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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
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WEATHER & PESTS

Cooler air abruptly advanced into the state, replacing the heat and humidity of the previous week. Prospects for summer crop yields have improved in the central and northern farming areas after beneficial rainfall brought varying amounts of moisture in the last 10-14 days. Showers were mostly light and scattered, causing only brief interruptions in harvest of third growth alfalfa, oats and winter wheat. Soybeans and corn continued to exhibit good growth, although development remains behind normal due in large part to abnormally cool, dry weather in July. Corn acreage at or beyond the silking stage reached 90% at the start of the week, 4 points behind last year and the 5-year average. Similar to last season, Wisconsin farmers are questioning if there will be adequate time for crops to mature this fall. In comparison to the losses caused by drought, hail and severe weather, insect problems must be considered minor at this time.

LOOKING AHEAD

CORN EARWORM: Significant flights of adults have not materialized at most trap locations, although weather patterns in the last two weeks have been conducive for migration into the state. Reports from the University of Minnesota indicate that source populations in the south-Central U.S. are extremely high, with counts exceeding 300 moths per night and larval infestation rates of 100% in field corn. Moderate numbers (44-60 per week) were registered during the August 14-20 monitoring period near Cottage Grove and Sun Prairie in Dane County, possibly signaling the start of the major flight. Trapping network participants are reminded to replace pheromone lures on a weekly basis until the flight has ended.

EUROPEAN CORN BORER: Egg deposition is expected to continue in the next 1-2 weeks, depending upon nightly temperatures. According to the European corn borer degree day model, the peak in summer moth activity has occurred in the southern and west-central areas of the state. Corn fields should be inspected closely before 2,100 degree days (base 50°F) are surpassed to determine the need for control of second generation larvae.

CORN ROOTWORM: Examination of grain corn in the southern, west-central and east-central districts yielded averages of 0-9 adult rootworms per plant, with economic counts above 0.75 per plant in 20% of surveyed fields. Individual fields with high populations were noted in Buffalo, Calumet, Columbia, Dane, Dodge, Iowa, Grant, Jefferson, Lafayette, Sauk, Sheboygan, St. Croix and Walworth counties from August 4-20, but numbers generally appear to be down from 2008 in most areas. Preliminary results of the annual beetle survey are summarized on page 110 of this bulletin.

SOYBEAN APHID: Final chemical applications, if warranted, should be made in the immediate future. The benefits of treatment diminish beyond the R5 growth stage (beginning seed) and no yield benefit is gained by treating fields at R6 (full seed) or later. Field observations indicate that many acres of soybeans have been sprayed for this pest since the final week of July.

WESTERN BEAN CUTWORM: The flight of moths has peaked throughout much the state and is now subsiding. Latest numbers for all 138 Wisconsin pheromone trap locations are provided on the Iowa State WESTERN BEAN CUTWORM MONITORING NETWORK website at http://www.ent.ia state.edu/trap/westernbeancutworm /isite. Traps distributed in the southern and central counties may be removed by August 28.

Western bean cutworm larva *Mark Moore, Moore Communications*

DEGREE DAYS JANUARY 1 - AUG 20

LOCATION	50°F	2008	NORM	48°F	40°F
Dubuque, IA	1907	2094	—	2033	3228
Lone Rock	1845	1935	—	1930	3124
Beloit	1907	2125	—	2011	3229
Madison	1837	1929	2117	1949	3117
Sullivan	1888	2050	2161	1966	3190
Juneau	1850	1944	—	1948	3122
Waukesha	1910	1932	—	1988	3196
Hartford	1857	1881	—	1968	3122
Racine	1849	1853	—	1950	3103
Milwaukee	1819	1818	1971	1906	3068
Appleton	1703	1848	1974	1818	2909
Green Bay	1580	1732	1903	1699	2756
Big Flats	1674	1765	—	1769	2878
Hancock	1702	1789	2078	1764	2896
Port Edwards	1624	1726	2002	1726	2814
La Crosse	1885	1939	2299	1936	3166
Eau Claire	1768	1796	2078	1862	3010
Cumberland	1561	1594	1985	1611	2705
Bayfield	1221	1264	1560	1284	2221
Wausau	1455	1596	1913	1547	2584
Medford	1466	1531	1735	1560	2608
Crivitz	1463	1597	—	1543	2589
Crandon	1309	1431	1546	1354	2346

Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2009. NORMALS based on 30-year average daily temps, 1971-2001.

FORAGES

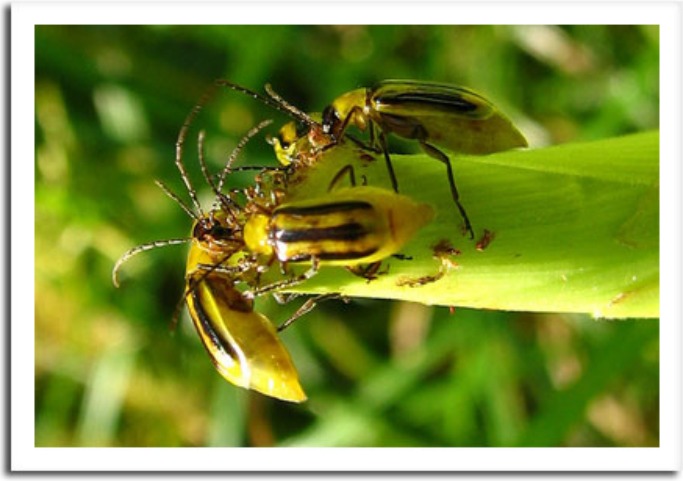
POTATO LEAFHOPPER: Surveys of alfalfa show that counts are below economic levels in most fields, but failure to harvest the third crop on time has resulted in high populations and noticeable yellowing of foliage in a few scattered fields. Numbers in Dunn, La Crosse, Monroe, Pepin, Pierce and St. Croix counties vary from 0.9-5.5 per sweep, with an average of 1.9 per sweep. Nymphs are still collecting on the rims of sweep nets, but comprise a smaller percentage of the population than previously.

PEA APHID: Representative counts in central and western Wisconsin remain at 2-3 per sweep. Two fields surveyed in Dunn County contained 5-6 aphids per sweep, but these were exceptional. Pea aphids have been scarce in sweep net collections since the final week of June, when populations ranged as high as 60-65 per sweep.

CORN

CORN ROOTWORM: The annual survey of corn rootworm adults is now in progress, and thus far it appears populations have decreased from 2008 in several agricultural reporting districts, with a few localized exceptions. Scattered fields in Buffalo, Dodge, Grant, Sauk and Sheboygan counties currently have very high counts of 3-9 beetles per plant, and individually some plants have been found with more than 15 beetles. However, the average number of beetles per plant declined from 1.1 in 2008 to 0.7 in 2009 in the southwest district, from 1.6 to 0.3 in the southeast district, from 1.0 to 0.3 in the east-central district, and from 0.6 to 0.5 in the west-central district. Economic populations were

found in just 28 of the 139 (20%) fields surveyed as of August 21. An average of 0.75 or more beetle per plant indicates the potential for economic root damage to continuous corn next season.



Western corn rootworm beetles Kd Arvin www.flickr.com

CORN LEAF APHID: High numbers persist in many fields. Colonies of 25-100 aphids per plant are concentrated on the flag leaf, in the silks, and in tips of developing corn ears in the east-central, central and west-central districts. A few fields in La Crosse, Pierce and St. Croix counties have 50-100 aphids on 50% of the plants, the level at which treatment is justified. In most instances pollination is now complete, so treatment would not benefit the corn.

EUROPEAN CORN BORER: Surveys conducted in Dane, Dunn, La Crosse, Monroe, Pepin, Pierce and St. Croix counties revealed extremely light infestations, with 85% of fields examined having no detectable population. Development of this insect has been delayed by as much as 2-3 weeks this season, and very few corn plants are showing evidence of feeding by early instar second generation larvae. The largest infestation observed was in the Connorsville area of Dunn County, where 44% of the plants showed boring by 5th instar larvae of the first generation. The treatment window for the second generation has opened in all areas where 1,550 degree days (base 50°F) have accumulated and will remain open until 2,100 degree days are surpassed.

SOYBEANS

Plant Industry Laboratory specialists are currently conducting a late-season survey of soybean diseases. *The following results are based on examination of 9 fields in Rock County and 3 fields in Walworth County, all at the R5-R6 stages of growth.*

DOWNY MILDEW: Surveys found this common fungal disease in 100% of fields sampled in Rock County, and 33% of fields sampled in Walworth County. Average incidence and severity ratings were 83% and 5%, respectively. Downy mildew, caused by the fungus *Peronospora manshurica*, is characterized by irregular greenish-yellow spots that appear on the upper leaf surfaces and small amounts of yellow fuzz on the lower surfaces, directly opposite the spots. Yield loss due to leaf infection is unlikely at the severity levels observed, but systemic infection can occur if contaminated seed is planted next season.

WHITE MOLD: Three positive cases of white mold, caused by the fungus *Sclerotinia sclerotiorum*, have been diagnosed from soybean fields in Rock County. Incidence levels were low at all sites, but severity will eventually reach 100%. The initial diagnostic indicator is the presence of fuzzy white mycelium at nodes on the lower stem where blossoms were first colonized. Diseased plants develop a bleached appearance by harvest. Reductions in yield may occur at severity levels of 10% when the disease is present throughout the field.

White mycelium on soybean stem Craig Grau University of Wisconsin

WEEDS

VOLUNTEER CORN: The prevalence and severity of glyphosate-resistant volunteer corn in Wisconsin soybean fields is being assessed by DATCP field specialists for the second year. Based on examination of 20 soybean fields per county, the percentage of fields

infested with volunteer corn is as follows: Adams 25%, Brown 23%, Calumet 35%, Chippewa 45%, Clark 20%, Columbia 55%, Crawford 65%, Dodge 30%, Dunn 20%,Grant 55%, Green Lake 45%, Iowa 45%, Fond du Lac 24%, Jefferson 74%, Kenosha 50%, Kewaunee 39%, Manitowoc 32%, Marquette 60%, Ozaukee 43%, Pepin 60%, Pierce 70%, Sauk 40%, Sheboygan 30%, St. Croix 55%, Vernon 33%, Walworth 55%, Waupaca 44% and Winnebago 38%. The survey is far from complete, but preliminary results confirm that glyphosate-resistant volunteer corn is a widespread problem as a weed in corn-soybean rotational systems, since roughly ¼-¾ of soybeans fields in the surveyed counties are infested. Volunteer corn not only reduces yield, but also decreases soybean quality and may facilitate more rapid development of Bt resistance in corn rootworm populations.

GRASSES: Seed dispersal by some of the most difficult-to-control grassy weeds, namely large crabgrass, giant foxtail, green foxtail and yellow foxtail, should be anticipated in the next several weeks. Although no yield benefit is gained by controlling weeds at this point in the season, any measures that minimize future contributions of grass seeds into the soil seedbank are useful.

Giant foxtail *Clarissa Hammond DATCP*

VEGETABLES

CORN EARWORM: Moderate flights were registered at 2 of 13 pheromone trap locations during the last reporting period. Growers of processing and fresh market sweet corn may expect corn earworm infestations if silking fields are not monitored closely and sprayed in a timely manner. Chemical treatments are recommended when counts of 5-10 moths are registered in 3 consecutive nights and should be applied every 2-5 days (or every 100 degree days) until the silks turn brown. Counts this week were as follows: Chippewa Falls 12, Cottage Grove 44, Coon Valley 11, East Bristol 3, Janesville 0, Madison 13, Manitowoc 4, Marshfield 7, Sparta 2, Sun Prairie 60, Token Creek 12, and Wausau 3.

Corn earworm larva *Krista Hamilton DATCP*

NURSERY & LANDSCAPE

COLEOSPORIUM RUST: Nursery inspectors observed the bright orange, powdery spores of this rust fungus on the leaves of nannyberry viburnums. As with many rusts, the life cycle is complicated and entails the production of several kinds of spores and fruiting bodies. Both an herbaceous perennial host and a conifer host are required. Diseased plants and debris should be removed and destroyed in fall or spring to prevent further infection.

Coleosporium rust on viburnum *Liz Meils DATCP*

BAGWORM: The distinctive cone-shaped "bags" of this insect were noted on junipers in Dane County, where larvae are currently entering the pupal stage. Bagworms attack both deciduous and evergreen trees, but needled evergreens such as arborvitae and juniper are favored. Larvae spread by wind or by crawling to nearby plants, as well as on infested nursery stock. Manual removal of the bags (which contain the overwintering eggs) from fall through spring is the preferred control method.

Bagworm on juniper Liz Meils DATCP

VENTURIA SHOOT BLIGHT: Quaking aspens at nurseries in Dane County are expressing advanced symptoms of this fungal disorder, including blackened, blighted shoots. The initial symptoms appear in May as irregular brown or black spots on the leaf surfaces, which later expand through the petiole and into new shoots, causing the characteristic shepherd's crook. Secondary infection cycles can occur throughout the shoot elongation period, particularly if wet weather conditions prevail. Pruning blighted shoots at a junction well below the margin between healthy and diseased tissue is recommended since the fungus overwinters in infected shoots.

TRAPPING NETWORKS

BLACK LIGHT TRAPS: Nocturnal moth activity remained about the same as reported in the past 2-3 weeks. Dingy cutworm adults were fairly numerous in trap collections at Arlington, East Troy, Marshfield and Wausau, while the second flight of European borer moths continued for the third week in the south. Numbers of western bean cutworm moths have declined to low levels in the southern and central areas, signaling the end of the annual flight of moths. Very low counts of the corn earworm, celery looper, spotted cutworm, true armyworm and forage looper were registered at most sites.

FOREST

EASTERN PINE SHOOT BORER: Larvae of this tortricid moth were found in both the lateral shoots and terminal leaders of 5- and 10-year-old white pines in a Wood County plantation. The DNR Forest Health Specialist who noted the injury states that this was the first time he has observed evidence of boring in the terminal leader. Ordinarily, damage is limited to the shoots. Other pines that may be affected are Austrian, jack, red, Scotch and Swiss mountain.

GYPSY MOTH: The adult flight period has been significantly delayed this season, and latest reports indicate that trap counts are well below normal. After examining 85% of the 27,390 pheromone traps in Wisconsin, the total male moth count is 19,902. This figure compares to 97,000 last year at this time, and is approximately ¼ the magnitude of the 2008 flight.

POPLAR BORER: Larvae of the wood-boring beetle *Saperda calcarata* have been identified as the cause of aspen decline in Marathon County. Indicators of infestation include moist areas on the bark of aspens, cottonwoods, poplars and willows, often accompanied by small piles of sawdust expelled from the galleries beneath the bark. Larval feeding seldom kills large trees, but weakens branches or the bole, increasing susceptibility to wind breakage. The extent of the galleries suggests the trees were colonized last season.

Poplar borer Whitney Cranshaw www.forestryimages.org

APPLE INSECT & BLACK LIGHT TRAP COUNTS AUGUST 14 - 20

COUNTY	DATE	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	OBLR[5]	AM RED[6]	AM YELLOW[7]
Bayfield	8/14-8/20	Keystone	3	0	0	4	—	0	0
Bayfield	8/14-8/20	Bayfield Apple Co.	192	—	3	0	—	—	—
Bayfield	8/10-8/17	Orienta	77	0	0	0	—	*0	*0
Brown	8/14-8/20	Oneida	1000	8	2	6	—	*0	*0
Crawford	8/14-8/20	Gays Mills	—	—	—	—	—	—	—
Dane	8/13-8/20	Deerfield	379	66	7	2	—	*18	*0
Dane	8/14-8/20	Stoughton	119	39	6.5	9	—	**2	*2
Dane	8/14-8/20	McFarland	0	0	20	0	—	30	—
Dodge	8/14-8/20	Brownsville	—	—	—	—	—	—	—
Fond du Lac	8/14-8/20	Campbellsport	300	9	0	14	—	0	0
Fond du Lac	8/14-8/20	Malone	—	—	—	—	—	—	—
Fond du Lac	8/14-8/20	Rosendale	—	—	—	—	—	—	—
Green	8/14-8/20	Brodhead	—	—	—	—	—	—	—
Iowa	8/14-8/20	Dodgeville	250	8	35	5	0	*10	*2
Iowa	8/14-8/20	Mineral Point	17	93	12	4	1	*3	0
Jackson	8/14-8/20	Hixton	38	26	—	17	0	0	1
Kenosha	8/14-8/20	Burlington	300	22	18	6	—	*2	—
Marinette	8/14-8/20	Niagara	280	2	0	0	—	*1	*1
Marquette	8/14-8/20	Montello	15	6	0	0	—	*0	0
Ozaukee	8/13-8/19	Mequon	300	40	7	19	—	**63 *13	—
Pierce	8/14-8/20	Beldenville	1100	15	10	0	0	*3	*1
Pierce	8/13-8/20	Spring Valley	39	8	4.5	4	0	**4 *1.5	0
Racine	8/14-8/20	Raymond	1388	37	19	13	—	0	0
Racine	8/14-8/20	Rochester	—	—	11	—	—	*12	0
Richland	8/12-8/18	Hillpoint	175	21	7	8	—	*7	0
Richland	8/14-8/20	Richland Center	—	—	—	—	—	—	—
Sauk	8/14-8/20	Baraboo	—	—	—	—	—	—	—
Sheboygan	8/14-8/20	Plymouth	—	—	—	—	—	—	—
Walworth	8/14-8/20	East Troy	—	—	—	—	—	—	—
Walworth	8/14-8/20	Elkhorn	—	—	—	—	—	—	—
Waukesha	8/14-8/20	New Berlin	1008	22	9	18	—	0	0

[1]Spotted tentiform leafminer; [2]Redbanded leafroller; [3]Codling moth; [4]Obliquebanded leafroller EASTERN; [5]Oblique-banded leafroller WESTERN; [6]Apple maggot red ball; *Unbaited red ball; **Baited red ball; [7]Apple maggot yellow board.

COUNTY	DATE	SITE	ECB[1]	TA[2]	BCW[3]	SCW[4]	DCW[5]	CE[6]	CEL[7]	WBC[8]	FORL[9]	VCW[10]
Chippewa	8/13-8/19	Chipp Falls	8	0	0	0	20	0	0	0	0	0
Columbia	8/14-8/20	Arlington	13	1	1	10	32	0	2	13	0	0
Dane	8/14-8/20	Mazomanie	0	1	0	1	1	1	0	0	0	0
Grant	8/14-8/20	Lancaster	—	—	—	—	—	—	—	—	—	—
Manitowoc	8/14-8/20	Manitowoc	0	10	0	0	8	0	0	0	5	0
Marathon	8/15-8/21	Wausau	4	11	0	20	164	3	0	17	1	6
Monroe	8/14-8/20	Sparta	0	0	0	0	0	27	0	39	6	0
Rock	8/14-8/19	Janesville	0	2	0		10	0	3	0	3	0
Walworth	8/14-8/20	East Troy	1	0	0	0	49	0	0	4	3	0
Wood	8/14-8/20	Marshfield	3	8	0	11	75	5	0	11	0	6

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