

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 week showers and storms interrupted an otherwise dry weather pattern across the state. Portions of northern Wisconsin received as much as five inches of rain on July 26, most of which fell in the evening and overnight hours. Southern Wisconsin largely remained dry with localized areas recording amounts ranging from ½-2 inches. Seasonal daytime temperatures during the week ranged from the 70s to low 90s, while lows were in the mid-50s to 70s. The early-week storms brought much-needed moisture for crops in the reproductive stages, though some areas were missed and short-term dryness has become a concern. Despite the recent dry pattern, condition ratings for alfalfa, corn, and soybeans all increased 1-6 percentage points from the previous week, according to the USDA NASS. Corn and soybean development remains about 2-3 weeks ahead of last year and 3-8 days ahead of average. Most summer crops will require additional rainfall soon to ensure pollination and to support continued growth.

LOOKING AHEAD

WESTERN BEAN CUTWORM: The annual flight has peaked in most areas south of Highway 29. Black light and pheromone trap counts should begin to decrease in the southern two-thirds of Wisconsin now that degree day

accumulations are well past 2,838 (modified base 38°F), the point at which 75% emergence is expected. By contrast, the peak has yet to occur in the northern third of the state. Pheromone traps captured a total of 1,570 moths this week, with a high count of 231 moths at Princeton in Green Lake County. The cumulative state count to date is 2,659 moths in 58 traps, or approximately 46 per trap.

SOYBEAN APHID: Routine monitoring of soybeans is advised as fields advance through the critical pod-filling stages. Most sites sampled by DATCP July 23-29 still contained very low average counts of less than 10 aphids per plant, though a few fields had moderate averages of 50-150 aphids per plant. Insecticide treatment should not be considered until soybean fields have been thoroughly sampled to determine if the established threshold of 250 aphids per plant on 80% of the plants has been exceeded.

EUROPEAN CORN BORER: The degree day model for this pest suggests that the summer flight has peaked throughout much of southern Wisconsin. Susceptible corn should be inspected for egg masses and larvae before 2,100 degree days (modified base 50°F) have been surpassed and the treatment window for second-generation corn borers closes.

BASIL DOWNY MILDEW: Symptoms of this rapidly-spreading, destructive disease are likely to begin appear-

ing in early August. Last year, the first basil downy mildew (BDM) cases of the season were confirmed by mid-July. If basil downy mildew is suspected, harvesting early may be the best option for avoiding total crop loss. Plants that are already showing noticeable BDM symptoms, such as yellowing leaves and gray downy growth on the lower leaf surface, should be immediately removed and disposed of off-site.



Basil downy mildew

Angela Madeiras UMass

LATE BLIGHT: Fresh market tomato producers and home gardeners are advised to increase monitoring of plants for signs of late blight infection. As of July 29, this disease has not been confirmed anywhere in the state, but the risk threshold for late blight development has been far surpassed in all potato plantings monitored by UW in the Antigo, Grand Marsh, Hancock, and Plover areas. Symptomatic potato and tomato plants may be submitted for free testing to the UW Plant Disease Diagnostic Clinic: <https://pddc.wisc.edu/sample-collection-and-submission/>.

CORN EARWORM: Migration flights into Wisconsin declined this week. The July 23-29 count of 76 moths at 10 pheromone trap locations is a decrease from last week's total of 211 moths. However, even captures of 5-10 moths for three nights in a row are considered significant enough to prompt protective treatment of silking sweet corn.

SQUASH BUG: Home gardeners are reporting increasing squash bug populations on cucumber, summer squash and zucchini. The simplest control is to remove the bugs (eggs, nymphs, and adults) from plants and submerge the bugs in a bucket of soapy water. Growers are also advised to dispose of all dead foliage and other plant material that can harbor large numbers of nymphs.

DEGREE DAYS JANUARY 1 - JULY 29

LOCATION	50°F	2019	NORM	40°F
Dubuque, IA	1934	1886	1754	3060
Lone Rock	1738	1713	—	2822
Beloit	1822	1748	1778	2926
Sullivan	1674	1609	1677	2729
Madison	1778	1718	1696	2857
Juneau	1597	1542	—	2616
Racine	1603	1454	—	2645
Waukesha	1677	1575	—	2718
Milwaukee	1638	1515	1573	2673
Hartford	1563	1518	—	2573
Appleton	1632	1502	—	2631
Green Bay	1587	1456	1501	2563
Big Flats	1611	1504	—	2632
Hancock	1531	1442	1645	2524
Port Edwards	1537	1436	1611	2535
La Crosse	1757	1657	1855	2830
Eau Claire	1750	1568	1665	2798
Cumberland	1398	1331	1550	2344
Bayfield	1297	1140	—	2193
Wausau	1344	1262	1517	2281
Medford	1301	1236	1386	2239
Crivitz	1456	1362	—	2385
Crandon	1307	1243	1184	2203

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

FORAGES & GRAINS

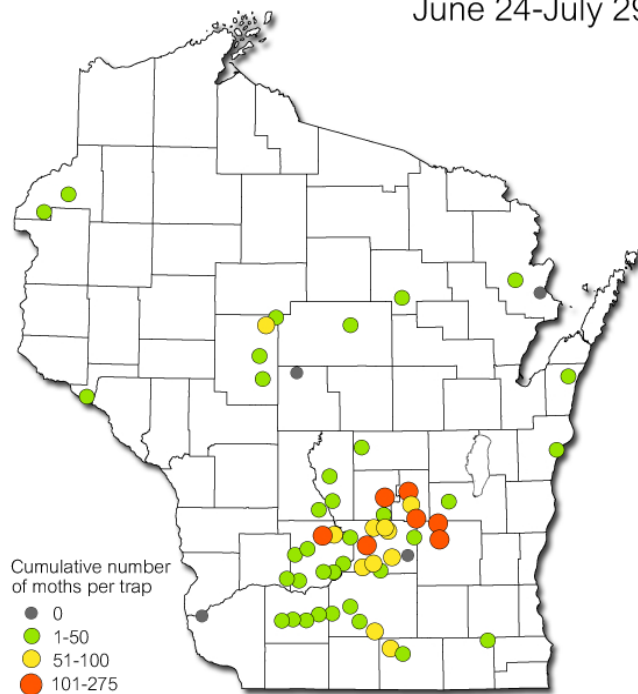
POTATO LEAFHOPPER: Survey counts for the last two weeks were all below the 2.0 leafhopper-per-plant economic threshold for alfalfa 12 inches and taller, with most sites having averages less than 1.6 leafhoppers per sweep. Nymphs are still common in sweep nets, indicating the potential for population growth. Weekly monitoring of the third alfalfa crop throughout August is recommended.


GRASSHOPPER: Late summer grasshopper activity is escalating in alfalfa and other crops. Defoliation has become pronounced along field margins since mid-July. Grasshopper damage to forage crops can be serious at this time of year, especially in new alfalfa seedings and when dry weather slows plant regrowth after harvest. Chemical intervention is not necessary unless populations reach 20 grasshoppers per square yard at the margins or eight per square yard within an alfalfa field.

CORN

WESTERN BEAN CUTWORM: Moth counts peaked last week across southern Wisconsin and are now decreasing. The annual flight is expected to peak next week in the northern counties. Pheromone traps captured a total of 1,570 moths from July 23-29, compared to 972 the week before. Preliminary results of the 16th annual trapping survey show that the 2020 state count is 2,659 moths in 58 traps (46 per trap average). The highest cumulative individual trap total to date is 275 moths registered near Princeton in Green Lake County.

Western Bean Cutworm Moth Counts 2020
June 24-July 29



Wisconsin Department of Agriculture, Trade and Consumer Protection 

EUROPEAN CORN BORER: The peak in summer moth activity has occurred in the southern counties and should be reached by August 8 in the central areas. The treatment window for second-generation corn borers will remain open for approximately two more weeks. Controls directed against the summer larvae must be applied during the period after egg hatch and before larvae bore into the stalks, prior to the accumulation of 2,100 degree days (modified base 50°F). The larvae observed during this week's surveys were in the early to intermediate (3rd instar) development stages. Degree day totals as of July 29 were

Beloit 1,822, La Crosse 1,757, Madison 1,778, and Eau Claire 1,750.



European corn borer third instar larva Krista Hamilton DATCP

JAPANESE BEETLE: Silk pruning has become evident along field edges, although at most sites the heaviest feeding is limited to the outer rows and the infestations do not extend more than 5-6 rows into the field interior. Control of this pest in corn is warranted if populations exceed three beetles per ear and pollination is less than 50% complete. Chemical treatment of entire fields is rarely necessary. Border area spot treatments are usually sufficient for reducing beetles during the critical pollination period.



Japanese beetles feeding on corn silks Krista Hamilton DATCP

CORN EARWORM: Fewer moths arrived this week compared to the week before. Ten pheromone traps captured a total of 76 migrants July 23-29, a decrease from 211 moths collected during the previous week. However, the arrival of even a few corn earworm moths in traps (5-10

moths for three consecutive nights) signals that sweet corn producers should increase monitoring of fields with green silks.



Corn earworm larva

Tracy Schilder DATCP

SOYBEANS

GREEN CLOVERWORM: Larvae of all sizes are common in soybeans, particularly in fields from the southwestern area of the state. This week's highest count of 13 caterpillars per 100 sweeps was found in Grant County. The majority of larvae observed were newly hatched and still relatively small, suggesting that feeding injury will likely intensify by mid-August. Based on recent survey observations, populations and defoliation could be locally high next month.



Green cloverworm larvae

Krista Hamilton DATCP

SOYBEAN APHID: Surveys conducted during the period from July 20-29 found no economic populations in 114 sampled fields. Densities have been low (<10 aphids

per plant) at the majority of sites, with only two fields in Waukesha and Waushara counties having averages of 50-150 aphids per plant. Although surveys indicate populations are low, aphid pressure often intensifies during the first week of August, and some fields may still require treatment prior to R5.5.

Soybean producers are reminded that control is not advised until the economic threshold of 250 aphids per plant on 80% of the plants throughout the field has been exceeded. Once again, field-wide average counts have not surpassed this level in any soybean field surveyed by DATCP this season. All soybeans should be examined in the week ahead to evaluate aphid densities.

JAPANESE BEETLE: Adult Japanese beetles continue to cause damage to soybean field margins, with the highest counts (100-138 beetles per 100 sweeps) documented in Clark, Crawford, and Lafayette counties in the southwest and north-central districts. Average defoliation rates in fields surveyed since mid-July have varied, but have all been below the 20% threshold for soybeans in the reproductive stages, therefore treatment has generally not been warranted.



Japanese beetles feeding on soybean leaf

Krista Hamilton DATCP

FRUITS

BROWN MARMORATED STINK BUG: Adults have been captured on survey traps in Dane, Racine and Walworth counties this month. For apple orchards where BMSB is known to be established, it is particularly important to be alert for late-summer populations and fruit injury. Most BMSB feeding occurs at night, so the stink bugs may not be as noticeable during the day.

In addition to the clear sticky traps, growers monitoring BMSB this season should also watch for BMSB adults near lights as an indicator of stink bug pressure. In eastern states where BMSB is a severe orchard pest, stink bug damage to apples has been misidentified as cork spot and/or bitterpit, disorders related to calcium deficiency.

As BMSB populations continue to increase and spread in Wisconsin, on-site monitoring will be the best determinant of whether or control is necessary. An economic threshold for clear sticky panel traps is not yet available. However, USDA-ARS Research Entomologist Dr. Tracy Leskey has specified a provisional threshold of 10 BMSB per week for black pyramid traps to apply an alternate-row-middle spray, noting that the occasional BMSB caught in traps may not warrant BMSB sprays and growers should wait for sustained captures.



Brown marmorated stink bug

Matt Rourke www.newsworks.org

APPLE MAGGOT: Emergence has likely peaked in all but the far northern counties. The high weekly count of 24 flies per red sphere trap was reported from Burlington in Kenosha County, while 12 of 27 reporting orchards registered economic captures of flies (1 fly per unbaited trap or 5 flies per baited trap). Apple growers are advised to maintain traps through the first week of September and continue apple maggot sprays as long as flies are being captured and counts exceed established thresholds.

CODLING MOTH: Reports from cooperating orchards indicate variable CM pressure. Economic counts of 5-19 moths were reported this week from 10 sites, while 18 locations reported low counts of 0-1 moths (6 mating disruption sites included in counts). Summer codling moth

pressure is often a direct indicator the efficacy of spring generation management programs.



Codling moth larval damage to apples

Patrick Clement flickr.com

Monitoring of pheromone traps is recommended until the end of August to determine the need for late-season CM control. Spot treatment may be appropriate for blocks where trap counts remain above the economic threshold of five moths per trap per week. An insecticide application is not necessary if trap counts do not exceed this action threshold. Growers are reminded to review pre-harvest intervals before making an application.

OBLIQUEBANDED LEAFROLLER: Moths of the second flight are appearing in low numbers in pheromone traps. The summer flight is underway and will likely continue until early September this year, in which case surface feeding damage would also persist into fall. OBLR larvae have been prevalent in soybeans and other field crops this season.



Obliquebanded leafroller moth and pupa

Krista Hamilton DATCP

VEGETABLES

LATE BLIGHT: No cases of late blight have been detected in any Wisconsin potato field or home garden as of July 29. However, the UW is reporting that all potato growing areas in the state have reached the threshold for late blight development, therefore gardeners are advised to continue inspecting tomato and potato plants for leaf lesions and fruit spots. Growers who suspect late blight are encouraged to send symptomatic plant material to the UW Plant Disease Diagnostic Clinic: <https://pddc.wisc.edu/sample-collection-and-submission/>. Late blight testing is free of charge.



Late blight lesion on tomato leaf

Krista Hamilton DATCP

SQUASH VINE BORER: Damage to the stems of pumpkins and squash has become more pronounced as larvae approach maturity. Squash vine borer (SVB) larvae in the La Crosse area of western Wisconsin are full grown and will likely pupate by early August. Cultural control advised for SVB includes destroying vines after harvest to prevent borers still in the larval stage from completing development. Fields that have been attacked in the past are more likely to have SVB problems in the future.

JAPANESE BEETLE: Beetles are still common in gardens and on farms, and are likely to remain so into September. Physical removal is the recommended control option for small gardens. The best time to hand-pick beetles is either in the early morning or the evening, when the insects are less active. Pheromone traps should be used with caution since they may attract additional beetles from other areas or worsen damage if placed incorrectly. The traps should be set at least 30 feet away from ornamental plants, near a non-flowering tree or shrub such as

a pine tree or boxwood. The recommended height for traps is four feet above ground.

COLORADO POTATO BEETLE: Late summer 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 growers are reminded to avoid the consecutive use of the same insecticide product or the use of different products with similar modes of action.

CABBAGE LOOPER: Surveys indicate that populations of this cole crop pest are lower than last year, although growers should be aware that the second larval generation that will appear in August is usually more damaging than the first generation. The predominant development stages noted in gardens and on CSA farms in the past two weeks were full-grown larvae and adult moths. From early heading until harvest, the UW recommends control to maintain marketability if 10% of plants are infested.



Cabbage looper caterpillar

Krista Hamilton DATCP

SQUASH BUG: Adult and nymphs are very active in pumpkin and winter squash plantings across the state. Vegetable growers should continue to inspect the undersides of leaves for the metallic bronze eggs, deposited in groups of 15-40 between leaf veins or on stems, as long as small nymphs are present. Squash bugs are capable of damaging mature fruit, thus control may be needed as the crop nears harvest. OMRI-listed materials include PyGanic, insecticidal soaps and certain oils.

NURSERY & FOREST

FIR CONEWORM: Damage to terminals of young plant stock and recently transplanted Fraser and balsam fir trees were observed in Grant and Portage counties. Although more often found feeding in cones, fir coneworm caterpillars can also bore into the center of terminal leaders, from the tip to the first whorl of branches, causing branch death. Terminal feeding in fir is usually noticed once it's too late for treatment. Frass and light webbing are common at the site where first-instar caterpillars entered the cone or terminal to feed. The caterpillars continue to feed until reaching the final instar, at which point they drop to the soil and overwinter in the pre-pupal stage.



Fir coneworm feeding site

Dave Cook

Control is difficult because the caterpillars are protected within the plant cone or stem. Insecticidal sprays can be applied in the spring and should be timed before eggs hatch to kill newly emerged larvae before they bore into plant tissue. Sanitary measures such as summer cone removal before larvae leave the plant tissue to overwinter, or the removal of the top duff layer in the fall to expose overwintering larvae to cold temperatures, can help reduce next year's population.

LIRULA NEEDLECAST: Black Hills spruce trees at a St. Croix County nursery grower were showing the second-year needle tan discoloration symptomatic of this fungal disease. *Lirula* needlecast has a two-year life cycle, so any treatment must be applied for at least two years to protect from repeated infection. A diligent effort is often required, including increasing air circulation, thinning out and removing infected trees, and controlling weeds and

grass growing under and into trees. New needle growth should be protected from infection with treatment of a registered fungicide multiple times in the spring and again in July for at least two years. Prevention is easier; growing spruce on higher ground with enough spacing and weed control to keep the needles dry is a best practice. Even spruce planted in wind rows can develop this disease and grow to look and perform poorly. Spruce trees require air movement around all sides of the tree.



Lirula needlecast on Black Hills spruce

Konnie Jerabek DATCP

PITCH MASS BORER: Larvae of this borer were the cause of a large amount of pine sap massed at the branch unions on the trunks of scattered white pine trees at a St. Croix County nursery. Tunneling and feeding by the larvae weakens the branches and leads to breakage and tree stress. This pest can be a problem and is most problematic for white pines in Christmas tree and nursery fields.

COTTONY ASH PSYLLID: A Wood County homeowner recently reported this seldom-observed exotic European pest of ash. Adult psyllids, also known as jumping plant lice, were observed on the main trunk of a 12-year-old Mancana ash in late June, followed by nymphs within twisted and curled foliage by mid-July. This is the second report of cottony ash psyllid in Wisconsin, with the first detection confirmed by UW-Extension in 2006 on samples from St. Croix County.

Unlike native foliage pests such as ash plant bug or ash leaf curl aphid that cause mostly cosmetic damage, infestation by this pest over multiple years can lead to tree death. The psyllid nymphs are covered in a white wax and found within a cottony substance on the underside of leaves. Treatment options are limited to applying an insecticide at egg hatch just before bud break.

CONIFEROUS FIORINIA SCALE: The DATCP forest entomologist recently identified a new, nonnative forest pest on hemlock nursery stock imported to southeastern Wisconsin. The exotic insect, known as the coniferous Fiorinia scale (*Fiorinia japonica*) or Japanese scale, had not previously been reported in Wisconsin. The scale originates in Southeast Asia and has been introduced into California and Mid-Atlantic region.

Similar to *Cryptomeria* and elongate hemlock scale that were also found on hemlock nursery stock, the Fiorinia scale has the potential to damage native Wisconsin evergreens, including firs, pines, spruces, hemlock, junipers (including red cedar), and Canadian yew. Unlike the other armored scales that feed only on needle undersides, Fiorinia feeds on both the upper and lower needle surfaces. Damage from this new scale is likely to include yellowing of needles, needle loss, and reduced tree vigor, which can exacerbate other health issues or predispose plants to secondary pest problems.



Coniferous Fiorinia scale on hemlock

Renee Pinksi DATCP

The infested nursery stock is currently being held under a DATP Pest Abatement Order intended to prevent this potentially invasive species from becoming established in the state.

MAPLE CALLUS BORER: A localized infestation of the maple callus borer (*Synanthedon acerni*) was spotted on damaged Autumn Blaze maple stems in Bayfield County. This borer prefers injured silver maple, but also attacks red and sugar maple. The adult borer is a black and orange clearwing moth that emerges in spring and early summer to lay eggs on maple tree bark, especially on wounded tissue. The white larva with a dark brown head burrow in the cambium and bark and feed on the moist

callus tissue surrounding healing wounds. Larval feeding may cause wounds to enlarge if larval numbers are high, or prevent small wounds from healing. In addition, trees may be reinfested in subsequent years, leading to reduced vigor and increased susceptibility to attack from other damaging pests.



Maple callus borer larva in Autumn Blaze maple Timothy Allen DATCP

WHITE PINE BLISTER RUST: Nursery inspectors recommend scouting white pine fields during the growing season for brown shoots and other signs of white pine blister rust (WPBR) infection. Trees with off-colored or brown shoots should be checked on the interior stem for developing symptoms of WPBR, such as swollen discolored stems with rust pustules emerging from the bark. Cutting off the branch close to the trunk and promptly disposing of the infected material can limit the movement of this fungus into the trunk and prevent it from girdling the tree. The alternate host plants for WPBR are in the *Ribes* genus (gooseberry and currant).



White pine blister rust shoot symptoms

Konnie Jerabek DATCP

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 23 - 29

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	DWB ⁵	LPTB ⁶	BMSB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	8	16	1	0	21	0	0	0	8
Bayfield	Oriente	16	1	0	4	3	5	0	0	0
Brown	Oneida	725	43	13	1	28	5	0	0	0
Columbia	Rio	—	—	—	—	—	—	—	—	—
Crawford	Gays Mills	—	52	6 MD	3	42	9	—	6*	0
Dane	Mt. Horeb	8	78	4	—	7	0	0	0	0
Dane	McFarland	81	57	0	—	15	0	0	0	0
Dane	Stoughton	101	90	4	0	4	3	0	1	3
Fond du Lac	Campbellsport	18	25	0	6	0	0	—	—	—
Fond du Lac	Malone	55	5	8	3	2	0	0	8**	0
Fond du Lac	Rosendale	4	14	2	1	6	3	0	1	2
Green	Brodhead	30	3	10	0	19	0	0	0	0
Iowa	Mineral Point	480	0	11 MD	0 MD	37	11	0	2**	9
Jackson	Hixton	54	22	0	3	11	1	0	0	0
Kenosha	Burlington	169	24	9	2	79	2	0	24**	—
Lafayette	Belmont	229	3	0 MD	0	0	0	0	0	0
Marathon	Edgar	167	57	2	0	72	2	0	0	3
Marinette	Niagara	59	9	1 MD	0	19	0	0	0	0
Marquette	Montello	49	37	1	0	3	5	0	0	0
Ozaukee	Mequon	20	0	3	0	7	0	0	1	0
Pierce	Beldenville	178	6	0	0	0	0	—	1	0
Pierce	Spring Valley	16	60	0 MD	0	26	0	0	0*	0
Racine	Raymond	318	55	19	0	36	2	—	0	0
Racine	Rochester	61	12	14	0	12	0	0	5*	0
Richland	Hill Point	65	69	6	0	26	0	0	0**	0**
Sheboygan	Plymouth	381	51	0 MD	1	8	0	0	0**	0**
Walworth	East Troy	88	2	0 MD	12	1	1	0	2	0
Walworth	Elkhorn	78	4	0 MD	22	1	3	0	2	0
Waukesha	New Berlin	80	5	6	2	60	1	—	0	0

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Dogwood borer; ⁶Lesser peachtree borer; ⁷Brown marmorated stink bug; ⁸Apple maggot red ball; *Unbaited; **Baited; ⁹Apple maggot yellow board.

COUNTY	SITE	BCW ¹	CEL ²	CE ³	DCW ⁴	ECB ⁵	FORL ⁶	SCW ⁷	TA ⁸	VCW ⁹	WBC ¹⁰
Columbia	Arlington	0	0	0	0	0	0	0	18	0	1
Columbia	Pardeeville	0	2	0	8	10	6	1	4	0	30
Dodge	Beaver Dam	0	4	1	1	0	0	4	18	0	70
Fond du Lac	Ripon	0	5	3	5	7	8	0	68	0	119
Grant	Prairie du Chien	0	0	0	1	0	0	0	0	0	0
Langlade	Antigo	0	3	0	3	0	7	0	6	0	9
Manitowoc	Manitowoc	0	0	0	0	0	0	5	21	0	0
Marathon	Wausau	0	0	0	16	3	10	0	13	0	28
Monroe	Sparta	0	0	0	0	0	0	0	0	0	9
Rock	Janesville	0	0	9	0	11	2	0	0	0	1
Walworth	East Troy	0	0	2	0	0	0	0	2	0	95
Waushara	Hancock	0	1	2	0	2	0	0	0	0	4
Wood	Marshfield	0	2	0	2	0	9	0	10	1	2

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