

# 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

Sunny, warm weather maintained nearly ideal conditions for growth of summer crops across Wisconsin. Sunday morning showers dampened the state with 0.1 to one inch of rainfall, and isolated thunderstorms on Wednesday brought a second round of rain to portions of the western and central regions. Moderate summer humidity and near- to above-normal temperatures accelerated development of field, fruit and vegetable crops, now in the mid-reproductive stages. Corn silking advanced 29 percentage points to 33% complete during the period ending July 17, four days ahead of both last year and the five-year average. Soybean blooming progress advanced 25 percentage points, and 70% of this year's soybean crop is at or beyond the flowering stage, 11 days ahead of last year and 13 days ahead of the average. Alfalfa and winter wheat harvesting also resumed following recent rain delays, and 89% of both crops are rated in the good to excellent categories.

## LOOKING AHEAD

**SOYBEAN APHID:** Surveys indicate aphid pressure is still low. Of the 74 soybean fields examined in the last two weeks, none had an average density greater than 19 aphids per plant. Moderate to high counts of 200-350 aphids can be found on individual plants in localized areas within fields, but field-wide averages remain low.

Insecticide treatment has not yet been justified for any site sampled by DATCP as of July 20. Monitoring of soybeans should be intensified in the next two weeks as more fields enter the intermediate reproductive stages (R3-R4) during which aphid populations usually peak.

**EUROPEAN CORN BORER:** Moths are appearing in low numbers in the Columbia, Dodge, Fond du Lac, Marathon and Walworth County black light traps and have been observed in corn near Galesville, La Crosse, and Lancaster since the last report. The peak flight of summer moths is projected for July 24-August 4 in the south-central, southwestern and central areas and August 4-12 in the southeastern and east-central areas. The treatment window for second-generation larvae has reopened in advanced southern and western locations with the accumulation of 1,550 degree days (modified base 50°F).

**CORN ROOTWORM:** Beetles have become more common since the first adults of 2016 were observed on July 5. Counts are still low at less than 0.2 beetles per plant. Corn with fresh silks should be inspected in the week ahead to ensure that pollination is not being impaired. A threshold of five or more beetles per plant has been established for fields where the silks have been clipped to less than ½ inch and pollination is incomplete.

**WESTERN BEAN CUTWORM:** Moth activity has peaked or is expected to peak next week across the southern half of

the state. As of July 20, the Wisconsin network of 72 pheromone traps has reported a cumulative total of 715 moths, already exceeding last year's cumulative capture of 644 moths in 96 traps. High counts in the past week were 42 moths in a pheromone trap near Markesan in Green Lake County and 32 moths in the Pardeeville (Columbia County) black light trap.

**CORN EARWORM:** Minor moth flights were registered in Dane, Dodge and Fond du Lac counties again this week. Numbers were extremely low at only 1-2 moths per trap. Egg deposition on corn silks is occurring and is likely to increase as larger flights of migrants arrive in August. Regular scouting should begin in fields with green silks.



Corn earworm larva

Krista Hamilton DATCP

## FORAGES & GRAINS

**POTATO LEAFHOPPER:** Counts remain low or moderate. Alfalfa fields surveyed in Chippewa, Dunn, Jackson, Monroe and Vernon counties in western Wisconsin showed 0.2-0.8 adults and nymphs per sweep, with an average of only 0.4 per sweep. Counts in surveyed fields in Columbia, Dane, Dodge, Fond du Lac and Green counties were generally lower and ranged from 0.1-0.3 per sweep. The relatively high proportion of fields with nymphs indicates reproduction is occurring and damaging populations could develop in fourth-crop alfalfa next month.

**PEA APHID:** Levels of this insect are increasing in some alfalfa fields after declining for seven weeks. Scattered fields now have counts of 3-5 aphids per sweep. The July 14-20 average of 1.4 per sweep compares to 0.3 per sweep the week before.

## DEGREE DAYS JANUARY 1 - JULY 20

LOCATION	50°F	2015	NORM	48°F	40°F
Dubuque, IA	1615	1549	1558	1728	2588
Lone Rock	1571	1480	—	1679	2506
Beloit	1657	1545	1578	1786	2628
Sullivan	1371	1202	1484	1467	2220
Madison	1541	1452	1505	1649	2443
Juneau	1357	1326	—	1460	2214
Racine	1422	1128	—	1543	2307
Waukesha	1324	1202	—	1417	2171
Milwaukee	1410	1138	1376	1535	2285
Hartford	1328	1202	—	1422	2176
Appleton	1293	1255	—	1399	2131
Green Bay	1270	1153	1322	1385	2104
Big Flats	1440	1377	—	1526	2266
Hancock	1440	1377	1460	1526	2266
Port Edwards	1416	1331	1425	1533	2258
La Crosse	1691	1552	1646	1831	2669
Eau Claire	1484	1386	1476	1592	2389
Cumberland	1241	1229	1367	1321	2060
Bayfield	1003	940	—	1063	1675
Wausau	1285	1157	1336	1362	2069
Medford	1185	1121	1218	1225	1931
Crivitz	1142	1075	—	1218	1863
Crandon	1132	1017	1048	1176	1827

*Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2016.  
NORMALS based on 30-year average daily temps, 1981-2010.*

**PLANT BUG:** Mixed populations of alfalfa and tarnished plant bugs currently average 0.5 per sweep across the lower two-thirds of the state, with a range of 0-1.2 per sweep. The week's highest count was recorded in Jackson County. Nymphs are generally more abundant than adults at this time.

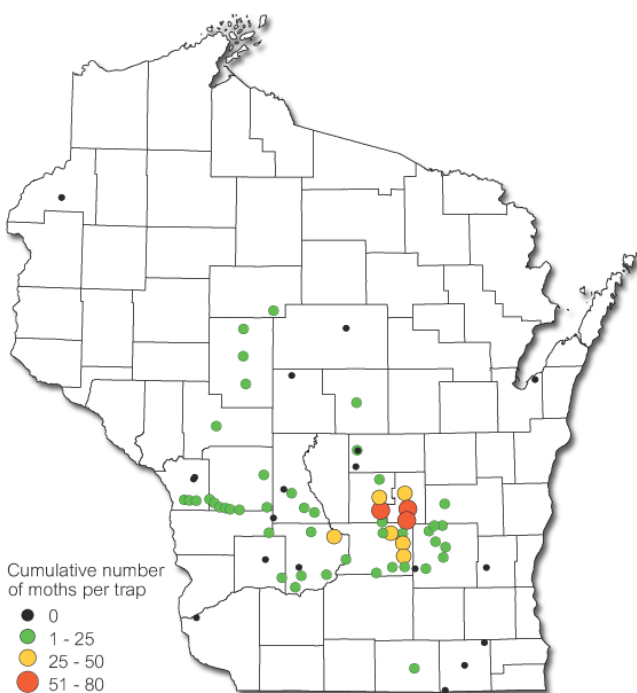
**ALFALFA CATERPILLAR:** Larvae are common in field collections, especially in south-central and west-central alfalfa fields where counts occasionally exceed one per sweep. Adults were also observed in high numbers in fields near the Mississippi River in Trempealeau, Buffalo and Pepin counties.

## CORN

**WESTERN BEAN CUTWORM:** Moth emergence accelerated with the warm weather of the past week and has peaked in some areas. According to the degree day model for this insect, 25-50% of the adult population has

emerged in the south-central, southwestern and west-central counties, 10-20% has emerged in the southeast and east-central counties, and emergence is beginning in the northern areas. The DATCP network of pheromone traps registered 644 moths from July 14-20, compared to 43 moths during the previous week. The state cumulative count thus far is 715 moths in 72 traps. Oviposition on corn and dry beans is intensifying. Scouting and possible treatment of economic infestations (8% of corn plants or 4% of sweet corn plants infested at 90-95% tassel emergence) is advised in the week ahead.

### Western Bean Cutworm Trap Counts 2016



Wisconsin Department of Agriculture, Trade and Consumer Protection 

**EUROPEAN CORN BORER:** Surveys at 39 sites this week found only two significant infestations affecting 40-52% of corn plants in Monroe and Vernon County fields. Fifth-instar larvae, pupae and new moths were the predominant developmental stages in the southern and west-central areas. The treatment window for the second larval generation has opened near Beloit, La Crosse, Madison and other locations where 1,550 degree days (modified base 50°F) have accumulated, and will stay open until 2,100 degree days are surpassed.

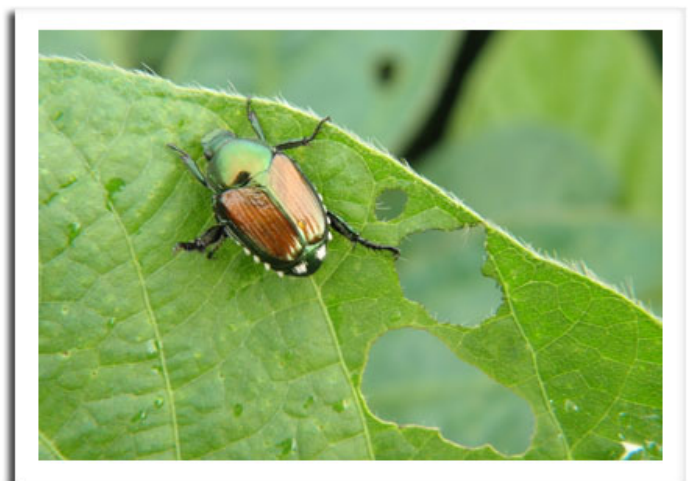
**TRUE ARMYWORM:** Larvae are common in low numbers in corn and alfalfa. DATCP surveys indicate that infestation rates range from 1-8% and are still well below the

25% treatment threshold. However, these recent field observations emphasize the need for continued inspection of corn and lodged grains.

## SOYBEANS

**SOYBEAN APHID:** Colonies on reproductive soybeans are low for late July. The average count in 45 fields sampled from July 14-20 was less than three aphids per plant. The highest average documented to date was only 18 aphids per plant in the Holmen area of La Crosse County. As previously mentioned, localized hot spots of several hundred aphids per plant are not unusual within some fields, but field-wide averages are still extremely low, emphasizing the need for thorough scouting before control decisions are made. Treatment is neither economical nor advisable until the threshold of 250 aphids per plant on 80% of the plants has been exceeded. Once again, aphid counts have not surpassed this level in any soybean field surveyed by DATCP this season.

**JAPANESE BEETLE:** This pest continues to cause light to moderate (5-15%) defoliation of soybeans, particularly along field margins. Infestations were noted in Dane, Dunn, Chippewa, Columbia, Green, Jackson, Monroe, Richland, Rock, La Crosse, Trempealeau and Winnebago counties this week. The economic threshold for Japanese beetle and other leaf feeding soybean pests decreases to 20% defoliation between bloom and pod fill. Spot treatment is an acceptable form of control for fields with the heaviest injury occurring in the perimeter areas.



Japanese beetle on soybean leaf

Krista Hamilton DATCP

**OBLIQUEBANDED LEAFROLLER:** Late-instar larvae remain common at low levels in soybean fields as far north as



Chippewa County. Survey observations suggest that this generalist leafroller, with an extremely broad host plant range that includes fruit trees, hardwoods, and some field crops, is unusually abundant this season. Adult moths should begin emerging before the end of the month.



*Obliquebanded leafroller larva* Eric Birschbach Ag Site Crop Consulting

## FRUITS

**APPLE MAGGOT:** Emergence continued this week, with several orchard locations reporting captures of 1-3 flies per trap. Elevated counts of 6-13 flies per trap were reported from Iowa and Sheboygan counties. Growers should reapply sticky coating to traps and maintain apple maggot controls as long as counts exceed the established economic thresholds of one fly per trap per week on unbaited traps or five flies per trap per week on baited traps.



*Apple maggot fly*

Phil Huntley-Franck bugguide.net

**POTATO LEAFHOPPER:** Pressure is reportedly high in some orchards and associated discoloration of new

shoots and mild hopperburn symptoms are appearing. One- to two-year-old, non-bearing apple trees are most susceptible to leafhopper feeding and should be monitored for leaf curling and yellowing caused by the adults and nymphs. Treatment is justified at levels of one or more nymphs per leaf when symptoms are evident.

**SPOTTED WING DROSOPHILA:** The UMN-Extension reports that SWD trap captures in the Minneapolis-St. Paul area have increased markedly during the previous two weeks and currently exceed 50 per trap at some raspberry monitoring sites. High counts have also been noted in blueberries and grapes. These numbers are significant and indicate a high risk of SWD infestation.



*Spotted wing drosophila maggot in raspberry*

umaine.edu

In Wisconsin, emergence of SWD flies also continues to increase and most fruit growers of susceptible small fruits have likely observed the flies or maggots by now. Recommended controls for conventional small fruit growers consist of repeated insecticide applications at four- to five-day intervals. A list of insecticide options can be found on the UW-Madison SWD website at <http://labs.russell.wisc.edu/swd/management-2/>. For organic operations, the OMRI-approved insecticides PyGanic and Entrust are available for SWD control.

**CODLING MOTH:** Most apple orchards are beyond the summer biofix and treatments for second generation larvae have started. Pheromone trap counts should be used at this time to assess efficacy of first generation control or a weakness in a codling moth management program. According to John Aue of Threshold IPM Services, orchards with counts that remain uniform from trap to trap during the second flight likely have a local, in-orchard population. If using organophosphates (Imidan)

for control of the summer generation, growers should replace trap liners before an application to monitor the effectiveness of the material. Moth counts that do not decline to zero or near-zero following treatment suggest resistance issues have developed and use of organo-phosphate material should be discontinued.

**OBLIQUEBANDED LEAFROLLER:** Larvae are primarily in the late-instar and pupal stages in the southern and western counties. Beyond the first and second instars, this leafroller becomes increasingly difficult to control and much of its feeding damage has already occurred. Emergence of the summer brood of moths is anticipated by early August.

## VEGETABLES

**SQUASH BUG:** Economic counts of two to three egg masses per plant were observed this week on squash in a Dane County home garden. Continued scouting of lower leaf surfaces for eggs is strongly advised and controls should be implemented for flowering plants when a threshold of more than one egg cluster per plant is found. If not controlled at this time, plant damage and yield loss can be expected. Handpicking all stages from the undersides of leaves is suggested if only a few plants are affected, or dusting diatomaceous earth over plants can help reduce numbers. If levels become intolerable, spot treatment with an organic insecticide or a pyrethroid may be justified. Insecticide products are generally only effective against the small, newly hatched nymphs.



Squash bug eggs

Krista Hamilton DATCP

**COLORADO POTATO BEETLE:** Second-generation larvae are appearing on potatoes in the southern and west-

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 consecutive use of the same insecticide product or the use of different products with similar modes of action.



Colorado potato beetle larvae

Krista Hamilton DATCP

**ONION DOWNY MILDEW:** The confirmation of onion down mildew (ODM) in Rock County by the UW last week should signal to onion growers to begin closely monitoring production fields and gardens for disease symptoms. ODM is a very destructive disease that can rapidly develop and spread throughout onion plantings when temperatures are favorable (less than 72°F) and foliage remains wetted by dew, fog, humidity, irrigation or rain. Symptoms are most noticeable on older leaves and seed stalks, and include small whitish spots that elongate and produced violet, velvety growth on the foliage surface. Infected leaves become pale green or yellow, turn brown and then collapse. Although ODM does not kill onion, it can reduce bulb quality and yield, and can affect storability. Growers who suspect ODM are advised to submit a sample to the UW Plant Disease Diagnostic Clinic for confirmation.

**LATE BLIGHT:** Disease severity value accumulations in the state's primary potato production regions (i.e., Antigo, Grand Marsh, Hancock and Plover) have far exceeded the late blight risk threshold, thus conditions required for disease development have been met. Home gardeners



and farmers, whether conventional or organic, should consider preventive fungicide applications to protect their tomatoes and potatoes. Registered fungicides for potato late blight in Wisconsin are listed at the UW-Madison Vegetable Pathology website: <http://www.plantpath.wisc.edu/wivegdis/pdf/2016/Potato%20Late%20Blight%20Fungicides%202016.pdf>. No cases of late blight have been confirmed in Wisconsin as of July 20.

**CUCURBIT DOWNY MILDEW:** Growers of cucumbers and other susceptible vine crops should select protectant fungicides soon and prepare to begin weekly treatments now that CDM inoculum has arrived in the Great Lakes region (in southwestern Michigan). UW Vegetable Pathologist Dr. Amanda Gevens recommends a seven-day spray interval for cucumbers until CDM is confirmed in the state, followed by a five-day interval once CDM is found. A seven to 10-day interval is appropriate for cantaloupe, gourd, melon, pumpkin, squash and zucchini. Fungicide options are listed in UW-Extension publication A3978: <http://learningstore.uwex.edu/Assets/pdfs/A3978.pdf>. CDM and other water mold diseases are best managed before symptoms develop.



Cucurbit downy mildew angular lesions on cucumber [www.planetnatural.com](http://www.planetnatural.com)

## NURSERY & FOREST

**BRONZE BIRCH BORER:** Signs of this wood-boring beetle were observed on the trunks of 'Renaissance' birch trees in St. Croix County last week. Adult bronze birch borers infest trees weakened or stressed due to drought, disease, sun exposure or nutrient deficiency. Larval feeding beneath the bark results in the girdling of branches and stems. Infested trees also develop swellings or bumps on the trunk around the feeding tunnels.

Immediate removal and destruction of infested birch is recommended since this insect kills its host within just a few years.



Bronze birch borer damage beneath bark

Ellen Natzke DATCP

**ASTER YELLOWS:** This aster leafhopper-transmitted disease was found on Echinacea 'Pink Double Delight' at a nursery in Saint Croix County last week. Symptoms of infection include abnormal flowers, irregular stem growth, and green, stunted ray and disk petals. The aster yellows phytoplasma persists in both wild and cultivated coneflowers and other perennial or biennial hosts over the winter months, thus infected plants may act as reservoirs next spring. Removal and destruction of symptomatic plants is the recommended control method.



Aster yellows on purple coneflower

Konnie Jerabek DATCP

**ANTHRACNOSE:** Nursery inspectors report that oak and Korean maple trees at nurseries in Eau Claire and St. Croix counties are exhibiting foliage with brown, necrotic spots and premature leaf loss due to this fungal disease.

Anthraco-nose rarely causes permanent damage to trees unless severe symptoms persist for several consecutive years. Pruning branches to open the canopy and promote airflow, as well as raking fallen leaves, may reduce its incidence next season.

**EMERALD ASH BORER:** Beetle emergence has peaked across much of the state with the accumulation of 1,000 degree days (modified base50°F), except in the far northern counties. Monitoring of the nearly 800 EAB traps set in Wisconsin's non-quarantined counties is beginning now that most of the adult population has emerged.

No first detections in previously uninfested counties or changes to the EAB quarantine have occurred since EAB was last found in Juneau County on June 15. However, adult beetles continue to be reported from known infested areas of the state, including several locations in Waukesha County on July 13 and 15, and in Dodge County on July 10. New EAB infestations were also found in the towns of Jackson and Rome in Adams County during the last two weeks, although Adams County is already quarantined for EAB. Current information on EAB detection can be found at [emeraldash-borer.wi.gov](http://emeraldash-borer.wi.gov) by selecting "Where has EAB been found".

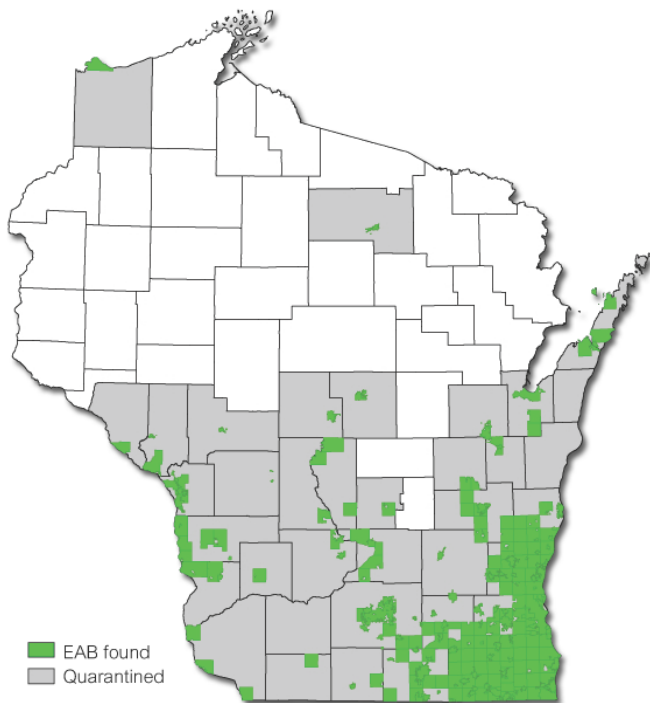
**GYPSY MOTH:** Aerial treatments ended for the season on July 18. The Slow-the-Spread Program treated 221,158 acres in 19 western Wisconsin counties and the DNR Suppression Program treated 102 acres in two counties. Spraying began on May 12. Trap setting was completed on July 20, with 11,353 gypsy moth traps set across the state. Moths and egg masses have been reported in the southern part of the state. Homeowners in high gypsy moth population areas can begin inspecting trees on their property for egg masses at this time. Removal of egg masses within reach is encouraged.



Female gypsy moth and egg mass

Nolan Stracke DATCP

EAB Detections 2008 to July 20, 2016



■ EAB found  
■ Quarantined

## APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 14 - 20

COUNTY	SITE	STLM <sup>1</sup>	RBLR <sup>2</sup>	CM <sup>3</sup>	OBLR <sup>4</sup>	APB <sup>5</sup>	LPTB <sup>6</sup>	DWB <sup>7</sup>	AM RED <sup>8</sup>	YELLOW <sup>9</sup>
Bayfield	Keystone	6	0	4	7	0	4	0	0	5
Bayfield	Orienta	0	0	0	25	0	6	9	—	—
Brown	Oneida	800	89	1	6	0	7	55	0	0
Columbia	Rio	113	97	2	0	0	0	0	0	**0
Crawford	Gays Mills	7	43	2	0	—	—	10	3	—
Dane	DeForest	—	—	—	—	—	—	—	—	—
Dane	Edgerton	—	—	—	—	—	—	—	—	—
Dane	McFarland	57	1	1	—	—	—	—	—	*5
Dane	Mt. Horeb	91	216	2	0	7	14	21	0	0
Dane	Stoughton	79	103	8	0	5	2	2	1	3
Fond du Lac	Campbellsport	150	55	0	12	3	5	20	0	3
Fond du Lac	Malone	33	67	5	2	0	0	5	**1	0
Fond du Lac	Rosendale	87	41	1	5	0	1	7	1	0
Grant	Sinsinawa	—	—	—	—	—	—	—	—	—
Green	Brodhead	8	60	1	0	0	4	48	0	0
Iowa	Mineral Point	610	225	13	6	5	7	33	*13	1
Jackson	Hixton	92	17	2	5	0	2	2	0	1
Kenosha	Burlington	174	51	3	1	1	5	130	0	0
Marathon	Edgar	623	76	5	10	0	9	97	0	0
Marinette	Niagara	140	24	0	9	0	1	8	0	0
Marquette	Montello	721	61	0	5	—	—	—	—	—
Ozaukee	Mequon	200	21	4	1	—	—	—	*1	—
Pierce	Beldenville	0	23	0	0	0	1	10	1	0
Pierce	Spring Valley	157	27	0	0	0	17	109	0	0
Racine	Raymond	134	135	4	2	12	18	79	0	0
Racine	Rochester	130	15	13	0	0	0	10	*3	0
Richland	Hill Point	77	43	0	2	2	5	32	**0	**0
Sheboygan	Plymouth	585	45	4	6	0	5	27	**6	0
Walworth	East Troy	—	—	—	—	—	—	—	—	—
Walworth	Elkhorn	—	—	—	—	—	—	—	—	—
Waukesha	New Berlin	25	9	4	1	13	0	44	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>American plum borer; <sup>6</sup>Lesser peachtree borer; <sup>7</sup>Dogwood borer; <sup>8</sup>Apple maggot red ball; \*Unbaited; \*\*Baited; <sup>9</sup>Apple maggot yellow board.

COUNTY	SITE	BCW <sup>1</sup>	CEL <sup>2</sup>	CE <sup>3</sup>	DCW <sup>4</sup>	ECB <sup>5</sup>	FORL <sup>6</sup>	SCW <sup>7</sup>	TA <sup>8</sup>	VCW <sup>9</sup>	WBC <sup>10</sup>
Columbia	Arlington	0	4	0	0	0	0	0	1	0	15
Columbia	Pardeeville	1	1	0	1	4	6	0	1	0	32
Dodge	Beaver Dam	0	3	1	0	3	2	0	0	0	5
Fond du Lac	Ripon	0	0	0	0	1	0	0	0	0	3
Grant	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	2	0	0	10	7	21	4	1	0	3
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	1	0	0	0	0	0	3	0	0
Walworth	East Troy	0	0	0	0	1	6	0	0	0	10
Wood	Marshfield	9	1	0	2	0	6	1	5	0	4

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