

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

Heat and humidity returned to Wisconsin on August 10, accompanied by several rounds of showers and thunderstorms. After an extended period of dry, settled weather, a low pressure system approaching from the Plains generated storms and heavy rain across northwestern counties that spread into southern Wisconsin on Thursday. The dry conditions that dominated most of the week supported harvesting of alfalfa, potatoes, small grains and sweet corn, while the timely showers benefited crops in the reproductive to filling stages of development. By most accounts, growing conditions have been exceptional this season and summer crops are progressing well ahead of the normal pace, with 88-91% of corn, oats, potatoes and soybeans rated as good to excellent. The abundant heat and adequate moisture have also favored insects such as Japanese beetles, fruit flies and stink bugs, and surveys suggest that populations of a few of the state's leading crop pests have increased from levels documented in the previous 2-3 years.

LOOKING AHEAD

CORN ROOTWORM: Early results of the August beetle survey indicate populations may be higher than last year. Economic averages of 0.75 or more beetles per plant have been documented in 30% of fields surveyed as of

August 10, though most fields contain low to moderate average counts of less than 0.7 beetle per plant. The annual survey for adult rootworms, which forecasts larval root damage potential for 2017, will continue during the next two weeks.

WESTERN BEAN CUTWORM: Moth numbers have decreased to very low levels, signaling the end of the adult flight. The cumulative state count as of August 10 is 1,524 moths in 75 traps. Individual counts from the 2016 trapping survey are provided in the map on page 107. Monitoring network participants may remove their traps at this time.

EUROPEAN CORN BORER: The treatment window for second-generation larvae is expected to close soon in southwest, south-central and west-central Wisconsin. Final management decisions must be made next week, before most of the caterpillars have bored into corn stalks and ears.

STRAWBERRY ROOT WEEVIL: These black nuisance beetles are reportedly invading homes in western Wisconsin. Although they are considered an annoyance by homeowners, the weevils are not damaging to structures, do not infest food products, and cannot breed indoors.

SOYBEAN APHID: Densities remain generally low for this time of year. Although a few soybean fields have devel-

oped moderate populations of 100-150 aphids per plant in the past two weeks, most contain fewer than 50 per plant. Final aphid treatments, if required, must be applied before the R5.5 (mid-seed) growth stage to provide any economic benefit.

CORN EARWORM: A significant flight of 48 moths was registered from August 4-10 near Arlington in Columbia County. Counts at 16 other pheromone trap locations ranged from 1-9 per trap. Fresh-market sweet corn growers should view this activity as a warning of potential earworm problems in silking corn and continue to monitor late-planted fields and follow CEW flight reports through early September.



Corn earworm moth

hybridbirder.blogspot.com

FORAGES & GRAINS

POTATO LEAFHOPPER: Alfalfa surveyed in Buffalo, Eau Claire, Jackson, La Crosse and Trempealeau counties in western Wisconsin contained 0.5-1.9 adults and nymphs per sweep. The average was 1.3 per sweep. Economic counts of two or more leafhoppers per sweep were not observed in the past week or at any time this season.

PEA APHID: Populations of this forage pest are still extremely low. Most fields sampled from August 4-10 had fewer than two per sweep.

PLANT BUG: Nymphs continue to be abundant in sweep net collections, although average counts remain well below the five plant bugs-per-sweep threshold. Counts this week varied from 0.5-2.0 per sweep, with an average of 1.1 per sweep.

DEGREE DAYS JAN 1 - AUGUST 10

LOCATION	50°F	2015	NORM	48°F	40°F
Dubuque, IA	2111	2011	2012	2242	3202
Lone Rock	2062	1929	—	2194	3121
Beloit	2171	2016	2043	2336	3278
Sullivan	1847	1622	1930	1991	2831
Madison	2046	1903	1948	2206	3085
Juneau	1814	1756	—	1966	2832
Racine	1952	1571	—	2119	2995
Waukesha	1780	1622	—	1903	2769
Milwaukee	1958	1575	1841	2133	2995
Hartford	1786	1622	—	1910	2776
Appleton	1765	1684	—	1917	2761
Green Bay	1732	1582	1741	1891	2722
Big Flats	1917	1808	—	2051	2903
Hancock	1917	1808	1890	2051	2903
Port Edwards	1893	1744	1854	2028	2895
La Crosse	2223	2022	2128	2415	3365
Eau Claire	1972	1823	1918	2128	3037
Cumberland	1639	1616	1794	1747	2598
Bayfield	1418	1305	—	1530	2254
Wausau	1738	1549	1756	1865	2684
Medford	1567	1482	1607	1636	2454
Crivitz	1610	1480	—	1651	2448
Crandon	1548	1368	1372	1645	2408

Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2016.
 NORMALS based on 30-year average daily temps, 1981-2010.

CORN

CORN ROOTWORM: Surveys this week found counts of 0-2.9 beetles per plant in 82 fields sampled in the southwest, south-central and west-central crop districts, with above-threshold averages of 0.75 or more beetles in 30% of the fields. The current average is 0.6 per plant. More beetles are appearing on silks in later-planted fields as emergence accelerates, and now is an optimal time for farmers and crop consultants to evaluate adult rootworm populations in their fields to anticipate injury by larvae in 2017.

WESTERN BEAN CUTWORM: Moth counts have declined at most monitoring locations. As of August 10, the state cumulative total is 1,524 moths in 75 traps (20 per trap), a substantial increase from the 644 in 96 traps (seven per trap) moths collected last season but still moderate relative to counts registered during previous western bean cutworm trapping surveys dating back to 2005. The high-

est individual count for the 10-week monitoring period was 145 moths near Markesan in Green Lake County.

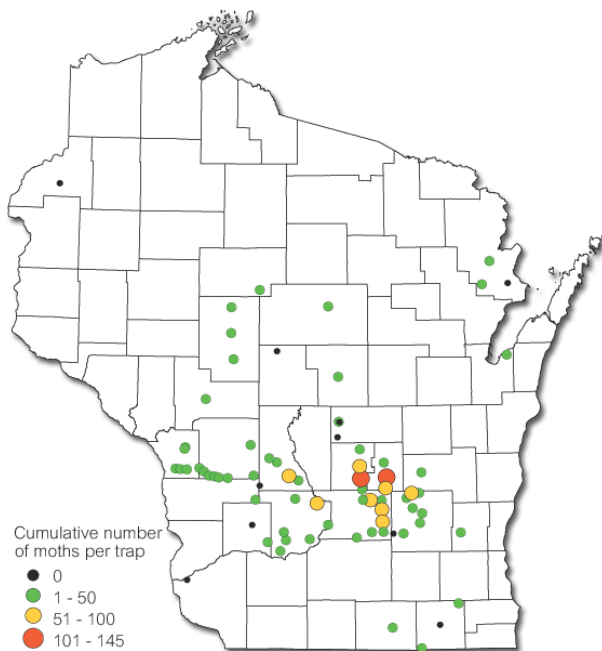


Western bean cutworm larvae

Krista Hamilton DATCP

The moderate number of moths captured this season suggests larval populations are light and localized, except in higher-risk fields on sandy soils in Central Wisconsin. At this late point in the growing season, larvae are feeding in the ear and nothing can be done to prevent kernel damage. Consultants and corn growers should plan to inspect fields before harvest to assess damage levels and the efficacy of their western bean cutworm-resistant Bt corn hybrids.

Western Bean Cutworm Trap Counts 2016



Cumulative number of moths per trap
 ● 0
 ● 1 - 50
 ● 51 - 100
 ● 101 - 145



EUROPEAN CORN BORER: The treatment window for second-generation larvae has closed near Beloit, La Crosse and Lancaster, but will remain open for about one more week in parts of southern and central Wisconsin. Final inspections should be performed before degree day accumulations surpass 2,100 (modified base 50°F) and the 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.

JAPANESE BEETLE: This insect is still common in the southern and western counties where counts of 1-4 beetles per plant (on <2-3% of plants) and minor silk pruning have been observed this month. A fieldwide average of three or more beetles per ear is considered high and may interfere with pollination.



Japanese beetle feeding on corn silks

Krista Hamilton DATCP

CORN EARWORM: Migrants continue to arrive in Wisconsin in low to moderate numbers. Counts during the past week ranged from 1-48 per trap, with the highest number of moths registered in the Arlington area. A minor total capture of 28 moths was reported last week from DATCP's 17 pheromone trap sites. The latest activity suggests that the risk of egg laying has increased slightly and is likely to continue throughout August. Regular scouting and control programs should be maintained for late-planted sweet corn fields.

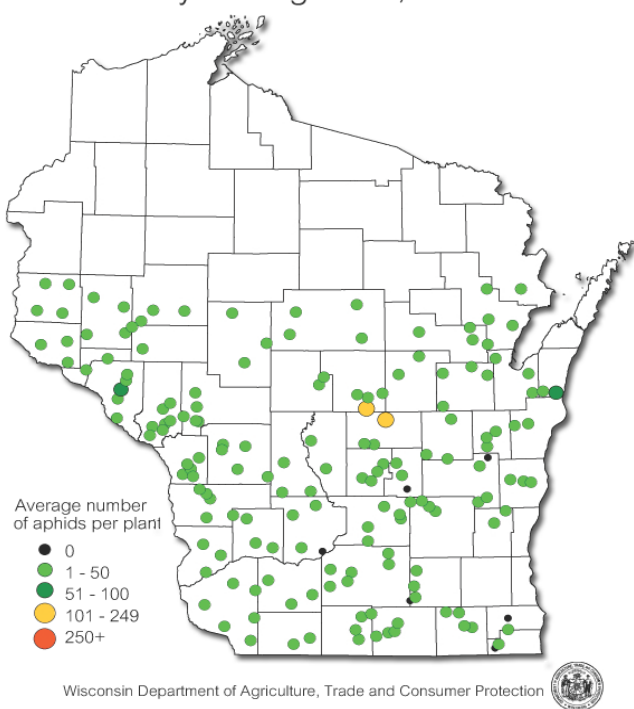
SOYBEANS

SOYBEAN APHID: Surveys continue to indicate that populations remain well below the established 250 aphid-

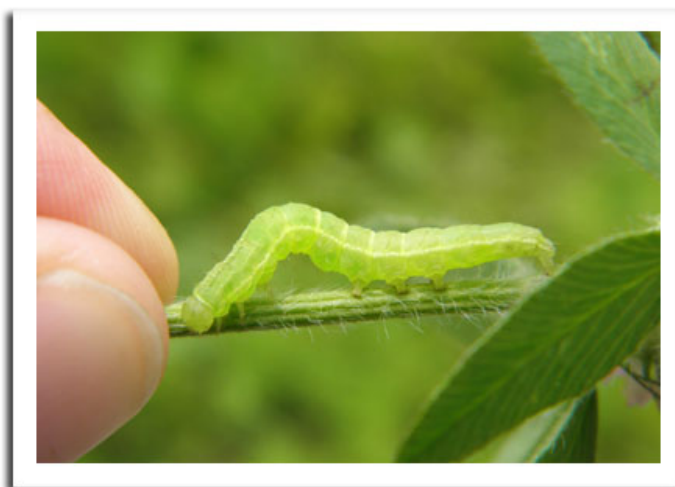
per-plant treatment threshold in the vast majority of Wisconsin soybean fields. Densities have increased since late July, but generally not to the point where control is required. The average count in 170 fields surveyed from July 25-August 10 was eight aphids per plant. Less than 2% of the sites had densities of 51-151 aphids per plant, 7% had 26-50 aphids per plant, 88% (147) had 1-25 per plant, and 3% had no detectable population.

Results of the annual survey suggest that most soybeans will not require treatment for aphids this year, but exceptions will inevitably occur and fields must be evaluated one last time in the next few days. Final treatments should be applied before the R5.5 (mid-seed) growth stage since treating at R6 (full seed) or later does not produce a consistent yield benefit.

Soybean Aphid Survey Results July 25-August 10, 2016



perimeters of fields. A combined defoliation rate exceeding 20% for soybeans in the seed-filling stages may justify treatment if the insects are actively feeding and damage is expected to increase. Defoliation estimates should be based on all parts of the soybean canopy (not just the injured portion) to avoid over-estimating leaf injury and thus making unnecessary insecticide applications.



Green cloverworm larva

Krista Hamilton DATCP

TWO-SPOTTED SPIDER MITE: Reports indicate that this pest has become a problem in orchards and nurseries with 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 for 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.

GREEN CLOVERWORM: Larvae ranging from mid- to late-instar are common but not abundant in the southern and western counties. Defoliation levels in surveyed fields are minor at less than 5-10%. This sporadic soybean pest is highly susceptible to parasitism and disease, and is normally controlled biologically without insecticide use.

SOYBEAN DEFOLIATORS: Defoliation by grasshoppers, green cloverworms, Japanese beetles, katydids, leaf-rollers, stink bugs is prevalent, particularly around the



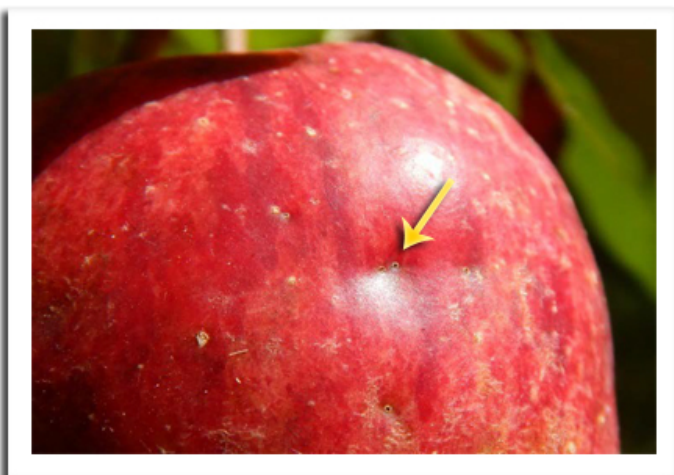
Leaf stippling caused by spider mites

Krista Hamilton DATCP

FRUITS

CODLING MOTH: Moth numbers have risen sharply in a few southern and eastern orchards, indicating a resurgence flight is underway. Elevated counts of 20 or more moths were reported from Brown, Grant, Iowa, Kenosha and Racine counties this week, and additional spot treatments may be necessary in orchard blocks where this pest remains abundant (> five moths per trap per week). Above-threshold weekly counts were registered in eight of 21 reporting orchards during the week ending August 10. Control of second-generation CM is important since the larvae can continue to emerge and damage fruits even after the apples are in storage.

APPLE MAGGOT: A few orchards recorded an increase in AM emergence this week, while most captured fewer flies. The high count was noted at Gays Mills in Crawford County where 20 flies were trapped on an unbaited red sphere. 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

OBLIQUEBANDED LEAFROLLER: Oviposition by the summer flight of moths is underway. Based on the prevalence and abundance of OBLR larvae last month, a significant and potentially damaging late-summer larval brood is expected. 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 is advised 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. Larvicides for codling moth control such as Altacor (chlorantraniliprole) and Delegate (spinetoram) will control OBLR larvae, while the neonicotinoids Admire Pro (imidacloprid) and Assail (acetamiprid) will not.

VEGETABLES

ONION MAGGOT: Late-summer flies are expected to begin emerging across southern and central Wisconsin in the next two to three weeks, 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

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: Regular monitoring of plants for signs of infection and regular treatment of fields on a five- to seven-day schedule is advised in order to prevent this

disease from developing in tomato and potato crops as harvest accelerates. No cases of late blight have been confirmed in any Wisconsin potato field or home garden this season, but all potato growing areas in the state have exceeded the threshold for late blight management and fungicidal protection of susceptible tomato and potato crops is recommended at this time.

NURSERY & FOREST

SLUGS: Moderate damage caused by these nocturnal mollusks has been observed on hostas in Vilas County. Slugs are active at night and chew large, irregular holes in leaf tissue, stems and flowers of numerous plants, often leaving behind characteristic slime trails. Many cultural control methods are available to reduce damage, including removing plant debris, boards or other materials that may harbor slugs, limiting irrigation to morning hours to allow foliage to dry during the day, and baiting or trapping using various products. Applying an abrasive material such as diatomaceous earth to the soil at the base of plants can also deter slugs. The July flooding that impacted northern Wisconsin has favored late-season slug activity.

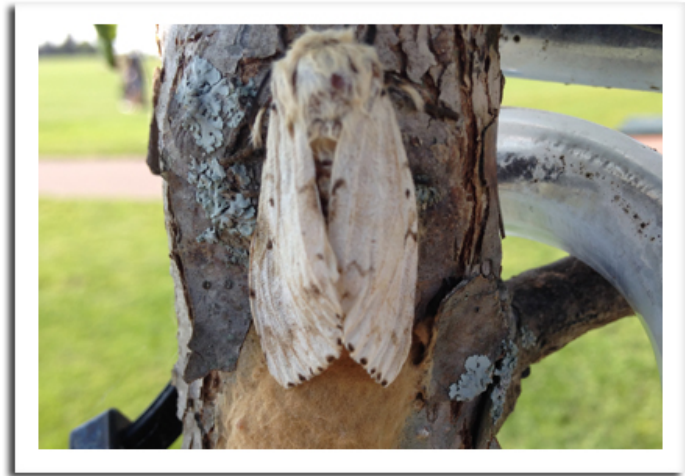


Slug feeding on hosta

Timothy Allen DATCP

GYPSY MOTH: Oviposition by flightless female moths is occurring in Marathon County and across northern Wisconsin. The buff-colored egg masses are being deposited on preferred tree species such as aspen and oak, though the moths will oviposit on campers, chairs, firewood, picnic tables and many structures other than trees. DATCP recommends treating eggs in late summer or fall with a horticultural oil labeled for gypsy moth, available at lawn and garden centers, or by scraping off the

masses and submerging them soapy water. Do not use motor oil, mineral oils, non-horticultural oils or others materials not labeled for gypsy moth.



Female gypsy moth ovipositing on oak

Timothy Allen DATCP

LILAC BORER: Damage attributed to the clear-winged lilac borer was found on lilacs in Kenosha County earlier this month. The lilac borer can be a serious pest of plants in the olive family including, lilac, ash and privet. Stressed or injured plants are more susceptible to infestation since female borers selectively lay eggs near wounds where the newly hatched larvae can readily access the plant tissue. Lilacs exhibiting dieback should be examined for entrance holes and the wood dust left behind by this pest. Minor borer infestations can be managed by pruning out affected stems, though larger infestations may require chemical intervention.



Lilac borer damage

Marcia Wensing DATCP

ANTHRACNOSE: Anthracnose caused by the fungal pathogen *Colletotrichum* was identified on lungwort late

last month in Vilas County. This common fungus with a wide host range infects fruit, vegetables, and field crops, in addition to many ornamentals. *Colletotrichum* causes leaf and stem lesions and dieback, particularly during periods of warm, wet weather. Removing and destroying infected leaves can reduce spore production and thus the spread of anthracnose.



Anthracnose on lungwort

Timothy Allen DATCP

INVASIVE “HITCHHIKERS”: Nursery operators should be aware that several of the species regulated under the NR 40 Invasive Species Rule can spread into nursery pots, just as they may spread in the landscape. Common regulated weeds such as glossy buckthorn, spotted knapweed and tansy have been found this season in potted plants in several Wisconsin nurseries. Any plant listed in NR restricted’ category may not be sold (unless they are currently within a phase-out period) or transported, so nursery stock must be inspected and free of any regulated invasives. Regulated plants with an NR 40 ‘prohibited’ status must be destroyed.



Spotted knapweed growing in fragrant sumac pot

Timothy Allen DATCP

OAK WILT: Symptoms of oak wilt have become evident where the disease occurs in northern Wisconsin, making late summer an opportune time to assess oak stands for damage. This lethal oak disease is spread by pruning or wounding oaks during the spring and summer months, which allows the sap-feeding beetle vectors to introduce the fungus to healthy trees. Once introduced into an oak stand, the fungus can spread underground through grafted roots. Symptoms are more pronounced in red oaks as the leaves turn brown and wilt in a short period of time. White oaks have additional defenses against the fungus, so the effects are less obvious. It is strongly recommended that residents and foresters do not prune oak trees until late fall or winter in areas where the disease is established. Oak wilt has been confirmed in 60 of Wisconsin’s 72 counties.



Oaks infected with oak wilt

Timothy Allen DATCP

APPLE INSECT & BLACK LIGHT TRAP COUNTS AUGUST 4-10

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	APB ⁵	LPTB ⁶	DWB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	0	2	1	0	0	0	3	0	0
Bayfield	Orienta	17	2	0	0	0	4	13	0	**0
Brown	Oneida	560	73	26	20	0	0	23	0	0
Columbia	Rio	10	37	4	0	0	2	0	0	0
Crawford	Gays Mills	135	0	0	0	0	0	6	*20	—
Dane	DeForest	13	12	5	0	—	—	—	—	—
Dane	Edgerton	—	—	—	—	—	—	—	—	—
Dane	McFarland	2	4	0	—	—	—	—	—	*5
Dane	Mt. Horeb	79	41	2	5	7	0	1	1	0
Dane	Stoughton	—	—	—	—	—	—	—	—	—
Fond du Lac	Campbellsport	100	3	0	7	0	0	0	0	3
Fond du Lac	Malone	125	16	8	27	0	0	0	3	2
Fond du Lac	Rosendale	78	16	4	12	0	1	2	1	2
Grant	Sinsinawa	17	85	20	—	—	—	—	—	2
Green	Brodhead	9	32	1	0	2	2	36	0	0
Iowa	Mineral Point	1200	92	22	2	0	3	1	—	—
Jackson	Hixton	—	—	—	—	—	—	—	—	—
Kenosha	Burlington	300	63	23	8	9	2	12	3	—
Marathon	Edgar	373	9	0	19	0	0	7	1	3
Marinette	Niagara	58	24	0	1	0	0	3	0	0
Marquette	Montello	486	23	2	8	—	—	—	*1	0
Ozaukee	Mequon	—	—	—	—	—	—	—	—	—
Pierce	Beldenville	—	—	—	—	—	—	—	—	—
Pierce	Spring Valley	306	0	0	1	0	1	8	*3	1
Racine	Raymond	133	53	9	5	7	6	16	0	0
Racine	Rochester	360	11	22	3	1	1	0	*1	1
Richland	Hill Point	176	30	4	3	1	6	3	1	0
Sheboygan	Plymouth	306	0	5	0	0	3	3	**4	0
Walworth	East Troy	—	—	—	—	—	—	—	—	—
Walworth	Elkhorn	—	—	—	—	—	—	—	—	—
Waukesha	New Berlin	88	33	11	6	10	4	19	0	0

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵American plum borer; ⁶Lesser peachtree borer; ⁷Dogwood borer; 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	0	0	4
Columbia	Pardeeville	1	4	0	6	9	9	2	3	2	0
Dodge	Beaver Dam	0	0	0	16	21	0	3	5	1	10
Fond du Lac	Ripon	0	2	1	16	9	0	0	4	0	1
Grant	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	5	1	1	54	3	7	11	5	0	7
Monroe	Sparta	0	0	0	9	17	1	0	0	0	0
Rock	Janesville	0	4	0	0	8	6	0	4	0	0
Walworth	East Troy	0	0	0	6	0	9	0	0	0	8
Wood	Marshfield	1	2	0	26	6	1	3	3	0	2

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