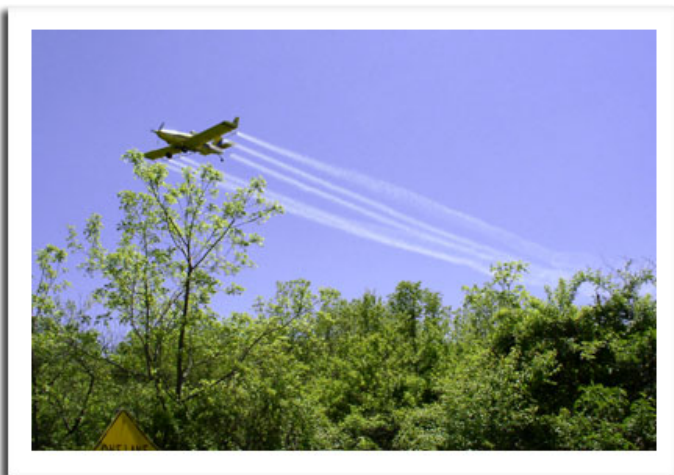
expected to subside as the larvae pupate in early August. Treatment to protect landscape oaks is seldom justified.



Oak leafroller nest

Konnie Jerabek DATCP

**GYPSY MOTH:** The 2013 aerial spray season concluded July 23 with the treatment of approximately 38,000 acres in Douglas and Washburn counties with mating disruptant. Nearly 163,000 acres were treated this year at 68 sites in 25 counties, mostly in the western part of the state. Forty-five sites totaling 29,000 acres were treated with Btk, 21 sites totaling 133,000 acres were treated with mating disruptant, and two sites totaling 720 acres were treated with Gypcheck.



Gypsy moth aerial treatment in Iowa County

Chris Whitney DATCP

## APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 18 - 24

| COUNTY      | SITE           | STLM <sup>1</sup> | RBLR <sup>2</sup> | CM <sup>3</sup> | OBLR <sup>4</sup> | AM RED <sup>5</sup> | YELLOW <sup>6</sup> |
|-------------|----------------|-------------------|-------------------|-----------------|-------------------|---------------------|---------------------|
| Bayfield    | Keystone       | 32                | 1                 | 0               | 16                | 2                   | 3                   |
| Bayfield    | Oriente        | 49                | 0                 | 0               | 16                | 0                   | 0                   |
| Brown       | Oneida         | 725               | 48                | 12              | 5                 | 0                   | 0                   |
| Chippewa    | Chippewa Falls | 0                 | 55                | 4               | 14                | 0                   | 0                   |
| Columbia    | Rio            | —                 | —                 | 0               | 0                 | 0                   | 0                   |
| Crawford    | Gays Mills     | 368               | 11                | 2               | 0                 | 6                   | 0                   |
| Dane        | Deerfield      | 795               | 9                 | 0               | 0                 | 0                   | 0                   |
| Dane        | Mt. Horeb      | 85                | 7                 | 0               | 0                 | 0                   | 0                   |
| Dane        | Stoughton      | 32                | 13                | 3               | 1                 | 0                   | 0                   |
| Dane        | West Madison   | 5                 | 5                 | 2               | 0                 | 1                   | 0                   |
| Fond du Lac | Campbellsport  | 30                | 33                | 0               | 1                 | 0                   | 0                   |
| Fond du Lac | Malone         | 46                | 87                | 2               | 0                 | 0                   | **1                 |
| Fond du Lac | Rosendale      | 99                | 35                | 1               | 2                 | 1                   | 2                   |
| Grant       | Sinsinawa      | 37                | 0                 | 18              | 10                | 0                   | 0                   |
| Green       | Brodhead       | 5                 | 10                | 13              | 0                 | 0                   | 0                   |
| Iowa        | Mineral Point  | 340               | 17                | 13              | 0                 | 0                   | 0                   |
| Jackson     | Hixton         | 45                | 0                 | 0               | 4                 | 0                   | 1                   |
| Kenosha     | Burlington     | 230               | 27                | 3               | 1                 | *1                  | 0                   |
| Marathon    | Edgar          | 47                | 18                | 3               | 8                 | 0                   | 0                   |
| Marinette   | Niagara        | 318               | 23                | 2               | 5                 | 0                   | 0                   |
| Marquette   | Montello       | 270               | 45                | 0               | 0                 | 0                   | 0                   |
| Ozaukee     | Mequon         | 300               | 56                | 6               | 1                 | *1                  | 0                   |
| Pierce      | Beldenville    | 569               | 218               | 12              | 12                | 4                   | 1                   |
| Pierce      | Spring Valley  | 190               | 42                | 0               | 0                 | 0                   | 0                   |
| Polk        | Turtle Lake    | 562               | 63                | 0               | 3                 | 0                   | 0                   |
| Racine      | Raymond        | 312               | 21                | 2               | 0                 | 0                   | 0                   |
| Racine      | Rochester      | 730               | 47                | 6               | 0                 | *1                  | *1                  |
| Richland    | Hillpoint      | 476               | 33                | 1               | 1                 | 0                   | 0                   |
| Sheboygan   | Plymouth       | 243               | 67                | 3               | 4                 | **4                 | 0                   |
| Walworth    | East Troy      | 38                | 0                 | 0               | 1                 | 0                   | 0                   |
| Walworth    | Elkhorn        | 68                | 0                 | 0               | 2                 | 0                   | 0                   |
| Waukesha    | New Berlin     | 154               | 3                 | 2               | 0                 | 0                   | 0                   |

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

| COUNTY      | 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    | Chippewa Falls   | 11               | 1               | 0                | 0                | 0                | 0               | 0                | 0                | 0                 | 0                 |
| Columbia    | Arlington        | —                | —               | —                | —                | —                | —               | —                | —                | —                 | —                 |
| Crawford    | Prairie du Chien | 0                | 0               | 0                | 0                | 0                | 0               | 0                | 0                | 0                 | 0                 |
| Dane        | Mazomanie        | 0                | 1               | 1                | 0                | 0                | 0               | 1                | 4                | 1                 | 0                 |
| Fond du Lac | Ripon            | 1                | 2               | 0                | 0                | 0                | 0               | 0                | 0                | 0                 | 0                 |
| Manitowoc   | Manitowoc        | 0                | 7               | 0                | 4                | 0                | 0               | 3                | 0                | 9                 | 6                 |
| Marathon    | Wausau           | 3                | 6               | 3                | 1                | 2                | 3               | 6                | 1                | 26                | 0                 |
| Monroe      | Sparta           | 3                | 0               | 0                | 0                | 0                | 0               | 0                | 15               | 0                 | 0                 |
| Rock        | Janesville       | 1                | 2               | 0                | 0                | 0                | 0               | 5                | 0                | 1                 | 0                 |
| Walworth    | East Troy        | 0                | 0               | 5                | 0                | 0                | 1               | 2                | 2                | 0                 | 0                 |
| Wood        | Marshfield       | 4                | 7               | 2                | 0                | 1                | 2               | 5                | 0                | 8                 | 0                 |

<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.