

# WISCONSIN PEST BULLETIN

Timely crop pest news, forecasts, and growing season conditions for Wisconsin



Wisconsin Department of Agriculture, Trade and Consumer Protection

Division of Agricultural Resource Management | Bureau of Plant Industry

2811 Agriculture Dr., Madison, WI 53718 • <http://pestbulletin.wisconsin.gov>

## WEATHER & PESTS

Early July heat and humidity accelerated crop development throughout Wisconsin. Temperatures were well above average and reached or exceeded the 90-degree mark for several consecutive days, as mainly dry weather with localized showers and storms prevailed during the week. From June 27-July 8, Madison recorded 12 days in a row of highs above 85°F, the hottest stretch of weather since 2012. Meanwhile, harvest of second crop alfalfa continued across the state, with growers reporting 75% of the crop in good to excellent condition. Ratings for both corn and soybeans were similar at 79% in the good to excellent categories, far above 59% and 64%, respectively, at this time last year. Pressure from mid-season insect pests such as potato leafhoppers and Japanese beetles intensified in response to the hot weather, and surveys indicate above-threshold populations are developing in various crops.

## LOOKING AHEAD

**JAPANESE BEETLE:** Populations have increased markedly with the recent heat. Damage to fruit trees, ornamentals and field crops will continue to intensify this month and management may be warranted. If scouting indicates the need for control, targeted spot treatment of individual trees or problem areas is usually an effective alternative

to broadcast applications, which harm non-target and beneficial insects.

**APPLE MAGGOT:** Adult flies have been captured on orchard traps in the past two weeks (June 25-July 8). Apple growers concerned about this pest can set a minimum of three traps per 10 acres in early-ripening cultivars, and one trap every 200-300 feet in perimeter trees adjacent to wild hosts. The traps should be placed at eye-level, clearly visible on the outside edge of the canopy. Home gardeners may also use the visual traps to monitor apple maggot populations.

**EUROPEAN CORN BORER:** Surveys indicate that larvae from the spring flight are presently in the third to fifth instars. The treatment window for first-generation larvae has closed across the southern two-thirds of the state. Chemical control remains an option for a few more days in areas north of Stevens Point.

**LATE BLIGHT:** Potato and tomato growers are advised to increase monitoring for signs of late blight infection. Disease severity value (DSV) accumulations in potato fields near Grand Marsh, Hancock, Plover and Antigo have exceeded the late blight risk threshold triggering preventative fungicide application. UW Vegetable Plant Pathologist Dr. Amanda Gevens recommends that routine weekly treatments begin at this time. As of July 9, no cases of late blight have been detected in the state.

**EURASIAN HEMP BORER:** The second flight is beginning in far southern Wisconsin. Moths of this flight will produce larvae capable of causing additional damage to greenhouse and field hemp plants. Some industrial hemp growers are already reporting stem boring injury to their crops resulting from the first generation. Any treatments targeting the current generation of larvae must be applied during the narrow window between egg hatch and before the caterpillars bore into hemp stems and developing flowers.

**BROWN MARMORATED STINK BUG:** Nymphs produced by overwintered adults are appearing in the Madison and La Crosse areas. A milder-than average 2019-20 winter favored survival of this invasive pest, and growers in southern and eastern Wisconsin where BMSB has been established for 10 years or longer could see stink bug damage in field, fruit, and vegetable crops for the first time this summer.



Brown marmorated stink bug nymphs and eggs [marylandbiodiversity.com](http://marylandbiodiversity.com)

**SPOTTED WING DROSOPHILA:** Egg laying has intensified in response to the-hot weather of early July. Small white SWD larvae are reportedly becoming noticeable in fruits. Berry growers are advised to increase sampling for larvae to help determine fruit marketability and whether management actions are effective. Larval sampling methods are provided in the FRUIT section.

**WESTERN BEAN CUTWORM:** The annual moth flight has started, with 25% emergence forecast for next week throughout most of southern Wisconsin. Scouting corn plants for egg masses and small larvae should begin as fields enter the late-whorl and pre-tassel stages. If control is warranted, the optimal timing for insecticide treatment is at 90-95% tassel emergence.

## DEGREE DAYS JANUARY 1 - JULY 8

LOCATION	50°F	2019	NORM	40°F
Dubuque, IA	1397	1292	1290	2313
Lone Rock	1251	1171	—	2124
Beloit	1319	1189	1305	2213
Sullivan	1190	1071	1219	2036
Madison	1275	1158	1242	2144
Juneau	1128	1013	—	1936
Racine	1093	928	—	1924
Waukesha	1171	1027	—	2001
Milwaukee	1121	960	1108	1946
Hartford	1094	994	—	1894
Appleton	1141	956	—	1930
Green Bay	1093	923	1079	1859
Big Flats	1146	986	—	1956
Hancock	1079	938	1210	1862
Port Edwards	1100	941	1178	1887
La Crosse	1273	1108	1365	2136
Eau Claire	1273	1053	1219	2111
Cumberland	1015	881	1118	1750
Bayfield	922	710	—	1608
Wausau	950	815	1094	1678
Medford	938	812	994	1666
Crivitz	1022	881	—	1741
Crandon	928	807	860	1614

*Method: Modified B50; Modified B40 as of January 1, 2020. NORMALS based on 30-year average daily temps, 1981-2010.*

## FORAGES & GRAINS

**POTATO LEAFHOPPER:** Counts in 21% of the fields surveyed July 1-8 were above the economic threshold of 2.0 leafhoppers per sweep for alfalfa 12 inches and taller. The highest averages of 2.0-3.3 per sweep were recorded in in Dane, Grant, Iowa, Richland, Rock and Sauk counties, where moderate hopperburn injury was evident in fields with significant populations. The average across all 40 sites sampled was 1.5 per sweep. Potato leafhopper pressure has also reportedly increased in fruit and vegetable crops since late June.

**PEA APHID:** Levels of this insect vary considerably by region of the state. Surveys in southern Wisconsin from Grant to Dodge County found low counts of less than 3.0 aphids per sweep. In contrast, counts in alfalfa across the east-central counties were much higher at 6-29 aphid per sweep. The regional average in Brown, Calumet, Fond du Lac, Kewaunee, Manitowoc, Outagamie, Sheboygan,



Winnebago counties was 15 aphids per sweep. Routine scouting is recommended for eastern Wisconsin alfalfa until the second crop is harvested.



Pea aphids

Randy Wendler DATCP

**PLANT BUG:** Combined averages of the alfalfa and tarnished plant bugs varied from 0-1.6 per sweep and averaged 0.5 per sweep. These counts are considered extremely low for this pest. The economic threshold for combined counts of plant bug adults and nymphs is 5.0 per sweep.

**ALFALFA WEEVIL:** Pupation is occurring statewide and feeding should subside shortly. Larval populations have declined markedly in the past two weeks, with  $\leq 0.1$  weevil per sweep now being the typical count.

## INDUSTRIAL HEMP

**EURASIAN HEMP BORER:** The second flight of moths is beginning in southern Wisconsin. Industrial hemp growers who have observed EHB holes in plant stems are advised to scout their crops now to determine the approximate percentage of infested plants. If levels are high enough to warrant control, treatment of second-generation EHB larvae must target the newly hatched caterpillars before they bore into hemp stems and flowers. The most effective treatment window for EHB is brief and can only be determined by monitoring for the next emergence of EHB moths, which fly at dawn and dusk, and by closely inspecting plants for the tiny larvae. A list of organic products available for control of hemp pests in Wisconsin can be found at [https://datcp.wi.gov/Documents/IH\\_Pesticides.pdf](https://datcp.wi.gov/Documents/IH_Pesticides.pdf).

## CORN

**WESTERN BEAN CUTWORM:** Moth emergence began by June 23, but DATCP's network of 58 pheromone traps has so far captured a total of only 4 moths. Based on the UNL-UMN cumulative flight model for this insect, 25% emergence of the adult population should occur in the next two weeks (July 12-22) across the southern half of Wisconsin. Scouting pretassel corn to estimate egg density is recommended. In fields where egg masses and small larvae are found on 5% or more of the corn plants, an insecticide treatment applied at 90-95% tassel emergence will be most effective. This application timing increases the chance that the caterpillars will be exposed to the insecticide.

**STALK BORER:** Surveys of V8-VT corn found infestation rates of 1-38%, with the highest population noted in Sauk County. Treatment is no longer an option for many southern and western Wisconsin fields since the larvae have bored into the stalks and unemerged tassels. Treatments must be applied from 1,400-1,700 degree days (base 41°F), or prior to the V7 stage. Stalk borer feeding is unlikely to kill individual corn plants beyond V7.



Stalk borer larva

Randy Wendler DATCP

**JAPANESE BEETLE:** The annual emergence is rapidly accelerating. Beetles are common at low levels in corn, soybeans, and fruit crops, and perimeter damage can be expected this month. For corn, the primary concern is to protect the silks from clipping since heavy beetle feeding on corn silks can impair pollination. Treatment may be justified for fields with three or more beetles per ear and silks that have been clipped to  $\frac{1}{2}$  inch when pollination is occurring (less than 50% complete). Japanese beetles

collect on plants in the edge rows, emphasizing the importance of obtaining a representative sample from several areas throughout the field before making control decisions. Border row spot treatments may be sufficient if the beetles and damage are confined to the field edges. Beetles must be on the outside of the ear to be killed by contact insecticides.



Japanese beetle

Krista Hamilton DATCP

**CORN ROOTWORM:** Beetle emergence is underway in southern Wisconsin. Both the northern and western species were observed on July 8 in Dane County. These insects will become increasingly noticeable throughout the month, with peak emergence anticipated around mid-August. Although overall beetle pressure has been historically low in the state in recent years (2017-19), individual fields with root damage should still be expected. Based on the 2019 annual survey results, the highest risk areas are southwestern and south-central districts. Elsewhere in Wisconsin, very low populations (<0.3 beetle per plant) were documented last season.

**EUROPEAN CORN BORER:** Larval infestation rates are generally less than 6% in surveyed fields. Corn borer caterpillars range in development from second to fifth instar, with the third instar being the most prevalent stage. Five of the 40 cornfields (13%) sampled from July 1-8 had signs of ECB infestation.

**TRUE ARMYWORM:** Economic populations were not found in the past week, but continued scouting is recommended, particularly for corn planted into a grass cover crop. The treatment threshold for armyworms varies depending on the size of the caterpillars and their expected feeding potential. The threshold for corn is reached when smaller caterpillars ( $\frac{3}{4}$ -1 inch) are found on 25%

plants, or if 75% of are infested with two caterpillars of any size.

## SOYBEANS

**SOYBEAN APHID:** Early July surveys indicate that aphid pressure is currently low. Fieldwide average counts were below 3.5 aphids per plant in all but one of 45 soybean fields sampled in the past week. The exception was a Brown County site with an average of 9.5 aphids per plant (947 aphids on 53 of 100 plants), which is still considered very low relative to the 250 aphid per plant economic threshold. Soybean aphid populations increase most rapidly in flowering soybeans and economic levels may develop before the end of the month. This pest requires consistent monitoring from now until the R5.5 stage of soybean growth in August.

**GREEN CLOVERWORM:** Minor leaf feeding and  $\frac{3}{4}$ -inch larvae were noted in Trempealeau County on July 7. Green cloverworm caterpillars appear around mid-July and occasionally causes economic damage in August. In Wisconsin, outbreaks occur approximately every 5-6 years. The last significant populations were recorded in 2015.



Green cloverworm larvae

Krista Hamilton DATCP

**DEFOLIATORS:** Defoliation is common but light in surveyed fields, usually affecting less than 5% of plants. In addition to flea beetles and green cloverworms, the leaf feeding insects found during recent surveys were the bean leaf beetle, grasshoppers, Japanese beetle, and obliquebanded leafroller. Defoliation rates in surveyed fields have not exceeded the 20% economic threshold for soybeans in the early bloom stages as of July 9.



**REDHEADED FLEA BEETLE:** This flea beetle was observed on soybeans this week in southern and western Wisconsin. Although the RHFB is not considered a major threat to field crops, locally high populations occasionally develop and may warrant control in rare situations. Soybean growers are advised to be alert for an increase in beetle activity. Flea beetles typically hatch in July and August and feed on plants until September.



Redheaded flea beetle

Krista Hamilton DATCP

## FRUITS

**OBLIQUEBANDED LEAFROLLER:** Second-generation larvae ranging from newly-hatched to the intermediate stages were observed in the past week. Effective control of the current brood will minimize injury and reduce the size of the later generation in August and September. Treatment is justifiable when 3% of terminals are infested, based on examination of five growing points per tree in at least 10 widely separated trees.



Obliquebanded leafroller larva

Krista Hamilton DATCP

**CODLING MOTH:** Advanced apple orchards are 800-1,000 or more degree days (modified base 50°F) beyond the first biofix, and treatments for second generation larvae are expected to start next week. Apple growers are reminded to rotate insecticides between generations to prevent resistance to chemical materials. Localized larvicide applications are usually an acceptable alternative to orchard-wide treatment for sites with variable larval pressure between cultivars or blocks.

**APPLE MAGGOT:** Counts on orchard traps have increased since the last report, with flies captured at five cooperating locations, as far north as Marathon County. The highest count for the week ending July 8 was 19 flies on a yellow board. Maintaining traps will be important as emergence continues and oviposition on apples intensifies in late July and early August.



Apple maggot fly

growing fruit.org

**SPOTTED TENTIFORM LEAFMINER:** The second flight should peak soon at most monitoring sites. Several orchards reported counts above 400 moths per trap per week, with a high of 1,246 moths per trap registered in Marathon County. Heavy egg laying can be expected as long as pheromone traps are attracting high numbers of moths. Apple orchards with populations greater than one mine per leaf or a history of infestation should consider controlling second-generation larvae to reduce buildup of leafminers before the third flight begins in late July or August.

**JAPANESE BEETLE:** Beetle pressure is increasing in Wisconsin apple orchards and vineyards. Damage to fruits, ornamentals and field crops will continue to intensify this month and control may be needed to prevent fruit loss. Most chemical treatments are only effective against

Japanese beetle when populations are low and the beetles are first migrating into vineyards and orchards.

**BROWN MARMORATED STINK BUG:** Nymphs are emerging in Dane and La Crosse counties. BMSB clear sticky panel traps should be in place to monitor summer stink bug activity. Cooperators are reminded that the sticky traps now supplied by DATCP must be baited with a combination of BMSB lure and the green stink bug (GSB) lure provided with this season's trapping supplies.



*Brown marmorated stink bug nymphs on raspberry* Kelsey Koenig

**GRAPE BERRY MOTH:** Female moths will soon begin laying second-generation eggs in southern and western Wisconsin vineyards. Scouting for infested fruits and other signs of GBM, particularly in border rows adjacent to wooded areas in the vineyard, is advised. Treatment of perimeter rows, if warranted, usually provides satisfactory control of this pest. The use of pheromone traps to monitor GBM flights and properly timed controls is also strongly recommended.

**SPOTTED WING DROSOPHILA:** Berry growers in southern and western Wisconsin have reported finding initial larval infestations in their blackberries and raspberries in the past two weeks, indicating sampling for larvae in fruit should begin. To sample from a planting, place at least 15 ripe fruit in a plastic bag and lightly squeeze each fruit. Add a strong salt solution (1/4 cup salt to 1 quart water), enough to cover all of the fruit, to the bag. If present, small white SWD larvae will emerge and rise to the top of the liquid after 30 minutes. A more complete guide to the sampling process is available at [http://www.canr.msu.edu/ipm/uploads/files/SWD/SWD\\_2013-Salt\\_Sugar\\_Boil\\_Test-6-20-2013.pdf](http://www.canr.msu.edu/ipm/uploads/files/SWD/SWD_2013-Salt_Sugar_Boil_Test-6-20-2013.pdf). Managing SWD requires persistence and the use of as many control techniques as possible.

## VEGETABLES

**STRIPED CUCUMBER BEETLE:** Gardeners and farmers should continue scouting cucurbit plants for these yellow and black striped beetles that transmit bacterial wilt. Surveys indicate economic infestations (2-7 beetles per plant) are common in community gardens and on CSA farms surveyed by DATCP. Cucurbits infected with bacterial wilt first exhibit flagging of individual lateral leaves, followed by wilting and death of the entire plant. The treatment threshold for cucumber beetles is one beetle per plant in melons, cucumber, Hubbard and butternut squash, and younger pumpkins. For less susceptible squash varieties, watermelon and older pumpkins, the threshold is increased to five adults per plant.



*Striped cucumber beetles inside squash blossom* Krista Hamilton DATCP

**SQUASH BUG:** Populations of this vine crop pest typically increase sharply around mid-July with the appearance of many small nymphs. An average of one egg mass per plant when plants are flowering is recommended as the basis for initiating treatment. For gardens, manually removing and destroying the bugs and their eggs is most effective. Another option is to place cardboard or newspaper on the ground next to the plants. At night the squash bugs will collect beneath the cardboard and can be destroyed in the morning. Organic growers may use directed applications of pyrethrum (PyGanic) or the pre-mix with azadirachtin (Azera). Refer to UWEX publication A3422 "Commercial Vegetable Production in Wisconsin" for a list of registered insecticides.

**COLORADO POTATO BEETLE:** The summer generation of beetles is appearing in potatoes. New adults and all larval stages were observed in the past week on potato-



es in several southern and western Wisconsin community gardens.



Colorado potato beetle

Krista Hamilton DATCP

**TOMATO HORNWORM:** Moths have begun laying eggs on the undersides of tomato leaves in southern Wisconsin. Tomato growers who have experienced past problems with this pest should start inspecting plants for the smooth, spherical, pale green eggs deposited individually on the lower surface of leaves. Once the eggs hatch, the larvae grow rapidly and can quickly defoliate plants. Prompt removal of the larvae is the best control measure.



Tomato hornworm larva

braddock outdoor.bloggig.com

**LATE BLIGHT:** Heat and scattered rain in the past two weeks have created favorable conditions for late blight development. All four of the potato plantings monitored by UW—Grand Marsh, Hancock, Plover, and Antigo—have exceeded the threshold for late blight risk. Potato and tomato crops in these areas should be receiving routine (~weekly) preventative fungicide applications, according

to Dr. Amanda Gevens, UW-Madison Vegetable Plant Pathologist and Extension Specialist. No cases of late blight have been confirmed in Wisconsin as of July 9.

**BACTERIAL SPOT:** This disease is evident on bell pepper foliage in most community gardens surveyed by DATCP. Bacterial leaf spot (BLS) is a very common, destructive disease of peppers in the U.S. Symptoms include leaf spots that initially appear water-soaked, then become brown and irregularly shaped. Infected leaves often turn yellow and drop. Raised, scab-like spots may develop on fruits, reducing yield and exposing peppers to potential sunscald. In severe cases, complete crop failure can occur.



Bacterial spot on bell pepper

Krista Hamilton DATCP

Infected seed is an important source of the bacterium that causes BLS in pepper. Therefore, the use of disease-free seed and transplants are important in BLS management. Infected plant debris and weeds are additional sources of the pathogen and must be eliminated to reduce the amount of the pathogen available to initiate disease.

**SQUASH VINE BORER:** Increased inspection of pumpkins, squash, gourds, and other vine crops is recommended during the next two weeks. Egg laying is underway and small larvae are now boring into squash stems and runner vines. Insecticides are only useful if applied before the larvae tunnel into vines, and a second application is usually necessary during the adult flight period.

## NURSERY & FOREST

**ROOT KNOT NEMATODE:** Root knot nematodes were detected on 'Prince Henry' anemone and astilbe varieties

'Fanal', 'Visions in Red', 'Maggie Daley' and 'Younique Silvery Pink' at two nurseries in Jefferson and Washington counties. The astilbe foliage was severely stunted and wilted, and the belowground root balls were noticeably smaller than normal. Examination of the roots found characteristic knot-like root galls that are created by the female nematodes when they embed in the root tissue to feed and reproduce. The roots, already weakened by the root knot nematode damage, were colonized by fungal pathogens contributing to root decay. *Fusarium*, *Phytophthora* or *Pythium* and *Thielaviopsis* were the pathogenic fungi identified from the blackened roots.

The Northern root knot nematode (*Meloidogyne hapla*) is a serious problem for commercial growers and home gardeners because these nematodes can infest many ornamentals, vegetables and weeds and are very difficult to control once established in an area. Crop rotation with corn, wheat, oat, rye and French marigolds while controlling weeds may keep nematode populations in check.

All infested stock was destroyed.



Astilbe infested with root knot nematode

Anette Phibbs DATCP

**BIRCH DROUGHT STRESS:** Birch and other deciduous trees commonly develop chlorotic leaves at this time of year due to heat and drought stress. Although well-established older trees may drop leaves, they are generally not harmed by short-term dryness. However, young trees planted in the last three years are still highly vulnerable to moisture loss and should be regularly watered at least once a week during dry periods.

**BLACK KNOT OF CHERRY:** A severe infection of this fungal disease was noted on bird cherry trees in Marathon County. The infestation was so extreme that the trees

were removed from sale due to the abundance of 'knots' and dead limbs. This common disease of trees and shrubs in the *Prunus* genus can be managed by pruning out the knots in winter or early spring, before fungal spores are released. Multiple infections of black knot reduce tree vigor and cause eventual decline.



Black knot on cherry

Timothy Allen DATCP

**VENTURIA SHOOT TIP BLIGHT:** Containerized quaking aspens at a nursery in St. Croix County were showing the black, blighted shoots indicative of this fungal disorder. The initial symptoms appear in May as irregular brown or black spots on the leaf surfaces, which later expand to new shoots and cause a characteristic shepherd's crook. Only young shoots and leaves are susceptible to this disease, though repeated attacks of the fungus on new growth can weaken and predispose trees to invasion by other pathogens. Secondary infection cycles can occur throughout the shoot elongation period if wet conditions prevail.



Venturia shoot tip blight on aspen

Konnie Jerabek DATCP



The fungus overwinters in infected shoots, so management recommendations include removing fallen diseased leaves, pruning blighted shoots below the margin between healthy and diseased tissue, and avoiding the most susceptible cultivars.

**MALLOW SAWFLY:** Recent inspections found moderate damage to mallow plants caused by this sawfly species. The mallow sawfly infests hibiscus, hollyhock and mallow, severely skeletonizing foliage when populations are high. The larvae are identifiable by their black heads and light green bodies.

**WHITE PINE WEEVIL:** Christmas tree growers are reminded to scout pine and spruce fields now for white pine weevil problems. Typical signs of infestation include curled, browned, and wilting young leaders, often with fresh pitch flow at the feeding site. The excess pitch production is the tree's natural defense against wood boring insects.



White pine weevil larva

Konnie Jerabek DATCP

Cultural control by pruning out terminals infested with larvae may reduce weevil populations and reform the tree, but the effective window of pruning is brief and restricted to the late spring/early summer from when the terminals begin wilting until the insects emerge through exit holes. The pruned area should be limited only to the infested part of the terminal, which often may not extend to the next set of branches. Any pruned material must be disposed of off-site since larvae can continue to develop in cuttings.

The white pine weevil is known to attack at least 20 different tree species including Norway, blue and black spruce, as well as mugo, Scots and jack pine, with East-

ern white pine being the most suitable host for brood development. Although weevil damage rarely results in tree mortality, repeated seasons of infestation can lead to growth reduction, stem deformation, and increased susceptibility to wood decay organisms.



White pine weevil damage on spruce

Konnie Jerabek DATCP

**SPRUCE BUDWORM:** DATCP inspectors found spruce budworm defoliation on Fraser fir Christmas trees in Sawyer County. This native pest has periodic outbreaks in natural stands of spruce and fir. Larvae usually prefer to infect large mature trees, but occasionally defoliate Christmas trees and nursery stock. For smaller nursery or backyard infestations, Bt sprays targeting this insect can be effective if applied weekly to spruce foliage in May when the larvae are small. Applications in June and July should help to control infestations on new growth.



Spruce budworm webbing and damage

Timothy Allen DATCP

## APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 1 - 8

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	13	2	1	0	3	6	0	0	0
Bayfield	Oriente	0	0	0	12	39	4	—	—	—
Brown	Oneida	800	42	13	9	57	5	0	—	—
Columbia	Rio	—	—	—	—	—	—	—	—	—
Crawford	Gays Mills	40	11	0 MD	4	56	5	—	—	—
Dane	Mt. Horeb	145	111	3	0	22	0	0	0	0
Dane	McFarland	0	2	0	0	—	10	—	—	—
Dane	Stoughton	182	64	2	0	16	8	0	0	4
Fond du Lac	Campbellsport	147	15	0	1	0	0	0	—	—
Fond du Lac	Malone	77	45	17	6	16	13	—	—	—
Fond du Lac	Rosendale	44	23	7	4	3	11	0	0	2
Green	Brodhead	21	30	2	6	—	2	—	—	—
Iowa	Mineral Point	310	10	2 MD	0 MD	54	11	0	—	4
Jackson	Hixton	59	17	3	0	13	3	0	0	—
Kenosha	Burlington	125	88	5	3	59	13	0	—	—
Lafayette	Belmont	20	35	0 MD	0	0	4	—	0	0
Marathon	Edgar	1246	37	11	0	22	5	0	0	19
Marinette	Niagara	65	1	0 MD	1	8	4	—	—	—
Marquette	Montello	1053	79	0	5	3	18	0	—	0
Ozaukee	Mequon	10	0	2	0	9	1	0	5	0
Pierce	Beldenville	463	38	10	1	23	2	—	0	0
Pierce	Spring Valley	245	64	0 MD	0	41	21	0	0	0
Racine	Raymond	472	63	10	0	2	7	—	0	0
Racine	Rochester	232	23	8	0	21	0	1	0*	—
Richland	Hill Point	—	—	—	—	—	—	—	—	—
Sheboygan	Plymouth	1035	0	0 MD	6	36	2	0	2	1**
Walworth	East Troy	0	0	0 MD	0	0	7	0	0	0
Walworth	Elkhorn	50	12	0 MD	6	3	8	0	0	0
Waukesha	New Berlin	160	31	11	0	80	10	—	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>Dogwood borer; <sup>6</sup>Lesser peachtree borer; <sup>7</sup>Brown marmorated stink bug; <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	0	0	0	0	0	0	4	0	0
Columbia	Pardeeville	0	6	1	1	13	16	9	11	0	3
Dodge	Beaver Dam	0	1	0	0	0	1	1	2	0	0
Fond du Lac	Ripon	0	0	0	0	2	0	1	0	0	0
Grant	Prairie du Chien	1	0	0	0	0	0	0	0	0	0
Langlade	Antigo	0	0	6	0	0	0	10	0	0	1
Manitowoc	Manitowoc	0	0	0	0	0	0	0	11	0	0
Marathon	Wausau	0	0	0	0	0	0	10	6	0	0
Monroe	Sparta	0	0	0	0	0	0	0	0	0	0
Rock	Janesville	0	0	0	0	0	0	0	6	0	0
Walworth	East Troy	0	0	0	0	0	1	0	0	0	1
Waushara	Hancock	—	—	—	—	—	—	—	—	—	—
Wood	Marshfield	2	0	0	0	0	1	16	0	0	0

<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.