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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

Cooler weather replaced last week's abnormal heat. Afternoon high temperatures were seasonal for early June, and gradually warmed from the 60s and 70s early in the week to the 70s and 80s later on. Overnight lows were mainly in the 40s and 50s, except in far eastern Wisconsin where readings fell to the upper 30s. Scattered showers and isolated storms developed throughout the week, though most of the state experienced several days of open weather for planting and post-emergence weed control. Rains were light and beneficial, helping spur crop emergence while improving soil moisture supplies. Statewide moisture levels were rated as 8% very short or short compared to 17% the week before. After a late start to the planting season, progress for corn, soybeans and spring tillage caught up to the five-year average, and farmers were shifting priorities to cutting hay and managing weeds. Alfalfa producers harvested another 23% of the first crop, for a total of 43% to date.

LOOKING AHEAD

ALFALFA WEEVIL: Larval counts are less than one per sweep and leaf feeding damage is still below the 40% economic threshold in most remaining first-crop alfalfa fields, but defoliation is likely to increase sharply in the week ahead now that the weevil larvae are larger and capable of consuming more foliage. Continued scouting is recommended until second-crop regrowth is established.

SOYBEAN APHID: Colonization of soybeans was documented for the first time this season on June 4. Surveys found aphids in six of 25 soybean fields sampled, in Grant, Iowa, Lafayette and La Crosse counties. Densities were extremely low at 1-2 aphids per infested plant on only 1-8% of the plants examined. This observation confirms that aphid dispersal to soybean fields is underway.

EUROPEAN CORN BORER: The spring flight is expected to peak by June 14 across the southern and central counties. Moths are appearing in black light traps and egg deposition is occurring as far north as Wausau.

CODLING MOTH: Counts declined overall from last week but remained high in some apple orchards. A definite potential exists for damaging populations if treatments directed against first-generation larvae are improperly timed. Applications have already started in the southern Wisconsin, while apple orchards in the central and northern areas are approaching the post-biofix 250-degree days (modified base 50°F) mark at which first larvicide treatments are recommended. Counts for the period of May 31-June 5 ranged from 0-46 moths per trap, with 13 of 27 apple orchards reporting high or economic captures exceeding the weekly five moths per trap threshold.

EASTERN TENT CATERPILLAR: Pupation has started in advanced areas of southern Wisconsin. The first moths should begin emerging in another week.

Eastern tent caterpillar www.toronto-wildlife.com

FORAGES & GRAINS

POTATO LEAFHOPPER: Surveys indicate that levels of this insect remain low in first-crop alfalfa. Counts in 50 fields checked from May 31-June 5 were less than 0.25 per sweep (25 per 100 sweeps). The economic threshold for leafhoppers in alfalfa taller than 12 inches is 2.0 per sweep. Second growth alfalfa is very susceptible to leafhopper injury and should be regularly sampled this month, especially if hot, dry weather continues.

PLANT BUG: Reproduction has increased and nymphs are common in sweep net collections. Combined counts of the tarnished and alfalfa plant bug species were below 0.8 per sweep in all fields surveyed this week.

ALFALFA WEEVIL: Larval counts are generally low for early June. The average this week was 0.1 per sweep (or 10 per 100 sweeps) in alfalfa sampled from Sauk County in the southwest to Portage County in the central area. Leaf tip feeding was below 20% in all surveyed fields, but harvesting the first cutting in the week ahead will be imperative for avoiding damage by the larger and more destructive third- and fourth-instar larvae. Scouting for weevils is recommended until new growth of the second crop is established.

MEADOW SPITTLEBUG: Nymphs are currently ½-¾ grown. The highest population encountered was seven per 100 stems in Sauk County, which is very low in comparison to the economic threshold of one nymph per stem. Most surveyed fields had few spittle masses.

DEGREE DAYS JANUARY 1 - JUNE 6

LOCATION	50°F	2017	NORM	40°F
Dubuque, IA	807	757	668	1391
Lone Rock	699	668	—	1245
Beloit	676	690	677	1214
Sullivan	599	606	615	1093
Madison	666	641	641	1195
Juneau	613	593	—	1105
Racine	522	544	—	994
Waukesha	549	571	—	1024
Milwaukee	549	544	524	1029
Hartford	584	563	—	1067
Appleton	586	514	—	1040
Green Bay	561	499	530	1008
Big Flats	635	588	—	1122
Hancock	577	528	631	1018
Port Edwards	580	520	614	1028
La Crosse	735	660	714	1274
Eau Claire	664	575	630	1137
Cumberland	537	407	560	939
Bayfield	402	246	—	748
Wausau	528	435	549	940
Medford	520	408	490	923
Crivitz	556	459	—	964
Crandon	500	357	439	880

Method: Modified B50; Modified B40 as of January 1, 2018. NORMALS based on 30-year average daily temps, 1981-2010.

CORN

EUROPEAN CORN BORER: The spring flight of moths continued for the second week, with very low counts of 1-5 moths registered in the black light traps near Beaver Dam, East Troy, Pardeeville and Sparta. The European corn borer degree day model suggests that peak moth emergence has occurred near Beloit, Madison and La Crosse, and should occur by June 10 near Stevens Point. Most corn is too short for larval development at this time, so egg deposition is likely occurring on peppers, potatoes, snap beans and various weed hosts.

BLACK CUTWORM: Conditions remain favorable for localized cutworm infestations. Crop advisors and growers should continue to inspect fields for another two weeks or until corn plants have reached the five-leaf (V5) stage.

Signs of cutworm activity have been encountered in surprisingly few fields surveyed this spring, despite planting delays and large moth flights throughout May. The cumulative count for the period of April 12-June 6 was 2,171 moths in 47 traps, with a high of257 moths near Waupun in Dodge County. Cooperators may remove their traps now that the DATCP BCW trapping program has concluded for the season.

STALK BORER: Migration of larvae from grassy areas into corn has started and is expected to increase in the week ahead. Spot checking the 4-6 border rows for plants with holes in the leaves, wilted whorls and other early signs of damage is recommended starting at 1,400 degree days (sine base 41°F). Control measures may be in order for fields with infestations affecting 5% or more of plants.

Stalk borer larva *Krista Hamilton DATCP*

SOYBEANS

BEAN LEAF BEETLE: Light defoliation was observed at 60% of sites surveyed in the south-central and southwest counties. Fewer than 15% of the plants were affected in most fields and beetle counts were very low. Chemical control of this pest during the soybean vegetative stages should be considered only if field-wide defoliation levels exceed 40% or if populations of 39 or more beetles per foot of row are observed. Economic soybean damage directly resulting from bean leaf beetle feeding is rare in Wisconsin.

ROSE CHAFER: This defoliator was noted on field crops and in gardens in the past week. The larval stages of the rose chafer are white grubs that feed on the roots of grasses and weeds. Adult emergence and defoliation are expected to increase next week and peak by late June, particularly in areas of the state with sandy soils.

SOYBEAN APHID: Surveys of VC-V2 soybeans found aphids in six of 25 (24%) fields sampled during the reporting period ending June 5. Densities ranged from 1-2 aphids per infested plant on 1-8% of plants, based on 100 plants examined per field. Specific counties where the aphids were detected were Grant, Iowa, Lafayette and La Crosse. These observations confirm that aphids are dispersing to soybeans.

Soybean aphid adult and nymphs *Krista Hamilton DATCP*

FRUITS

CODLING MOTH: Most southern Wisconsin apple orchards have accumulated 250 or more degree days (modified base 50°F) since the spring biofix (May 20-26), and treatments targeting first-generation larvae have begun. Early larvicide applications made at the traditional 250 degree-day point coincide with 3% hatch and are appropriate for orchards that recorded high trap captures of 10 moths or more in the first week after biofix. According to John Aue of Threshold IPM Services, the very large counts of 30-70 moths recorded at some cooperating sites in the last two weeks suggests that emergence has been compressed by high temperatures, and that the flight period may be somewhat shorter than usual.

REDBANDED LEAFROLLER: Moth counts were low again this week, ranging from 0-36 per trap at all orchards. The weekly average was 9 per trap. The low number of RBLR moths appearing in traps since late May suggests that populations are still primarily in the late larval stages. The second flight is likely to begin within the next two weeks.

SAN JOSE SCALE: Emergence of scale nymphs or "crawlers" is anticipated next week in southern orchard locations. Sampling by taping scaffold branches in blocks with a history of damage is advised to determine the relative abundance of scales, the start and end of the hatching period, and if treatments are successful. The tape should be put out earlier than usual and changed every 7-10 days during the period of crawler activity.

OBLIQUEBANDED LEAFROLLER: The first flight of moths has increased and is expected to continue through late June. Apple growers who have experienced OBLR problems in recent years should consider setting additional traps to determine specific blocks or varieties in which to concentrate sampling and control. Monitoring terminals over the next 2-3 weeks for the newly-hatched second-brood larvae will also indicate the potential for problems later this season.

Obliquebanded leafroller moth and pupa *Krista Hamilton DATCP*

PLUM CURCULIO: Continued scouting is recommended for another week. If late immigration is suspected, a perimeter spray application may be beneficial. Distinguishing between new and old injury and determining the extent to which PC has migrated into the orchard interior is especially important if only perimeter sprays have been used as a barrier. An enlarging crescent-shaped scar or depression is typical of old injury. Organic options include maintaining a protective coating of Surround® WP (kaolin clay) on exposed blocks. The spring PC migration into orchards subsides once 300 degree days (modified base 50°F) have accumulated from McIntosh petal fall.

GRAPE PHYLLOXERA: First-generation phylloxera leaf galls are appearing on the foliage of Frontenac and Frontenac gris grapes in western Wisconsin vineyards. This observation suggests that monitoring for egg hatch should begin.

Grape phylloxera galls *universitydisplaygardens.com*

Control of the first generation is usually ineffective once the galls have formed, but scouting for the mobile crawlers will help to determine the timing and need for management of the second and third generations later this season. A 10x hand lens is required to view the crawlers.

SPOTTED WING DROSOPHILA: Fly emergence has likely started. Berry growers planning to monitor SWD this season should set their traps as soon as possible to determine the first capture date.

Spotted wing drosophila males and female flies *Krista Hamilton DATCP*

VEGETABLES

COLORADO POTATO BEETLE: Larvae in southern and west-central Wisconsin are primarily in the first and second instars. Bacterial insecticide treatments with

Bacillus thuringiensis var. *tenebrionis* (Btt) are most effective at this time, while the larvae are very small. Growers using a bacterial product should be aware that these materials persist only a few days and must be reapplied 2-3 times to effectively control populations. Treatment is recommended when 6-8 inch plants show 20-30% defoliation.

Colorado potato beetle larvae Krista Hamilton DATCP

POTATO LEAFHOPPER: Nymphs have not been detected in alfalfa thus far, but first-generation immature leafhoppers should soon begin appearing in sweep net collections. A corresponding population increase on vegetable hosts such as snap beans and potatoes can also be expected in the next two weeks.

FLEA BEETLE: Damage to beets, leafy greens, potatoes and other vegetables has intensified in home gardens and larger field production areas. Significant defoliation can usually be tolerated by host plants and treatment is not advised unless large numbers of beetles are present on all plants and defoliation exceeds 30%.

SQUASH VINE BORER: Moth emergence and the start of egg laying is forecast for next week in advanced southern and western areas. A phenological indicator of the appearance of this orange and gray clearwing moth is when chicory is in full bloom. Pumpkins, melons, squash and other vine crops should be monitored for adult borers once 900-1,000 degree days (modified base 50°F) have been reached. The lower range of this threshold will be surpassed by June 14 near La Crosse, Platteville and Spring Green.

Yellow trap pans are an effective method of detecting squash vine borer activity in the garden since the moths are attracted to yellow. Any yellow container (e.g. bowl, pan or pail) can be used, filled with water to capture the insects. Traps should be checked daily. The first capture of SVB adults signals it is time to take further action to prevent egg laying.

Squash vine borer tlburton outdoors.webshots.com

IMPORTED CABBAGEWORM: Egg hatch and larval damage to cabbage and other vegetables in gardens and field production areas have intensified. Larvae observed on a La Crosse County CSA farm were approximately ¼ inch long on June 5. Manual removal of the caterpillars from the undersides of cabbage leaves will provide reasonable control in gardens. Bt or another insecticide may be required for larger plantings.

Imported cabbageworm larva Krista Hamilton DATCP

NURSERY & FOREST

FLETCHER SCALE ON YEW: A moderate infestation of adult female scales was found on 'Capitata' upright yews

at a nursery dealer in Dunn County. The female's hard shell conceals up to several hundred immature "crawlers," which will likely emerge very soon. Insecticides cannot penetrate the hard shell covering and should be applied when the crawlers are noticed. This pest of arborvitae, juniper and yew can cause yellowing, premature needle drop or branch dieback. For severe infestations, horticultural oils or soaps, insect growth regulators or conventional insecticides may be used. DATCP nursery inspectors are advising retailers not to sell evergreens infested with this scale species.

Fletcher scale on yew *Konnie Jerabek DATCP*

DOWNY MILDEW: Downy mildew was observed on butterfly bush shrubs at a nursery dealer in Dane County. The surface of the leaves were showing brown necrotic areas, while the undersides had the characteristic fungus-like mycelium (downy mildew is not a true fungus, it is in the water mold family). Downy mildew usually develops on plants during periods of cool, wet weather. To best manage and prevent this disease, controlling humidity levels, spacing plants to increase air circulation, and removing diseased tissue are recommended. Application of approved fungicides may be warranted in some situations.

PHYTOPLASMA IN ECHINACEA AND COREOPSIS: Phytoplasma infections were diagnosed in echinacea and coreopsis plants from Walworth County. Phytoplasmas were discovered in 1967 but remain puzzling as they are challenging to detect in the laboratory and little is known regarding their lifecycle. Phytoplasmas are bacterial-like prokaryotic organisms that infect the phloem in plants and are spread by phloem-piercing insects such as leafhoppers and psyllids. These organisms are thought to alter gene expression, often causing irregular growth patterns. They are also thought to cause yellowing in plant tissue. Ash yellows is a well-known phytoplasma disease of ash trees which causes gradual crown deterioration and brooms that often develop at the base of the tree.

Echinacea infected with Phytoplasma *Sam Christianson DATCP*

ROSE SLUG: The tiny green larvae of this sawfly were feeding on rose foliage in La Crosse County this week, skeletonizing the leaves. Severe defoliation may be avoided by removing the larvae and the damaged, lacy leaves. Horticultural oils or residual insecticides are also effective.

EMERALD EUPHORIA: Beetles were noted late last month on perennials in Dane County. This species (*Euphoria fulgida*) is considered common but not abundant in the state. UW Insect Research Collection records list it as occurring in Crawford, Dane, Door, Iowa, Iron and Monroe counties.

Emerald euphoria beetle *Sean McCann flickr.com*

APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 31 - JUNE 6

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	DWB[5]	LPTB[6]	BMSB[7]	AM RED[8]	YELLOW[9]
Bayfield	Keystone	29	13	0	0	—	0			
Bayfield	Orienta	22	5	0	0	—	0			
Brown	Oneida	400	16	6	0	0	8			
Columbia	Rio	5	2	16	0		17			
Crawford	Gays Mills	4	0	5	3	1	9			
Dane	DeForest	0	0	17	0	—	13			
Dane	Mt. Horeb	0	10	1	6	—	36			
Dane	Stoughton	3	1	18	13	—	22			
Fond du Lac	Campbellsport	23	12	0	0	2	4			
Fond du Lac	Malone	1	3	7	1	7	8			
Fond du Lac	Rosendale	7	33	8	1	—	2			
Grant	Sinsinawa	—	10	—	—	—	—			
Green	Brodhead	3	2	3	16	—	16			
Iowa	Mineral Point	11	0	46	20	—	29			
Jackson	Hixton	20	22	2	0	0	3			
Kenosha	Burlington	22	1	11	21	—	3			
Marathon	Edgar	34	2	2	2	—	9			
Marinette	Niagara	5	1	0	0	—	4			
Marquette	Montello	22	12	3	2	—	7			
Ozaukee	Mequon	0	2	7	—	—	1			
Pierce	Beldenville	0	0	2	0	—	0			
Pierce	Spring Valley	11	8	0	6	—	51			
Racine	Raymond	3	0	8	0	—	9			
Racine	Rochester	7	1	32	0	2	2			
Richland	Hill Point	19	8	19	0	—	9			
Sheboygan	Plymouth	22	5	0	0	—	15			
Walworth	East Troy	10	20	0	0	—	0			
Walworth	Elkhorn	10	36	0	15	—	9			
Waukesha	New Berlin	0	20	36	2	—	22			

[1]Spotted tentiform leafminer; [2]Redbanded leafroller; [3]Codling moth; [4]Obliquebanded leafroller; [5]Lesser peachtree borer; [6]Dogwood borer; [7]Brown marmorated stink bug; [8]Apple maggot red ball; *Unbaited; **Baited; [9]Apple maggot yellow board.

COUNTY	SITE	BCW[1]	CEL[2]	CE[3]	DCW[4]	ECB[5]	FORL[6]	SCW[7]	TA[8]	VCW[9]	WBC[10]
Columbia	Pardeeville	0	0	1	0	1	0	13	8	0	0
Dodge	Beaver Dam	1	0	0	2	3	0	1	5	0	0
Fond du Lac	Ripon	0	1	0	0	0	0	0	0	1	0
Grant	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Manitowoc	Manitowoc	1	4	0	0	0	3	4	5	0	0
Monroe	Sparta	0	0	0	0	3	2	1	0	0	0
Rock	Janesville	0	0	0	0	0	0	0	17	0	0
Walworth	East Troy	0	0	0	2	5	2	0	0	0	0
Wood	Marshfield	0	4	0	0	0	1	10	1	0	0

[1]Black cutworm; [2]Celery looper; [3]Corn earworm; [4]Dingy cutworm; [5]European corn borer; [6]Forage looper; [7]Spotted cutworm; [8]True armyworm; [9]Variegated cutworm; [10]Western bean cutworm.