

# 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

Cooler and less humid conditions early in the week replaced hot, unsettled weekend weather. After thunderstorms with damaging winds, large hail, and heavy rain of 1.0-2.5 inches impacted portions of the state on July 13 and 14, a cold front on July 16 brought dry, beautiful summer weather and an end to the heat. Sunshine with fair weather cumulus clouds led to comfortable high temperatures in the 70s and lower 80s, while lows dipped into the 40s and 50s in northern Wisconsin, with 50s and lower 60s across the south. The favorable temperatures promoted fieldwork and summer crop development, now ahead of average despite significant planting delays. Corn silking advanced 24 percentage points to 30% complete as of July 15, seven days ahead of last year and six days ahead of the 5-year average. Soybean blooming progressed at a rapid pace, with a gain of 20 percentage points during the week. Statewide, 13% of soybean acreage had begun setting pods, four days ahead of both last year and the 5-year average.

## LOOKING AHEAD

**WESTERN BEAN CUTWORM:** Moth activity is expected to peak next week across the southern half of the state. As of July 18, the Wisconsin network of 55 pheromone traps has reported a cumulative total of only 82 moths, well be-

low last year's capture of 440 moths in 69 traps. High counts in the past week were 17 moths in one pheromone trap each in Pepin and Rock counties, and 10 moths the Wausau black light trap.

**CORN ROOTWORM:** Beetle emergence began approximately two weeks ago. Counts this week were very low at 0.1-0.3 per plant, with the beetles mostly limited to silking plants at the edges of advanced fields. Inspection of corn with emerging silks should be underway. An average of five or more beetles per plant and silks that have been clipped to less than ½ inch suggest pollination is being impaired.

**SOYBEAN APHID:** Surveys indicate aphid pressure remains low. Of the 73 soybean fields examined in the last two weeks, none had an average density greater than 25 aphids per plant. Moderate counts of 100-250 aphids could be found on individual plants in localized areas within fields, but field-wide averages were low. Insecticide treatment has not yet been justified for any site sampled by DATCP in July. Scouting to assess soybean aphid densities should continue weekly through mid-August.

**BROWN MARMORATED STINK BUG:** As many as 10 BMSB adults and 25 nymphs were captured on a clear panel trap in Madison from July 14-18, confirming a marked increase in first-generation stink bug activity in Dane County. The appearance of nymphs also signals a po-

tential for increased activity and fruit injury in southern Wisconsin apple orchards. Growers participating in the DATCP monitoring program are encouraged to closely check traps for BMSB next week. Any suspects should be photographed and images sent to PJ Liesch at the UW Insect Diagnostic Lab for confirmation (pliesch@wisc.edu).



Brown marmorated stink bug nymph on raspberry Ric Bessin UK

**EUROPEAN CORN BORER:** Moths continue to appear in low to moderate numbers in black light traps. The peak flight of summer moths is projected for the week of July 22 in the south-central, southwestern and west-central areas, and July 29-August 4 in the southeastern and central counties. 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 EARWORM:** Minor moth flights were registered in Dane, Columbia, Dodge and Fond du Lac counties again this week. Numbers were low at only 1-8 moths per trap. Egg deposition on corn silks is occurring and is likely to increase as more migrants arrive this month. Routine scouting is recommended for sweet corn with green silks.

## FORAGES & GRAINS

**POTATO LEAFHOPPER:** Alfalfa fields surveyed in Dodge, Fond du Lac, Sheboygan, Washington and Winnebago counties contained low counts of fewer than 0.3 adults and nymphs per sweep, with an average of only 0.1 per sweep. Economic populations above two leafhoppers per sweep (for 12-inch alfalfa) were not observed by DATCP this week, though a report from Chippewa County indicates that leafhopper counts there have exceeded thresh-

## DEGREE DAYS JANUARY 1 - JULY 18

LOCATION	50°F	2017	NORM	40°F
Dubuque, IA	1812	1700	1536	2801
Lone Rock	1613	1509	—	2564
Beloit	1577	1540	1555	2521
Sullivan	1472	1420	1462	2371
Madison	1572	1493	1483	2506
Juneau	1502	1402	—	2397
Racine	1348	1363	—	2224
Waukesha	1399	1372	—	2280
Milwaukee	1400	1357	1354	2285
Hartford	1444	1356	—	2332
Appleton	1508	1330	—	2367
Green Bay	1462	1289	1301	2313
Big Flats	1525	1385	—	2417
Hancock	1413	1278	1439	2259
Port Edwards	1431	1268	1405	2284
La Crosse	1702	1543	1623	2646
Eau Claire	1612	1409	1454	2490
Cumberland	1331	1072	1347	2137
Bayfield	1107	807	—	1846
Wausau	1303	1118	1316	2119
Medford	1266	1067	1199	2072
Crivitz	1356	1168	—	2166
Crandon	1233	969	1033	2013

*Method: Modified B50; Modified B40 as of January 1, 2018. NORMALS based on 30-year average daily temps, 1981-2010.*

olds in new alfalfa seedings. Immature nymphs can be found in most fields at this time.

**PEA APHID:** Levels of this insect in eastern Wisconsin alfalfa were generally low at less than 3 aphids per sweep. The July 12-18 average of 2.5 per sweep is far below the high counts of 9-30 aphids per sweep recorded during the previous week in the northeastern region.

**ALFALFA CATERPILLAR:** Larvae are prevalent in field collections, especially in southern and western alfalfa fields where counts occasionally average 0.2-4 per sweep (20-40 per 100 sweeps). Adults are also common in alfalfa, signaling that egg laying is occurring and more larvae should appear soon.

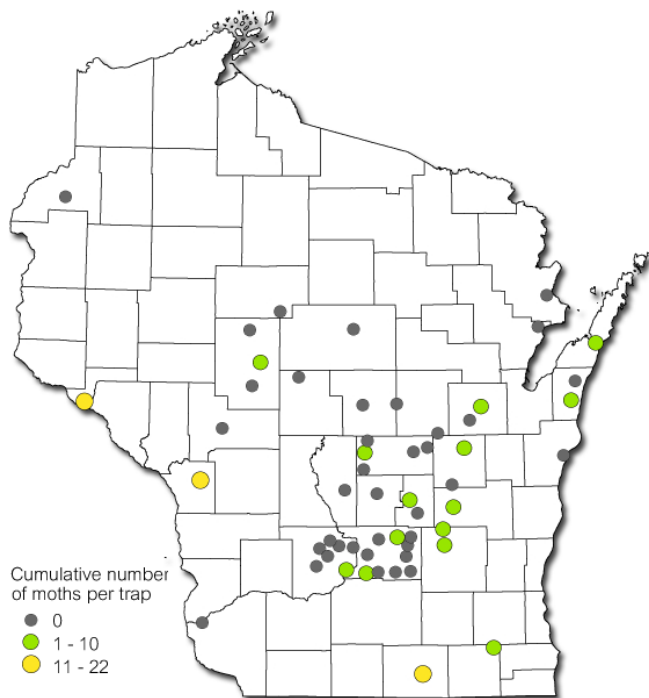
**PLANT BUG:** Mixed populations of alfalfa and tarnished plant bugs currently average 0.4 per sweep, which is very low in comparison to the 5.0 plant bug per sweep threshold. The week's highest count was noted in Winnebago County. UW Entomologist PJ Liesch reports that tarnish-

ed plant bug fruit damage has been noted this month in south-central Wisconsin, and this species is also suspected to be the cause of distorted strawberries in Portage County.

## CORN

**WESTERN BEAN CUTWORM:** Moth emergence increased only slightly during the past week. According to the UNL-UMN prediction model for this insect, 25% of moth flight should now be complete across the southern half of the state following the accumulation of 2,577 degree-days (modified base 38°F/max 75°F). The annual flight will likely peak next week in the southern counties. The DATCP network of pheromone traps registered a total of 55 moths from July 12-18, and only 21 moths during the previous week. The current state cumulative count of 82 moths in 55 traps is far lower than the 440 moths captured in 69 traps by the same time last season. Although the annual trapping survey has captured very few moths thus far, field scouting to estimate egg density is recommended at this time.

### Western Bean Cutworm Counts 2018



Wisconsin Department of Agriculture, Trade and Consumer Protection



**JAPANESE BEETLE:** Beetles are prevalent in low to moderate numbers in corn. DATCP surveys indicate that counts range from 1-20 beetles per 100 plants and are still well

below the economic threshold of three or more beetles per ear, when silks are being clipped to ½-inch during pollination. Infestations are generally limited to the field margins. Beetles are expected to grow more numerous and damaging as silks become more widely available. Scouting several areas in the field interior, in addition to field edges where beetles are usually concentrated, is suggested for corn that has reached the silking stage.



Japanese beetle damage to corn leaf

Krista Hamilton DATCP

**EUROPEAN CORN BORER:** Contrary to the European corn borer development model which suggests moth counts should be increasing as the peak of the second flight approaches in 1-2 weeks, most black light traps counts captured fewer moths this week (73 total) than in the previous week (153 total). Surveys of corn this week found no significant infestations in Dane, Columbia and Jefferson counties. The treatment window for the second-generation larvae has opened near Beloit, La Crosse, Madison and other southern and western locations where 1,550 degree days (modified base 50°F) have accumulated, and will remain open until 2,100 degree days are surpassed.

**REDHEADED FLEA BEETLE:** Significant numbers of this flea beetle were observed in corn in Clark and Taylor counties. According to the report, the beetles were abundant in six fields checked, where they were clipping silks and causing noticeable defoliation of the corn leaves. The window-paning injury caused by this flea beetle species is similar to leaf feeding of adult corn rootworm beetles and is usually superficial. Although this beetle is not considered major threat to field crops and control is rarely warranted, the locally high populations observed suggest fruit, vegetable and soybean growers in the north-central region should also watch for an in-

crease in activity. Flea beetles typically hatch in July and August and feed on plants until September.



Redheaded flea beetle

Steven Rettke rutgers.edu

## SOYBEANS

**SOYBEAN APHID:** Colonies on reproductive soybeans are low for mid-July. The average count in 31 fields sampled from July 12-18 was less than one aphid per plant. The highest average documented to date is only 25 aphids per plant in the Centerville area of Trempealeau County.



Soybean aphids

Krista Hamilton DATCP

Localized spots of 100-200 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. Insecticide treatment is not warranted 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 month.

**JAPANESE BEETLE:** This pest continues to cause light to moderate defoliation (5-10%) of soybeans along field margins. Infestations were noted in Columbia, Dane, Dodge, Fond du Lac, Jefferson, Sheboygan, Washington, 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. Limited spot treatment should be adequate to control beetles in fields where severe leaf feeding injury is confined to the perimeter areas.

**GREEN CLOVERWORM:** Low populations have been observed in southern Wisconsin soybeans since the first week of July. Defoliation attributed to this caterpillar and other leaf feeding pests has not surpassed the 20% threshold for reproductive soybeans. The last serious cloverworm outbreaks occurred in 2010.



Defoliation caused by green cloverworm

Krista Hamilton DATCP

## FRUITS

**APPLE MAGGOT:** Emergence continued in the past week in Wisconsin orchards. Economic counts of 3-7 flies per unbaited trap were reported from Grant, Iowa, Marathon, Pierce and Racine 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.

**CODLING MOTH:** Most apple orchards are beyond the summer biofix and treatments targeting second-generation larvae have started. Pheromone trap counts should be used at this time to assess efficacy of first-generation control or to identify a deficiency in the current 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 organophosphate use should be discontinued.



Codling moth larva

Barry Potter fruitforum.wordpress.com

**RASPBERRY CANE BORER:** Raspberry canes in Dane County are showing wilted, blackened tips caused by this wood-boring beetle. Borer damage can be identified by two rings about 1/2 inch apart located 4-6 inches below the growing tip. An egg is inserted into the cane between the two rings. Symptoms become more conspicuous as the larva burrows to the base of the cane, causing the entire cane to die before the fruit matures. Infested tips should be pruned several inches below the lowest girdle mark as soon as they are noticed.



Wilted tip caused by raspberry cane borer Mark Longstroth MSU Extension

**JAPANESE BEETLE:** Apple orchards in southern and western Wisconsin are reporting heavy beetle populations (especially on 'Honeycrisp'), with significant damage to foliage and the terminal ends of branches along orchard perimeters. If the beetles are causing unacceptable injury and treatment is required, growers can minimize insecticide use by spot treating only the most infested varieties.

Insecticide options for this pest are limited. Growers who prefer a reduced-risk approach can apply a neonicotinoid at the first sign of feeding injury and before large aggregations appear. Neonicotinoids, e.g., Assail (acetamiprid), Actara (thiamethoxam), offer good repellency and mortality within a few days. Additionally, imidacloprid products, e.g., Admire Pro, Alias, and Wrangler, applied for apple maggot have anti-feeding properties and should also offer some Japanese beetle repellency.



Japanese beetles

Tim Allen DATCP

Where large aggregations have already formed and pressure is severe, a combination of a broad-spectrum insecticide, e.g., 1 - 2 lb. of Imidan (phosmet) tank mixed with a neonicotinoid may give much better management of this pest. Carbamates and pyrethroids are also effective but are much more disruptive to biological controls and other natural enemies in the orchard. Never spray when bees are foraging.

Organic producers have the option of applying PyGanic (pyrethrins) or neem (azadirachtin) oil products, e.g., Azadirect, Neemix, and Trilogy. It is important to be aware that a botanical insecticide such as neem may be phytotoxic if tank-mixed with other pesticides. If these treatments are required late in the season, be aware of pre-harvest intervals.

**SPOTTED WING DROSOPHILA:** Infestations of small fruits are intensifying, and damage is already being reported on some fruit farms and in community gardens. Cultural management practices are particularly important for reducing SWD infestation and population buildup at this time. Netted exclusion of the plant canopy, sanitation and orchard/berry floor management, and cooling fruit to 34-38°F immediately after harvest are all advised.

Chemical control of SWD is intensive and involves insecticide applications at the onset of adult activity to prevent adult egg laying, short intervals between sprays, and insecticide rotation. For organic operations, the OMRI-approved insecticides PyGanic and Entrust are available. A list of insecticide options for conventional small fruit growers can be found on the UW-Madison SWD website: <http://labs.russell.wisc.edu/swd/management-2/>.



Spotted wing drosophila trap

Krista Hamilton DATCP

**OBLIQUEBANDED LEAFROLLER:** Larvae are primarily in the late instars 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 August.

**SPOTTED TENTIFORM LEAFMINER:** The second flight has peaked in most southern and central apple orchards and sapfeeder larvae are reappearing. The economic threshold for the third and final generation increases to five mines per leaf.

**POTATO LEAFHOPPER:** Pressure is reportedly high in northwestern Wisconsin. 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.

## VEGETABLES

**STRIPED CUCUMBER BEETLE:** Although these insects have been scarce so far this season, growers of cucurbits should continue to monitor plants for beetles and signs of bacterial wilt. Control is warranted for populations of one beetle per plant in cucumbers and young pumpkins, and five beetles per plant in watermelon and squash.

**LATE BLIGHT:** Disease severity value accumulations in the state's primary potato production regions (i.e., Antigo, Grand Marsh, Hancock and Plover) have exceeded the late blight risk threshold, thus conditions are appropriate for disease development. 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/2018/2018%20Potato%20Late%20Blight%20Fungicides.pdf>. No cases of late blight have been confirmed in Wisconsin as of July 19.



Late blight symptoms on tomato leaves

Sandy Feather Penn State

**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 forma-

tion. Treatments applied after egg hatch and before the majority of the larval population reaches the destructive fourth-instar stage are most effective. Potato growers who opt to chemically control the larvae should follow CPB resistance management guidelines by avoiding consecutive use of the same insecticide product or products with similar modes of action.



Colorado potato beetle larvae

Krista Hamilton DATCP

## NURSERY & FOREST

**GUIGNARDIA LEAF SPOT:** Leaf spots on buckeye trees indicative of this fungal disease were observed at a nursery in Rock County. The large, blotchy leaf spots with yellow margins may cause early defoliation when infection is severe, particularly during wet summers. Removal and destruction of fallen leaves may help reduce infection in future years. Because this disease is primarily aesthetic and does not threaten the long-term survival of the tree, chemical control is not advised.

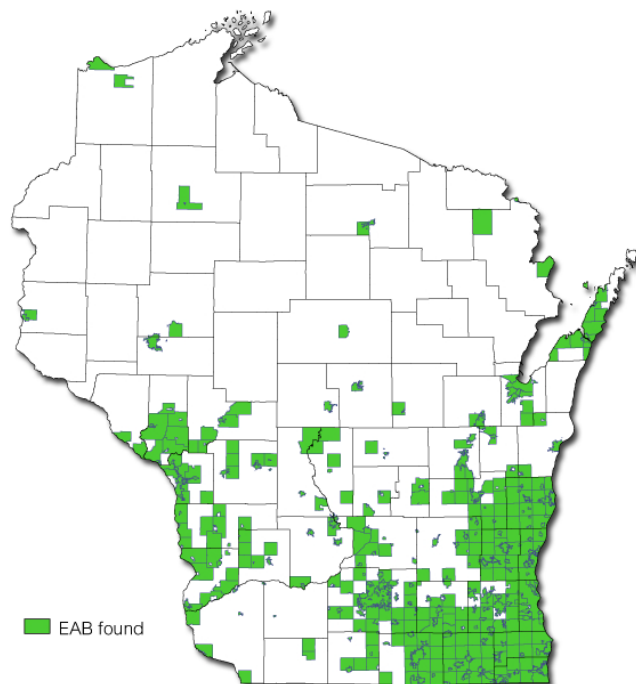


Guignardia leaf blotch on buckeye

Liz Meils DATCP

**EMERALD ASH BORER:** On June 28, emerald ash borer (EAB) was detected for the first time in St. Croix County, reported from both the City and Town of Hudson. St. Croix is the first new county detection of 2018 for Wisconsin and the 49<sup>th</sup> since EAB was first discovered in 2008. Municipal detections total 433 statewide (green on the map), with the majority in the southern half of the state.

EAB Detections 2008 to July 17, 2018



EAB found

Wisconsin Department of Agriculture, Trade and Consumer Protection



As of March 30, a statewide EAB quarantine emergency rule is in effect, permitting free movement of ash and other regulated articles such as firewood between counties. Prior to the statewide quarantine, county-level quarantines helped reduce the spread of EAB in the past decade. Restrictions on firewood on state and federal lands remain in effect, and it is important to “buy it where you burn it” or purchase firewood that has been certified pest free by DATCP.

EAB adult emergence has peaked across the state (1,000 GDD base 50°F) and the beetles can be found flying about the upper canopy, feeding on ash leaves or laying eggs on tree bark. Although the ideal treatment window for systemic and topical pesticide applications has passed, Imidacloprid soil applications can be made in the fall (September-October) if an infested tree was recently identified. Otherwise, soil drench, injection or

basal trunk spray treatments should be planned for next spring (April-June), when they are most effective.

**SAWFLY:** Several beds of false Solomon’s Seal that had been decimated by sawfly larvae (*Phymatocera* sp.) were noted last week in Marathon County. The larvae feed on the undersides of leaves, stripping tissues between the leaf veins. If not detected early, sawfly larvae can rapidly defoliate plants.



Sawfly damage on false Solomon’s seal

Timothy Allen DATCP

**REDHEADED FLEA BEETLE:** These shiny black beetles with prominent reddish heads are reportedly abundant in field crops in Clark and Taylor counties. Nurseries are also likely to be impacted given the high numbers observed. Defoliation caused by flea beetle feeding varies by leaf type, appearing as skeletonizing or shredding on thinner leaves and a linear, leafminer-like pattern on the thicker, fleshy leaves of sedum and similar plants. Insecticides directed against the adults are the most effective control, with more than one application usually required.



Redheaded flea beetle

Konnie Jerabek DATCP

**CEDAR-APPLE RUST:** Severe infection of cedar-apple rust was found on the apple variety “Wealthy” at a nursery in southwestern Wisconsin. This fungal disease requires two hosts to complete its life cycle: *Juniperus* sp. and *Malus* sp. Symptoms on apple trees are most evident on leaves, but can also occur on the fruit and stems. The leaves show bright rust-colored circular spots on the upper surface in spring. Later in the summer, fungal telial columns protrude from the lesions, releasing spores to be blown to eastern red cedar. Rust galls form on the eastern red cedar the following year (the fungus completes its lifecycle in two years). Management options include separation of the two hosts by one mile, planting resistant cultivars, and fungicide application prior to infection.



Cedar-apple rust

Shanon Hankin DATCP



## APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 12 - 18

COUNTY	SITE	STLM <sup>1</sup>	RBLR <sup>2</sup>	CM <sup>3</sup>	OBLR <sup>4</sup>	DWB <sup>5</sup>	LPTB <sup>6</sup>	BMSB <sup>7</sup>	AM RED <sup>8</sup>	YELLOW <sup>9</sup>
Bayfield	Keystone	49	8	1	13	2	2	0	0	0
Bayfield	Oriente	77	0	0	18	8	26	0	—	—
Brown	Oneida	550	31	2	6	54	0	0	0	0
Columbia	Rio	55	51	—	1	25	10	0	0	0
Crawford	Gays Mills	233	4	0	0	3	10	—	4	0
Dane	DeForest	—	—	—	—	—	—	—	—	—
Dane	Mt. Horeb	64	92	5	0	19	3	0	**0	0
Dane	Stoughton	66	41	8	0	13	2	0	0	3
Fond du Lac	Campbellsport	85	57	0	0	24	4	0	0	0
Fond du Lac	Malone	80	48	4	0	16	0	0	**1	0
Fond du Lac	Rosendale	—	—	—	—	—	—	—	—	—
Grant	Sinsinawa	91	—	28	—	—	—	—	—	4
Green	Brodhead	—	—	—	—	—	—	—	—	—
Iowa	Mineral Point	280	90	33	0	46	0	0	0	*3
Jackson	Hixton	25	12	2	0	40	0	0	0	1
Kenosha	Burlington	90	44	4	0	82	5	0	1	0
Marathon	Edgar	1024	61	8	2	88	12	0	0	6
Marinette	Niagara	319	57	0	7	32	15	—	0	0
Marquette	Montello	118	75	0	1	14	0	0	0	0
Ozaukee	Mequon	130	29	3	5	3	2	—	*1	—
Pierce	Beldenville	135	10	6	0	—	1	—	1	4
Pierce	Spring Valley	59	105	0 <sup>MD</sup>	0	96	18	0	1	0
Racine	Raymond	123	40	3	0	13	7	—	0	0
Racine	Rochester	226	36	15	0	12	0	0	*7	0
Richland	Hill Point	123	71	1	0	5	10	0	**1	**1
Sheboygan	Plymouth	549	2	0 <sup>MD</sup>	20	2	24	0	**0	0
Walworth	East Troy	—	—	—	—	—	—	—	—	—
Walworth	Elkhorn	—	—	—	—	—	—	—	—	—
Waukesha	New Berlin	600	32	38	37	23	51	—	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>Lesser peachtree borer; <sup>6</sup>Dogwood borer; <sup>7</sup>Brown marmorated stink bug; <sup>8</sup>Apple maggot red ball; \*Unbaited; \*\*Baited; <sup>9</sup>Apple maggot yellow board; <sup>10</sup>Counts are for two-week period, June 28-July 11; <sup>MD</sup>Mating disruption.

COUNTY	SITE	BCW <sup>1</sup>	CEL <sup>2</sup>	CEW <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	Pardeeville	0	0	0	2	21	5	0	19	0	5
Dodge	Beaver Dam	3	5	0	0	3	0	0	10	0	0
Fond du Lac	Ripon	2	0	0	4	6	0	0	14	0	1
Grant	Prairie du Chien	0	0	0	0	15	1	0	0	0	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	2	1	1	4	21	89	25	14	0	10
Monroe	Sparta	0	0	0	0	6	0	0	0	0	0
Rock	Janesville	0	0	0	0	0	2	0	3	0	0
Walworth	East Troy	0	1	0	1	0	11	0	1	0	3
Wood	Marshfield	6	10	1	1	1	19	0	2	1	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.