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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

Hot, humid weather continued to prevail throughout the state. A warm front pushed northeast into the region during the daytime on Thursday, producing heavy rain showers over southern Wisconsin. Several lines of severe thunderstorms formed late in the afternoon, and caused widespread flooding in lowland areas already saturated from the 4-6 inches of rain that fell across the southern counties last Wednesday. Abundant to locally excessive precipitation has generally benefited summer crops, but lodging of corn and small grains has become a widespread problem in portions of the south-central and southwest counties. Flash flood warnings remain in effect for the Baraboo River near Rock Springs and the Kickapoo River at Gays Mills. Drier weather is needed for alfalfa harvest as well as treatment of plant diseases and pest insects.

LOOKING AHEAD

TRUE ARMYWORM: Significant flights of true armyworm moths have been registered at a few locations since the last report. The black light traps at Janesville and Marshfield collected 158-200 moths during the period of July 9-15, and 52-76 per trap were reported this week. It is unknown if the current generation will be as large and damaging as the previous generation was in June. Corn fields and small grains lodged by the latest severe storms could begin to show evidence of infestation in the next two weeks.

WESTERN BEAN CUTWORM: Emergence of the annual population is about 75% complete in the southern and central areas and 50% complete in the northern counties. To date, the Wisconsin network of 140 pheromone traps has reported a cumulative total of 7,631 moths, while black light traps have registered another 1,267 moths. The pheromone trap count compares to 857 moths on the same date last year when the flight was about 25% complete. Moth activity is expected to subside by early August at most monitoring sites.

SOYBEAN APHID: Field surveys indicate that densities have not yet exceeded the established economic threshold of 250 aphids per plant. Average counts were below 88 aphids per plant in all soybean fields examined in the past week. Only 3% of 37 fields checked had 26-88 aphids per plant, 83% had 1-25 per plant, and 14% had no detectable population. Although densities are still fairly low, this insect requires regular observation through the late reproductive stages of soybean growth in August.

EUROPEAN CORN BORER: The emergence of summer moths should peak by July 27 in the southern counties and August 5 in the central counties, following the accumulation of 1,733 degree days (base 50°F). Late

instar larvae and pupae are still common, and these development stages will contribute to the flight in coming weeks. The treatment period for second generation larvae has opened in southern and central Wisconsin.

FORAGES

POTATO LEAFHOPPER: Counts vary widely in alfalfa, ranging from 0.1-1.7 per sweep in the southwest counties to 0.4-5.2 per sweep in the west-central area. The average is about 1.2 per sweep. Noticeable yellowing is apparent in a few fields in Buffalo, Dunn and Pepin counties where leafhoppers were collected at the rate of 4-5 per sweep. Nymphs are present, but adults are the predominant development stage.

ALFALFA CATERPILLAR: Larvae are very abundant in field collections, especially in south-central and west-central alfalfa fields where counts occasionally exceed 4-5 per sweep. Adults are also numerous and were observed in remarkably high numbers near the Mississippi River in Buffalo, Dunn and Pierce counties.

BLACK BLISTER BEETLE: A few alfalfa fields surveyed in Eau Claire and Dunn counties contained low counts of 1-2 beetles per 10 sweeps. Blister beetles can be an indicator of potentially high grasshopper populations since the immature stages are predaceous upon grasshopper eggs.

Black blister beetles *corvid01 flickr.com*

PEA APHID: Populations remain rather low. Alfalfa fields surveyed in Grant, Green, Richland and Sauk counties showed 0.1-1.4 per sweep, with an average of only 0.4 per sweep. Counts in the west-central counties were slightly higher and ranged from 0.4-2.9 per sweep. Pea aphids have been very scarce in alfalfa since early June when populations were as high as 90 per sweep in some fields.

DEGREE DAYS JANUARY 1 - JULY 22

LOCATION	50°F	2009	NORM	48°F	40°F
Dubuque, IA	1818	1355	—	1821	2945
Lone Rock	1771	1300	—	1785	2866
Beloit	1912	1344	—	1879	3046
Madison	1754	1284	1546	1776	2841
Sullivan	1807	1314	1568	1748	2899
Juneau	1725	1281	—	1748	2798
Waukesha	1637	1304	—	1663	2690
Hartford	1601	1265	—	1656	2656
Racine	1586	1230	—	1633	2639
Milwaukee	1539	1213	1374	1604	2581
Appleton	1576	1160	1411	1655	2632
Green Bay	1440	1058	1360	1556	2477
Big Flats	1602	1175	—	1609	2634
Hancock	1627	1192	1531	1632	2664
Port Edwards	1559	1135	1451	1607	2593
La Crosse	1765	1314	1673	1757	2860
Eau Claire	1606	1237	1503	1645	2668
Cumberland	1449	1098	1428	1481	2460
Bayfield	1132	808	1077	1174	2064
Wausau	1432	1008	1371	1495	2440
Medford	1426	1024	1237	1496	2439
Crivitz	1376	976	—	1451	2383
Crandon	1298	902	1124	1332	2255

Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2010. NORMALS based on 30-year average daily temps, 1971-2001.

PLANT BUGS: Representative counts in the southern ¾ of the state are non-economic and range from 0.2-3.1 per sweep. The alfalfa plant bug predominates in the areas north of Jackson County, while the tarnished plant bug is more common to the south. Nymphs of various maturities were found in all fields sampled this week.

SOYBEANS

SOYBEAN APHID: Densities are still low and have not exceeded economic levels, but aphids are dispersing to a greater percentage of plants within individual fields. The average infestation rate this week (based on 20 plants examined per field) was 35%, a noteworthy increase from 19% the week before. Many fields are now 75-95%

infested. Chemical treatment has not been justified for any soybean field surveyed as of July 22, but this may change by early to mid-August. Surveys to assess aphid densities should be underway.

GREEN CLOVERWORM: Locally heavy populations have been observed or reported in Eau Claire, Dunn, Grant, Lafayette and Walworth counties. Thus far defoliation attributed to this caterpillar has not surpassed the economic threshold of 20% for soybeans in the bloom-pod fill stages. Similar reports from Iowa and Minnesota indicate that levels of green cloverworm are higher than normal across much of the Midwest this season.

JAPANESE BEETLE: Soybean fields in Eau Claire, Dunn, Juneau and Pierce counties are showing 2-15% of plants with light-moderate defoliation by this pest. The degree of injury is insignificant in most instances, but the combination of feeding by grasshoppers, green cloverworms and other insects may contribute to severe defoliation in a few fields. In one Juneau County field, beetles were collected at the rate of 65 per 100 sweeps.

Japanese beetle defoliation *Krista Hamilton DATCP*

RED ADMIRAL: Larvae and silken nests are common in soybeans throughout the state. Red admiral populations surge every 8-10 years in Wisconsin, but economic damage to field crops is uncommon.

CORN

CORN ROOTWORM: Beetles have become increasingly prevalent in corn and emergence is far from complete. Examination of fields in the central counties found counts of 1-4 per 10 plants from July 19-22. Peak emergence remains about three weeks away. Since much of the corn crop will be pollinated by then, silk pruning is not expected to be a major problem this year.

Western corn rootworm beetles *Kd Arvin www.flickr.com*

TRUE ARMYWORM: Substantial numbers of armyworm moths reported since early July are an indication of a potentially large larval population which could develop in the next few weeks. It is anticipated that some infestations will materialize in corn and small grains, particularly those with grassy weed pressure. Field scouts, consultants and growers should be aware of this possibility.

WESTERN BEAN CUTWORM: Larvae from the current flight are primarily in the early-intermediate instars and should be detectable on corn tassels and in developing ears. Surveys conducted in Buffalo, Juneau and Monroe counties found economic infestations of 8-12% in 4 of 19 fields checked. A consultant's report states that 5,000 acres of corn were treated in the past week in Adams County, where egg masses were detected on 18% of the plants. Oviposition activity is expected to diminish as the annual flight subsides by early August. The high count for the period of July 16-22 was 442 moths near Neshkoro in Waushara County.

CORN EARWORM: Counts have been very low and sporadic since the first migrants appeared in the pheromone trap at Janesville on May 28, despite favorable migration conditions and heavy source populations in the southern United States. Significant flights have not yet been registered at any monitoring location. Trap counts for the July 16-22 reporting period were as follows: Cashton 7, Chippewa Falls 6, Coon Valley 0, Janesville 3, Marshfield 0, and Wausau 0.

FRUITS

APPLE MAGGOT: Trap counts registered this week may represent peak emergence of the annual fly population. This event usually occurs around 1,600 degree days (base 50°F) in years when environmental conditions are suitable. The high count for the period of July 16-33 was 53 flies on a baited red sphere at Plymouth in Sheboygan County.

JAPANESE BEETLE: This beetle continues to be a serious pest in fruit crops over much of the state, particularly in the south-central and southeast counties. Spot treatment of individual trees may be warranted for orchards that continue to experience problems. In the southeast and northwest, controls have been applied in many orchards.

Japanese beetles *Alex Wild myremecoswordpress.com*

SAN JOSE SCALE: Populations have become more prevalent in Wisconsin apple orchards, and San Jose scale is appearing in many areas where it previously had not been a concern. Orchard IPM Specialist John Aue advises growers with scale infestations to continue taping scaffold branches every 7-10 days to monitor activity and abundance. Such measures will also help document problem areas for improved control next season.

VEGETABLES

LATE BLIGHT: University of Wisconsin Plant Pathologist Amanda Gevens reports that late blight was verified on potato foliage in Marquette County and on tomato fruit in Waukesha County on July 14, and environmental conditions remain favorable for disease development. All potato and tomato plantings should now be receiving preventive applications of late blight-specific fungicides. Home gardeners and commercial growers are advised to contact their county agent, a crop consultant, or the UW Plant Disease Diagnostic Clinic if late blight is suspected.

CABBAGE LOOPER: Damaging populations of this typically late-season pest have been found in cole crops and potatoes. Migrants arrived in the state earlier than normal this year and temperatures in subsequent weeks have been very conducive for oviposition and rapid larval development. The larvae observed on July 21 in Outagamie County were nearly full-grown.

POTATO LEAFHOPPER: Reports from Portage County indicate that leafhoppers are very numerous in a few potato and snap bean fields. Populations in vegetable crops have shown a marked increase in the past two weeks as a result of warm temperatures and alfalfa harvest operations. Some plantings reportedly contain economic counts of 1.0 or more per sweep.

SQUASH BUG: These insects are appearing on cucurbit crops throughout the state, causing symptoms similar to bacterial wilt. Unlike the latter disorder, affected plants usually recover once the squash bugs have been controlled. The University of Wisconsin recommends 1 egg mass per plant when plants are flowering as a criterion for determining the need for treatment.

Squash bug nymphs *shyzaboy flickr.com*

NURSERY & LANDSCAPE

BRONZE BIRCH BORER: Nursery inspectors observed the D-shaped exit holes associated with this wood-boring beetle on the trunks of 'Crimson Frost' and white birch

trees in Dane County. Adult bronze birch borers primarily attack trees weakened or stressed due to drought, nutrient deficiency, disease or sun exposure. Larval feeding beneath the bark prevents the movement of food and water to tissues above the feeding site, resulting in thinning or dieback of leaves and branches in the upper crown and adventitious growth in the lower crown. Infested trees also develop swollen or bumpy areas on the trunk. Immediate removal and destruction of infested birches is recommended since the bronze birch borer kills its host within a few years.

ASTER RUST: The 'Woods Pink' variety of New York asters in Dane County was lightly infected with this common fungal disease, characterized by bright orange, powdery spores that initially appear on the leaves and stems and enlarge to cause yellowing and necrosis. 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 an alternate conifer or grass host are required. Its incidence can be reduced by removing and destroying diseased plants or treating asters with a fungicide.

Aster rust *Liz Meils DATCP*

OYSTERSHELL SCALE: A heavy infestation of mature female scales was found on ash trees at a nursery in Fond du Lac 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 between 275-500 degree days (base 50°F) and 1,600-1,700 degree days, respectively. Treatment is not advised after the scales have adhered to the branches and formed their protective waxy covering.

KERMES SCALE: Burr, swamp and white oaks in northeastern Wisconsin are reported to be moderately to heavily infested with this scale insect, which closely resembles an oak gall. The tan, marble-sized adult females are not particularly injurious to affected trees. Insecticide treatments, if necessary, should be directed against the crawler stage from late May to mid-July.

FOREST

GYPSY MOTH: An aerial survey in late June revealed localized, severe defoliation over a number of townships in Langlade, Marinette, Menominee, Oconto, and Shawano counties. The preliminary statewide defoliation total is 348,000 polygon acres, including 146,000 in Oconto County alone. Less noticeable defoliation also occurred in portions of Columbia, Dane, Rock and Sauk counties.

To date, exactly 27,984 traps are monitoring the flight of this pest in the western half of the state and a total of 8,446 moths have been caught. The annual flight, underway as far north as Ashland County, is expected to be significantly reduced in northeastern Wisconsin after larvae were virtually eliminated by the natural controls *Entomophaga maimaiga* and NPV virus last month.

ARBORVITAE LEAFMINER: Damage attributed to the larvae of this insect, namely browned foliage tips, is appearing on northern white cedars in Brown, Door, Oconto and Marinette counties. Symptoms commonly develop on the southern and western exposures and can be mistaken for winter injury or other physiological disorders. This insect is usually an aesthetic problem and control is not required.

Arborvitae leafminer feeding injury and exit hole *Liz Meils DATCP*

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 16 - 22

COUNTY	DATE	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	OBLR[5]	AM RED[6]	AM YELLOW[7]
Bayfield	7/16-7/22	Keystone	7	32	1	5	—	*9	*4
Bayfield	7/16-7/22	Bayfield	—	—	—	—	—	—	—
Bayfield	7/12-7/19	Orienta	58	2	0	3	—	0	0
Brown	7/16-7/22	Oneida	250	8	8	0	—	0	0
Chippewa	7/16-7/22	Chippewa Falls 1	0	16	6	1	0	*2	0
Chippewa	7/16-7/22	Chippewa Falls 2	—	—	—	—	—	—	—
Dane	7/16-7/22	Deerfield	966	18	4	0	—	*3	0
Dane	7/16-7/22	McFarland	—	0	—	0	—	*8	—
Dane	7/16-7/22	Stoughton	—	—	—	—	—	—	—
Dane	7/16-7/22	West Madison	71	16	2	15	—	*1	0
Dodge	7/16-7/22	Brownsville	—	—	—	—	—	—	—
Fond du Lac	7/16-7/22	Campbellsport	65	25	1	5	—	0	0
Fond du Lac	7/16-7/22	Malone	760	13	10	8	—	0	0
Fond du Lac	7/16-7/22	Rosendale	243	79	2	3	—	*2	0
Grant	7/16-7/22	Sinsinawa	—	—	—	—	—	—	—
Green	7/16-7/22	Brodhead	—	—	—	—	—	—	—
Iowa	7/16-7/22	Dodgeville	—	—	—	—	—	—	—
Iowa	7/16-7/22	Mineral Point	145	19	6	8	—	0	0
Jackson	7/16-7/22	Hixton	21	4	0	2	0	0	*1
Kenosha	7/16-7/22	Burlington	225	5	5	1	—	*3	0
Marinette	7/16-7/22	Niagara	608	3	7	6	—		
Marquette	7/11-7/18	Montello	61	10	2	0	—	0	0
Ozaukee	7/15-7/21	Mequon	50	27	2	4	—	**10 * 3	
Pierce	7/16-7/22	Beldenville	98	35	12	0	1	*1	0
Pierce	7/15-7/22	Spring Valley	68	43	0	0	0	*1	0
Racine	7/16-7/22	Raymond	752	67	3	9	—	0	0
Racine	7/16-7/22	Rochester	—	—	7	0	—	*10	*3
Richland	7/13-7/19	Hillpoint	200	6	1	1	0	0	0
Sheboygan	7/16-7/22	Plymouth	76	37	0	0	—	**52	* 2
Walworth	7/16-7/22	East Troy	20		0	1	—	0	0
Walworth	7/16-7/22	Elkhorn	40	5	1	10	—	0	0
Waukesha	7/16-7/22	New Berlin	206	2	1	0	—	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 AM trap; **Baited AM trap; [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	7/16-7/22	Chipp Falls	20	0	0	0	2	0	1	3	0	0
Columbia	7/16-7/21	Arlington	0	15	2	0	0	0	3	43	0	0
Grant	7/16-7/22	Lancaster	7	0	0	0	0	0	4	5	0	0
Manitowoc	7/16-7/22	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	7/16-7/22	Wausau	7	14	6	2	7	4	5	5	7	3
Monroe	7/16-7/22	Sparta	31	3	0	0	0	4	0	178	0	0
Rock	7/16-7/22	Janesville	3	52	4	0	0	0	7	1	2	0
Walworth	7/16-7/22	East Troy	0	0	1	0	0	0	0	37	0	0
Wood	7/15-7/22	Marshfield	11	76	11	0	3	1	26	59	27	8
Vernon	7/16-7/22	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.