

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

Significant early-week rainfall across much of Wisconsin improved moisture conditions for summer crops in the latter stages of development. An approaching low pressure system brought widespread showers and storms on August 18 and 19, with many locations reporting heavy rainfall of 1-2 inches or greater. The precipitation helped reverse the trend of below-normal rainfall that began in July, although the moisture was unevenly distributed and pockets of abnormal dryness persist in some portions of the state. Rainfall deficits are most acute in the southwestern and northeastern regions where topsoil moisture ratings declined 4-11 points in the previous week to 76-77% very short or short. Statewide topsoil moisture shortages were an average of 45% short or very short prior to Monday and Tuesday's showers. The July-August dryness is adversely affecting most forage, field and vegetable crops, and yield reductions are probable if the dry weather trend continues in September.

LOOKING AHEAD

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 20 is 502 moths in 103 pheromone traps. Individual counts from the 2014 trapping survey are provided in the map on

page 107. Monitoring network participants may remove their traps at this time.

CORN ROOTWORM: Preliminary results of the annual beetle survey show a pronounced population increase in western Wisconsin and a decrease in beetle abundance in the central and eastern areas. District averages thus far range from 0.1 beetle per plant in the northeast region to 0.9 per plant in the southwest. The state average in 179 fields surveyed as of August 20 is 0.5 beetle per plant. A count of 0.75 or more beetles per plant in continuous corn indicates a heightened risk of root damage to non-Bt corn in 2015.

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

CORN EARWORM: Migrants have not yet arrived in significant numbers. The highest count reported since monitoring began last month was only 15 moths in Dodge County during the week of July 17-23. Counts in August have been less than eight moths per trap per week. The cumulative seasonal capture of only 233 moths in 15 traps indicates the late summer migration has been too minor to produce substantial larval infestations, although

this could change if a major influx were to occur by early September.

STRAWBERRY ROOT WEEVIL: Large numbers of these black beetles are reportedly entering homes in scattered locations in southern and western Wisconsin. Although they are considered a nuisance by homeowners, the weevils are not damaging to the structure and do not breed indoors.



Strawberry root weevil

Phil Pellitteri UW-Madison

FORAGES & GRAINS

POTATO LEAFHOPPER: Alfalfa surveyed in Buffalo, Jackson, La Crosse and Trempealeau counties contained 0.1-1.6 adults and nymphs per sweep. The average was 0.7 per sweep. Economic counts of 2.0 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 14-20 contained fewer than one 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 0.3-2.9 per sweep, with an average of 1.2 per sweep.

GRASSHOPPER: Late-season grasshopper activity is increasing in alfalfa and other crops in the west-central and northwest areas. Moderate to severe defoliation in field margins and approximate counts of about 2-14 per square yard were observed at scattered sites.

DEGREE DAYS JANUARY 1 - AUG 20

LOCATION	50°F	2013	NORM	48°F	40°F
Dubuque, IA	2055	2020	2210	2210	3222
Lone Rock	2062	1958	—	2197	3222
Beloit	2102	2146	2247	2234	3283
Sullivan	1689	1944	2126	1844	2799
Madison	1955	1960	2140	2089	3110
Juneau	1799	1832	—	1963	2921
Racine	1650	1746	—	1824	2783
Waukesha	1689	1757	—	1844	2799
Milwaukee	1640	1705	2046	1803	2753
Hartford	1689	1719	—	1844	2799
Appleton	1686	1718	—	1848	2790
Green Bay	1577	1636	1921	1744	2675
Big Flats	1811	1715	—	1918	2869
Hancock	1811	1733	2076	1918	2869
Port Edwards	1754	1674	2037	1878	2799
La Crosse	2055	1923	2338	2192	3193
Eau Claire	1865	1801	2109	2013	2961
Cumberland	1631	1602	1976	1771	2653
Bayfield	1187	1204	—	1278	2061
Wausau	1544	1538	1935	1685	2557
Medford	1485	1576	1773	1630	2496
Crivitz	1484	1521	—	1628	2508
Crandon	1357	1414	1507	1467	2289

Method: ModifiedB50; SineB48; ModifiedB40 as of Jan 1, 2014. NORMALS based on 30-year average daily temps, 1981-2010.

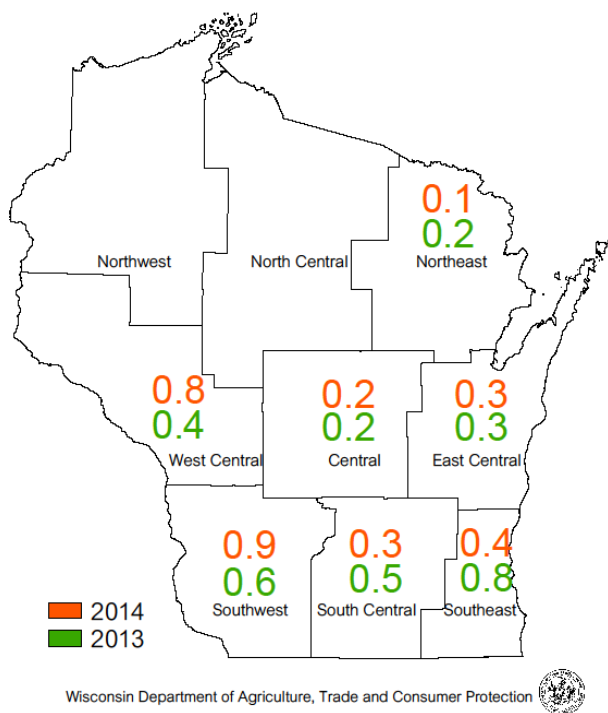
Grasshopper damage to forage crops can be serious at this time of year, especially in new alfalfa seedings and when dry weather slows plant regrowth after harvest. Insecticide use is justified if populations reach 20 grasshoppers per square yard at the margins or eight per square yard within an alfalfa field. Spot treatment is an acceptable form of control when the defoliation is concentrated at the field edges.

CORN

CORN ROOTWORM: Below is a map summarizing the early findings of the 2014 corn rootworm beetle survey, completed in seven of the state's nine crop reporting districts. Surveys thus far have found a marked increase in beetle counts in the southwest and west-central areas as compared to 2013, while populations in the south-central, southeast, central, east-central and northeast districts are significantly lower than or equivalent to last season's averages. The preliminary state average of 0.5

beetle per plant is the same as in 2013. An average of 0.75 or more adult corn rootworms per plant (in continuous corn) indicates control in the form of crop rotation, using a Bt-rootworm hybrid or applying an at-planting soil insecticide should be considered to prevent root damage in 2015. Beetle populations exceeding this threshold have to date been noted in 30 of the 179 (17%) fields surveyed.

Average Number of Corn Rootworm Beetles per Plant



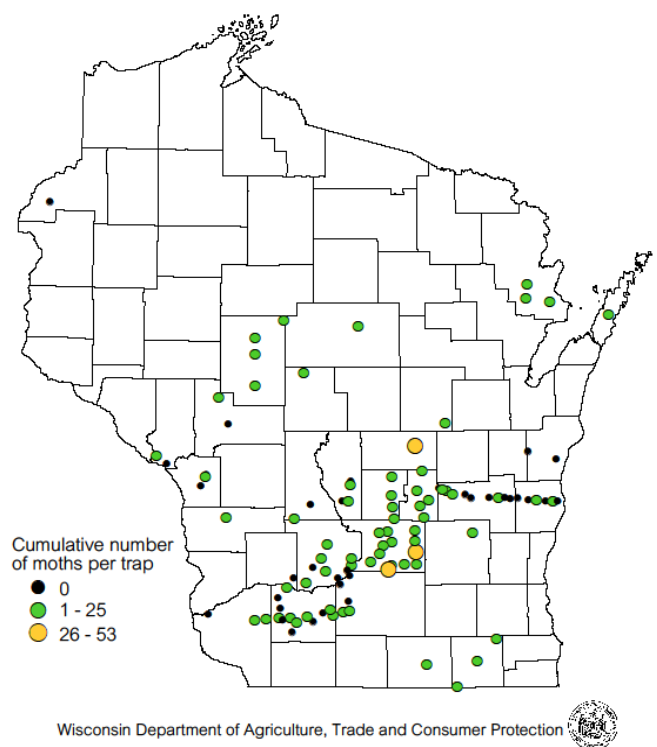
EUROPEAN CORN BORER: The treatment window for second generation larvae remains open for about one more week in southeast and central Wisconsin. Final inspections should be performed soon, before degree day accumulations surpass 2,100 (modified base 50°F) and the larvae begin boring into corn stalks. Due to the variability in corn borer development across the state, sweet corn growers are advised to inspect fields carefully and base control decisions on the specific conditions observed. An infestation involving an estimated 76% of corn plants was observed on August 19 in Pepin County, a few miles north of Mondovi.

WESTERN BEAN CUTWORM: Moth counts have declined to fewer than four per trap at all monitoring locations. As of August 20, the state total is only 502 moths in 103 traps (five per trap), a decrease from the 663 (six per trap) moths collected last season and the lowest state

cumulative count since western bean cutworm trapping surveys began in 2005. The highest individual count for the eleven-week monitoring period was only 53 moths near Pine River in Waushara County.

The record-low number of moths captured this season suggests larval populations are also very low, except in localized high-risk areas on sandy soils in Central Wisconsin. DATCP surveys this month have found only minor infestations affecting less than 2% of plants in a few Adams, Juneau, Marquette and Monroe County fields. 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 check fields before harvest to assess damage levels and the efficacy of their Cry 1F and Vip 3A hybrids.

Western Bean Cutworm Trap Counts July 2 - August 20, 2014



SOYBEANS

NORTHERN CORN ROOTWORM: A DATCP surveyor reports that this rootworm species was unusually abundant in a Rock County soybean field sampled earlier this week, with nearly every plant showing some degree of defoliation on the upper leaves. The presence of large numbers of northern corn rootworm beetles in soybeans

suggests that the beetles are feeding on the leaves and pollen, and not that egg deposition is occurring. An Iowa State study conducted from 2005-2007 confirmed that the northern corn rootworm is capable of laying very low numbers of eggs in soybeans, but the behavior is probably rare and does not pose a threat to rotated corn. Insecticide use is not recommended even for significant populations of these beetles in soybeans unless combined defoliation levels of this and other leaf feeding insects exceeds the 20% threshold for beans in the seed-filling stages.



Light defoliation by northern corn rootworm beetle Krista Hamilton DATCP

GREEN CLOVERWORM: Larvae ranging from mid- to late-instar are common but not abundant in the southern and western area. 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. Control is probably unwarranted this year.



Green cloverworm

Krista Hamilton DATCP

SOYBEAN APHID: Densities have continued to increase this month and reports indicate scattered soybean fields have been treated for aphid control. All soybeans in the seed-filling stages should be evaluated one last time before the end of August to determine if populations have reached or surpassed the economic threshold of 250 aphids per plant on 80% of the plants. Final treatments should be applied before the R5.5 (mid-seed) growth stage since treating at R6 (full seed) or later has not produced a consistent yield benefit.

FRUITS

CODLING MOTH: Moths are still appearing in very high numbers in many orchards. The peak of the second flight has likely occurred at most southern and central locations, but additional treatments may be necessary before the end of the month if moths remain abundant. The average count this week was above-threshold at six per trap, with a high count of 32 per trap near Rochester in Racine County.

APPLE MAGGOT: Emergence continued for the eighth week, with most sites registering a slight increase in AM counts from the previous week. The high count was again noted at Gays Mills in Crawford County where 22 flies were collected on a red sphere trap. Apple maggot sprays should be maintained 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.

SPOTTED TENTIFORM LEAFMINER: Moth counts as high as 1,280 per trap during the August 14-20 monitoring period indicate that the third flight has peaked in some southern orchards. Central and northern locations can expect the peak to occur in one or two more weeks.

JAPANESE BEETLE: Spot treatment of individual trees should be considered for those orchards that continue to experience high numbers of beetles. This pest remains very active, particularly in the west-central and northwestern counties.

STINK BUG: Adults and nymphs have been observed on the undersides of leaves in southern and western Wisconsin apple orchards, signaling the potential for fruit injury prior to harvest. Growers are encouraged to monitor fruits for evidence of feeding by these insects.

A single adult or nymph can injure many apples and damage may not develop until after the fruits are in storage.



Stink bug damage on apple HGIC University of Maryland Extension

VEGETABLES

LATE BLIGHT: Continued monitoring of plants for signs of infection and regular treatment of infected fields on a five- to seven-day schedule is advised in order to prevent this disease from spreading to additional tomato and potato crops as harvest begins. Four separate cases of late blight have been confirmed in the counties of Milwaukee (tomato), Portage (potato, two fields) and Racine (tomato) as of August 20.

ONION MAGGOT: Third-generation maggots are feeding on cull onions and bulbs left behind in fields. Onion growers should remove all cull piles and thoroughly clean fields to reduce overwintering populations. Rotation to a non-host crop is recommended for fields with a history of onion maggot problems.

TOMATO FRUITWORM: Tomatoes are at increased risk of egg deposition and larval infestation by this pest as more of the state's sweet corn matures beyond the green silk stage and no longer provides attractive egg laying sites. The female moths lay eggs near green fruits and the larvae rapidly enter tomatoes from the stem end, consuming the interior and leaving a cavity filled with fluid and droppings. Fruits are inedible after fruitworm infestation and should be removed and discarded.

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 continue 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.



Squash bug nymph

Krista Hamilton DATCP

NURSERY & FOREST

LILY LEAF BEETLE: A number of reports were received this week from the Mosinee area of Marathon County where this newly-introduced exotic pest was discovered last month. The adult beetles and larvae have been observed on lilies in more than a dozen Marathon County nurseries and residences since early July. One unconfirmed report indicates the beetle was also found near Marshfield in adjacent Wood County.

Residents of Marathon and Wood counties, especially Kronenwetter, Marshfield, Mosinee and Rothschild, are encouraged to closely inspect their lilies for this very distinctive bright red beetle and report any suspected infestations to the DATCP nursery program at datcpnursery@wisconsin.gov. Control---either by manually removing the adults and larvae or applying an insecticide to infested plants---is strongly recommended to prevent this destructive lily pest from spreading throughout the state. Most chemical products labeled for ornamentals and containing carbaryl, malathion or cyfluthrin (a pyrethroid) available at hardware stores or big box retailers are effective against the LLB.

It is not known when this insect first arrived in the state or if it is permanently established. Hosts include true lilies (Asiatic and Oriental, Easter, Turk's cap, tiger) and fritillaria, but not day lilies.



Lily leaf beetle

www.simplegiftsfarm.com

BOXWOOD PSYLLID: Light infestations of this insect were observed on boxwoods during inspections this week. Feeding by the immature nymphs on tender new growth in spring causes foliage to become cupped and distorted. The psyllid nymphs remain protected within the cupped foliage and continue to feed throughout the season. Damage resulting from their feeding is usually minimal and treatment is seldom needed.

OYSTERSHELL SCALE: A moderate infestation of this scale was found on ash trees at a nursery in Ozaukee County. This insect infests apple, birch, cotoneaster, dogwood, elm, lilac, maple, willow and about 50 other woody plant species, in addition to ash. Horticultural oils and soaps or conventional insecticides are effective against the first and second generations of mobile crawlers in the intervals between 275-500 degree days (base 50°F) and 1,600-1,700 degree days, respectively. Treatment remains an option for southeastern, central, and northern Wisconsin, but is not advised for advanced southern and western parts of the state where 1,700 degree days have been surpassed and the scales have adhered to the branches and begun to form their protective waxy coverings.

PHOMOPSIS TIP BLIGHT: A nursery inspector's report indicates that this evergreen disease is infecting several varieties of juniper in Ozaukee and Washington counties. Plants with phomopsis blight develop yellow spots at the

shoot tips of young needles that progress to the stems, causing gradual dieback of new growth and eventual death of the infected branch. The black pycnidia or fruiting bodies which develop on the dead branches are diagnostic. The occurrence of phomopsis can be reduced by pruning out symptomatic branches and twigs 4-6 inches below the diseased area, and disinfecting pruning shears between cuts. Maintaining adequate spacing and airflow between plantings will also help to prevent its spread



Phomopsis tip blight on Juniper

Liz Meils DATCP

LEAFHOPPER DAMAGE: Honey locust and maple trees at nurseries in Ozaukee and Washington counties are showing leaf cupping and tip burn, typical symptoms of leafhopper feeding injury. Harvest of nearby third-crop alfalfa is thought to have forced the leafhoppers out of alfalfa and onto the trees. Treatment of the affected honey locusts and maples was not needed in this instance, but may be justified when large numbers of leafhoppers are present and symptoms are obvious.



Potato leafhoppers on red maple leaf

Liz Meils DATCP

APPLE INSECT & BLACK LIGHT TRAP COUNTS AUGUST 14 - 20

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	AM RED ⁵	YELLOW ⁶
Bayfield	Keystone	23	5	1	0	6	10
Bayfield	Oriente	28	8	0	0	0	0
Brown	Oneida	10	18	0	9	0	0
Columbia	Rio	—	—	—	—	—	—
Crawford	Gays Mills	78	0	3	32	22	—
Dane	Deerfield	12	7	1	0	0	0
Dane	McFarland	294	105	3	8	0	**0
Dane	Mt. Horeb	35	118	7	17	1	0
Dane	Stoughton	99	63	15	6	0	01
Dane	West Madison	76	130	24	16	—	—
Fond du Lac	Campbellsport	25	14	0	19	*0	0
Fond du Lac	Malone	—	—	—	—	—	—
Fond du Lac	Rosendale	14	26	2	1	3	0
Grant	Sinsinawa	—	—	—	—	—	—
Green	Brodhead	21	40	5	8	0	0
Iowa	Mineral Point	295	140	18	8	**0	—
Jackson	Hixton	33	6	8	1	3	2
Kenosha	Burlington	375	47	6	15	3	—
Marathon	Edgar	—	—	—	—	—	—
Marinette	Niagara	147	3	0	1	10	—
Marquette	Montello	432	25	0	14	0	0
Ozaukee	Mequon	200	16	6	2	*1	—
Pierce	Beldenville	76	24	3	0	1	0
Pierce	Spring Valley	83	2	0	10	**5	0
Racine	Raymond	342	57	7	10	0	0
Racine	Rochester	330	29	22	5	*6	0
Richland	Hillpoint	1280	3	5	0	**2	1
Sheboygan	Plymouth	—	—	—	—	—	—
Walworth	East Troy	36	6	0	3	0	0
Walworth	Elkhorn	61	15	0	12	0	0
Waukesha	New Berlin	324	7	15	8	0	0

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Apple maggot red ball; ⁶Unbaited AM trap; ^{**}Baited AM trap; ⁶Apple maggot yellow board; *Counts represents a two-week period.

COUNTY	SITE	BCW ¹	CEL ²	CE ³	DCW ⁴	ECB ⁵	FORL ⁶	SCW ⁷	TA ⁸	VCW ⁹	WBC ¹⁰
Crawford	Prairie du Chien	—	—	—	—	—	—	—	—	—	—
Dane	Mazomanie	0	0	0	54	3	1	0	1	2	0
Fond du Lac	Ripon	0	0	0	0	0	0	0	0	5	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	0	1	0	51	0	6	3	0	0	1
Monroe	Sparta	0	0	1	27	0	3	0	0	2	0
Rock	Janesville	1	4	0	6	2	6	0	2	0	0
Vernon	Coon Valley	—	—	—	—	—	—	—	—	—	—
Walworth	East Troy	—	—	—	—	—	—	—	—	—	—
Wood	Marshfield	0	0	0	13	0	1	3	0	1	1

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