Volume 60 No. 19 August 27, 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

Dry, breezy and cool conditions prevailed during the last days of August, except for a few light showers in northern Wisconsin. Daytime high temperatures were 10-15°F below normal at the start of the week and ranged from the upper 50s to lower 70s. Record low maximum temperatures were set on August 24 at numerous locations, including Stevens Point, which reported a daily high of only 57°F, breaking the previous record of 62°F set in 1940. Other cities establishing new records were Appleton (61°F), Manitowoc (63°F), Sturgeon Bay (61°F), and Wisconsin Rapids (61°F). Normal high temperatures at this time of year are around 80°F. Alfalfa, apple, small grain and potato harvesting advanced under a mild, mostly dry weather pattern, although drought conditions persisted in the southwestern and central portions of the state where the lack of moisture has increased crop quality concerns. Crops on light soils in Crawford, Grant, Juneau, Richland, Sauk and Vernon counties have been severely damaged by this month's dry weather and are not expected to recover. The forecast calls for a return to summertime temperatures next week, which should help push crops toward maturity.

LOOKING AHEAD

CORN EARWORM: The first significant migration of the 2015 season was documented from August 20-26 in Columbia, Dane, Dodge, Green Lake, Fond du Lac, Rock and Vernon counties, where 1,726 moths were registered in 11 pheromone traps. The weekly high count was 535 moths per trap at Markesan in Green Lake County. This late-season flight ensures that egg laying has intensified and the risk of damage to sweet corn will persist into September.

CORN ROOTWORM: Preliminary results of the annual beetle survey show population increases in south-central and north-central Wisconsin and a minor decrease in beetle abundance in the southwest region. District averages thus far range from 0.1 beetle per plant in the northeast to 0.8 per plant in the southwest. The state average in 140 fields surveyed as of August 26 is 0.6 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 2016.

WESTERN BEAN CUTWORM: On the basis of pheromone trap counts, the moth flight peaked one week later and was 23% larger than that of 2015. The cumulative seasonal capture was 639 moths in 96 traps (seven per trap), which compares to 521 moths in 108 traps in 2014 (five per trap) and 663 moths in 114 traps in 2013 (six per trap). Infestations resulting from the flight are generally light, although cutworms have been found in an estimated 1-6% of the ears in a few individual fields since mid-August. The larvae observed this week in the west-

central and northwest counties were in the intermediate to late development stages.

FALL PESTS: The fall invasion of Wisconsin's resident nuisance pest insects can be expected next month. Box-elder bugs, multicolored Asian lady beetles, western conifer seedbugs and, potentially, brown marmorated stink bugs are likely to aggregate on the sides of homes and buildings in September and early October as they migrate indoors for the winter. Mechanical exclusion by sealing cracks around windows, doors, siding and other openings is advised to prevent these insects from entering residences. Exterior applications of insecticides may offer temporary control of serious infestations. Applications should consist of a synthetic pyrethroid applied by a licensed pest control operator by early October, prior to insect aggregation. Under no circumstance should chemical insecticides be used indoors.

Boxelder bugs *Bridget Roussy onewhowaits.ca*

SOYBEAN APHID: Densities statewide were the lowest since 2012. According to the annual survey finalized earlier this week, the state average aphid count increased from 15 per plant during the July portion of the survey to 33 per plant in August. The August counts suggest that insecticidal control was generally unwarranted for most Wisconsin soybean fields this season, although a small percentage of fields did develop economic populations and were treated to reduce aphid pressure.

FORAGES & GRAINS

POTATO LEAFHOPPER: Surveys during the last week of August found low to moderate counts of 0.4-1.5 leafhoppers per sweep, with an average of 0.5 per sweep.

DEGREE DAYS JAN 1 - AUGUST 26

LOCATION	50°F	2014	NORM	48°F	40°F
Dubuque, IA	2315	2204	2329	2371	3600
Lone Rock	2236	2215	—	2275	3488
Beloit	2334	2249	2368	2352	3614
Sullivan	1905	1820	2241	2022	3079
Madison	2207	2100	2256	2254	3434
Juneau	2038	1937	—	2148	3232
Racine	1860	1783	—	1976	3051
Waukesha	1905	1820	—	2022	3079
Milwaukee	1862	1768	2170	1987	3046
Hartford	1905	1820	—	2022	3079
Appleton	1964	1813	—	2083	3153
Green Bay	1858	1700	2028	2005	3045
Big Flats	2088	1951	—	2131	3231
Hancock	2088	1951	2186	2131	3231
Port Edwards	2009	1890	2144	2097	3163
La Crosse	2327	2210	2463	2381	3606
Eau Claire	2099	2006	2223	2224	3321
Cumberland	1856	1751	2083	1973	2993
Bayfield	1540	1280	—	1581	2508
Wausau	1792	1660	2040	1895	2897
Medford	1711	1601	1868	1819	2808
Crivitz	1743	1602	—	1829	2848
Crandon	1594	1461	1585	1654	2601

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

Levels of this insect have been non-economic all summer long. Significant population increases are unlikely to occur during the remainder of the growing season.

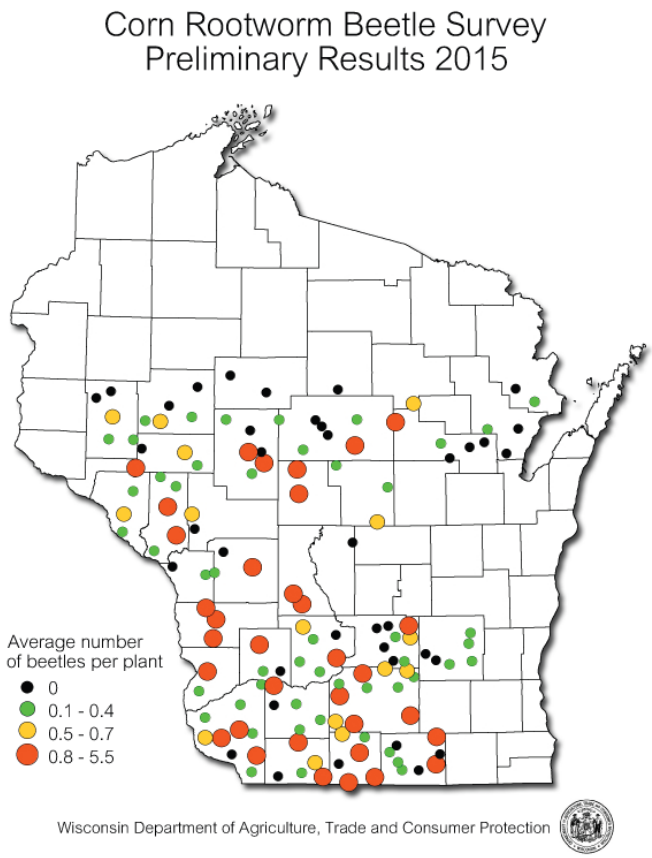
PLANT BUG: Nymphs were less abundant in fields sampled this week, indicating population growth has slowed in response to the cooler weather. Counts ranged from 0.1-1.9 per sweep and averaged 0.7 per sweep. The tarnished plant bug remains the most common species.

PEA APHID: In contrast to other alfalfa pests, populations of this insect have increased slightly under the cool and mostly dry weather pattern of late August. The average count from August 20-26 was approximately four per sweep, although densities varied from 1-9 per sweep. The higher counts were found in west-central Wisconsin.

CORN

CORN ROOTWORM: Below is a map summarizing the

early findings of the 2015 corn rootworm beetle survey, completed in four of the state's nine crop reporting districts. Surveys thus far have found a marked increase in beetle counts in the south-central and north-central areas as compared to 2014, while populations in the southwest and northeast districts are comparable to last season's averages. The preliminary state average of 0.6 beetle per plant is an increase from the 2014 average of 0.4 per plant. 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 a soil insecticide at planting should be considered to prevent root damage in 2016. Beetle populations exceeding this threshold have to date been recorded in 34 of the 140 (24%) fields surveyed as of August 26.



EUROPEAN CORN BORER: The second flight of moths continued at very low levels this week. Surveys show that larvae range in development from second- to fifth-instar in the central, west-central and northwest districts, as far north as Chippewa and Dunn counties. Infestations affecting 2-24% of corn plants were found in 10% of fields checked from August 20-26. Nearly all of the older, fourth- and fifth-instar larvae present in fields by late August will enter diapause and will not pupate until next spring.

CORN WILT DISEASES: Corn leaf samples from seed corn production fields were tested at the Plant Industry Laboratory for the bacterial diseases Goss's wilt and Stewart's wilt. Goss's wilt was confirmed in 15 of 39 samples from Adams, Dane, Eau Claire and Rock counties, for a 38% positive rate. This represents a marked increase from 2014 when only 9% of samples tested positive. Results for Stewart's wilt were negative for the fifth consecutive year. Northern corn leaf blight and common rust were the most prevalent diseases observed in the fields inspected this season.

Goss's wilt lesion *extension.entm.purdue.edu*

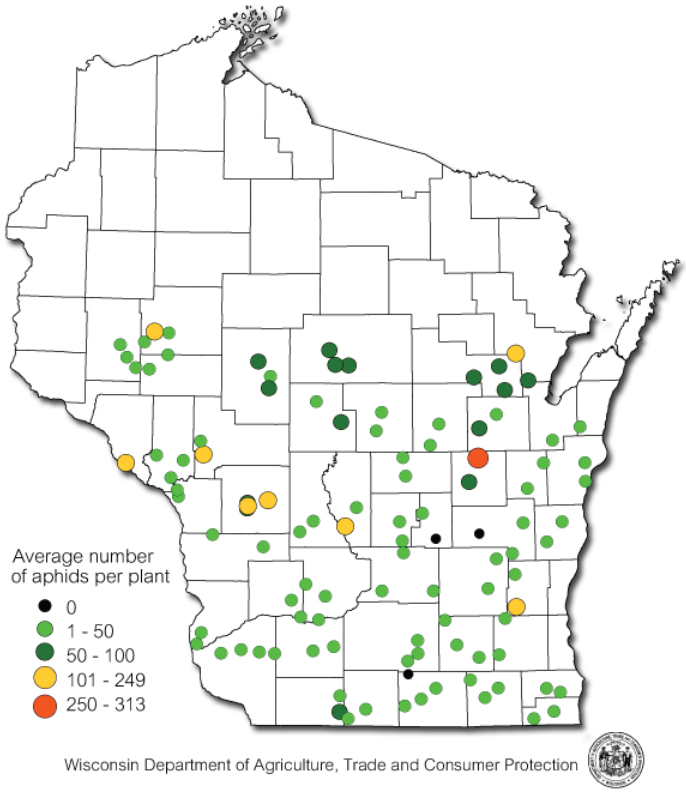
SOYBEANS

SOYBEAN APHID: Densities during the second half of the annual survey were the lowest in three years. Examination of 108 soybean fields, once in July and again in August, found a state average of 15 aphids per plant during the July survey and a higher count of 33 per plant in August. For comparison, average densities in 2013 and 2014 were around 55 aphids per plant, while averages from 2010-2012 were extremely low at 7-16 aphids per plant. The state average count of seven aphids per plant in 2012 was the lowest in the 15-year history of soybean aphid surveys in Wisconsin.

Only 1% of the sites sampled from August 6-26 had economic populations of 250-313 aphids per plant, 21% had moderate averages of 50-249 per plant, and 78% had lower counts of less than 49 per plant. Populations in 21% of fields decreased from July to August, suggesting the aphids were regulated by chemical or natural controls at approximately one-fifth of the sites. Surveys and reports indicate aphid densities did increase to economic

levels in a small percentage of fields this season, though most sites had low or moderate populations and control measures were generally not needed.

Soybean Aphid Survey Results August 2015



GREEN CLOVERWORM: This insect is still very common in soybeans across the southern and western areas of the state. Populations and defoliation are not particularly high, however. Larvae range in size from very small to nearly full-grown.

Defoliation caused by green cloverworm *Krista Hamilton DATCP*

FRUITS

BROWN MARMORATED STINK BUG: Fruit growers are advised to watch for this pest next month and in October as the bugs swarm on warm fall days. Brown marmorated stink bug is thought to be established at very low levels in Dane and Jefferson counties, although it has never been detected in any fruit, vegetable or field crop anywhere in the state. Similar to the multicolored Asian lady beetle and boxelder bug, BMSB aggregates on the exteriors of buildings in autumn in search of protected, overwintering sites. Any swarms of stink bugs noticed this fall should be reported to the DATCP Pest Survey Program at 1-866-440-7523.

Brown marmorated stink bug adult *clay.ces.ncsu.edu*

SPOTTED TENTIFORM LEAFMINER: The third and last flight of the season has declined to low levels at most orchards. Trap counts ranged from 0-361 moths from August 20-26, with the high count registered at Montello in Marquette County. Moth activity should subside by mid-September.

APPLE MAGGOT: Damage in the form of external depressions and brown, internal larval tunnels is appearing on apples in orchard blocks where earlier controls were unsuccessful. Peak emergence of flies occurred one to two weeks ago depending upon the area of the state, and activity has generally declined. The high count for the week was 12 flies on an unbaited red sphere trap at Deerfield in Dane County.

OBLIQUEBANDED LEAFROLLER: Orchardists are reminded to maintain pheromone traps for this insect throughout

September. Second generation larvae occasionally cause severe fruit damage late in the growing season and moth counts in late August and September can be an indication of damage potential by first brood larvae next spring.

CODLING MOTH: Moderate to large flights were registered in a few orchard locations in the past week, indicating that codling moth pressure has not diminished in all areas. Economic counts of 8-37 moths per trap were reported from Deerfield, Mequon, Mineral Point and Rochester. Pheromone trap checks may be discontinued once 1,700 degree days (modified base 50°F) have accumulated from the first biofix, at which time approximately 90% of second-flight adults will have emerged.

VEGETABLES

CORN EARWORM: Moth collections increased sharply for the first time this season. A surge of 535 moths per trap was registered in Green Lake County, and the weekly count near Ripon increased to 493 moths. Another 698 migrants were collected in the pheromone traps from Coon Valley to Mayville for a total of 1,726 moths this week. These counts are indicative of a very large and potentially destructive flight of corn earworm migrants capable of laying eggs in late-silking sweet corn well into September. Scouting and control programs for this pest should be maintained through harvest. Moth counts from August 20-26 were: Arlington 97, Coon Valley 12, Cottage Grove 43, Hancock 0, Janesville 9, Markesan 535, Marshfield 0, Mayville 302, Pardeeville 5, Ripon 493, Sun Prairie 104, Sun Prairie North 114, Sun Prairie West 12, and Wausau 0.

Corn earworm larva Kevin Meyer DATCP

LATE BLIGHT: This disease has been confirmed by the UW in La Crosse, Marathon and Walworth counties since the last report. Continued protective treatment of green vines with a late blight-specific fungicide on a five- to seven-day schedule is being recommended. Late blight can develop rapidly under cool, wet weather conditions, and entire plants may decline and die in as few as 7-10 days. Cases of the disease have to date been identified in 12 counties: Adams (potato), Columbia (tomato), Fond du Lac (tomato), La Crosse (potato, tomato), Marathon (tomato), Marquette (potato), Polk (tomato), Portage (potato, tomato), St. Croix (tomato), Walworth (tomato), Waushara (potato, tomato) and Wood (potato, tomato).

FALL ARMYWORM: Low counts of this late-season pest have been observed in a few cornfields in the past two weeks. Fall armyworm moths seldom appear in Wisconsin in damaging numbers and should not be mistaken for the corn earworm. Fall armyworm larvae have a lateral stripe, are usually light brown or black in color, and have a conspicuous white, inverted Y-shaped suture on the head capsule between the eyes, whereas the corn earworm larva may be green, yellow, pink or tan.

Fall armyworm inverted y-shaped marking bulletin.ipm.illinois

NURSERY & FOREST

ASPEN LEAFMINER: Serpentine leaf mines caused by the larval stages of this insect were evident on aspen leaves in Jackson and Marquette counties earlier this month. The mines are formed as larvae feed between the upper and lower leaf surfaces. While this leafminer rarely causes tree mortality, its mining can lead to reduced photosynthesis, disrupted stomatal function, reduced growth and premature leaf drop, especially when trees

are already stressed by drought or other insects. Outbreaks of aspen leafminer are common in Alaska and other parts of this insect's geographic range where silvery foliage is visible along highways in high-population years.

Aspen leafminer Tim Allen DATCP

PINE BARK ADELGID: The white cottony egg masses laid by female adelgids were observed on the bark, branches and trunks of eastern white pine trees at a nursery in Oneida County. The infestation was not severe, but pine bark adelgids can coat the surface of trees, stunting growth and causing needles to turn black from sooty mold. Tree death is rare and usually impacts older trees. Smaller trees are generally not attacked. Dormant oils may be applied in fall or spring to kill the nymphs.

Pine bark adelgid on white pine DATCP Nursery Program

BALSAM TWIG APHID: Balsam firs in Oneida County are showing twisted, distorted needles caused by this insect. Although light or moderate needle injury is usually inconsequential, aphid populations may build to damaging levels if left unchecked. Horticultural oils applied to the eggs in fall or spring, or insecticides directed against the immature stages in spring, can provide adequate control.

NECTRIA CANKER: Maple trees in Oneida County are reported to be exhibiting the target-like cankers indicative of this fungal disease. Cankers that occur on twigs or small branches can be pruned out, but larger trunk cankers require trees to be removed and destroyed to prevent the spores from infecting surrounding trees. A follow-up fungicide application subsequent to pruning may help to protect wounds against infection.

WITCHES' BROOM: Blueberry plants in Oneida County were found to be infected with this rust fungus, which uses balsam fir as its alternate host. Diseased plants exhibit clumped, broom-like branches with stunted, discolored foliage. These 'brooms' later turn brown and eventually die. Individual brooms can be pruned out, but the fungus will persist in the plant indefinitely, creating future brooms until the plant is killed or destroyed. Heavily infected blueberry plants produce little or no fruit. Recommendations for healthy blueberry propagation include using rust resistant varieties and locating plants at least 500 yards from balsam fir trees if possible.

Witches' broom on blueberry plant Tim Allen DATCP

APPLE INSECT & BLACK LIGHT TRAP COUNTS AUGUST 20 - 26

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	APB[5]	LPTB[6]	DWB[7]	AM RED[8]	YELLOW[9]
Bayfield	Keystone	13	0	3	3	—	—	—	5	7
Bayfield	Orienta	114	0	0	3	0	0	5	0	0
Brown	Oneida	150	26	3	6	0	0	0	0	0
Clark	Greenwood	0	4	3	22	0	0	0	0	0
Columbia	Rio	—	—	—	—	—	—	—	—	—
Crawford	Gays Mills	92	—	0	9	—	—	—	—	—
Dane	Deerfield	186	53	37	19	—	—	—	*12	0
Dane	DeForest	—	—	—	—	—	—	—	—	—
Dane	Edgerton	—	—	—	—	—	—	—	—	—
Dane	McFarland	30	57	0	—	—	—	—	5	—
Dane	Mt. Horeb	14	60	0	3	1	0	2	—	—
Dane	Stoughton	36	147	1	6	3	1	0	0	2
Fond du Lac	Campbellsport	37	52	0	11	0	0	0	0	0
Fond du Lac	Malone	—	—	—	—	—	—	—	—	—
Fond du Lac	Rosendale	73	26	2	—	—	0	—	3	1
Grant	Sinsinawa	—	—	—	—	—	—	—	—	—
Green	Brodhead	—	—	—	—	—	—	—	—	—
Iowa	Mineral Point	—	—	12	15	2	3	3	—	—
Jackson	Hixton	42	5	2	0	0	0	12	0	1
Kenosha	Burlington	360	58	2	0	0	0	3	**1	—
Marathon	Edgar	—	—	—	—	—	—	—	—	—
Marinette	Niagara	39	0	0	0	0	0	1	0	0
Marquette	Montello	361	58	0	6	—	—	—	*1	0
Ozaukee	Mequon	180	26	9	2	0	0	0	*0	—
Pierce	Beldenville	—	—	—	—	—	—	—	—	—
Pierce	Spring Valley	20	14	1	4	0	0	0	*1	0
Racine	Raymond	74	108	0	5	0	1	1	0	0
Racine	Rochester	350	30	8	6	0	0	—	*5	0
Richland	Hill Point	55	72	4	24	0	0	2	**3	0
Sheboygan	Plymouth	—	—	—	—	—	—	—	—	—
Walworth	East Troy	0	2	0	0	0	0	0	0	0
Walworth	Elkhorn	21	4	0	0	0	0	0	1	0
Waukesha	New Berlin	39	61	0	12	2	5	12	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	0	0	0	0	0	1	0	0	0
Columbia	Pardeeville	0	1	0	125	2	4	2	3	2	0
Crawford	Prairie du Chien	—	—	—	—	—	—	—	—	—	—
Fond du Lac	Ripon	0	0	6	11	2	0	0	0	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	0	0	0	0
Marathon	Wausau	0	1	2	37	0	1	22	5	0	0
Monroe	Sparta	0	0	0	11	0	1	0	1	0	0
Rock	Janesville	0	3	1	48	1	24	4	19	0	0
Walworth	East Troy	0	1	0	60	0	5	0	0	0	0
Wood	Marshfield	0	1	0	1	2	1	6	4	2	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.