

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

Hot, humid mid-August weather dominated the state during the past week. Abundant sunshine resulted in warm temperatures mainly in the 80s, with readings exceeding the 90 degree mark across the central and southwestern portions of Wisconsin. Overnight lows ranged from the upper 50s to mid-60s. Aside from a few widely scattered showers in the east-central area, little to no rain fell. Pockets of abnormal dryness continued to expand from west-central into northeast Wisconsin, though overall growing conditions remained mostly favorable. More than three-quarters of the state's corn (78%) and soybeans (76%) were rated in good to excellent condition as of August 12, despite decreases of 2 and 3 percentage points from the previous week. While stressing livestock, crops, and pastures, the hot, dry conditions were suitable for harvesting alfalfa, potatoes, small grains, snap beans and sweet corn.

LOOKING AHEAD

CORN ROOTWORM: Early results of the August beetle survey indicate populations are low. Economic counts of 0.75 or more beetles per plant have been documented in only six of 81 cornfields (7%) surveyed as of August 16, and the average thus far is only 0.2 per plant. Beetles were not observed in 54 (67%) of the sampled fields. The

annual survey for adult rootworms, which forecasts larval root damage potential for 2019, will continue for another two weeks.

LATE BLIGHT: Development of this disease has been confirmed by the UW in commercial potatoes in Adams and Marquette counties. Protective fungicidal treatments of susceptible potato and tomato crops should be maintained on a seven-day schedule. UW-Extension Vegetable Plant Pathologist Dr. Amanda Gevens recommends a five-day treatment interval for growers in close proximity to the counties with known infections now that late blight is present in the area. All Wisconsin samples tested to date are of the US-23 genotype.

CORN EARWORM: Migrants arrived in significant numbers during the week ending August 15. DATCP's monitoring network of 15 pheromone traps registered a total of 622 moths, with the largest captures (50+ moths) occurring in Columbia, Dane, and Dodge counties. The weekly high count was 206 moths in the trap near Mayville in Dodge County. Egg laying is likely to intensify with this late-season migration and the risk of damage to sweet corn will persist into September.

BROWN MARMORATED STINK BUG: Late-summer populations are likely increasing in areas of the state where BMSB is established, particularly in the southeast quadrant, including Brown, Dane, Milwaukee, Outagamie,

Racine, Rock and Waukesha counties. It will be important for fruit and vegetable growers, gardeners, and property owners to remain alert for stink bug activity in late August and September. Apple growers statewide are encouraged to monitor BMSB during harvest either visually or with traps set along the orchard perimeter. This new invasive pest is naturally attracted to lights, so growers who suspect its presence in their orchards or on their farms should watch for BMSB adults near lights throughout fall.



BMSB nymphs on blackberries Bernadine Strik Oregon State University

EUROPEAN CORN BORER: Egg deposition has been underway since late July and is expected to continue through August. The treatment window for second-generation larvae has closed in advanced portions of southern Wisconsin, and remains open only a few more days in the central areas. Final inspections of sweet corn for egg masses and small larvae are advised before 2,100 degree days (modified base 50°F) have been reached.

WESTERN BEAN CUTWORM: Counts have declined to low levels as the annual flight subsides. Only 11 of DATCPs monitoring network traps captured moths in the past week, with totals below six moths per trap. The cumulative state count as of August 16 is low at 619 moths in 55 pheromone traps (an average of 11 per trap). Network participants may remove their traps at this time.

FORAGES & GRAINS

POTATO LEAFHOPPER: Alfalfa surveys in western Wisconsin found 0.1-1.5 adults and nymphs per sweep. The average was 0.5 per sweep. Economic counts of two or more leafhoppers per sweep were not observed in the past week.

DEGREE DAYS JANUARY 1 - AUG 15

LOCATION	50°F	2017	NORM	40°F
Dubuque, IA	2468	2291	2132	3737
Lone Rock	2211	2046	—	3442
Beloit	2175	2086	2166	3398
Sullivan	2057	1952	2049	3236
Madison	2172	2032	2066	3386
Juneau	2087	1934	—	3263
Racine	1953	1919	—	3109
Waukesha	1984	1903	—	3145
Milwaukee	2006	1915	1966	3171
Hartford	2022	1884	—	3190
Appleton	2119	1877	—	3257
Green Bay	2065	1823	1853	3197
Big Flats	2091	1915	—	3262
Hancock	1964	1780	2005	3090
Port Edwards	1975	1761	1968	3107
La Crosse	2323	2106	2258	3547
Eau Claire	2219	1948	2036	3376
Cumberland	1813	1506	1906	2898
Bayfield	1608	1259	—	2627
Wausau	1778	1567	1868	2871
Medford	1708	1491	1709	2790
Crivitz	1905	1649	—	2995
Crandon	1717	1371	1457	2777

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

PEA APHID: Populations of this forage pest are low. Most fields sampled from August 9-16 had fewer than 0.4 per sweep (40 per 100 sweeps).

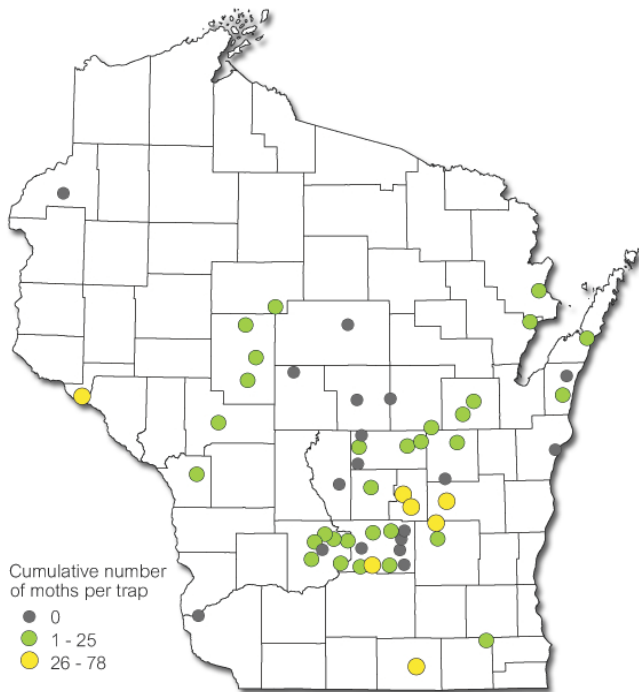
PLANT BUG: Nymphs continue to be common in sweep net collections, although averages remain well below the five plant bugs-per-sweep threshold. Counts this week varied from 0.4-2.5 per sweep, with an average of 0.9 per sweep. Plant bug numbers in alfalfa have not reached economic levels at any time this season, but populations reportedly have been high in some fruit and vegetable crops.

CORN

WESTERN BEAN CUTWORM: Moth counts have declined at most monitoring locations. The traps in Marinette and Oconto counties continued to register very low captures of 3-6 moths per trap this week, while counts at nearly all other sites fell to near zero for the reporting

period. As of August 16, the state cumulative total is 619 moths in 55 traps (11 per trap average), a marked decrease from the 1,856 moths in 70 traps (27 per trap average) collected last season. The highest individual count for the nine-week monitoring period is 78 moths near Durand in Pepin County.

Western Bean Cutworm Counts 2018



Wisconsin Department of Agriculture, Trade and Consumer Protection



CORN ROOTWORM: The late-summer beetle survey is now in progress. Results from July 31-August 16 indicate populations are generally low across southern and central Wisconsin. Above-threshold averages of 0.75 or more beetles per plant were found in only 6 of 81 fields (7%), while beetles were not found in a large percentage of the sampled fields (67%). The current survey average is very low at 0.2 per plant. More rootworm adults are expected to appear on silks in later-planted fields as beetle emergence continues, therefore scouting to determine this season's corn rootworm pressure and to forecast the risk of larval root injury to continuous corn in 2019 should be conducted in the next 2-3 weeks.

EUROPEAN CORN BORER: The treatment window for second-generation larvae has closed near Beloit, Eau Claire, La Crosse, Lancaster and Madison, but will remain open for 1-2 more weeks in parts of central and northern Wisconsin. Final inspections should be per-

formed before degree day accumulations surpass 2,100 (modified base 50°F) and larvae begin boring into corn stalks. Due to the variability in corn borer development across the state, sweet corn growers are advised to evaluate fields carefully and base control decisions on the specific conditions observed.

CORN EARWORM: The first significant migrations into Wisconsin of the 2018 season were registered this week. Locally moderate to heavy flights of 53-206 moths per trap were reported from the Arlington, Beaver Dam, Cottage Grove, Mayville, and Sun Prairie monitoring locations. A cumulative total of 850 moths have been captured in 15 pheromone traps to date. Sweet corn growers should continue to follow CEW migration reports and maintain treatments as long as moth activity persists and green silks are available for oviposition. Counts for the week ending August 16 were: Arlington 57, Beaver Dam 53, Coon Valley 15, Cottage Grove 63, Hancock 4, Janesville 28, Madison North 45, Marshfield 0, Mayville 206, Pardeeville 26, Prairie du Chien 0, Ripon 16, Sun Prairie 94, Watertown 15, and Wausau 0.



Corn earworm moth

hybridbirder.blogspot.com

CORN LEAF APHID: Colonies of this aphid are appearing on corn ears and leaves in southern and western Wisconsin. Corn leaf aphids usually do not interfere with pollination unless they appear early and populations grow rapidly, and a large percentage of corn tassels become saturated with aphids and their honeydew secretions.

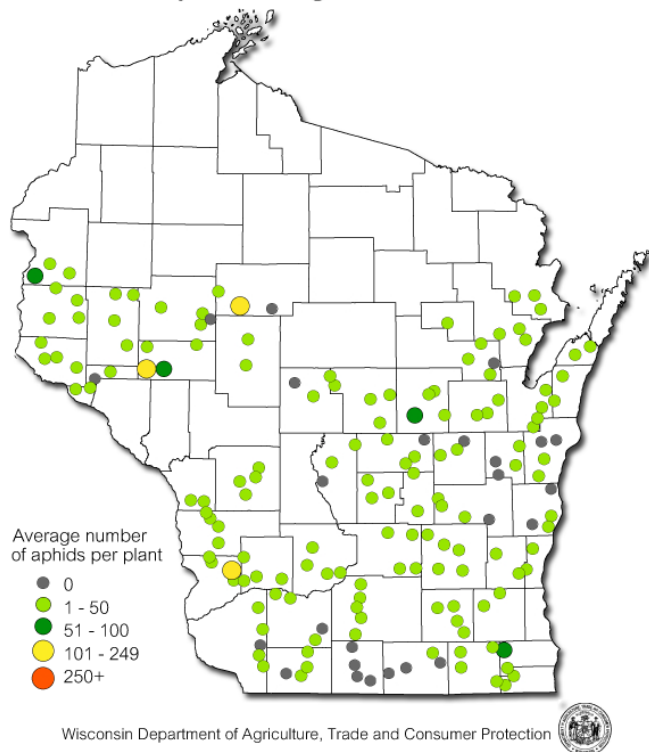
JAPANESE BEETLE: This insect is still common in cornfield perimeters across much of the state. Beetles were noted feeding on corn silks this week from Grant to Wood County, with most infestations limited to the outer 10-12 rows of the field. As a reminder, a field-wide average of

three or more beetles per ear is considered high and may be a concern for fields not yet pollinated.

SOYBEANS

SOYBEAN APHID: Surveys indicate that populations remain below the established 250 aphid-per-plant treatment threshold in the majority of Wisconsin soybean fields. Densities have increased noticeably since late July, though in most instances, levels field-wide have not reached the point where control is required. The statewide average count at 172 sites surveyed from July 23-August 16 was only eight aphids per plant, with moderate averages of 100-230 aphids per plant found at only 2% of sites. Average counts above the 250 aphid-per-plant economic threshold have not been recorded in any soybean field surveyed by DATCP this season.

Soybean Aphid Survey Preliminary Results July 23 - August 15, 2018



TWO-SPOTTED SPIDER MITE: Development and reproduction have been favored by this month's predominantly dry weather pattern. Surveys have found evidence of mites in soybeans in scattered areas of the state, and infestations could persist throughout August in drier locations. Continued surveillance of soybeans is suggested for another two weeks. As is the case with the

soybean aphid, treatment of this pest is not beneficial after the R5 to R5.5 or full pod growth stages.



Leaf stippling caused by spider mites

Krista Hamilton DATCP

GREEN CLOVERWORM: Larvae of various sizes continue to cause light defoliation of soybeans in the southern and west-central counties. The damage observed in the past week was minor at less than 5-10%. This sporadic soybean pest is highly susceptible to parasitism and disease, and is usually controlled without insecticide use.



Green cloverworm

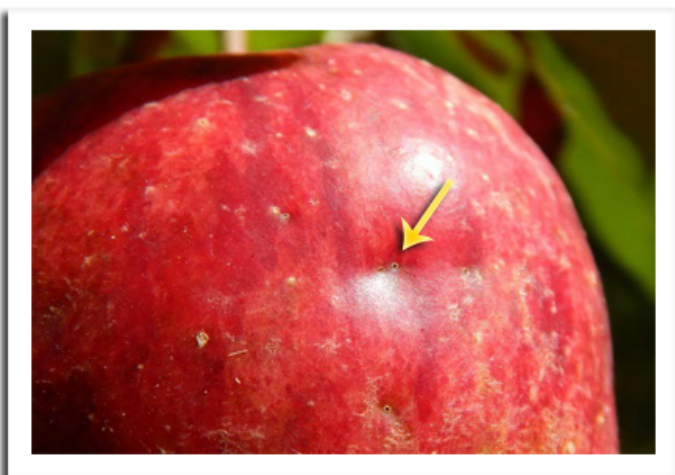
Krista Hamilton DATCP

JAPANESE BEETLE: This beetle remains common in soybeans over much of the state. Although many fields have an abundance of beetles and varying levels of perimeter defoliation, the degree of injury is generally not severe enough to justify treatment. Economic defoliation above the 20% threshold for soybeans in the seed-filling stages has not been observed in any of the 172 fields surveyed in the past three weeks.

FRUITS

CODLING MOTH: Large moth flights are still occurring in some eastern and southern Wisconsin locations. Above-threshold weekly counts were registered in 13 of 21 reporting orchards during the period ending August 15. Assessing larval damage is recommended before the end of the month to forecast first-generation codling pressure next season. According to Orchard IPM Specialist John Aue, captures higher than 10 moths per trap per week should result in visible fruit damage at harvest. If no damage is observed this fall or less than 1% of fruits are affected, then the moths are probably coming from outside of the orchard.

APPLE MAGGOT: Counts were generally low this week and ranged from 1-11 per trap, with the highest captures reported from Grant and Ozaukee counties. This season's AM emergence has been variable but mostly light. Apple maggot sprays should be maintained through the first week of September in orchards where flies are still being trapped at the rate of one fly per trap per week on unbaited traps or five flies per trap per week on baited traps.



Apple maggot oviposition scar Thaddeus McCamant Central Lakes College

SPOTTED TENTIFORM LEAFMINER: The third and last flight of the season has likely peaked in most apple orchards. Another larval generation should be anticipated in September. The third-generation pupae that develop by fall will remain dormant in the mines and overwinter inside of leaves on the ground. Apple growers who have recorded large numbers of third brood moths this month can assess infestations in September by monitoring orchard perimeters for leaf mines.

OBLIQUEBANDED LEAFROLLER: Oviposition by the summer flight of moths is underway. In contrast to spring caterpillars that primarily feed on vegetative tissue, the late-season larvae infest and damage ripening fruit. Management of the summer generation this month may be advisable to reduce the overwintering population and subsequent spring brood. Orchard IPM Specialist John Aue recommends a 3-5% fruit injury rate as the treatment threshold and suggests a trapping density of two traps per 20 acres to determine where to direct treatments.

SAN JOSE SCALE: Second-generation crawlers are active and continued monitoring is suggested for two more weeks. Damage by this pest can increase exponentially from one generation to the next, and problems may persist through mid-September. As harvest begins, it is recommended that growers examine fruits for the "black cap stage" adults and maintain tape on infested limbs. A count of 10-15 scale crawlers over a few days or 10 crawlers on one tape with zero on all other tapes, may warrant application.



San Jose scale fruit damage

intermountainfruit.org

STINK BUG: Late-season activity is expected to increase in the next 2-3 weeks, especially in orchards with ground covers or adjacent to uncultivated areas. Apple growers should begin scouting fruits for the dimples or dark, irregular circular depressions typical of stink bug feeding, and flag sites with multiple depressions on the same fruit or tree. Damage by this pest is often limited to specific areas in the orchard and depending on the distribution of the population, spot treatment may be adequate. Apple growers should not mow cover crops or weeds when stink bugs are present to prevent the insects from moving up into the trees.

VEGETABLES

SQUASH BUG: Growers of melons, pumpkins and squash should continue to inspect plants for squash bug adults, nymphs and eggs as fruits ripen. Most crops have matured beyond the critical period of control (seedling and flowering stages), but squash bug feeding is expected to persist throughout fall, causing aesthetic damage and, in extreme cases, killing plants. Late-season control consists of disposing of cucurbit foliage and plant debris around the garden to eliminate overwintering sites and help reduce next year's squash bug population.

LATE BLIGHT: UW-Extension Vegetable Pathologist Dr. Amanda Gevens reports that late blight has been confirmed in potato fields in Adams and Marquette counties. This disease could begin to spread rapidly if weather conditions turn cool and damp in coming weeks, causing entire plants to decline and die in as few as 7-10 days. Gardeners are advised to increase monitoring of potato and tomato plants for signs of infection, including brownish-black water soaked leaf lesions, dark stem lesions or sunken golden- to dark brown spots with distinct rings on the fruit surface. Removal and destruction of infected plants is required if lesions are noticed. Composting will not generate sufficient heat to kill the pathogen and is discouraged for infected materials.

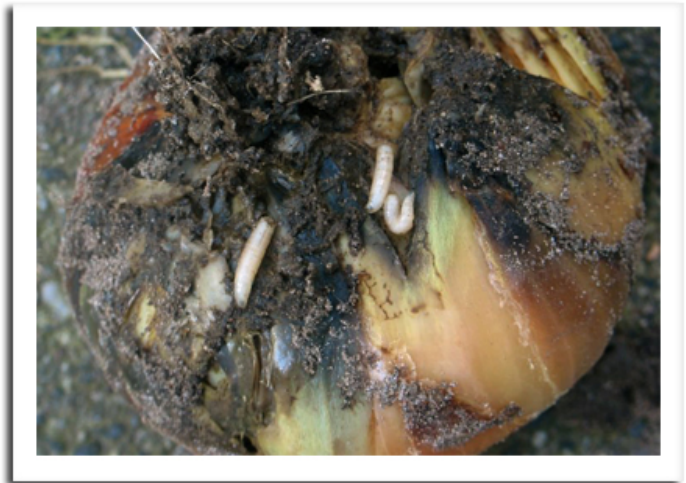


Late blight on tomato

harvesttotable.com

ONION MAGGOT: Late-summer flies are emerging across southern Wisconsin. Emergence is expected to begin next week in the central areas, following the accumulation of 3,230 degree days (base 40°F). Larvae from this third and final generation will overwinter in cull onions or bulbs left behind in fields. Proper sanitation and rotating

to a non-crop host are recommended for growers who experienced onion maggot problems earlier this season.



Onion infested with onion maggot larvae

en.wikipedia.org

CABBAGE LOOPER: Migrants are expected to continue arriving this month, and increased scouting is advised beginning now and through early September. A 10% infestation threshold is suggested from early heading until harvest to protect the market quality of cabbage. The same threshold applies to broccoli and cauliflower once flowers or curds begin to develop.

NURSERY & FOREST

FOLIAR NEMATODE: Hosta plants at a northwestern Wisconsin nursery grower were showing symptoms indicative of infestation by foliar nematodes. These microscopic worm-like organisms live on and within the leaf tissue of hundreds of herbaceous and woody ornamental plant species. Nematode infestation can cause stunting or twisting of foliage in young plants, and often produces angular, necrotic leaf streaks bordered by leaf veins in mature plants. The symptoms become more pronounced and recognizable later in the growing season.

This pest is readily spread among plants by splashing water, such as from rainfall or overhead irrigation. Reducing leaf wetness is advised to prevent the nematodes from spreading. Replanting susceptible stock in areas recently infested with nematodes should be avoided since the nematodes can temporarily survive in soil. Cuttings from infected stock should never be used for propagation, and decontamination of tools following contact with plants suspected of being infect-

ed is good practice. Chemical control is not effective against this pest.



Foliar nematode on hosta

kentcoopextension.blogspot.com

BROWN ROT: This destructive fungal disease was recently observed on American plum trees in Oneida County. Brown rot infects trees and shrubs in the cherry and plum genus *Prunus*, seriously impacting fruit production and causing losses of 50% or more prior to harvest. Infected fruits exhibit powdery grayish-brown specks that expand to envelop the entire fruit. The fruit later dries and shrivels up to form “mummies.” Characteristic powdery, gray masses of spores form on the surfaces of both rotting fruits and mummies.



Brown rot on plum

Timothy Allen DATCP

To reduce future infections, all rotted fruit should be removed and destroyed. In addition, infected twigs should be pruned four to six inches below sunken or dead tissue on each branch. Decontaminate tools between each cut by dipping them for at least 30 seconds in a 10% bleach

solution or preferably 70% alcohol. Brown rot is not a lethal disease, but once fruits are infected, there are no curative treatments.

TAR SPOT: This late-season leaf blight disease is developing on maple trees across Wisconsin. The pale yellow lesions now apparent will soon become raised, black, tar-like lesions. Tar spot is an aesthetic disorder best controlled by clearing and disposing of infected leaves in fall to prevent the spores from spreading. In rare cases where treatment is warranted, three fungicide applications are necessary for control: one at bud break, one when leaves are half expanded, and one when leaves are fully expanded.



Tar spot on maple

Timothy Allen DATCP

OAK TWIG PRUNER: Boring by the larval stages of this oak pest in small branches and twigs can result in considerable branch-drop by late summer. If lawns are covered with twigs and branches 20-40 inches long with the leaves still attached, the oak twig pruner is likely the cause. Property owners should look for a small plug of wood or frass at the end of the twig to confirm. Hardwood trees attacked by this beetle may be seriously damaged but are usually not killed. The most effective control is to collect and burn the fallen branches in autumn or winter.

APPLE INSECT & BLACK LIGHT TRAP COUNTS AUGUST 9 - 15

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	DWB ⁵	LPTB ⁶	BMSB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	13	6	0	0	6	0	0	0	7
Bayfield	Orienta	67	5	0	0	0	0	0	0	0
Brown	Oneida	200	42	14	16	0	0	0	0	0
Columbia	Rio	—	—	—	—	—	—	—	—	—
Crawford	Gays Mills	—	—	—	—	—	—	—	—	—
Dane	DeForest	—	—	—	—	—	—	—	—	—
Dane	Mt. Horeb	69	47	5	1	3	0	0	**0	0
Dane	Stoughton	90	13	8	2	0	0	0	0	0
Fond du Lac	Campbellsport	300	42	22	0	0	0	0	0	0
Fond du Lac	Malone	100	50	14	42	0	0	0	**7	**0
Fond du Lac	Rosendale	14	9	2	3	0	0	0	0	0
Grant	Sinsinawa	44	32	57	—	—	—	—	10	11
Green	Brodhead	61	108	12	4	6	2	—	0	0
Iowa	Mineral Point	575	73	—	7	0	0	—	—	—
Jackson	Hixton	22	0	9	0	7	1	0	2	4
Kenosha	Burlington	200	39	18	5	23	1	4	1	0
Marathon	Edgar	—	—	—	—	—	—	—	—	—
Marinette	Niagara	31	25	0	0	3	1	—	0	0
Marquette	Montello	161	102	5	0	1	0	0	0	0
Ozaukee	Mequon	68	5	4	3	2	0	—	*11	—
Pierce	Beldenville	—	—	—	—	—	—	—	—	—
Pierce	Spring Valley	71	53	0 ^{MD}	4	9	26	0	1	0
Racine	Raymond	597	17	20	2	5	2	0	0	0
Racine	Rochester	56	19	19	0	1	0	2	*1	0
Richland	Hill Point	101	35	6	0	0	6	0	**3	**0
Sheboygan	Plymouth	747	0	0 ^{MD}	0	0	0	0	**2	0
Walworth	East Troy	—	—	—	—	—	—	—	—	—
Walworth	Elkhorn	—	—	—	—	—	—	—	—	—
Waukesha	New Berlin	250	28	33	15	26	5	0	0	0

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Lesser peachtree borer; ⁶Dogwood borer; ⁷Brown marmorated stink bug; ⁸Apple maggot red ball; *Unbaited; **Baited; ⁹Apple maggot yellow board; ¹⁰Counts are for two-week period, June 28-July 11; ^{MD}Mating disruption.

COUNTY	SITE	BCW ¹	CEL ²	CEW ³	DCW ⁴	ECB ⁵	FORL ⁶	SCW ⁷	TA ⁸	VCW ⁹	WBC ¹⁰
Columbia	Pardeeville	1	1	1	19	25	7	15	26	2	0
Dodge	Beaver Dam	2	2	3	10	7	1	2	22	0	1
Fond du Lac	Ripon	3	4	0	26	16	0	2	141	0	10
Grant	Prairie du Chien	1	4	0	7	1	13	0	2	0	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	0	1	2	147	0	2	51	17	0	2
Monroe	Sparta	0	0	0	9	0	0	0	0	0	0
Rock	Janesville	1	9	8	0	2	2	1	32	0	0
Walworth	East Troy	0	0	0	22	0	0	0	3	0	2
Wood	Marshfield	0	1	0	23	0	0	30	11	0	1

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