Volume 53 No. 13 July 18, 2008

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

Very warm and humid conditions characterized the past week, accelerating the development of corn in particular. Despite severe thunderstorms and locally heavy rains, the weather during the month of July has been favorable for the growth of field crops, and this is reflected in southern corn fields where growth is presently at stages V12-VT. Such conditions also have had a pronounced effect upon insects by increasing the rate of reproduction and development. Populations of many common insect pests, including a variety of grasshopper species, seem to have grown exponentially. Some of the warmest evening temperatures of the growing season stimulated the activity of night-flying moths, such as the true armyworm and western bean cutworm.

LOOKING AHEAD

GRASSHOPPERS: Nymphs have become increasingly abundant in alfalfa and other field crops. Several Columbia County alfalfa fields ranging from 14-20 inches tall contained as many as 5 per sweep along the field margins, as compared to fewer than 1 per sweep last week. Severe damage has not been noticed thus far, but the grasshoppers are expected to migrate to corn, soybean and other crops as the alfalfa is cut. Nymphs range in development from 1st-3rd instar in the south.

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

WESTERN CORN ROOTWORM: Emergence of the western corn rootworm beetle began in Columbia, Dane and Rock counties by July 14. Counts of both the western and northern corn rootworm species are expected to increase gradually over the next 2-3 weeks and peak by early August.

TRUE ARMYWORM: Threatening numbers of ½ - ¾ inch larvae were reported in an oat field near Casco in Kewaunee County on July 10, indicating the need for growers to check lodged grains, grassy corn and other susceptible crops now. There is a distinct possibility for outbreaks to develop and localized areas may require rescue treatments.

EUROPEAN CORN BORER: Degree day accumulations are appropriate for pupation to occur near Beloit in Rock County, although the dominant stages present this week were intermediate 3rd and 4th instar larvae. Moths of the second flight should begin to appear at advanced black

light trap locations where 1,400 degree days (base 50°F) are surpassed in the week ahead.

FORAGES

POTATO LEAFHOPPER: Low numbers of adults and nymphs were collected in nearly all of the alfalfa fields surveyed this week, which is unusual for mid-July. It is not evident if their scarcity is the result of normal population dynamics, recent severe weather events, or the widespread application of insecticides to alfalfa fields. In the south central, southwest and east central areas, the absence of leafhoppers from most fields was attributed to the latter variable. Widespread chemical treatments of alfalfa, many of which appear to have been applied preventatively (and some unnecessarily), have made it difficult to obtain accurate estimates of regional leafhopper populations.

Average counts for the period of July 14-17 were 0.7 per sweep in the southwest counties, 1.4 per sweep in the south central counties, and 0.3 per sweep in the west central counties, but these may be artificially low. Populations varied considerably by stand and alfalfa height, with the tallest growth containing the highest numbers of adults and nymphs (<3.2 per sweep). Treatment decisions should be made on a field by field basis, only after fields have been sampled to determine if the economic threshold has been reached.

Potato leafhopper adult *Krista Hamilton DATCP*

PEA APHID: Very little change has been noted in the abundance of this species, although it would appear that populations in alfalfa are somewhat higher in the west central and northwest areas of the state. Numbers averaged about 3 per sweep in 40 fields surveyed this week. High counts of 5-6 per sweep were found in Chippewa, Dunn and St. Croix counties.

PLANT BUG: Adults of the tarnished plant bug are noticeable but not numerous in most alfalfa fields. On the basis of sweep net collections, nymphs comprise less than 10% of the population. The alfalfa plant bug, which was more common in the east central counties, was collected in relatively few fields. Mixed counts of both species were below 1 per sweep in all fields sampled.

ARMYWORM: An increase in armyworms in alfalfa was observed during the past week in the south central counties. The highest counts of 1-3 per 10 sweeps were found in the Columbus and Randolph areas of Columbia County. Similar numbers were collected from alfalfa fields swept in the east central area. It is probable that armyworm larvae will migrate to other hosts when the alfalfa is harvested.

DEGREE DAYS MARCH 1 - JULY 17

LOCATION	50°F	2007	NORM	48°F	40°F
Dubuque, IA	1370	1602	—	1428	2293
Lone Rock	1243	1535	—	1305	2107
Beloit	1379	1571	—	1416	2295
Madison	1231	1488	1436	1313	2094
Sullivan	1307	1428	1453	1351	2192
Juneau	1247	1420	—	1321	2106
Waukesha	1216	1392	—	1291	2075
Hartford	1190	1408	—	1275	2041
Racine	1151	1369	—	1222	2005
Milwaukee	1129	1365	1263	1199	1976
Appleton	1151	1374	1304	1223	1973
Green Bay	1072	1264	1255	1148	1890
Big Flats	1138	1403	—	1188	1936
Hancock	1151	1383	1423	1206	1953
Port Edwards	1094	1378	1346	1149	1880
La Crosse	1241	1650	1555	1293	2093
Eau Claire	1117	1493	1395	1172	1924
Cumberland	964	1354	1325	1013	1717
Bayfield	756	1019	987	790	1439
Wausau	989	1273	1268	1041	1739
Medford	938	1231	1141	989	1679
Crivitz	986	1212	—	1055	1770
Crandon	891	1142	1042	925	1597

Method: ModifiedB50; Sine48; ModifiedB40 as of March 1, 2008. NORMALS based on 30-year average daily temps, 1971-2001.

CORN

EUROPEAN CORN BORER: Larval infestation rates remain about the same as reported in previous weeks, with the typical population affecting fewer than 11% of the plants and occasional fields showing 19-20% whorl feeding. Larvae ranged in development from recently hatched 1st instar to 4th instar in the areas surveyed this week, indicating that moth flight and oviposition occurred over an extended period. The most prevalent stage was the 3rd instar.

European corn borer leaf feeding *Krista Hamilton DATCP*

WESTERN BEAN CUTWORM: The annual flight of western bean cutworm moths is underway in the southern half of the state. Counts ranging from 1-16 moths at pheromone trap locations and a high black light trap count of 31 moths at Sparta in Monroe County probably represent 25% emergence, an event projected to occur following the accumulation of 1,329 degree days (base 50°F). Scouting efforts should be initiated as soon as the first moths are registered.

CORN EARWORM: Corn producers should continue to check fields regularly for this pest. Light to moderate amounts of damage were observed on a maximum of 19% of the plants in Columbia and Dodge counties, and 13% of the plants in Brown and Fond du Lac counties from July 15-16.

STALK BORER: Damage to plants in the marginal rows has become more conspicuous in the south central counties as larvae approach maturity. Generally infestations are light, but some fields near Randolph in Columbia County were noted to have 50% of the edge row plants infested with late instar larvae ranging from 1¼ -1¾ inches long. Spot treatments are no longer effective now that the larvae have bored into the stalks and unemerged tassels.

Stalk borer larva July 14, 2008 *Krista Hamilton DATCP*

SOYBEANS

SOYBEAN APHID: Surveys of V5-R2 soybean fields revealed low population densities relative to the economic threshold of 250 per plant on 80% of the plants. Colonies of aphids continue to be noticeably large on some plants and absent on others, as has been the pattern since the first aphids were detected on June 18. Of the 49 soybean fields sampled this week, aphids were found in 34 fields, with the highest populations occurring in Pepin, Pierce and St. Croix counties. In Kewaunee County the first “white dwarfs” were observed. Densities per 20 plants examined ranged from 0.05-4.9 aphids on 5-40% of the plants in the southwest district, 0.05-2.5 aphids on 5-70% of the plants in the south central district, 0.4-32.3 aphids on 40-100% of the plants in the west central districts, 0.8-7.7 aphids on 25-85% of the plants in the east central district, and 0.08-3.2 aphids on 10-45% of the plants in the northwest district. The highest single plant count this week was 180 aphids in St. Croix County. Surveillance of fields should be intensified in all areas of the state as soybeans approach the R2-R4 growth stages, particularly in the west central counties where sizeable aphid colonies were present on individual plants in a few fields.

BINODOYXS COMMUNIS: Adults and mummies of the parasitic wasp *Binodoxys communis* were released by University of Wisconsin-Madison entomologists at 4 field

locations in Dane, Dodge and Winnebago counties, for the purpose of establishing a biological agent to control soybean aphids. On July 2, releases of 1,000 individuals per field were conducted in 2 separate fields at the West Madison Agricultural Research Station in Dane County. On July 14, releases of 500 individuals per field were conducted in 2 separate fields in Dodge and Winnebago counties. *Binodoyxs communis* effectively controls soybean aphid colonies in regions of Asia where both species are endemic. Four to 6 additional releases are planned for this summer, depending on climatic conditions.

SMALL GRAINS

ARMYWORM: A heavy concentration of 15-20 armyworms per square foot was reported in a Kewaunee County oat field on July 10. Larvae ranging in size from ½- ¾ inch had moved from foxtail plants growing beneath the canopy onto the oats where they were "clipping heads at an alarming rate". Several other oat fields were checked in the east central area and only trace numbers were detected. Populations in corn were also below economically significant levels. However, because of the high proportion of small larvae observed, growers are advised to watch susceptible crop acreage.

FRUITS

LIGHT BROWN APPLE MOTH: Suspect moths captured in traps baited with light brown apple moth (LBAM) lure in the past several weeks were identified as native moths in the genus *Sparganothis* and not the target species.

Sparganothis sp. captured in LBAM trap *Krista Hamilton DATCP*

CODLING MOTH: Adults of the second flight are appearing in traps. John Aue of Threshold IPM Services advises growers to closely monitor the summer flight of moths and maintain a rigid spray schedule to control second generation of larvae. Consistent control this month will prevent problems from developing in late August or early September. Economic numbers of moths (>5 moths per trap per week) were registered at 12 of 30 orchards during the July 11-17 reporting period.

Codling moth *ukmoths.org.uk*

APPLE MAGGOT: Orchardists from Burlington to Bayfield reported economically significant captures of 1-7 apple maggot flies per trap in the past week. Sprays directed against the female flies should be applied at 7-10 day intervals when the economic threshold of 1 fly per UNBAITED trap per week or 5 flies per BAITED trap per week is exceeded.

VEGETABLES

CABBAGE LOOPER: Very few cabbage looper moths were reported from July 10-17 and a major influx of is not likely to occur in the week ahead, according to the University of Illinois Insect Migration Forecast (IMRF) at http://www.agweather.niu.edu/IMRFForecast.html. Counts in the past week were: Bourbonnais, IL (5); Chippewa Falls (1).

WEEDS

WEED SURVEY IN SOYBEANS: The survey of common weeds in soybeans is nearly complete, with only 5 of 30 fields (17%) left to be treated as of July 14. The few

remaining fields in Columbia, Dane, Fond du Lac, Jefferson and Washington counties all contained an abundance of weeds at heights and densities that may significantly reduce yields. Of the grasses observed, average heights ranged from 7-20 inches and densities of greater than 500 plants per m^2 were noted in some of the fields. Common lambsquarters, one of the most prevalent of the weeds being assessed as part of the survey, was present in all remaining fields and ranged 4-19 inches tall (average height of 12 inches). Velvetleaf plants were found to be 4-18 inches tall and at densities of 6-50 per m^2.

HEDGE BINDWEED: This aggressive climbing weed was wrapped around approximately 4% of the corn plants in a northeastern Columbia County corn field this week. In addition to competing with field crops for nutrients, sunlight and moisture, hedge bindweed may become entangled in equipment and cause problems during harvest operations. Control is difficult to achieve because it spreads both by seed and rhizomes. Precisely-timed systemic herbicide applications, repeated tillage, and rotation into winter wheat and perennial forages can be implemented to decrease the size of populations, but the process generally requires several years of integrated management before control is realized.

Hedge bindweed *Krista Hamilton DATCP*

GIANT RAGWEED: Those plants that evaded weed management programs last month have become increasingly apparent in corn and wheat fields, towering above crops in the south central counties. Control is largely unfeasible at this point in the growing season due to the size and growth stage of crops as well as decreased effectiveness of herbicide applications against tall giant ragweed plants. Although labor intensive, manually removing plants is one control option. If hand pulling or removing seeds is impractical, it is advisable to allow mature giant ragweed seeds to sit on the soil surface after harvest and through the winter. The large seeds are attractive to seed-feeding insects and rodents.

NURSERY & LANDSCAPE

COTTONY MAPLE SCALE: The white cottony egg masses produced by this cyclical pest of deciduous trees and shrubs were noted in moderate amounts on 'Northwoods' red maples in St. Croix County and in trace amounts on honeylocusts in Walworth County. By 1,500 degree days (base 50°F) the mobile crawlers are expected to hatch, but this event is quite variable depending upon the host and the location of the host. Chemical treatments directed against the crawler stage should be considered only after 2 consecutive years of heavy infestation. Light infestations can be pruned out and destroyed.

Cottony maple scale on honeylocust *Liz Meils DATCP*

CEDAR-APPLE RUST: Inspections of nurseries in Columbia, Pierce, Lincoln and Clark counties found cedar-apple rust on apple, cockspur hawthorn, ornamental crabapple and 'Westland Standard' apple. This fungus alternates between eastern red cedar and mostly apple and crabapple, occasionally appearing on hawthorn. A series of fungicides treatments applied to infected rosaceous plants beginning when flower buds first show color will reduce its occurrence.

SPRUCE GALL MIDGE: Black Hills spruce trees in a Sawyer County nursery were infested with the spruce gall midge, an insect that is easily controlled by pruning

out the galls early in May, prior to adult emergence. Treatment is usually unnecessary as there is a native parasitic wasp that is effective in controlling large populations.

Cedar apple rust on hawthorn Liz Meils DATCP

AMERICAN PAINTED LADY: Larvae of the American painted lady butterfly were observed on carnation in Columbia County. Large populations develop in some years, but treatment is strongly discouraged since the mortality rates generally are high and the solitary caterpillars, which construct a messy silken web between the leaves, seldom cause significant levels of defoliation.

FOREST

GYPSY MOTH: The adult flight period is well underway in portions of southern Wisconsin. Moths were reported near Portage in Columbia County on July 11 and egg laying was observed in the Madison area this week. Pheromone traps established as part of the DATCP gypsy moth trapping program have registered low counts of male moths in Adams, Dane, Lafayette, Marathon and Rock counties. Due to the extended egg hatch period this year, 5th and 6th instar larvae are still present in the southeast, but most have started to pupate.

GYPSY MOTH SPRAY PROGRAM: Pheromone flake treatments were applied to 22,000 acres in Taylor County and approximately 6,700 acres in Price County, principally in the Chequamegon-Nicolet National Forest, on July 16. Final flake treatments are scheduled for 3 sites totaling 6,090 acres in Ashland and Bayfield counties on July 17, one of which is located on Madeline Island. Once the aerial treatments in Ashland and Bayfield counties are concluded, gypsy moth spraying will be finished for the year.

GYPSY MOTH TRAPPING PROGRAM: Seasonal trappers have placed a total of 30,057 pheromone traps since mid-May, or 94% of the expected total. Typically trappers set 90-95% of the projected total each year. Trap checking is scheduled to begin on July 21 in the counties south of Highway 10 and will extend over a 3-week period. In the counties north of Highway 10, trappers currently are performing spot checks to determine when the moth flight begins.

TRAPPING NETWORKS

BLACK LIGHT TRAPS: Moderate numbers of true armyworms were registered at Janesville for the third successive week. The cumulative count for the July 9-16 reporting period was 43 moths, which compares to 68 moths from the previous week and 78 moths during the last week of June. By contrast, all other trap locations reported counts below 8 moths. The first flight of European corn borers continued near Marshfield in Wood County with the capture of 34 moths, while flight activity appears to have subsided over much of the state. Adults of the second flight may begin to appear in black light traps at advanced southern locations by next week.

The first significant captures of western bean cutworm adults occurred at Sparta and Mazomanie, where totals of 31 and 22 moths were registered, respectively. Last year the peak flight period occurred from July12-19 in the southern and west central districts, and from July 19-26 in the central counties. With the growing season still delayed by about a week, peak flights are projected to occur in most areas during the week of July 24-31, and a week or two later in the central and northern districts.

CORN EARWORM TRAPS: Low counts ranging from 0-7 moths were documented at 8 pheromone trap locations in the past week. Numbers were as follows: Cashton (3); Chippewa Falls (2); Coon Valley (2); Janesville (0) Lancaster (0); Manitowoc (4); Sparta (2); Tomah A (7); Tomah B (2). Large flights of migrant moths are not expected to appear in traps until mid- to late August, although resident moths from the June flight should begin to emerge earlier. Plants with green silks during the adult flight and egg deposition period are at an elevated risk for infestation.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 11 - 17

COUNTY	DATE	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	AM RED[5]	AM YELLOW[6]
Bayfield	7/11-7/17	Apple Hill	170.5	—	2	4	1	0
Bayfield	7/11-7/17	Bayfield Apple		—	13.8 (56 max)			
Bayfield	7/11-7/16	Blue Vista	513	—	13	5	2	0
Bayfield	7/11-7/17	Erickson's		—	5.2		1	0
Bayfield	7/11-7/17	Hillcrest		—	5.2	3	0	0
Bayfield	7/11-7/17	Lobermeier	93	0	2	83	0	0
Bayfield	7/08-7/15	Orienta	17	0	0	0	0	0
Brown	7/11-7/17	Oneida	175	105	19	11	0	0
Crawford	7/11-7/17	Gays Mills	603	145	49	1	0	0
Dane	7/10-7/17	Deerfield	465	97	3	0	0	0
Dane	7/11-7/17	Stoughton	54	39	2	19	1	2
Dane	7/11-7/17	West Madison	56	116	6	0		
Dodge	7/11-7/17	Brownsville	22	8	0.5	4	0	0
Fond du Lac	7/11-7/17	Campbellsport 1	200	78	0	92	0	0
Fond du Lac	7/11-7/17	Campbellsport 2	250	32	0	37	0	0
Fond du Lac	7/11-7/17	Malone	970	60	2	0	0	0
Fond du Lac	7/10-7/17	Rosendale	84	13	18	2	0	0
Green	7/11-7/17	Brodhead	21	45	4	0	0	0
Iowa	7/11-7/17	Dodgeville	800	146	89	9	3	3
Iowa	7/11-7/17	Mineral Point	82	167	0	1	0	0
Jackson	7/11-7/17	Hixton	360	28	1	11	0	1
Kenosha	7/11-7/17	Burlington	175	6	0.16	0.3	1 per 6	0
Marinette	7/11-7/17	Niagara	1290	0	15	20	0	0
Marquette	7/11-7/17	Montello	48	10	2	0	0	0
Ozaukee	7/10-7/17	Mequon	55	7	5.8	0	*0.1 **2.6	0
Pierce	7/11-7/17	Beldenville	550	5	1	4	0	0
Pierce	7/11-7/17	Spring Valley	630	57	3	12	0.5	0
Racine	7/11-7/17	Rochester	580	105	1.14	5	*0.7	0.6
Richland	7/10-7/16	Hill Point	380	52	2	37	0	1
Sheboygan	7/11-7/17	Plymouth	450	120	7	2	**7	0
Walworth	7/11-7/17	East Troy	45	3	3	4	0	0
Walworth	7/11-7/17	Elkhorn	35	6	3	10	2	2

[1]Spotted tentiform leafminer; [2]Redbanded leafroller; [3]Codling moth; [4]Obliquebanded leafroller; [5]Apple maggot red ball; *Unbaited red ball; **Baited red ball; [6]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	1	0	0	0	0	0	0	0	0	0
Columbia	7/11-7/17	Arlington	0	4	0	0	0	0	12	4	0	0
Dane	7/10-7/17	Mazomanie	0	3	0	0	0	0	0	22	0	0
Grant	7/10-7/16	Lancaster	0	6	0	1	0	0	9	1	7	0
Manitowoc	7/10-7/17	Manitowoc	0	8	0	3	0	0	2	0	0	0
Marathon	7/10-7/17	Wausau	5	4	2	10	0	0	3	0	2	0
Monroe	7/10-7/17	Sparta	5	3	0	1	0	0	4	31	2	0
Rock	7/09-7/16	Janesville	0	43	0	0	0	0	7	0	1	0
Walworth	7/11-7/17	East Troy	0	0	3	0	2	0	0	3	8	4
Wood	7/11-7/17	Marshfield	34	6	0	2	0	1	9	0	8	4

[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.