Volume 54 No. 10 June 26, 2009

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

High temperatures and humidity pushed heat index values to 95-100 across much of Wisconsin during the week, prompting the National Weather Service to issue a heat advisory for Tuesday and Wednesday. Localized rain in southern and eastern counties benefitted field crops, while drought remains a concern for farmers in the northwest growing areas. The hot, humid weather was especially timely for soybeans and corn, most of which are rapidly advancing through the vegetative phases. Corn in particular has shown remarkable growth and many fields are presently at the V8-V9 stages. Soybean emergence is 90% complete, with the status of the crop reported as fair to excellent. Conditions have been ideal for the development of many pest insects, the most noteworthy being the European corn borer and potato leafhopper.

LOOKING AHEAD

TRUE ARMYWORM: Moths have been particularly active in grasses in the last three weeks, and some black light trap reports indicate that adult populations are very high. A definite potential exists for larval outbreaks in grassy corn fields, lodged small grains and grassy pea fields, especially in the Janesville area of Rock County. Many corn fields in which post-emergence herbicide applications were delayed or improperly timed have developed a surplus of weeds favorable for infestations of this pest. Growers should be aware that the late application of herbicides in such fields may force large numbers of armyworm larvae from the grasses onto corn plants.

EUROPEAN CORN BORER: The treatment period for first generation larvae has opened in advanced southern and west-central areas of the state, including Beloit, Juneau, La Crosse, Lone Rock, Madison and Sullivan. Corn fields should be inspected closely in the next 1-2 weeks to appraise the percentage of whorls infested with small larvae. Conventional or organic insecticides must be applied before larvae bore into the stalks and midribs.

SOYBEAN APHID: Economic populations of 250 or more aphids per plant (on 80% of plants per field) may develop at scattered locations in the week ahead. Surveys in previous years have detected the first significant densities of the season by mid-July. Close observation of soybeans should begin at this time.

ROSE CHAFER: Soybean fields on sandy soils in Adams, Columbia, Juneau and Monroe counties are showing 5-10% of plants with minor defoliation caused by this insect. While the damage currently is limited to a few holes in the leaves, more extensive feeding injury may appear in the next week as additional beetles emerge.

FORAGES

ALFALFA WEEVIL: Larval populations in the southern half of the state have been reduced to less than 0.2 per sweep due to pupation. The threat from this early-season pest has largely subsided, although isolated problems may persist in some northern alfalfa fields. Continued scouting is advised for this area.

POTATO LEAFHOPPER: Nymphs are evident in virtually all second growth alfalfa. Surveys indicate that counts have increased over last week, but remain below economic levels in the majority of fields. Numbers in Dane, Green, Iowa, Lafayette, Rock and Sauk counties varied from 0.1-1.8 per sweep, while in Columbia County, high populations of 2.1-2.7 per sweep were noted in 3 of 6 fields checked. If the hot, dry weather continues, the V-shaped yellowing of leaf tips referred to as "hopperburn" may begin to appear in localized fields. Leafhopper damage should not be confused with yellowing due to nutrient deficiency, drought stress or summer black stem disease. Treatment is justifiable at 2.0 leafhoppers per sweep in alfalfa taller than 12 inches.

Potato leafhopper nymph *Krista Hamilton DATCP*

PEA APHID: This aphid continues to be the most abundant insect in Wisconsin alfalfa fields. Counts in the south-central and southwestern counties ranged from 2-65 per sweep, with an average of 13 per sweep. The highest population was encountered near Springfield Corners in western Dane County.

MEADOW SPITTLEBUG: Adults were found to be relatively common in the south-central and southwest areas, but could not be collected in any significant quantity in the counties to the north. Mixed counts of adults and immatures varied from 0.4-1.2 per sweep. Final instar nymphs constituted 50% of the population in several fields.

COWPEA APHID: Low populations of this shiny black aphid were detected near Lodi in Columbia County at the rate of 1-4 per 10 sweeps. None could be found in alfalfa surveyed in the adjacent counties. The cowpea aphid has not been observed or reported in the state since 2003.

DEGREE DAYS JANUARY 1 - JUNE 25

LOCATION	50°F	2008	NORM	48°F	40°F
Dubuque, IA	921	897	—	946	1681
Lone Rock	887	814	—	886	1607
Beloit	924	922	—	938	1685
Madison	863	801	975	876	1584
Sullivan	897	868	976	896	1638
Juneau	853	819	—	862	1564
Waukesha	855	785	—	878	1578
Hartford	823	762	—	845	1527
Racine	767	712	—	801	1458
Milwaukee	765	697	804	785	1451
Appleton	730	721	857	744	1375
Green Bay	647	658	823	667	1264
Big Flats	796	740	—	802	1452
Hancock	793	745	976	775	1436
Port Edwards	759	697	912	767	1397
La Crosse	866	798	1056	850	1584
Eau Claire	819	703	939	814	1502
Cumberland	736	594	889	696	1331
Bayfield	506	437	636	485	978
Wausau	658	617	840	656	1246
Medford	685	578	749	679	1280
Crivitz	600	591	—	587	1174
Crandon	579	543	700	549	1101

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

CORN

EUROPEAN CORN BORER: Surveys conducted in Dane, Columbia, Green, Iowa, Lafayette and Sauk counties revealed extremely light infestations, with 93% of fields examined having no detectable population. Practically no egg masses have been found in corn in the previous 2-3

weeks and very few plants are showing leaf feeding by early instar larvae. The largest infestation observed thus far was in the Arena area of Iowa County where 12% of the plants were affected, but even such a population is inconsequential. The treatment window for first generation larvae has opened in the southern and advanced west-central areas where 800 degree days (base 50°F) were surpassed this week.

CORN ROOTWORM: The emergence of this insect has begun in the southern counties and larvae presently are feeding on corn roots. Should high winds accompany thunderstorms or periods of heavy rains in the next several weeks, farmers will learn how effective their rootworm management programs have been. The first adults can be expected by early to mid-July.

STALK BORER: Damage to corn has been infrequent this season and primarily limited to the edge rows, with no more than 16% of plants showing leaf feeding. It appears unlikely that fields will develop populations high enough to warrant spot treatment be-fore the V7 stage or 1,700 degree days (base 41°F) have been reached. Larvae in Columbia, Dane and Iowa counties measured ¾ -1¼ inches long on June 23.

Stalk borer larva and leaf damage *Krista Hamilton DATCP*

SOYBEANS

SOYBEAN APHID: Examination of 61 soybean fields in the V1-V5 growth stages revealed an average of 10% incidence (i.e. the number of plants with aphids) and 11 aphids per infested plant in the past week. Surveys in Columbia, Dane, Green and Rock counties found low densities of 1-18 aphids per infested plant on 5-60% of plants in the fields checked. In Grant, Iowa, Lafayette and Sauk counties, densities varied from 3-163 aphids per infested plant on 25-70% of plants. An exceptional field near Spring Green in Sauk County had colonies of 3-900 aphids per infested plant on 70% of plants, and parasitism by the braconid wasp *Lysephlebus testaceipes* was noted. Moderately infested soybean fields such as this one may develop economic populations within the next two weeks. In the central counties of Adams, Fond du Lac and Marquette, densities varied from 2-11 aphids per infested plant on 5-38% of plants. No aphids were detected in 61% of the fields appraised in the southern half of the state.

Soybean aphids Sauk Co. June 24, 2009 *Krista Hamilton DATCP*

FRUITS

APPLE MAGGOT: The first emergence of flies may occur by June 27 near Madison, June 30 near Racine, July 1 near Wausau, and July 5 near Crivitz, which is sooner than last predicted. This annual event begins at approximately 900 degree days (base 50°F).

CODLING MOTH: Large flights of moths continue to be registered at apple orchards statewide. Activity has escalated sharply in the last two weeks near Bayfield, with one orchard reporting counts as high as 26-36 moths per trap. The peak of the first flight can be expected in the far northern areas by early July. Egg hatch is 50% complete over the southern two thirds of the state.

SPOTTED TENTIFORM LEAFMINER: The second of three flights this season is underway in southern Wisconsin where pheromone trap counts ranged from 10-1,300 moths per trap from June 19-25. Peak flight activity can

be expected at 1,150 degree days (base 50°F), or approximately July 3 near Beloit, July 6 near Madison, and July 10 near Racine. The economic threshold increases from 0.1 to 1.0 mine per leaf for the second generation of sapfeeder larvae.

Spotted tentiform leafminer *Charles Baker ukmoths.org.uk*

POTATO LEAFHOPPER: Late harvesting of first growth alfalfa has forced large numbers of leafhoppers to search for new hosts, including apples. Reports of leaf curling attributed to this insect have been received from southern and central Wisconsin orchards. Recent hot, dry conditions have promoted development and potentially the rapid succession of generations. Controls may be applied to nonbearing and mature trees when high populations of adults and nymphs are observed.

CRANBERRY REPORT: The cranberry crop has responded to the recent heat with excellent growth. Most central bogs are in the hook and blossom stages, and some beds are expected to reach full bloom before the end of the month. Reports indicate that beds are exhibiting uneven growth due to abnormally cool spring conditions and rapid temperature fluctuations. The extreme heat of the past week temporarily slowed honeybee activity and inhibited their movement out into the beds. The combination of slightly cooler temperatures predicted for the week ahead and the forthcoming full bloom period should favor pollination.

VEGETABLES

CORN EARWORM: No migrant moths were registered at the Janesville or Lancaster trapping locations during the June 19-25 reporting period. Corn earworm activity is infrequent in Wisconsin in June and July, although an unusually early and heavy flight of moths resulting in injury to corn in the vegetative stages was documented at this time last season. The main flight normally does not occur until August.

STRIPED CUCUMBER BEETLE: Low numbers of this beetle have been reported for the second week near Malone in Fond du Lac County. Observations of extensive feeding injury to plants in some areas of the state suggest that populations are higher than the yellow sticky traps indicate. The East Troy, Bourbonnais and Poplar Grove, IL trap sites all reported counts of zero beetles again this week.

FLEA BEETLES: Reports continue to be received from around the state of damage to cole crops as well as other garden vegetables. The initial peak in activity seems to be nearing an end.

WEEDS

THISTLES: Early blooming musk thistle, plumeless thistle and Canada thistle plants are evident in pastures and along roadsides across southern Wisconsin. Thistles are particularly aggressive in pasture systems and occasionally invade row crops. Management programs must be implemented before plants set seed to achieve satisfactory control.

Plumeless thistle *Clarissa Hammond DATCP*

CORN & SOYBEAN WEED SURVEYS: Approximately 85% of corn fields and 29% of soybean fields included in the 2009 weed survey have been treated with post-emergence herbicides as of June 25, precluding any

further survey work at those sites. Canopy closure has occurred in the most advanced corn fields, and this should reduce competition from shorter weeds growing beneath the canopy. In soybeans, weed pressure has intensified to the point where yield losses can be expected if herbicides are not applied soon. The following paragraphs summarize the results of weed surveys conducted from June 18-25:

COMMON LAMBSQUARTERS: This summer annual, perhaps the most widespread weed species encountered in field crops this season, currently averages 5 inches tall in many soybean fields. Individual plants at some locations are significantly taller and range from 10-14 inches. The average density in untreated fields in Dane, Jefferson, Outagamie and Winnebago counties is 6-10 plants per sq. meter, which is enough to ensure some degree of yield loss.

PIGWEED: Visual surveys of soybeans in the south-central and east-central districts revealed low to moderate densities of redroot pigweed and Powell amaranth in 11 of 23 fields. A single pigweed plant may produce as many as 13,000-35,000 small seeds, making it critical to reduce populations prior to seed set and before plants grow unmanageable.

Pigweed *Clarissa Hammond DATCP*

GRASSES: Grassy corn and soybean fields have become increasingly common in the southern and central areas of the state due to favorable ecological conditions this spring. Surveys found average densities of 2-50 plants per sq. meter in soybeans, while 30% of sites examined from June 18-23 contained more than 50 plants per sq. meter. Such field conditions increase the likelihood of armyworm outbreaks.

NURSERY & LANDSCAPE

IMPORTED WILLOW LEAF BEETLE: Inspectors found both adults and second generation larvae on the foliage of willows in a Dane County nursery. The larvae feed gregariously in rows and skeletonize entire leaves, but rarely cause permanent damage to willows. Control treatments of *Bacillus thuringiensis* var. *tenebrionis*, horticultural oils or insecticidal soaps can be directed against the early larval stages in high population situations.

Imported willow leaf beetles *Liz Meils DATCP*

DOGWOOD SPITTLEBUG: Spittle masses and nymphs are numerous on red osier and pagoda dogwoods in eastern and northern Dane County. Nymphs were about 3 mm in length as of June 25.

COOLEY SPRUCE GALL ADELGID: Douglas firs in Jefferson County are reported to be infested with this insect. The Cooley spruce gall adelgid has a complex, two-year lifecycle in which it transitions into five different morphological forms and moves between firs and spruce. The spiny, pine cone-shaped galls typical of infestation are visible from early to late summer in Wisconsin. Horticultural oil sprays should be applied in the spring before new growth starts or in the fall when overwintering stages of the insect have returned to the tree. Treatments are ineffective once the galls have formed. Adequate spacing of Douglas firs and Colorado blue spruce may help to limit movement between the two conifer hosts.

VIBURNUM SHOOT SAWFLY: Larvae were observed boring into the new terminal growth of nannyberry viburnums at nurseries in Dane and Jefferson counties.

The affected plants exhibited wilted lower shoots and other symptoms of decline. Infested tips and shoots should be pruned out and destroyed while the larvae are present.

Wilted shoot on nannberry viburnum *Liz Meils DATCP*

FOREST

EASTERN TENT CATERPILLAR: The emergence of adults is well underway in portions of southern and central Wisconsin where 750 degree days were surpassed in the last week. Numerous moths are appearing in black light traps and at lights. Egg deposition on the small branches of wild cherry, apple and other hosts can be expected in the next several weeks.

Eastern tent caterpillar moth *www.fcps.edu*

GYPSY MOTH SPRAY PROGRAM: Mating disruption treatments conducted by the DATCP Slow the Spread Program are scheduled to begin on Monday, June 29. The first treatments are planned for La Crosse, Trempealeau and Vernon counties. Other counties that will receive treatment this season include Bayfield, Chippewa, Clark, Dunn, Eau Claire, Rusk and Washburn.

GYPSY MOTH TRAPPING PROGRAM: Gypsy moth trappers have set 23,798 traps as of June 24, which is 82% of the expected total for this year. All traps are scheduled to be deployed by July 3. Male moth flight has not been observed yet.

EMERALD ASH BORER: DATCP personnel trapped 1 emerald ash borer adult in the Newburg area of Washington County where the beetle was first detected in 2008. The trap was checked several times since May 7 with negative results, but on June 17 a single specimen was reported. Eight hundred and twenty-seven purple panel traps have been set at a density of 9 traps per 1.5 sq. miles around Newburg to delimit the extent of the infested area and to establish the peak period of adult emergence. As of June 25, approximately 6,887 panel traps have been placed in all 72 counties of the state, while the remaining 10 % are being set at this time.

TRAPPING NETWORKS

BLACK LIGHT TRAPS: High temperatures favored the development of European corn borers in the last week, but black light trap counts remain much the same as reported previously. Reflective of the low numbers this season, early instar larvae are very scarce in southern and central corn fields and virtually no evidence of their leaf feeding has been observed thus far. The hot weather caused a heavy emergence of spotted cutworm moths at Manitowoc and Marshfield where light to moderate activity has been noted throughout June. Counts this week ranged from 0-182 moths per trap.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 19 - 25

COUNTY	DATE	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	OBLR[5]	AM RED[6]	AM YELLOW[7]
Bayfield	6/19-6/25	Keystone	0	0	0	0			
Bayfield	6/19-6/25	Bayfield Apple	12	—	36	0			
Bayfield	6/15-6/22	Orienta	11	0	0	0			
Brown	6/19-6/25	Oneida	650	0	7	18	—		
Chippewa	6/19-6/25	Chippewa Falls 1	50	0	2.3	3.3	5.5		
Chippewa	6/19-6/25	Chippewa Falls 2	11	7	15	—	—		
Dane	6/19-6/25	Deerfield	—	—	—	—			
Dane	6/19-6/25	McFarland	0	0	10	0			
Dane	6/19-6/25	Stoughton	416	57	9	5			
Dane	6/19-6/25	West Madison	172	46	3	18			
Dodge	6/19-6/25	Brownsville	312	11	4	9			
Fond du Lac	6/19-6/25	Campbellsport	100	0	0	20	0		
Fond du Lac	6/19-6/25	Malone	200	1	8	20			
Fond du Lac	6/19-6/25	Rosendale	16	21	4	3			
Grant	6/19-6/25	Sinsinawa	73	38	4	8			
Green	6/19-6/25	Brodhead	38	76	1	6	0		
Iowa	6/19-6/25	Dodgeville	—	—	—	—			
Iowa	6/19-6/25	Mineral Point	190	32	1	4			
Jackson	6/19-6/25	Hixton	22	0	2	12	0		
Kenosha	6/19-6/25	Burlington	1300	6	7	34		0 PC	
Marinette	6/19-6/25	Niagara	79	0	31	5			
Marquette	6/19-6/25	Montello	21	1	1	0		0 PC	
Ozaukee	6/18-6/25	Mequon	0	0	9	8			
Pierce	6/19-6/25	Beldenville	240	0	21	12	0		
Pierce	6/18-6/25	Spring Valley	396	2	11	28	4	0 PC	
Racine	6/19-6/25	Raymond	786	2	12	4			
Racine	6/19-6/25	Rochester	960	9	12	26		1 PC	
Richland	6/18-6/23	Hillpoint	420	0	2	4			
Sheboygan	6/19-6/25	Plymouth	425	0	33	19			
Walworth	6/19-6/25	East Troy	10	2	1	5			
Walworth	6/19-6/25	Elkhorn	12	2	0	2			
Waukesha	6/19-6/25	New Berlin	915	2	10	8			

[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	6/17-6/23	Chipp Falls	6	0	0	0	0	0	0	0	0	0
Columbia	6/19-6/24	Arlington	1	6	0	14	0	0	3	0	0	0
Dane	6/18-6/24	Mazomanie	6	19	0	9	0	0	0	0	0	0
Grant	6/19-6/24	Lancaster	—	—	—	—	—	—	—	—	—	—
Manitowoc	6/19-6/24	Manitowoc	2	8	0	27	0	1	0	0	0	0
Marathon	6/19-6/24	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	6/19-6/24	Sparta	0	0	3	0	0	0	0	0	0	0
Rock	6/19-6/24	Janesville	1	13	0	0	0	0	4	0	3	0
Walworth	6/19-6/24	East Troy	0	0	0	4	0	0	0	0	0	0
Wood	6/19-6/24	Marshfield	10	54	1	182	0	0	8	0	2	13

[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.