

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

Scattered showers and thunderstorms interrupted a predominantly dry weather pattern across the state. Daytime high temperatures ranged from the mid-60s to lower 80s, and were near normal for late July. Nighttime lows were in the lower 50s to mid-60s. Early week storms delivered much-needed precipitation to Wisconsin, though many areas remained dry and require additional moisture soon to support growth of reproductive summer crops. Crop development remains about a week ahead of last year and the 5-year average, with 84% of the state's corn acreage at or beyond the silking stage and 45% of soybeans setting pods at the start of August. Despite a July drying trend, most of the state's crops are faring well under moderate temperatures and sparse rainfall due largely to adequate subsoil moisture reserves established early in the growing season.

LOOKING AHEAD

WESTERN BEAN CUTWORM: The annual flight has peaked and is now declining. Black light and pheromone trap counts have begun to decrease in areas of the state where degree-day accumulations are well past 2,838 (modified base 38°F/max 75°F), the point at which 75% emergence is expected. The high count for the week was 56 moths registered near Arlington in Columbia County. The cum-

ulative state count to date is low at 503 moths in 55 traps, or approximately nine per trap.

CORN EARWORM: Significant migration flights have not been documented as of August 2. This week's low count of 11 moths captured at 14 pheromone trap locations is a decrease from last week's total of 15 moths. Monitoring network participants should continue to replace lures on a weekly basis.

JAPANESE BEETLE: Damage has intensified in field, fruit, nursery and vegetable crops. As an indicator of the prevalence of this insect in field crops this summer, beetles have been collected in about 55% (70 of 128) of the soybean fields sampled from July 23-August 1. Defoliation rates are approaching the 20% economic threshold for reproductive soybeans at scattered sites, and light to moderate silk clipping is common in the edge rows of corn.

BOXWOOD BLIGHT: This emerging disease of ornamental and native boxwood plants has been confirmed in a Kenosha County nursery. Boxwood blight has not previously been documented in the state. First found in the 1990s in England, the disease is now reported throughout Asia, Europe, New Zealand, and North America (in more than 24 U.S. states). Boxwood blight is a significant concern for the ornamental horticulture industry and is a threat to established landscapes. Nursery managers,

landscapers, and homeowners should remain alert for the disease and contact their county UW Extension office if boxwood blight is suspected.



Boxwood blight lesions

Richard Buckley Rutgers PDL

EUROPEAN CORN BORER: The degree day model for this pest suggests that summer flight has peaked throughout southern and central 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.

SOYBEAN APHID: Routine monitoring of soybeans is advised at this time as more fields enter the critical pod-filling stages. Most sites sampled by DATCP this week still contained very low average counts of less than 20 aphids per plant, though a few fields had averages near the 250 aphid per plant threshold and some may develop economic populations in the week ahead. Foliar 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.

FORAGES & GRAINS

GRASSHOPPER: Late-season grasshopper activity is escalating in alfalfa and other crops. Defoliation has become pronounced along field margins since mid-July across the southern two-thirds of the state. 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

DEGREE DAYS JANUARY 1 - AUGUST 1

LOCATION	50°F	2017	NORM	40°F
Dubuque, IA	2112	2027	1842	3241
Lone Rock	1884	1813	—	2975
Beloit	1845	1844	1868	2928
Sullivan	1736	1715	1763	2776
Madison	1845	1792	1782	2919
Juneau	1768	1696	—	2804
Racine	1618	1668	—	2635
Waukesha	1664	1664	—	2685
Milwaukee	1675	1661	1665	2700
Hartford	1705	1649	—	2733
Appleton	1790	1639	—	2789
Green Bay	1742	1592	1584	2734
Big Flats	1781	1689	—	2812
Hancock	1659	1564	1729	2645
Port Edwards	1677	1554	1695	2669
La Crosse	1989	1856	1950	3073
Eau Claire	1895	1722	1753	2913
Cumberland	1548	1332	1634	2493
Bayfield	1340	1068	—	2219
Wausau	1515	1386	1599	2468
Medford	1459	1321	1462	2402
Crivitz	1610	1448	—	2559
Crandon	1443	1213	1248	2363

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

pers per square yard at the margins or eight per square yard within an alfalfa field.

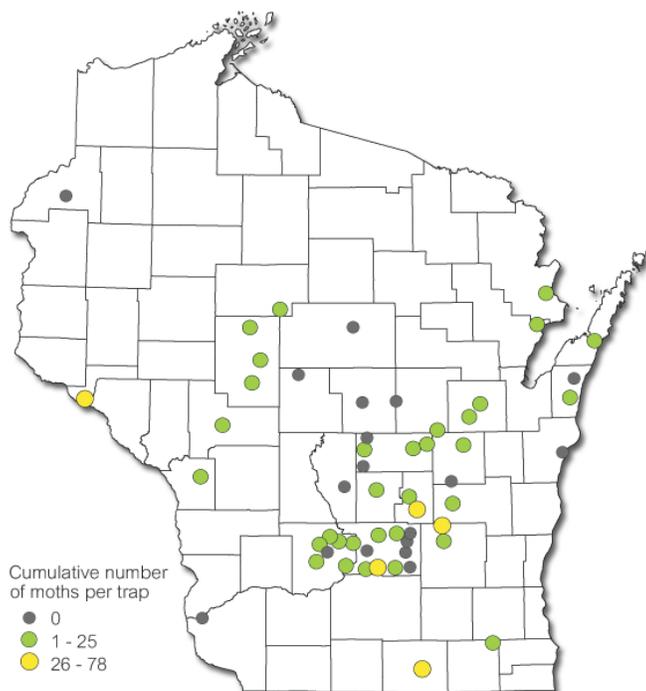
POTATO LEAFHOPPER: Surveys continue to yield non-economic counts of less than two adults and nymphs per sweep. High populations have been reported in alfalfa in La Crosse County, leading to treatment of a few fields in the past two weeks. Above-threshold counts have not been found by DATCP specialists. Nymphs are still common in sweep nets, and weekly monitoring of the third alfalfa crop throughout August is recommended.

CORN

WESTERN BEAN CUTWORM: Moth counts increased this week at 12 northern monitoring sites, but decreased or remained unchanged at 43 other locations. Pheromone traps captured a total of 193 moths from July 26-August 1, compared to 228 moths the week before. Counts across

southern and central Wisconsin have peaked and should begin to decline soon. Moth emergence is expected to continue in the northern areas for two more weeks. Preliminary results of the 14th annual trapping survey show that the 2018 state count of 503 moths in 55 pheromone traps (9 per trap average) is well below the 2017 cumulative capture of 1,677 moths in 70 pheromone traps (24 per trap average). The highest individual trap total as of August 2 is 78 moths registered near Durand in Pepin County.

Western Bean Cutworm Counts 2018



Wisconsin Department of Agriculture, Trade and Consumer Protection 

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 into the field interior. Control of this pest in corn is warranted if field-wide populations exceed three beetles per ear and pollination is less than 50% complete. Chemical treatment of entire fields is seldom necessary. Border area spot treatments are usually sufficient for reducing beetles during the critical pollination period.

CORN ROOTWORM: Beetle counts at most sites are low for early August. Corn surveyed in the southern and central districts had averages of 0-0.3 beetles per plant, with most fields having no detectable beetle population. Economic averages of 0.75 or more beetles per plant

were not found in any of the recently-sampled fields. The official 2018 corn rootworm survey is scheduled to begin next week.



Western corn rootworm beetles

Krista Hamilton DATCP

EUROPEAN CORN BORER: The peak in summer moth activity has occurred in the southern and central counties and should be reached by August 10 in the northern counties. The treatment window for second-generation corn borers will remain open for another 1-2 weeks across the southern half of the state. 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). Degree day totals as of August 1 were: Beloit 1,845 La Crosse 1,989, Madison 1,845, and Hancock 1,659.



European corn borer third instar larva

Krista Hamilton DATCP

CORN EARWORM: Numbers remained low during the past week. Eleven migrants were registered at five pher-

omone trap sites, compared to 15 moths captured the previous week. Despite the low counts, the arrival of even a few moths in traps signals that sweet corn producers should begin monitoring fields with green silks. Small larvae were observed this week in corn ears in a field near Bangor in La Crosse County.



Corn earworm larva

Krista Hamilton DATCP

SOYBEANS

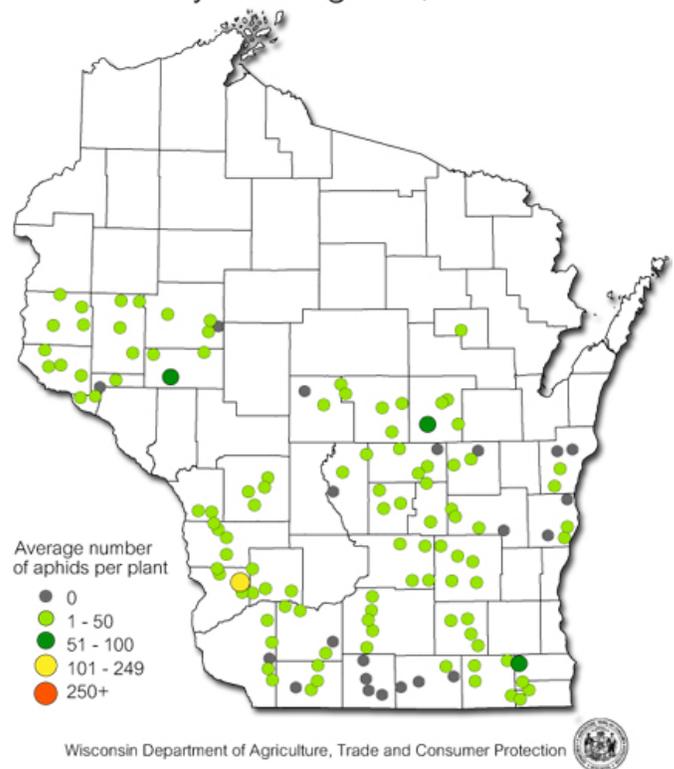
PYRETHROID RESISTANT APHIDS: Pyrethroid insecticide applications that fail to control aphid infestations may be an indicator of a resistant population. Producers or advisors who suspect pyrethroid performance issues are asked to contact the DATCP Pest Survey Program (krista.hamilton@wi.gov) to have aphids sampled and tested.

JAPANESE BEETLE: Defoliation is prevalent again this year. Japanese beetles are causing variable damage to soybean field margins, especially in the southeast and west-central areas. The highest counts (40-140 beetles per 100 sweeps) have been documented in Grant, Jefferson, Kenosha, Monroe, Rock and Walworth counties. Average defoliation rates in fields surveyed since late July have generally been below the 20% threshold for soybeans in the reproductive stages, but a few fields have developed economic defoliation levels in the range of 25-30%.

SOYBEAN APHID: Surveys conducted from July 23-August 1 found no economic populations at 128 sampled sites. Densities were low (<20 aphids per plant) in the majority of fields, with only three fields in Crawford, Eau Claire and Waupaca counties having averages above 100 aphids per plant. Although surveys indicate popula-

tions are low or moderate, aphid pressure usually intensifies this time of year, and some fields may still require treatment by mid-August. 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. In addition, plants at R5.5 or later are unlikely to suffer significant yield loss regardless of aphid population, unless under other stress such as drought. Waiting until this threshold to apply insecticides is critical for ensuring continued effectiveness of current insecticides available for aphid management. 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 next week to evaluate aphid densities.

Soybean Aphid Survey Preliminary Results July 23 - August 1, 2018



SOYBEAN ROOT ROT: Fifty-four soybean fields were surveyed for seedling root rot diseases from June 11-July 6. Laboratory testing confirmed *Phytophthora sojae* in 46% of the fields. The 2018 prevalence of *P. sojae* was an increase from 24% of fields in 2017 and 32% in 2016. Development of *Phytophthora* is favored by wet spring weather with warm, intermittently damp soils. DATCP surveys in the last decade have found *P. sojae* prevalence ranging from 13% in 2011 to 49% in 2014.

A second *Phytophthora* species, *P. sansomeana*, was also detected in three fields. *Phytophthora sansomeana* was first identified in Wisconsin soybeans in 2012 and has now been documented in 12 counties: Calumet, Dane, Dodge, Dunn, Eau Claire, Green, Jefferson, Outagamie, Marathon, Rock, Sheboygan, and Winnebago.

FRUITS

BROWN MARMORATED STINK BUG: Nymphs are appearing on traps in Dane and Rock counties. For apple orchards where BMSB is known to be established, it is particularly important to be alert for late-season 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 their 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, damage to apples has been misidentified as cork spot and/or bitterpit, disorders related to calcium deficiency.



BMSB bug adults and nymphs on clear sticky trap Peter Werts IPM Institute

As populations of this pest continue to increase and spread in Wisconsin, on-site monitoring will be the best determinant of whether or not treatments targeting BMSB are necessary. An economic threshold for clear sticky panel traps is not yet available, but 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. She also notes that the occasional BMSB caught in traps may not warrant BMSB sprays and growers should wait for sustained captures.

CODLING MOTH: Substantial flights (15-46 moths) continued in the past week in many cooperating orchards. According to Orchard IPM Specialist John Aue, the unusually large second-generation flights may be a result of the heavy rain diluting larvicide coverage during the first-generation treatment window in early June. Summer codling moth pressure is often a direct indicator of the efficacy of spring generation management programs. Monitoring of pheromone traps is recommended until the end of the month 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.



Codling moth larva

Kevy3534 flickr.com

APPLE MAGGOT: Emergence has peaked in all but the far northern counties. A high weekly counts of 22 flies per red sphere trap was reported from Gays Mills in Crawford County, while seven of 23 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 the flies are being captured and counts exceed established thresholds.

VEGETABLES

SQUASH BUG: Adults and nymphs are active in pumpkin and winter squash plantings across the state. Vegetable growers should continue to inspect the undersides of leaves for the bronze-colored 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. As always, growers must consider pre-harvest interval restrictions for any late-season treatment.



Squash bug eggs

Krista Hamilton DATCP

CORN EARWORM: Counts have been consistently low (<13 moths per trap per week) since the first migrants began appearing in pheromone traps five weeks ago. Large flights have not been recorded at any monitoring location as of August 2.



Corn earworm moth

Dale R. Niesen bugguide.net

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 use of different products with similar modes of action.

JAPANESE BEETLE: Beetles are abundant this year in gardens and on farms, and are likely to remain so for several more weeks. Damage to eggplant and many other vegetables is common. Physical removal is the recommended control option for small gardens. The best times to hand-pick beetles are in the evening and the early morning, when the insects are less active. Use of pheromone traps should be avoided since they attract additional beetles from afar.



Japanese beetles feeding on soybean leaf

Krista Hamilton DATCP

LATE BLIGHT: Although no cases of late blight have been detected in the state as of August 1, potato growers should maintain a 5- to 7-day preventive fungicide program, while home gardeners are advised to inspect tomato and potato plants regularly for leaf lesions and fruit spots. If late blight is suspected, a plant sample should be submitted to the UW Plant Disease Diagnostics Clinic for testing: <https://pddc.wisc.edu/mailling-a-sample-in-wisconsin/>.

NURSERY & FOREST

VINYL-SPIRAL-TREE GUARDS: Certain brands of vinyl-spiral-tree guards intended to protect young trees from rabbits, rodents and mechanical injury do not expand as the tree grows and can constrict and girdle the trees if not adjusted seasonally. Trees with severe constriction are often found with dead vascular tissue in the trunk, which

can lead to infection by a range of diseases that cause tree decline. Homeowners, landscapers, and nurseries who use spiral guards must inspect the trunks periodically to determine if the guards need to be adjusted.

BOXWOOD BLIGHT: This fungal disease has been confirmed on boxwood at a nursery grower in Kenosha County, the first detection in Wisconsin. Boxwood blight can be caused by two species of fungi in the genus *Calonectria*: *C. pseudonaviculata* occurs in North America, while a second species has been found in Europe. Molecular work is currently being conducted on the Wisconsin find for species confirmation. Other members of the family *Buxaceae* known to be susceptible to boxwood blight include genera *Pachysandra* and *Sarcococca*.



Boxwood blight leaf lesions

Connecticut Ag Research Station

Symptoms of boxwood blight on boxwood begin as brown spots or lesions on the leaves, which eventually coalesce and cause defoliation. Infected stems develop dark brown-to-black lesions. White fungal spores visible to the naked eye are produced on the undersides of infected leaves and on the stem lesions. The pathway for long-distance dispersal of this pathogen is likely through the movement of infected nursery stock, or tools and equipment. Natural movement of this pathogen occurs over relatively short distances by rain splash or mobile organisms like birds. Spores can remain viable for six years on plant debris or in the soil.

Following official boxwood blight confirmation by the USDA, all production fields containing boxwood at the nursery grower were thoroughly sampled. Wisconsin DATCP nursery inspectors have been working closely with the grower to ensure that all fields containing infected boxwood will be effectively managed. Elimination of

this pathogen requires the destruction of the host plant by burial or burning. Apparently asymptomatic, healthy stock will be held and monitored closely to ensure it is free from the pathogen. In addition, customers who may have received infected stock are being contacted by the nursery grower. Residents who suspect boxwood blight on recently-purchased boxwoods are advised to contact their county Extension office. For more information visit the DATCP Boxwood Blight webpage: https://datcp.wi.gov/Pages/Programs_Services/BoxwoodBlight.aspx.



Boxwood showing symptoms of boxwood blight Rebecca Gruber DATCP

HAZELNUT BACTERIAL BLIGHT: Hazelnut bacterial blight was found on hazelnut trees at a nursery grower in Dane County. Caused by the pathogen *Xanthomonas arboricola* pv. *corylina*, this disease tends to be more severe in young trees (under six years) or older, stressed trees. Symptoms include angular and circular necrotic leaf spots surrounded by yellowing that turns reddish-brown later in the season. Cankers that commonly ooze in spring may appear on stems and the trunk. The bacteria enters the tree through openings or wounds in the main trunk, branches, or buds. These openings can be naturally occurring or can be induced by abrupt changes in weather (frost cracks) or mechanically induced by nursery equipment. This disease can be spread by infected nursery stock, equipment, and rain splash. Management of this blight can include cultural methods such as purchasing clean stock, protecting trees from mechanical damage, equipment sanitation, and pruning of infected branches a significant distance below the infection. Application of an approved bactericide may be used for severe cases.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 26 - AUGUST 1

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	DWB ⁵	LPTB ⁶	BMSB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	17	13	0	0	0	4	0	0	7
Bayfield	Oriente	108	4	0	3	4	7	0	0	0
Brown	Oneida	25	24	3	4	49	2	0	0	0
Columbia	Rio	—	—	—	—	—	—	—	—	—
Crawford	Gays Mills	409	16	1	3	16	7	—	22	—
Dane	DeForest	15	5	3	2	0	0	0	0	0
Dane	Mt. Horeb	34	4	4	0	2	2	0	**1	0
Dane	Stoughton	53	7	5	5	3	0	0	0	0
Fond du Lac	Campbellsport	61	33	0	1	1	0	0	0	0
Fond du Lac	Malone	40	4	13	44	0	0	0	**4	**1
Fond du Lac	Rosendale	12	7	3	2	1	6	0	2	4
Grant	Sinsinawa	—	—	8	—	—	—	—	—	—
Green	Brodhead	—	—	—	—	—	—	—	—	—
Iowa	Mineral Point	725	30	46	5	15	0	0	**4	*0
Jackson	Hixton	18	9	2	0	13	0	0	0	1
Kenosha	Burlington	440	5	6	2	94	0	0	1	0
Marathon	Edgar	—	—	—	—	—	—	—	—	—
Marinette	Niagara	57	35	0	—	10	5	—	0	0
Marquette	Montello	215	16	1	2	13	9	0	0	0
Ozaukee	Mequon	105	8	17	0	2	0	—	*10	—
Pierce	Beldenville	—	—	—	—	—	—	—	—	—
Pierce	Spring Valley	34	27	0 ^{MD}	4	34	0	0	3	0
Racine	Raymond	207	12	22	1	65	4	0	0	0
Racine	Rochester	44	2	8	2	1	0	1	*4	0
Richland	Hill Point	114	9	6	3	9	3	0	**1	**0
Sheboygan	Plymouth	189	17	0 ^{MD}	0	8	13	0	**5	0
Walworth	East Troy	35	15	0	0	0	0	0	0	0
Walworth	Elkhorn	—	—	—	—	—	—	—	—	—
Waukesha	New Berlin	600	41	45	36	31	49	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	0	2	0	4	2	2	0	3	0	1
Dodge	Beaver Dam	0	6	0	1	1	0	0	7	0	15
Fond du Lac	Ripon	0	1	0	0	2	0	0	2	0	2
Grant	Prairie du Chien	0	0	0	0	1	2	0	0	0	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	0	1	0	20	8	10	1	1	0	7
Monroe	Sparta	0	0	0	0	3	1	0	2	0	9
Rock	Janesville	0	0	0	0	0	0	0	4	0	0
Walworth	East Troy	0	0	0	6	0	1	0	0	0	4
Wood	Marshfield	0	2	3	4	0	0	0	2	0	6

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