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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

Across the state, last week's heat was replaced by more seasonable temperatures. Highs remained mostly in the 80s and lows ranged from the mid-50s in the north to around 70 in the south. A slow-moving storm generated showers and thunderstorms from northwestern Wisconsin into the central and southern areas on Wednesday. Rainfall was heaviest in the west-central counties, where 1- to 2-inch totals were noted. The rain improved prospects for reproductive corn and soybeans, while warm temperatures favored development and activity of both resident and migratory insects, including the western bean cutworm and corn earworm, which began appearing in substantial numbers in black light and pheromone traps. Colonies of soybean aphids that were previously very low are reproducing more rapidly and Japanese beetles were noticeably abundant in field crops, apple orchards and residential areas.

LOOKING AHEAD

WESTERN BEAN CUTWORM: The annual flight has produced large numbers of moths at several black light and pheromone trap locations. High counts during the last reporting period were 149 moths at Spring Lake and 153 moths at Sparta. According to the degree day model for this insect, 75% of the adult population has emerged in the south-central and southwestern counties, 50% has emerged in the southeast and central counties, and 25% has emerged in the northern areas. Larvae resulting from the current flight are mostly in the early instars and should be detectable in emerging tassels and silks.

SOYBEAN APHID: Densities are still comparatively low. Of the 76 fields examined as part of the annual survey, only three fields, one each in Crawford, Green and Monroe counties, had average counts of 50-100 aphids per plant. Most sites had populations of less than 20 per plant. Chemical treatment has not been justified for any field sampled as of July 28, but this may change by early to mid-August. Consultant and grower examination of soybean fields should continue on a weekly basis next month.

TWO-SPOTTED SPIDER MITE: Conditions are conducive for outbreaks of this pest. Growers of apples, corn, soybeans and nursery plants are advised to monitor crops every 4-5 days for surging mite populations, particularly in the south-central and southeastern counties where soil moisture conditions are short to very short for 52-74% of crop lands. Early detection and control is critical.

EUROPEAN CORN BORER: Moths are appearing in low numbers in the Coon Valley, East Troy, Janesville and Mazomanie black light traps. The peak of summer moth activity is projected for 1,733 degree days (base 50°F),

or July 28-August 12 in the southern and central areas and August 18-31 in the northern areas. Near Chippewa Falls, Marshfield and Wausau in the north-central and northwest portions of the state, the first flight continued with low counts of 6-13 moths per trap.

European corn borer moth www.sequella.co.uk

FORAGES

POTATO LEAFHOPPER: Counts in alfalfa continue to be variable, with some fields yielding 2.1-4.3 per sweep and others only 0.3-1.5. The average in the past week was 1.7 per sweep in the west-central and southwest areas. Leaf yellowing is occurring in fields on sandy soils and high populations of 3-4 per sweep are present at some of these sites. Nymphs in all stages of development constitute 30-40% of the population, indicating that significant reproduction is occurring.

PLANT BUG: Economic populations of 5.1-6.2 per sweep were found in scattered fields sampled from July 21-27. Similar to the potato leafhopper, the ratio of plant bug nymphs to adults suggests reproduction is intense at this time.

GRASSHOPPER: Moderate to high populations exist in a few fields on sandy soils in the west-central area. Average counts in Jackson, La Crosse and Monroe counties varied from 2.1-3.4 nymphs per sweep, but exceptional fields contained as many as 9.0 per sweep.

CORN

CORN ROOTWORM: Beetles continue to emerge throughout the state. Counts in grain corn are generally less than 0.8 per plant, but are expected to increase in the next two weeks. Corn fields with fresh silks should be inspected at this time to determine if pollination is being impaired. An insecticide application is justified for infestations of five or more beetles per plant when the silks have been pruned to less than ½ inch and pollination is incomplete. Peak adult emergence remains 1-2 weeks away.

EUROPEAN CORN BORER: The second flight accelerated in the last reporting period with the capture of 2-19 moths at Coon Valley, East Troy, Janesville and Mazomanie. The appearance of summer moths signals that eggs are being deposited on corn and other hosts. At current temperatures, black light traps could register peak emergence by August 3 in the south-central and southwest districts, August 14 in the southeast and central districts, and August 31 in the northern districts. The optimal treatment period for second generation larvae extends from 1,550-2,100 degree days (base 50°F).

DEGREE DAYS JANUARY 1 - JULY 27

LOCATION	50°F	2010	NORM	48°F	40°F
Dubuque, IA	1780	1943	—	1618	2873
Lone Rock	1705	1896	—	1508	2782
Beloit	1799	2039	—	1613	2904
Madison	1648	1878	1651	1491	2697
Sullivan	1647	1929	1676	1503	2694
Juneau	1575	1846	—	1441	2585
Waukesha	1452	1752	—	1432	2436
Hartford	1441	1716	—	1428	2404
Racine	1367	1702	—	1359	2336
Milwaukee	1356	1653	1482	1355	2304
Appleton	1404	1693	1515	1374	2348
Green Bay	1304	1556	1459	1348	2221
Big Flats	1451	1718	—	1374	2418
Hancock	1464	1743	1633	1374	2435
Port Edwards	1422	1672	1552	1355	2374
La Crosse	1660	1890	1786	1501	2721
Eau Claire	1506	1722	1607	1429	2491
Cumberland	1343	1554	1526	1307	2277
Bayfield	1032	1225	1163	1047	1867
Wausau	1303	1534	1471	1284	2205
Medford	1330	1528	1327	1300	2234
Crivitz	1226	1479	—	1256	2119
Crandon	1175	1384	1200	1152	2031

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

WESTERN BEAN CUTWORM: Larvae are appearing in corn in the southern and central areas of the state. Surveys conducted in Monroe, Richland and Vernon counties found egg masses and small caterpillars on 1-4% of plants in 4 of 12 fields sampled. Moths have also become increasingly common and number as high as 153 in trap collections. To date, the Wisconsin network of 164 pheromone traps has reported a cumulative total of 1,434 moths, while black light traps have registered another 558 moths. The pheromone trap count compares to 9,225 moths at the same time last year when the flight was about 75% complete. Refer to the PESTWATCH website at http://www.pestwatch.psu.edu/sweetcorn/tool/tool.html for current moth counts at all 164 Wisconsin pheromone trap locations.

Western bean cutworm larva *Krista Hamilton DATCP*

CORN LEAF APHID: Light colonies consisting of 10-20 aphids per plant were found on corn in Jackson and Monroe counties. Colonies of 50 or more aphids per plant on 50% of the plants can interfere with pollination and may require treatment.

SOYBEANS

JAPANESE BEETLE: Defoliation has increased sharply in soybeans and other field crops. Beetles were observed in 32% of fields examined in the southern and central areas in the past week and defoliation ranged from 2-18% fieldwide. Circumstances thus far have not justified treatment, but defoliation levels are approaching the 20% economic threshold for R1-R3 soybeans.

TWO-SPOTTED SPIDER MITE: This mite commonly begins to cause yellowing of leaves in the margin rows of soybeans by early August, particularly when conditions are dry. Although yellowing symptoms have not been observed in any field examined since mid-July, growers are advised to monitor soybeans weekly for stippling associated with early mite infestation.

SMALL GRAINS

STEM RUST OF SMALL GRAINS: Sporulating uredinia of stem rust were found in an Ozaukee County barley field on July 19. The rust was identified as 98% homologous to wheat stem rust (*Puccinia graminis* f.sp. *tritici*) by DNA sequencing at the DATCP Plant Industry Laboratory and Functional Biosciences. The infected barley, an unknown cultivar, was in proximity to common barberry. Rust incidence was about 60%, with severity of less than 1%. This finding is in addition to reports from the USDA Cereal Disease Laboratory of stem rust in commercial wheat fields in northeastern Wisconsin: http://www.ars.usda.gov/Main/docs.htm?docid=9757.

FRUITS

CODLING MOTH: The second flight has begun in many Wisconsin orchards. Control materials directed against second generation larvae should be applied 250 degree days (base 50°F) after the summer biofix, once most of the egg population has hatched. Regular trap checks will be required in August to determine if the economic threshold of five moths per trap per week is exceeded. High counts for the July 21-28 reporting period were 36 moths at Beldenville in Iowa County and 22 moths at McFarland in Dane County.

OBLIQUEBANDED LEAFROLLER: Larvae are in the late instar stages in the southern and western counties. Beyond the first and second instars, this leafroller becomes increasingly difficult to control and much of its feeding damage has already occurred. Emergence of the summer brood of moths is anticipated by early August.

APPLE MAGGOT: Captures of flies on red spheres and yellow sticky traps increased slightly in the past week, with counts ranging from 1-15 per trap. One half of the apple maggot population should emerge by 1,600 heat units (base 50°F), which would place 50% emergence from July 20-August 7 in the southern half of the state and August 10-23 north of Green Bay. Oviposition is expected to increase for another 2-3 weeks.

SPOTTED TENTIFORM LEAFMINER: The third flight of moths is underway in southern orchards where 1,479-1,523 degree days (base 50°F) were surpassed by July 28. The economic threshold for the third and final generation increases to five mines per leaf.

JAPANESE BEETLE: The list of orchards and nurseries reporting Japanese beetle damage this season continues to grow. Beetles are present in extremely high numbers in Chippewa, Dane, Kenosha and Racine counties where severe damage to apples, blueberries, cherries, grapes, peaches, raspberries and strawberries has been noted. A reporter from Dane County states that populations are the highest in many years.

Japanese beetles *audreyajones flickr.com*

POTATO LEAFHOPPER: Surveys in alfalfa suggest that nymph production has intensified to the highest levels of the season. The presence of only 1-2 nymphs per leaf can cause leaf curling, yellowing and other symptoms, particularly in non-bearing orchard blocks. Orchardists should continue to inspect the undersides of leaves for nymphs of this species and the white apple leafhopper.

VEGETABLES

CABBAGE LOOPER: Counts have been very low and sporadic since the first migrants appeared in the pheromone trap at Newburg two weeks ago. The primary migration has not yet been documented at any monitoring location.

CORN EARWORM: Significant flights were registered at 3 of 16 pheromone trap sites during the last reporting period. Sweet corn producers in the south-central and central counties can expect corn earworm infestations by early to mid-August if susceptible fields are not treated in a timely manner. Control is advised for counts of 5-10 moths in three consecutive nights and should be applied every 2-5 days until silks turn brown. The threshold for tomatoes is seven moths per trap per week.

Counts from July 21-27 were as follows: Chippewa Falls 0, Coles Valley 0, Coon Valley 3, Cottage Grove North 8, Cottage Grove South 8, East Troy 1, Hancock 43, Janesville 17, Keyeser 20, Madison North 3, Manitowoc 0, Marshfield 0, Mazomanie 0, Prairie du Chien 0, Sun Prairie North 40, and Wausau 4.

IMPORTED CABBAGEWORM: Moths are common around home gardens from Dane to Marathon County, indicating the potential for large larval populations next month. Egg deposition on cole crops is likely to intensify in the week ahead. Scouting is advised through September.

BACTERIAL WILT: This insect-transmitted disease is developing on cucumbers in southern and central Wisconsin. Bacterial wilt is vectored by the striped cucumber beetle, an insect mentioned in previous bullet-in issues. Treatment is justified for infestations of 4-5 beetles per 50 plants.

Striped cucumber beetle *Mark Jankura flickr.com*

WEEDS

WILD PARSNIP: Seed maturation is progressing rapidly and mowing to reduce populations is no longer recommended. Improperly timed mowing can be a dispersal mechanism rather than a weed control tactic. Mechanical

removal of parsnip plants remains a viable control option, but materials must be bagged and disposed of in a landfill.

COMMON LAMBSQUARTERS: Reproductive soybean fields with heavy lambsquarters pressure (plants 12-14 inches tall) were noted in the central counties in the past week. Such fields could see up to a 44% reduction in yield due solely to lambsquarters competition. Weeds of the size and density observed almost always impact final yield, even though soybeans may appear vigorous. An herbicide application at this late stage will provide only variable control, at best.

NURSERY & FOREST

TAR SPOT: The pale yellow lesions appearing on Norway maple leaves in Brown, Kenosha and Ozaukee counties are early symptoms of tar spot, a cosmetic fungal leaf spot disease. Severely infected foliage will soon develop raised, black, tar-like spots and may drop prematurely. Tar spot is an aesthetic disease best controlled by clearing and destroying infected leaves in fall to prevent the spores from spreading. If treatment is warranted, three fungicide applications are necessary for control: one at bud break, one when leaves are half expanded, and one when leaves are fully expanded.

Early symptoms of tar spot on Norway maple *Liz Meils DATCP*

RHIZOSPHAERA NEEDLECAST: Severe discoloration of Colorado blue spruce trees in Brown, Dane, Price, Rock and Waushara counties has been attributed to this fungal disease, characterized by browning and early needle loss starting on the lower branches. Needles become infected in spring, turn yellow in July, and become purplish-brown by late summer and fall. Spruce trees may be treated with a fungicide in spring when the new growth reaches ½-2 inches long, and again 4-6 weeks later.

LINDEN BORER: Larvae and sawdust-like frass were observed on five-inch-diameter 'Greenspire' lindens in St. Croix County this week. This destructive wood-boring insect attacks both vigorous and stressed nursery trees, causing structural weakening that often results in broken trunks or limbs. Early symptoms are thinning of the canopy and bulges in the bark where the larva is feeding. Immediate removal and destruction of infested nursery stock is advised to prevent further spread.

SPRUCE NEEDLE RUST: Nursery inspectors noted this rust disease on 'Hoop's' blue spruce and weeping white spruce trees in Sawyer County. The symptoms are orange, powdery spores that appear on the undersides of current-year needles. Spruce needle rust has two hosts, alternating from labrador tea to spruce in spring, and from spruce to labrador tea in summer. Infected needles turn yellow and often fall off by the end of the growing season. In most instances, this rust is an aesthetic problem and no control is needed. Removal of all alternate host plants within 1,000 feet will reduce disease on spruce, but is often impractical.

EMERALD ASH BORER: A total of six infested trees have been found in the City of Kenosha this month. All are restricted to a localized area less than one mile in length. This is the first report of infested trees in the county, although beetles were collected on panel traps during both the 2009 and 2010 trapping surveys.

GYPSY MOTH: The annual moth flight began on July 18 and is underway as far north as Barron County. The DATCP Gypsy Moth Trapping Program has set 25,006 traps thus far, or 95% of the expected total. As of July 28, the male moth count is 2,884 in the southern half of the state where 4,278 traps have been deployed. Counts are expected to increase significantly in the next two weeks as the flight peaks in the southern counties. Peak emergence should occur by late August in the north. The adult flight period extends for approximately two weeks.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 21 - 27

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	OBLR[5]	AM RED[6]	YELLOW[7]	GDD 50°F
Bayfield	Keystone	30	1	2	15	—	*4	*14	
Bayfield	Orienta	22	0	0	3	5	—	—	
Brown	Oneida	810	73	5	4	—	0	0	
Chippewa	Chippewa Falls	0	32	5	1	0	0	0	1015
Columbia	Rio	20	—	0	0	0	0	0	
Dane	Deerfield	253	81	5	0	—	4	0	
Dane	Mt. Horeb	10	94	0	0	—	0	0	
Dane	McFarland	40	56	22	50	—	*8	**0	
Dane	Stoughton	66	29	11	0	0	*2	**2	1530
Dane	West Madison	66	61	9	1	—	*1	*15	
Fond du Lac	Campbellsport	50	100	0	3	—	0	0	
Fond du Lac	Malone	—	—	—	—	—	—	—	
Fond du Lac	Rosendale	—	—	—	—	—	—	—	
Grant	Sinsinawa	—	—	—	—	—	—	—	
Green	Brodhead	4	38	11	3	0	0	0	
Iowa	Mineral Point	156	93	11	3	0	0	0.3	1610
Jackson	Hixton	48	20	4	6	1	0	0	
Kenosha	Burlington	30	65	7	3	—	*1	0	1405
Marinette	Niagara	590	41	6	1	—	*1	0	
Marquette	Montello	32	57	2	0	—	*0	*0	
Ozaukee	Mequon	50	42	1	3	—	*2	*0	1394
Pierce	Beldenville	21	324	36	0	—	*0	*0	
Pierce	Spring Valley	78	104	1	0	—	*0	*0	
Polk	Turtle Lake	404	41	1	2	—	*1	0	
Racine	Raymond	202	238	5	7	—	0	0	
Racine	Rochester	218	184	6	0	—	*2	*3	
Richland	Hillpoint	109	55	0	3	0	**2	0	
Sheboygan	Plymouth	—	—	—	—	—	—	—	
Walworth	East Troy	25	29	0	3	—	**1	**0	
Walworth	Elkhorn	20	5	0	3	—	**0	**0	
Waukesha	New Berlin	15	40	10	2	—	0	0	

[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	6	0	0	0	0	0	0	0	0	0
Columbia	Arlington	0	2	2	0	1	0	11	13	5	0
Dane	Mazomanie	3	0	2	0	0	0	0	24	1	0
Grant	Prairie du Chien	0	0	0	0	0	0	0	5	1	0
Manitowoc	Manitowoc	0	14	11	6	9	0	0	1	22	0
Marathon	Wausau	7	11	4	8	7	3	3	18	83	1
Monroe	Sparta	0	0	0	0	0	0	0	153	3	0
Rock	Janesville	5	3	1	0	0	0	9	2	9	0
Walworth	East Troy	2	0	1	0	0	0	0	144	9	0
Wood	Marshfield	13	33	11	1	2	3	44	16	57	5
Vernon	Coon Valley	19	2	4	0	2	0	10	45	8	0

[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.