Volume 60 No. 17 August 13, 2015

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 early-week showers and moderate temperatures maintained generally favorable growing conditions for summer crops in the latter stages of development. Rain benefited corn and soybeans in portions of central and northern Wisconsin, but moisture remained limited in southern areas. According to the current U.S. Drought Monitor, moderate drought conditions and pockets of abnormal dryness have developed in the southwestern counties, where topsoil moisture ratings were 46% very short or short at the start of the week. Rainfall deficits have also increased since July in the south-central, southeastern and east-central regions, and topsoil moisture ratings there are now 44-60% very short or short for croplands. The late summer dry weather trend could adversely affect corn and soybeans during the most critical grain- and pod-filling stages if rain continues to bypass southern Wisconsin.

LOOKING AHEAD

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.

WESTERN BEAN CUTWORM: Moth captures have decreased to very low levels, signaling the end of the adult flight. The cumulative state count as of August 13 is 629 moths in 96 traps. Individual counts from the 2015 trapping survey are provided in the map on page 113. Monitoring network participants may remove their traps at this time.

CORN ROOTWORM: Early results of the August beetle survey indicate populations are variable, with most fields containing low to moderate average counts of less than 0.7 beetle per plant. Economic averages of 0.75 or more beetles per plant have been documented in 17% of fields surveyed as of August 12. The annual survey for adult rootworms, which forecasts larval root damage potential for 2016, will continue during the next two weeks.

LATE BLIGHT: Potato fields infected with late blight have been confirmed in Adams, Marquette, Portage, Waushara and Wood counties as of August 13. Several cases of the disease on tomato have also been reported in Columbia, Fond du Lac, Polk, Waushara and Wood counties. Maintaining protectant fungicide programs will be critical through harvest.

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

to structures, do not infest food products, and cannot breed indoors.

Strawberry root weevil Phil Pellitteri UW-Madison

FORAGES & GRAINS

POTATO LEAFHOPPER: Alfalfa surveyed in Buffalo, Dane, 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 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 6-12 had 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 0.4-2.5 per sweep, with an average of 1.1 per sweep.

GRASSHOPPER: Late-season grasshopper activity is increasing in alfalfa and other crops. Moderate to severe defoliation in field margins and approximate counts of about 1-10 per square yard were observed at scattered sites in the southern and west-central areas. 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 acceptable when the defoliation is concentrated at the field edges.

DEGREE DAYS JAN 1 - AUGUST 12

LOCATION	50°F	2014	NORM	48°F	40°F
Dubuque, IA	2052	1901	2051	2114	3194
Lone Rock	1969	1898	—	2015	3073
Beloit	2058	1946	2083	2093	3191
Sullivan	1658	1555	1969	1780	2690
Madison	1941	1803	1985	1994	3022
Juneau	1792	1661	—	1906	2842
Racine	1605	1513	—	1716	2653
Waukesha	1658	1555	—	1780	2690
Milwaukee	1610	1505	1880	1730	2651
Hartford	1658	1555	—	1780	2690
Appleton	1721	1561	—	1835	2768
Green Bay	1617	1456	1776	1758	2661
Big Flats	1845	1670	—	1895	2842
Hancock	1845	1670	1926	1895	2842
Port Edwards	1779	1619	1891	1874	2791
La Crosse	2062	1890	2171	2123	3194
Eau Claire	1861	1715	1957	1982	2942
Cumberland	1648	1500	1832	1764	2650
Bayfield	1337	1094	—	1386	2169
Wausau	1580	1428	1792	1691	2547
Medford	1511	1373	1641	1616	2472
Crivitz	1512	1381	—	1594	2476
Crandon	1396	1257	1398	1463	2268

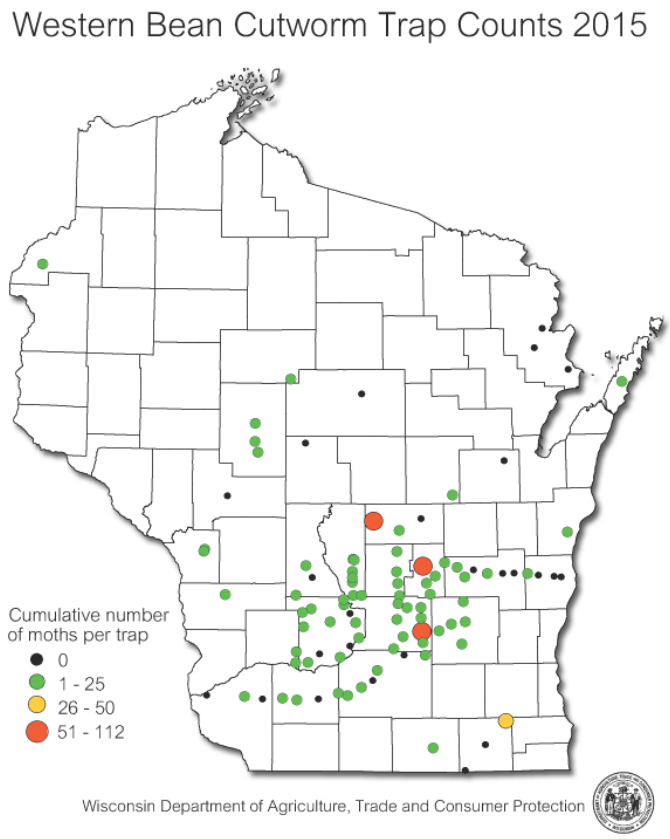
Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2015. NORMALS based on 30-year average daily temps, 1981-2010.

CORN

WESTERN BEAN CUTWORM: Moth counts have declined to fewer than six per trap at all monitoring locations. As of August 13, the state cumulative total is 629 moths in 96 traps (six per trap), an increase from the 521 (five per trap) moths collected last season but still the second-lowest state count since western bean cutworm trapping surveys began in 2005. The highest individual count for the eleven-week monitoring period was 112 moths near Princeton in Green Lake County.

The low number of moths captured again this season suggests larval populations are also very low, except in localized high-risk areas 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 (e.g., Cry 1F and VIP3A) hybrids.



EUROPEAN CORN BORER: The treatment window for second generation larvae remains open for about one more week in 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. An infestation involving an estimated 68% of corn plants was observed on August 11 in Monroe County, a few miles north of Cashton.

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

CORN ROOTWORM: Surveys this week found counts of 0-1.3 beetles per plant in Buffalo, Jackson, La Crosse, Monroe and Trempealeau counties, with above-threshold averages of 0.75 or more beetles in 17% of the fields sampled. The average was low at 0.4 per plant. More beetles are appearing on silks in later-planted fields as emergence accelerates, and now is an optimal time for farmers and consultants to assess adult rootworm populations in their fields to anticipate injury by larvae in 2016.

Northern corn rootworm beetles 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 1-28 per trap, with the highest number of moths registered in the Green Lake area. Moderate flights of 34-54 moths were also reported last week from Dodge and Green Lake counties. The latest activity suggests that the risk of egg laying is likely to continue throughout August, and regular scouting and control programs in sweet corn should be maintained as long as green silks are present.

SOYBEANS

SOYBEAN APHID: Densities remain well below the 250 aphid per plant threshold in the vast majority Wisconsin soybean fields. The statewide average aphid count was 15 per plant at 64 sites surveyed from August 6-12, although the second half of the annual survey is incomplete. Only four fields sampled in August had densities of 50-208 aphids per plant, while all others contained fewer than 30 per plant. During the earlier July portion of the survey when the same sites were checked, the average count was also only 15 aphids per plant.

Results of the 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 aphids *Krista Hamilton DATCP*

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.

Green cloverworm *Krista Hamilton DATCP*

SOYBEAN DEFOLIATORS: Defoliation by grasshoppers, green cloverworms, Japanese beetles, katydids, leaf-rollers and stink bugs is prevalent, particularly around the 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 overestimating leaf injury and thus making unnecessary insecticide applications.

FRUITS

CODLING MOTH: Moths are still appearing in high numbers in some 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 this pest remains abundant. The average count this week was below-threshold at four per trap, with a high count of 20 per trap reported from Mineral Point in Iowa County.

Codling moth larval damage to apples *Patrick Clement flickr.com*

APPLE MAGGOT: A few orchards recorded a marked increase in AM emergence this week, while others captured fewer flies. The high count was noted at Rochester in Racine County where 23 flies were collected on an unbaited red sphere trap. The Rochester apple grower notes that the sharp increase in flies occurred from August 6-9 in his 'Redfree' block as well as in later varieties where flies have not yet been trapped this season. 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: Declining moth counts during the August 6-12 monitoring period signal the third flight has likely peaked in most southern and central orchards. The weekly average count of 294 STLM moths is a minor decrease from 315 moths last week. Counts of

this insect have remained relatively high in many orchards since the second flight peaked around mid-July.

STINK BUG: Numbers are increasing in field crops and apple orchards, indicating the potential for additional fruit injury prior to harvest. All of the stink bugs observed this month have been native species (i.e., brown, green, rough spp.), though growers should remain alert for the invasive brown marmorated stink bug that aggregates on houses and buildings in late summer and early fall seeking overwintering sites. 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 appropriate.

Green stink bug nymph *www.soilcropandmore.info*

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 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 over-wintering sites and help reduce next year's squash bug population.

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 accelerates. Cases of late blight have been confirmed in eight counties as of August 13: Adams (potato), Columbia (tomato), Fond du Lac (tomato), Marquette (potato), Polk (tomato), Portage (potato), Waushara (potato, tomato) and Wood (potato, tomato).

Late blight symptoms on tomato leaves *Sandy Feather Penn State*

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.

NURSERY & FOREST

VERTICILLIUM WILT: Redbud trees at a nursery in Dane County were exhibiting symptoms of this fatal vascular disease, frequently misidentified as decline caused by environmental factors. Symptoms are highly variable and may be acute or chronic. Acute symptoms include premature fall coloration, wilting, defoliation, branch dieback and death, whereas chronic symptoms typically reflect damage from earlier infections and may include slow growth, sparse foliage, stunted leaves and twigs, leaf scorch and abnormally heavy seed crops. Trees with severe wilt and dieback cannot be saved and should be replaced with a species not susceptible to Verticillium such as aspen, beech, sycamore, poplar, willow or any conifer.

EASTERN SPRUCE GALL ADELGID: The pineapple-shaped galls, which form when needles are injured by adelgid

feeding, were conspicuous on spruce trees in Dane and Columbia counties in the past week. Eventually the galls dry, turn brown and split open, allowing the mature nymph inside to emerge, usually by October. Dormant oil treatments made in October and November, or in April, are usually effective against this pest.

Eastern spruce galls *Konnie Jerabek DATCP*

FOLIAR NEMATODE OF HOSTA: Several hosta cultivars at a retailer in La Crosse County had characteristic brown necrotic leaf streaks indicative of feeding by foliar nematodes. The symptoms are more pronounced and recognizable later in the growing season. This pest is readily spread among hostas by rainfall and splashing water, as well as overhead irrigation. The most effective foliar nematode control is avoidance by purchasing uninfested plants. If symptomatic hostas are observed, all infected tissues or leaves should be removed and destroyed. Reducing leaf wetness is also advised to prevent the nematodes from spreading to other plants.

Foliar nematode on hosta *kentcoopextension.blogspot.com*

OYSTERSHELL SCALE: A heavy infestation of this scale was found on ash trees in Monroe 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 portions of 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.

Oystershell scale *W. Seidel University of Minnesota*

APPLE INSECT & BLACK LIGHT TRAP COUNTS AUGUST 6 - 12

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	APB[5]	LPTB[6]	DWB[7]	AM RED[8]	YELLOW[9]
Bayfield	Keystone	9	3	0	3	—	—	—	4	6
Bayfield	Orienta	34	0	0	0	0	0	25	0	0
Brown	Oneida	225	17	9	4	0	0	19	2	0
Clark	Greenwood	—	—	—	—	—	—	—	—	—
Columbia	Rio	—	—	—	—	—	—	—	—	—
Crawford	Gays Mills	166	2	2	0	4	0	—	3	0
Dane	Deerfield	317	14	3	14	—	—	—	5	0
Dane	DeForest	457	57	9	21	0	2	7	—	—
Dane	Edgerton	—	—	—	—	—	—	—	—	—
Dane	McFarland	25	20	0	—	—	—	—	4	—
Dane	Mt. Horeb	69	85	3	5	3	3	0	0	0
Dane	Stoughton	242	54	11	1	4	2	0	0	1
Fond du Lac	Campbellsport	120	33	0	25	0	0	10	—	—
Fond du Lac	Malone	—	—	—	—	—	—	—	—	—
Fond du Lac	Rosendale	—	—	—	—	—	—	—	—	—
Grant	Sinsinawa	—	—	—	—	—	—	—	—	—
Green	Brodhead	57	73	3	12	15	2	19	0	0
Iowa	Mineral Point	760	88	20	27	2	8	3	**5	—
Jackson	Hixton	137	20	2	2	4	0	0	0	1
Kenosha	Burlington	210	38	2	0	3	2	38	**1	—
Marathon	Edgar	1428	32	2	1	0	0	14	0	0
Marinette	Niagara	35	9	0	0	0	4	9	0	0
Marquette	Montello	833	34	1	2	—	—	—	0	0
Ozaukee	Mequon	300	8	7	5	0	10	0	*1	—
Pierce	Beldenville	—	—	—	—	—	—	—	—	—
Pierce	Spring Valley	163	1	1		0	0	27	*1	0
Racine	Raymond	357	46	7	8	0	5	5	0	0
Racine	Rochester	180	30	7	1	0	0	—	*23	0
Richland	Hill Point	126	12	5	0	3	11	49	**1	0
Sheboygan	Plymouth	720	25	4	0	0	1	4	*10	0
Walworth	East Troy	35	3	0	4	0	1	1	0	1
Walworth	Elkhorn	80	97	0	27	3	5	8	0	3
Waukesha	New Berlin	297	17	3	0	6	2	1	0	0

[1]Spotted tentiform leafminer; [2]Redbanded leafroller; [3]Codling moth; [4]Obliquebanded leafroller; [5]American plum borer; [6]Lesser peachtree borer; [7]Dogwood borer; [8]Apple maggot red ball; *Unbaited; **Baited; [9]Apple 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	7	0	0	0	0	1	0	0	1
Columbia	Pardeeville	0	3	0	125	6	5	9	12	0	2
Crawford	Prairie du Chien	0	0	0	3	0	2	0	1	0	0
Fond du Lac	Ripon	0	0	1	0	5	3	0	0	0	1
Manitowoc	Manitowoc	0	1	0	0	0	6	27	8	0	2
Marathon	Wausau	0	0	0	25	3	1	2	1	0	2
Monroe	Sparta	0	0	0		5	4	2	2	0	3
Rock	Janesville	0	30	0	2	41	2	0	11	0	0
Walworth	East Troy	0	0	0	23	0	5	0	0	0	7
Wood	Marshfield	0	1	0	9	0	2	0	1	0	0

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