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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 remained cool, dry and windy during the past week. Scattered showers and thunderstorms moved through the state on Tuesday, but these produced only windy conditions and insufficient amounts of rainfall. Soybeans, corn and other crops are showing the effects of several weeks without adequate precipitation. Most of the beneficial rains have stayed to the west or south of Wisconsin since June, and as a result, many portions of the state are abnormally dry. The lack of soil moisture has become a major concern for farmers. According to the latest USDA National Agricultural Statistics Service report, conditions are now short or very short for 55% of crop lands. The dry weather has permitted growers to cut a significant quantity of hay, with 50% of the second crop harvested compared to 28% at this time last year and a 5-year average of 41%. Precipitation totals during the next few weeks will determine if crops continue to decline or progress to a reasonable harvest.

LOOKING AHEAD

WESTERN BEAN CUTWORM: The annual flight of adults is underway in the southern and western areas of the state where pheromone traps registered 0-17 moths in the past week. The high black light trap count was 35 moths at Grand Marsh in Adams County. Twenty five percent moth emergence can be expected in southern and central Wisconsin by July 20-27, following the accumulation of 1,319 degree days (base 50°F). Field scouting for egg masses and small larvae should begin at this time, and control decisions made shortly after peak flight is documented. This event usually occurs during the final week of July or first week of August in Wisconsin.

SOYBEAN APHID: Populations should be assessed in the next week as a greater proportion of soybean fields enter the early reproductive stages of growth (R1-R2). Colonies can double in size every 1.5-1.9 days at temperatures ranging from 68-86°F. No economic populations have been detected in any Wisconsin soybean field surveyed as of July 17.

JAPANESE BEETLE: Surveys indicate that this insect is causing 5-10% defoliation of soybeans in Dane, La Crosse, Pepin and Trempealeau counties. Damage thus far is light and confined to the peripheral rows, but is expected to become more visible within the next 5-7 weeks. The economic threshold for Japanese beetle and other leaf feeding insects in soybeans is 20% defoliation between bloom and pod fill.

EUROPEAN CORN BORER: Degree day accumulations are appropriate for pupation to occur in advanced southern counties such as Grant, Iowa and Rock, although the

predominant stages present this week were 2nd and 3rd instar larvae. The first summer moths may begin to appear in black light traps by July 24, after 1,400 degree days (base 50°F) are surpassed. The optimum treatment interval for first generation larvae, which extends from 800-1,100 degree days (base 50°F), has closed in most areas of the state.

FORAGES

POTATO LEAFHOPPER: Numbers in alfalfa are low in most areas. Sweep net counts rarely exceed 1.5 per sweep, except in Buffalo, La Crosse and Trempealeau counties where surveys yielded 3.2-3.5 per sweep in 10% of fields checked. Distinct yellowing was observed throughout the west-central area, but in most instances the chlorosis could not be attributed to leafhoppers. Yellowing due to this insect can be confused with nutrient deficiencies, both of which are magnified by dry weather. The extended forecast indicates continued dry conditions, and this may cause leafhopper populations to escalate into a more serious problem than currently exists.

PLANT BUGS: Populations remain about the same as reported in previous weeks. Mixed counts of the alfalfa and tarnished plant bug species are less than 2.6 per sweep, and nymphs are present in very low numbers. The tarnished plant bug continues to predominate in all areas.

Tarnished plant bug *Krista Hamilton DATCP*

PEA APHID: A marked population decrease has occurred in alfalfa in the last 2-3 weeks. Surveyed fields in the south-central and west-central counties contain fewer than 3.0 per sweep, although there are localized exceptions. In the east-central counties of Fond du Lac and Sheboygan, significantly higher numbers ranging from 18-25 per sweep were detected in scattered fields from July 13-16.

DEGREE DAYS JANUARY 1 - JULY 16

LOCATION	50°F	2008	NORM	48°F	40°F
Dubuque, IA	1288	1342	—	1356	2259
Lone Rock	1233	1219	—	1274	2163
Beloit	1271	1352	—	1305	2243
Madison	1214	1206	1413	1268	2144
Sullivan	1241	1279	1430	1282	2192
Juneau	1205	1221	—	1257	2126
Waukesha	1224	1190	—	1289	2157
Hartford	1186	1164	—	1250	2100
Racine	1147	1125	—	1223	2048
Milwaukee	1133	1103	1240	1196	2030
Appleton	1082	1127	1281	1138	1937
Green Bay	984	1049	1233	1045	1810
Big Flats	1109	1117	—	1152	1969
Hancock	1123	1130	1401	1141	1970
Port Edwards	1067	1073	1324	1115	1912
La Crosse	1233	1218	1460	1238	2161
Eau Claire	1158	1096	1372	1195	2051
Cumberland	1027	945	1303	1024	1826
Bayfield	745	744	969	750	1408
Wausau	943	968	1246	974	1731
Medford	960	918	1121	990	1758
Crivitz	906	964	—	930	1685
Crandon	840	870	1025	828	1452

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

CORN

WESTERN BEAN CUTWORM: Traps have been installed thus far at 131 sites distributed across 25 Wisconsin counties. High counts for the period of July 12-16 were 17 moths in the pheromone trap near Montello in Marquette County and 35 moths in the black light trap near Grand Marsh in Adams County. Close inspection of corn should begin in the week ahead to determine the percentage of plants infested with egg masses and small larvae. Eggs are deposited primarily on the upper surface of the flag leaf, while the larvae can be found in the developing tassel. Treatment is justified when 8% of

plants are infested (4% for processing sweet corn), and should be applied at 90-95% tassel emergence.

Western bean cutworm pheromone trap Krista Hamilton DATCP

EUROPEAN CORN BORER: Surveys of V10-VT corn found infestation rates of 0-14% in the south-central and west-central districts, with the highest populations noted in La Crosse County. No larvae were detected in 21 of 24 fields (88%) examined. Now that boring into stalks has begun, control treatments will become progressively less effective until the second generation of larvae appear in early August. Second and third instar larvae were the predominant development stages as of July 17.

CORN ROOTWORM: Adults of the northern and western species are becoming increasingly prevalent. Surveys conducted in Columbia, Dodge, Iowa, Jefferson, Buffalo, La Crosse and Trempealeau counties yielded 1-3 beetles per 50 plants in the past week. Peak adult emergence is anticipated by mid-August in the southern and western areas of the state. Much of the earlier planted corn will be pollinated by then, but late-planted fields may suffer from silk pruning and reduced pollination.

STALK BORER: Larvae ranging in size from 1-1¼ inches were noted to have caused severe leaf injury to 29% of edge row plants in a field near Rubicon in Dodge County. Spot treatment is no longer advised now that most corn is beyond the V7 growth stage.

SOYBEANS

TWO-SPOTTED SPIDER MITE: This mite regularly begins to cause noticeable yellowing of leaves in the margin rows of soybeans by late July or early August, particularly during periods of prolonged dryness. Symptoms were observed in a few fields in the west-central area this week, indicating that growers should begin monitoring soybeans at 4- to 5-day intervals for stippling associated with early mite infestation.

SOYBEAN APHID: Economic populations of 250 or more aphids per plant have not been detected in any Wisconsin soybean field since the last report. Examination of 59 fields in Buffalo, Columbia, Dane, Dodge, Fond du Lac, Green, Iowa, Jefferson, La Crosse, Manitowoc, Pepin, Sheboygan and Trempealeau counties from July 13-16 revealed generally very low densities, with moderate populations of 106-140 aphids per plant encountered in only 2 fields in the Gilmanton and Mondovi areas of Buffalo County. Average densities per 20 plants sampled ranged from 0-10 aphids per plant in 51 (86%) fields, 11-50 aphids per plant in 5 (8%) fields, and 51-141 aphids per plant in 3 (5%) fields. Approximately 10% of the surveyed sites, including fields in Buffalo, Green and Trempealeau counties were 100% infested with moderate aphid densities, and some of these may develop economic populations in the next 1-2 weeks.

Soybean aphids Krista Hamilton DATCP

POTATOES

LATE BLIGHT: This disease has been found on garden tomato plants marketed in retail stores in the northeastern and mid-Atlantic states (Connecticut, Delaware, Georgia, Kentucky, Maine, Maryland, Massachusetts, New Jersey, New Hampshire, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia and West Virginia). Plant regulatory

officials are still tracing the initial source of infection. **No reports or observations of late blight have been made in Wisconsin thus far**. Late blight affects tomatoes and potatoes and is caused by the fungus-like organism *Phytophthora infestans*. Responsible for the Irish potato famine of the 1840s, this disease remains a serious threat to potato growers and is regulated in Wisconsin under Administrative Rule ATCP 21.15 http://www.legis.state.wi.us/ rsb/code/atcp/atcp021.pdf.

Home gardeners and commercial growers should be aware of this potential source of late blight inoculum. Infected plants wilt rapidly, causing rotting of fruits and tubers. Suspect tomato plants should be bagged and destroyed to prevent further spread of the disease. Please contact the DATCP Plant Industry Laboratory at (608) 266-7132 or the UW Plant Disease Clinic at (608) 262-2863 http://pddc.wisc.edu for testing services. Growers may also contact Dr. Amanda Gevens, the new Potato & Vegetable Extension Plant Pathologist at the UW Madison by phone (608) 890-3072 or email at gevens@wisc.edu.

Stem lesion with sporulation of the pathogen *www.hort.cornell.edu*

FRUITS

OBLIQUEBANDED LEAFROLLER: Developing fruits should be inspected for larval hatch and injury by the first generation of leafrollers. Larvae are presently feeding on fruits in south-central and southwest Wisconsin orchards. Effective suppression of the current generation will minimize injury and reduce future populations in August. Treatment is justifiable when 5% of terminals are infested (based upon examination of 5 growing points per tree in at least 10 widely separated trees).

APPLE MAGGOT: High captures of 5 flies on a baited red sphere and 4 flies on an unbaited red sphere were reported from Plymouth in Sheboygan County and Rochester in Racine County in the past week. Peak emergence of flies may occur in orchards with sufficient soil moisture levels following the accumulation of 1,600 degree days (base 50°F) next week.

CODLING MOTH: Now is an optimal time for apple growers to evaluate the effectiveness of treatments applied in June. The majority of first generation larvae have entered fruits in southern and central Wisconsin orchards, and evidence of their feeding is visible. Economic counts of 5 or more moths per trap per week were registered at 10 of 25 orchards from July 10-16.

VEGETABLES

STRIPED CUCUMBER BEETLE: Reports indicate that numbers are as high as 12 per plant in gardens in Fond du Lac County, although few have been trapped on yellow sticky boards deployed at 5 select locations this season. Bacterial wilt, vectored by this species and the spotted cucumber beetle, is causing severe wilting of cucurbits in some gardens.

SQUASH VINE BORER: The emergence of adults was noted this week in Dane and La Crosse counties. Pumpkins, squash, gourds, and other vine crops should be examined for evidence of larval feeding from 900-1,000 degree days (base 50°F). Insecticidal controls must be applied before the larvae bore into vines in order to be effective.

Squash vine borer *tlburton outdoors.webshots.com*

NURSERY & LANDSCAPE

WHITE PINE WEEVIL: Severe injury attributed to this weevil was noted on Norway spruce at nurseries and Christmas tree farms in Clark County. Scouting for evidence of larval attack, including wilted leaders and discolored, reddish-brown needles on the top lateral growth, is recommended at this time. This insect can be controlled by pruning out the infested area 6-10 inches below the wilted leader before adults emerge in August. When the pruning cut is made, be sure the entire infestation has been removed by examining the inner sapwood, which should be light yellow not dark or discolored. Remove and properly dispose of pruned-out tops to prevent re-infestation.

Norway spruce with white pine weevil inury *Konnie Jerabek DATCP*

FIR-FERN RUST: This rust disease, which occurs when true firs are grown in close proximity to ferns, was found on balsam, Canaan and Fraser firs in Clark County. Active rust spores were observed on the firs, while older spores were present on the undersides of fronds on adjacent ferns. Infected needles dry out and drop prematurely, often in quantities that render trees unmarketable. Removing the alternate fern host should reduce its incidence.

HAIL DAMAGE: Large hail fell over an area from the Madison airport to 6 miles northeast of Sun Prairie on the night of July 11, causing severe damage to nursery stock, orchard trees and field crops in the affected area. The largest stones measured 1.5 inches in diameter.

TAXUS MEALYBUG: Yews in Green Lake County exhibiting sparse, chlorotic foliage and sooty mold growth were determined to be infested with the taxus mealybug, as well as Fletcher scale. This insect problem is usually first observed on the stems and in the forks of branches. Pruning out dying branches and treating plants with horticultural oil sprays, insecticidal soaps, or contact insecticides while the mobile crawlers are active is an effective form of control. The presence of crawlers can be confirmed by tapping an infested twig or branch over a white cloth or sheet of paper.

WEEDS

SPOTTED KNAPWEED: This invasive and phytotoxic species, recognized by its thistle-like purple flowers, has become increasingly prevalent along roadsides and in field margins. Spotted knapweed produces an allelopathic substance that inhibits the growth of nearby plants, permitting it to spread rapidly into open areas. Control options include manual removal, mowing, repeated herbicide applications, burning, tillage, and introducing biological control agents. Persons interested in importing biological agents into Wisconsin must first apply for a Federal PPQ 526 permit and a State of Wisconsin 414 permit. Please direct questions to Clarissa Hammond at (608) 244-4544 or clarissa.hammond@wi.gov.

Spotted knapweed *Clarissa Hammond DATCP*

WILD PARSNIP: The yellow flowers visible along roadsides since early June are transitioning into seeds throughout southern and central Wisconsin. Controls should be implemented now to prevent seed formation and dispersal. Measures such as cutting entire roots below ground level with a shovel or spade, hand pulling, or using a brush cutter to remove plants from infested

sites all are effective forms of control. Caution should be taken to prevent skin exposure to the irritants in its sap.

PLUMELESS THISTLE: Surveys of pastures in the south-central and east-central districts found this species and Canada thistle to be the most conspicuous of the broadleaf weeds noted. Most infestations affected less than 5% of pasture areas, although exceptional sites were 40% infested. Observations indicate that plants in the southern two-thirds of the state are forming seed.

FOREST

EUROPEAN ELM FLEA WEEVIL: Reports from the Northeast Region DNR Forest Health Specialist indicate that these insects, which were first detected in the U.S. in 1983 and in Wisconsin in 2003, are infesting elms in northeastern Wisconsin. Although their feeding seldom results in significant, long-term damage to elms, watering affected trees during dry periods is recommended to alleviate plant stress.

GOUTY OAK GALL: Severe infestations are evident on swamp white oaks in the Fox Valley area. The globose, woody galls develop on twigs and small branches in response to oviposition or early larval feeding by a tiny cynipid wasp. Systemic insecticides may be used during the first year of the insect's life cycle in situations where the infestation is limited to a few trees. Pruning and destroying infested plant parts while the galls are small is the preferred control method.

Gouty oak gall www.mobot.org

ANNOSUM ROOT ROT: This destructive root rot disease has been detected in a Shawano County red pine stand, where the severity of symptoms indicates it has been present for several years. Since its initial detection in Wisconsin in 1993, Annosum root disease has been confirmed in 20 Wisconsin counties, including Adams, Buffalo, Columbia, Dunn, Green, Iowa, Jefferson, Juneau, La Crosse, Marquette, Portage, Richland, Sauk, Shawano, Trempealeau, Walworth, Waukesha, Waupaca, Waushara and Wood. Preventative stump treatments within 24-hours of conifer harvest are a control option for stands in which the disease is established.

GYPSY MOTH TRAPPING PROGRAM: Male moths were observed in Iowa, Juneau and Rock counties in the past week, signaling the start of the adult flight period in Wisconsin. All pheromone traps established as part of the Gypsy Moth Trapping Program have been set for this year, and monitoring for any moth catches will start July 20 in areas south of Highway 21. In Bayfield and Oconto counties, larvae in the 4th instar were the predominant development stage as of July 17.

GYPSY MOTH SPRAY PROGRAM: The DATCP Slow the Spread Program has completed all aerial treatments for the year, with the last applications in Bayfield County on July 13. A total of 54 sites in 16 western counties were treated in 2009. The precise number of acres treated has not been compiled from aircraft computers.

TRAPPING NETWORKS

BLACK LIGHT TRAPS: The emergence of western bean cutworm adults accelerated this week at the southern and west central trap locations, while the first moths of the season were registered near East Troy, Marshfield and Wausau. Egg deposition in corn and other susceptible hosts is in progress. The high count for the July 11-16 reporting period was 34 moths at Sparta in Monroe County.

CORN EARWORM: No large flights of moths were reported this week, but network cooperators should continue to monitor pheromone traps closely for the forthcoming arrival of migrant adults. Cumulative weekly counts were as follows: Cashton 2, Chippewa Falls 0, Janesville 0, Lancaster 0, Manitowoc 0, and Sparta 3.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 10 - 16

COUNTY	DATE	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	OBLR[5]	AM RED[6]	AM YELLOW[7]
Bayfield	7/10-7/16	Keystone	25	12	1	25	—	—	—
Bayfield	7/10-7/16	Bayfield Apple	225	—	5	9	—	—	—
Bayfield	7/10-7/15	Erickson's	400	—	6	27	—	—	—
Bayfield	7/06-7/13	Orienta	25	0	0	10	—	—	—
Brown	7/10-7/14	Oneida	400	41	10	8	—	—	—
Chippewa	7/10-7/16	Chippewa Falls 1	3	11	20	—	—	—	—
Dane	7/09-7/16	Deerfield	326	85	1	3	—	0	0
Dane	7/10-7/16	Stoughton	427	106	1	3	—	0	0
Dane	7/10-7/16	West Madison	189	12	3	0	—	0	0
Dodge	7/10-7/16	Brownsville	26	32	1	4	—	0	0
Fond du Lac	7/10-7/16	Campbellsport	200	55	0	42	—	0	0
Fond du Lac	7/10-7/16	Malone	630	29	5	5	—	0	0
Fond du Lac	7/09-7/16	Rosendale	57	61	1	0	—	0	0
Grant	7/10-7/16	Sinsinawa	—	—	—	—	—	—	—
Green	7/10-7/16	Brodhead	14	40	0	2	3	0	0
Iowa	7/10-7/16	Dodgeville	—	—	—	—	—	—	—
Iowa	7/10-7/16	Mineral Point	567	78	1	1	0	2	2
Jackson	7/10-7/16	Hixton	86	6	0	14	2	0	0
Kenosha	7/10-7/16	Burlington	—	100	3	8	—	1	0
Marinette	7/10-7/16	Niagara	—	—	—	—	—	—	—
Marquette	7/10-7/16	Montello	408	2	0	0	—	0	0
Ozaukee	7/09-7/16	Mequon	400	19	5	2	—	0	0
Pierce	7/10-7/16	Beldenville	—	—	—	—	—	—	—
Pierce	7/09-7/16	Spring Valley	616	77	1	3	0	0	0
Racine	7/10-7/16	Raymond	570	77	5	12	—	0	0
Racine	7/10-7/16	Rochester	1300	16	8	2		4	1
Richland	7/08-7/14	Hillpoint	360	43	0	0	—	**1	0
Sheboygan	7/10-7/16	Plymouth	630	104	16	17		**5	0
Walworth	7/10-7/16	East Troy	—	—	—	—	—	—	—
Walworth	7/10-7/16	Elkhorn	—	—	—	—	—	—	—
Waukesha	7/10-7/16	New Berlin	203	15	7	2	—	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	7/09-7/16	Chipp Falls	3	0	0	0	0	0	0	0	0	0
Columbia	7/10-7/16	Arlington	0	6	1	1	0	0	4	5	5	3
Dane	7/10-7/15	Mazomanie	0	1	0	0	0	0	0	2	0	0
Grant	7/09-7/16	Lancaster	0	2	0	0	0	0	0	0	0	0
Manitowoc	7/10-7/16	Manitowoc	0	0	0	3	0	0	2	0	5	0
Marathon	7/10-7/17	Wausau	3	2	0	10	4	1	1	5	0	0
Monroe	7/10-7/16	Sparta	0	0	0	5	0	0	3	34	0	0
Rock	7/09-7/16	Janesville	0	3	0	0	0	0	5	0	3	0
Walworth	7/10-7/16	East Troy	0	2	1	3	0	0	0	2	5	3
Wood	7/10-7/16	Marshfield	16	3	0	13	8	1	1	4	7	5

[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.