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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
2811 Agriculture Dr. Madison, WI 53718 • http://pestbulletin.wisconsin.gov

WEATHER & PESTS

The weather of late August was summery and warm, with periodic light rain. Daytime high temperatures ranged from the 70s to mid-90s and lows ranged from the lower 50s in the northwest to mid-60s near the Lake Michigan shoreline. Alfalfa, oat and potato harvesting advanced under a mild, mostly dry weather regime, while favorable temperatures accelerated crops toward maturity. Dryness persisted in the southern and central portions of the state where the lack of moisture has increased crop quality concerns. At month's end, 78% of the corn crop was at or beyond the dough stage and denting was underway statewide. Overall, 76% of corn was reported in good to excellent condition, compared to 82% at the same time last year. The short-term forecast calls for two more days of summer heat and humidity before fall weather arrives.

LOOKING AHEAD

EUROPEAN CORN BORER: Late-season sweet corn and field corn in the central and west-central areas are 4-36% infested with 1-2 larvae per ear. The larvae vary from second- to fifth-instar. Most are in the ear tips and chemical treatment is no longer of value. Surveys of corn suggest that black light trap counts in August have not adequately reflected moth activity in the field since infestations are somewhat common. The larval abundance survey later this month should reveal any significant change in the fall corn borer population.

CORN EARWORM: Large flights continued in the south-central area of the state. The primary migration accelerated this week and has to date yielded a cumulative total of 4,241 moths at 15 sites. Review of the trap data shows a peak during the period of August 4-10. Late sweet corn and other susceptible crops such as tomatoes and snap beans continue to be under a moderate to severe threat.

CORN ROOTWORM: The statewide survey is complete in all but the northeast area. Preliminary review of the field data indicates that counts are considerably higher than last year in southern and central Wisconsin. Beetle counts in the northwest and north-central counties are comparatively low. Results of the survey are summarized on page 116.

WESTERN BEAN CUTWORM: On the basis of pheromone trap counts, the moth flight peaked later and was 60% smaller than that of 2010. The cumulative seasonal capture was 4,369 moths as of September 1, compared to 10,807 moths in 2010 and 4,928 moths in 2009. Larval infestations resulting from the flight are generally light, although a few scattered fields have a fair number of larvae in the ears. Larvae noted in the west-central and northwest counties were in the fourth to seventh instars.

SOYBEAN APHID: Densities this season were the lowest since 2004, according to the annual survey completed last week. Eighty six percent of the 142 soybean fields sampled in August had very low counts of 0-25 aphids per plant, 11% had 26-50 per plant, and only 3% had 51-103 per plant. Populations did not attain economic levels in the majority of Wisconsin soybean fields.

Soybean aphids Krista Hamilton DATCP

FORAGES

POTATO LEAFHOPPER: Although weather conditions continued to favor leafhopper reproduction and development, surveys in the past week detected very little change in populations. Counts were below 1.9 per sweep in all fields sampled in the southwestern, west-central and northwest areas.

PEA APHID: Representative counts remain at 1-4 per sweep. One alfalfa field surveyed in Grant County contained 13 per sweep, the highest population documented in several weeks, but this site was exceptional. Pea aphids have been of minor importance this season.

CORN

EUROPEAN CORN BORER: The second flight of moths continued at low levels at most trap locations (< 22 per trap). Surveys show that larvae range from second- to fifth-instar in the central, west-central and northwest districts, as far north as Dunn County. Larval infestations affecting 4-36% of the plants were noted in 35% of fields checked from August 24-31. Most of the late-instar larvae will enter diapause and will not pupate until next spring.

DEGREE DAYS JANUARY 1 - AUG 31

LOCATION	50°F	2010	NORM	48°F	40°F
Dubuque, IA	2546	2780	—	2374	3995
Lone Rock	2447	2728	—	2220	3886
Beloit	2576	2910	—	2357	4043
Madison	2391	2708	2322	2205	3802
Sullivan	2379	2763	2376	2206	3786
Juneau	2303	2655	—	2140	3672
Waukesha	2145	2549	—	2139	3483
Hartford	2147	2505	—	2147	3463
Racine	2095	2534	—	2099	3419
Milwaukee	2078	2464	2190	2090	3380
Appleton	2106	2490	2174	2113	3402
Green Bay	1999	2334	2096	2090	3268
Big Flats	2119	2481	—	2071	3437
Hancock	2157	2513	2276	2097	3481
Port Edwards	2096	2432	2210	2078	3398
La Crosse	2408	2737	2523	2251	3827
Eau Claire	2201	2519	2278	2183	3537
Cumberland	1964	2286	2179	1998	3247
Bayfield	1622	1861	1724	1704	2804
Wausau	1921	2244	2100	1971	3172
Medford	1936	2238	1907	1964	3189
Crivitz	1888	2225	—	1965	3131
Crandon	1747	2031	1690	1784	2941

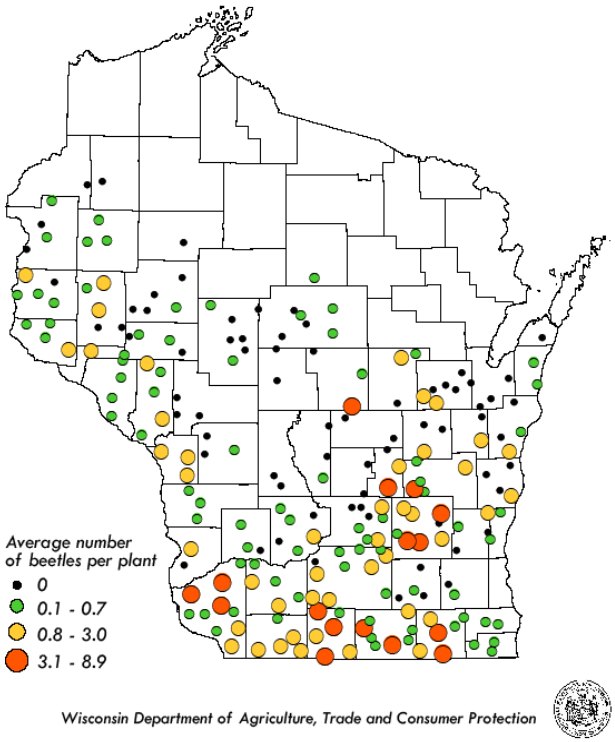
Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2011. NORMALS based on 30-year average daily temps, 1971-2001.

BT-CORN CRY3Bb1 RESISTANCE: Evidence of Bt-corn resistance by the western corn rootworm has been found in two corn fields in the Cuba City and Fennimore areas. According to the report, the degree of root pruning in the Bt-fields ranged from 0.5-2.25 (½ of one node to 2¼ nodes destroyed), at least 25% of plants were lodged, and western corn rootworm beetles were numerous. These observations are consistent with reports from Illinois and Iowa where several cases of Bt-resistance were documented last month. Growers of Bt-rootworm corn hybrids who experienced poor root protection this season and suspect resistance should notify their seed company representative.

CORN ROOTWORM: The annual beetle survey is complete in eight of the nine agricultural districts. Results from the southern areas show a two- to nearly five-fold increase in counts as compared to 2010. The largest increase thus far was found in the south-central district where the average count escalated sharply from 0.3 to

1.4 per plant. Populations in the central districts also increased, but to a lesser degree. The abundance of beetles this season suggests that corn producers will need to consider crop rotation or another form of control for rootworm management next year. Bt-resistance in the western corn rootworm population should be factored into seed selection for 2012.

Preliminary Corn Rootworm Survey Results



SOYBEANS

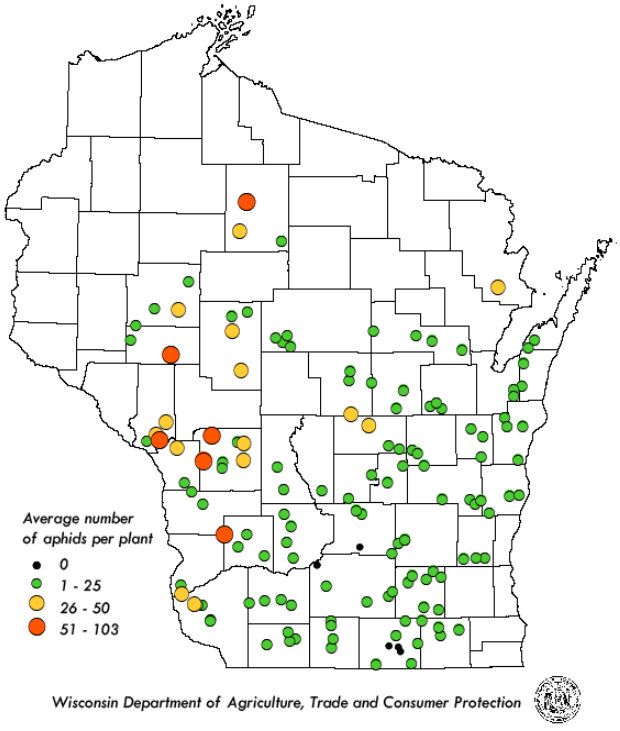
GREEN CLOVERWORM: This insect is still very common in soybeans across much of the state. However, populations are not nearly the magnitude of 2010. Larvae range from very small to nearly full grown.

WHITE MOLD AND BROWN STEM ROT: Signs of white mold and probable symptoms of brown stem rot were found in 10 of 15 soybean fields surveyed this week in the south-central area of the state. White mold was found in four fields in Green County, one in Lafayette County, and two fields in Dodge County. Symptoms of brown stem rot were found in one field in Green County and two fields in Dodge County. Incidences of both diseases were very low (less than 1%) in all fields. While both diseases cause wilting, white mold can be identified by the presence of white mycelium (and, as the disease progresses, black sclerotia, hardened black fungal structures) on the stem. Brown stem rot produces a characteristic interveinal chlorosis and discoloration of internal stem tissue from which it draws its common name.

SOYBEAN APHID: The annual survey conducted in July and August showed the state aphid count to be only 12 per plant. This average compares to 16 per plant last year and is only marginally higher than the record low density of 11 aphids per plant documented in 2004. Soybean fields were sampled at two separate intervals, first in late July and again in August, for a total of 284 observations in 142 fields. Aphid densities were below 103 per plant in all surveyed fields, with the exception of a single Portage County site which showed a count of 451 per plant on July 29.

An estimated 20% of soybean fields had few or no aphids and appeared to have been chemically treated. Many of these sites did not develop economic populations but were treated preemptively using an insecticide-fungicide tank mix. Although the promotion and practice of tank mixing continues to increase in popularity, simultaneous applications are rarely justified since economic levels of both the target insect and plant pathogen seldom coincide. Further, treating aphid populations below the 250 per plant threshold offers no yield advantage.

Soybean Aphid Survey Results August 2011



FRUITS

APPLE MAGGOT: Damage in the form of external depressions and brown, internal larval tunnels is appearing on apples in a few orchards where earlier controls were unsuccessful. The grower located near Turtle Lake in Polk County reports significant injury to the 'Sweet 16' variety. Peak emergence of flies occurred 1-2 weeks ago depending upon the area of the state, and activity has gener-ally declined. The high count for the week was 18 flies on an unbaited red sphere trap at Rochester in Racine County.

REDBANDED LEAFROLLER: The third flight of moths continued at high levels in the south-central and southeastern counties. At Burlington in Kenosha County, the count increased from 50 moths per trap last week to 171 per trap this week. Relatively high counts of 200 or more moths were also registered at the Mt. Horeb and West Madison monitoring locations.

REDHUMPED CATERPILLAR: Larvae measuring 1-1¼ inches in length were the cause of light defoliation of apple trees in a Bayfield County orchard. Two small colonies consisting of 40 larvae (about 10 per leaf) were observed on the 'McIntosh' and 'Honeycrisp' cultivars. Manual removal of the caterpillars will usually give reasonable control. *Bacillus thuringiensis* (Bt) products are also effective against small larvae shortly after egg hatch.

Redhumped caterpillar Kristin www.whatsthatbug.com

CODLING MOTH: Moderate flights were registered in a few southeastern and northeastern locations in the past week, indicating that codling moth pressure has not diminished in all areas. Economic counts of 7-10 moths per trap were reported from Burlington and Niagara.

STINK BUG: Nymphs and adults are very active in fruit and field crops and are expected to persist in orchards for several more weeks. Continued maintenance of traps is recommended through early October.

Brown stink bug adult and nymph Jimmy Smith jwinfred flickr.com

SPOTTED TENTIFORM LEAFMINER: The third and last flight of the season has declined to low levels at most orchards. Trap counts ranged from 0-241 moths from August 25-31, with the high count registered at Deerfield in Dane County. Moth activity should subside by mid-September.

SPOTTED WING DROSOPHILA: The first spotted wing drosophila (SWD) flies were detected in Wisconsin last fall. Several specimens were collected on sticky boards and in vinegar traps at three separate locations in Racine County. The Pest Survey Program is planning a late-season survey for SWD this year and is seeking trapping locations. Fruit growers interested in participating in the survey should email Krista Hamilton at krista.hamilton@wi.gov or call 1-866-440-7523 before September 15.

VEGETABLES

CORN EARWORM: After a two-week lull, moths appeared in very high numbers in pheromone trap collections again this week. Counts at the Dane County monitoring sites were particularly high and ranged from 28-700 per trap. The latest activity signals that the threat to late sweet corn plantings has intensified. Pheromone trap counts for the August 25-31 reporting period were as

follows: S Cottage Grove 120, East Troy 0, Hancock 45, Janesville 14, Keyeser 28, Madison 125, Marshfield 32, Prairie du Chien 0, N Sun Prairie 700, S Sun Prairie 275, and Wausau 2.

Corn earworm larva Mark Moore Moore Communications

LATE BLIGHT: This disease was detected in two potato fields in Adams and Waushara counties since the last report. Continued protective treatment of green vines with a late blight-specific fungicide on a 5- to 7-day schedule is recommended. Potato tubers remain susceptible to infection even when very little foliage is present.

NURSERY & FOREST

GYPSY MOTH: This pest has been substantially less of a threat than had been anticipated. Larval populations were mostly light this year and no noticeable defoliation was detected by aerial surveillance. In addition, areas of the state that suffered heavy defoliation in 2010 showed little or no tree mortality. Gypsy moth larvae defoliated 346,749 forested acres last season, greatly surpassing the previous record of 65,000 acres set in 2003.

REDHEADED PINE SAWFLY: Moderate to heavy damage affecting 40,000 acres of young jack pines has been reported in portions of Burnett and Washburn counties. Redheaded pine sawfly larvae periodically reach outbreak levels and are a standard defoliator of jack pines in northern Wisconsin.

ARBORVITAE LEAFMINER: Arborvitae varieties at nurseries in Dane, Racine and Waukesha counties are showing hollowed, browned foliage tips caused by this leafminer. The larvae will overwinter in arborvitae foliage, pupate in spring, and emerge as moths next June. Damage resulting from the larval stages of this insect first appears in late January or February and is commonly misdiagnosed as winter injury. Severe infestations can be treated with a systemic insecticide in fall or early spring, although control is usually unnecessary.

Tip damage caused by arborvitae leafminer Liz Meils DATCP

OAK GALLS: Nursery inspections in the past week found an assortment of galls, including noxious oak gall on swamp white oak in Dane County and various leaf galls in Waukesha County. Galls are abnormal outgrowths of plant tissue caused by insects, fungi, bacteria, nematodes or mites. These growths may develop on any plant part, but most commonly occur on the branches and leaves. Chemical treatment should be timed to control the adult stage, if justified. Pruning and destroying infested plant parts is the preferred control method.

Oak bullet gall Liz Meils DATCP

RHIZOSPHAERA NEEDLE CAST: Severe browning of spruce trees in nurseries and forested areas throughout

the state has largely been attributed to this needle cast disease. Symptoms may develop on any age of tree and gradually progress from the lower to upper branches. Repeated needle loss results in branch death after 3-4 years. Development of this and other conifer fungal diseases is favored by cool, wet spring weather conditions. Rhizosphaera has been very prevalent this season.

OAK LACE BUG: These small, "true bugs" are causing severe bronzing of oak leaves in Douglas and Washburn counties. The symptoms should persist through fall, but long-term damage is not expected.

LINDEN LEAF BLOTCH: A light infection on American lindens was noted at a nursery in Dane County. The dark, brownish-black leaf spots with feathery margins characteristic of this disease develop in later summer, although the spores infect the leaves in early spring. The occurence of this and other leaf spot diseases late in the growing season generally does not seriously affect the health of a tree. Nursery operators and homeowners who wish to reduce the occurrence of leaf spots next year should remove all fallen leaves at the end of the season and use practices that reduce moisture in the tree canopy.

Linden leaf blotch *Liz Meils DATCP*

WEEDS

WINTER ANNUAL WEEDS: Control of winter annuals in fall offers several benefits, including fewer weed problems at planting, improved efficacy of spring herbicide treatments, and earlier planting dates. Winter annuals such as common chickweed, yellow rocket and henbit emerge in fall, overwinter as low rosettes, and set seed in spring. Serious infestations have grown increasingly common in Wisconsin and the Midwest along with the increase in no-till/Roundup Ready® cropping systems, which fail to target winter annual plants prior to seed set. Although winter annuals do not compete directly with corn and soybean growth, they can interfere with spring planting and tillage, and may attract early-season pests like the black cutworm. Optimal timing of herbicide application for control of emerged winter annuals is between mid-October and mid-November.

Yellow rocket *Clarissa Hammond, DATCP*

APPLE INSECT & BLACK LIGHT TRAP COUNTS AUGUST 25 - 31

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	OBLR[5]	AM RED[6]	YELLOW[7]	GDD 50°F
Bayfield	Keystone	21	1	0	1	—	*3	*6	
Bayfield	Orienta	208	0	0	0	0	*0	0	
Brown	Oneida	—	—	—	—	—	—	—	
Chippewa	Chippewa Falls	—	0	2	2	1	*2	*0	
Columbia	Rio	—	0	0	0	—	*0	*0	
Dane	Deerfield	241	25	2	4	—	*4	*1	
Dane	Mt. Horeb	39	185	0	32	—	0	0	
Dane	McFarland	—	—	—	—	—	—	—	
Dane	Stoughton	35	98	2	1	0	*0	**2	2236
Dane	West Madison	27	0	2	7	—	—	—	
Fond du Lac	Campbellsport	25	68	0	14	—	*0	*0	
Fond du Lac	Malone	—	—	—	—	—	—	—	
Fond du Lac	Rosendale	35	12	0	0	—	*0	*1	
Grant	Sinsinawa	—	—	—	—	—	—	—	
Green	Brodhead	—	—	—	—	—	—	—	
Iowa	Mineral Point	31	110	0	5	0	*1	—	
Jackson	Hixton	13	5	0	5	0	*0	*0	
Kenosha	Burlington	88	171	7	13	—	0	0	2111
Marinette	Niagara	120	0	10	33	—	0	0	1782
Marquette	Montello	—	—	—	—	—	—	—	
Ozaukee	Mequon	30	21	3	0	—	*1	*0	
Pierce	Beldenville	—	—	—	—	—	—	—	
Pierce	Spring Valley	—	—	—	—	—	—	—	
Polk	Turtle Lake	—	26	3	2	—	**2	*0	
Racine	Raymond	—	—	—	—	—	—	—	
Racine	Rochester	—	8	3	9	—	*18	*0	
Richland	Hillpoint	90	75	4	14	0	**3	**0	
Sheboygan	Plymouth	—	—	—	—	—	—	—	
Walworth	East Troy	30	0	0	2	—	1	0	
Walworth	Elkhorn	10	0	0	0	—	0	0	
Waukesha	New Berlin	—	—	—	—	—	—	—	

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

COUNTY	SITE	ECB[1]	TA[2]	BCW[3]	SCW[4]	DCW[5]	CE[6]	CEL[7]	WBC[8]	FORL[9]	VCW[10]
Chippewa	Chippewa Falls	—	—	—	—	—	—	—	—	—	—
Columbia	Arlington	1	0	1	1	8	3	0	0	0	0
Dane	Mazomanie	—	—	—	—	—	—	—	—	—	—
Grant	Prairie du Chien	8	3	0	6	53	0	0	0	9	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	2	4	0	87	47	0	1	0	4	0
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	1	1	0	1	13	0	5	0	13	0
Walworth	East Troy	0	2	1	1	60	0	1	0	16	0
Wood	Marshfield	22	8	0	26	25	5	6	0	5	2
Vernon	Coon Valley	—	—	—	—	—	—	—	—	—	—

[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.