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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

Showers and thunderstorms in the southern half of Wisconsin dissipated Sunday evening and high pressure settled over the state. Mostly sunny skies and quiet weather prevailed through mid-week before precipitation returned. Daytime maximum temperatures in the 70s and 80s were near to slightly above normal for the second half of August, while nightly temperatures were brisk and ranged from the high 30s to the low 60s. After a 10-month trend of above normal average monthly temperatures extending from October, 2011 to July, 2012, average temperatures have been below normal across much of the state. The National Weather Service reports that the average monthly temperature for August is currently 1-3 degrees below normal over the western two-thirds of Wisconsin. This month's rain and cooler temperatures have provided relief to alfalfa, pastures and soybeans after weeks of relentless heat stress from the worst drought in more than half a century, but the shift in weather arrived too late to benefit corn and other crops that already have been severely damaged.

LOOKING AHEAD

CORN EARWORM: The primary flight continued for the seventh week. Moth collections at the Fond du Lac County monitoring locations ranged as high as 229 per trap, which represents a minor increase from last week. Reflective of the prolonged flight period this month and last, larvae in all stages of development ($^1/_8$-1½ inches) have been found in low numbers in corn fields throughout the state. Late-planted sweet corn remains at risk of infestation and should be monitored until harvest.

SPOTTED WING DROSOPHILA: The Minnesota Department of Agriculture has announced that spotted wing drosophila (SWD) larvae have been detected in blackberries and raspberries in four Minnesota counties this month and another 10 cases are suspected. Most of the infestations were found in the southeastern part of the state in both cultivated and wild hosts. In Wisconsin, SWD has been detected in Crawford, Dane and Racine counties in the past two years. One potential case of larvae in cultivated blackberries was reported from Vernon County late last week but verification is pending. Fruit growers concerned about this exotic pest should place vinegar traps now and report any suspects to Krista Hamilton at krista.hamilton@ wi.gov. Emergence of SWD flies is expected to intensify next month and continue through October or early November.

OAK WILT: This lethal oak fungal disease was discovered last month on red oaks in Lincoln, Sawyer and Vilas counties, representing the first confirmed cases in those areas. Oak wilt has continued to spread in Wisconsin and is now present in 58 of 72 counties.

LATE BLIGHT: Potato fields infected with late blight have been found in Adams, Barron, Oneida, Portage and Waushara counties this month and several new cases of the disease were confirmed on tomatoes in home gardens since the last report. Potato growers should continue to treat potatoes on a 5-7 day schedule as long as the forecasting system indicates weather conditions are conducive for late blight development. Home gardeners are advised to inspect plants on a daily basis for leaf lesions and fruit spots. If late blight is suspected and symptoms are widespread, plants should be destroyed to limit further spore production.

Late blight symptoms on tomato leaves *Sandy Feather Penn State*

DEGREE DAYS JANUARY 1 - AUG 22

LOCATION	50°F	2011	NORM	48°F	40°F
Dubuque, IA	2665	2366	2230	2421	4258
Lone Rock	2609	2271	—	2336	4155
Beloit	2752	2397	2286	2431	4366
Madison	2628	2214	2178	2330	4192
Sullivan	2605	2211	2163	2312	4167
Juneau	2521	2134	—	2259	4039
Waukesha	2396	1987	—	2190	3872
Hartford	2374	1984	—	2188	3842
Racine	2387	1928	—	2253	3854
Milwaukee	2342	1912	2087	2208	3803
Appleton	2356	1944	2103	2220	3806
Green Bay	2265	1841	1956	2182	3688
Big Flats	2359	1960	—	2116	3800
Hancock	2384	1993	2111	2121	3851
Port Edwards	2306	1938	2072	2129	3731
La Crosse	2581	2230	2379	2331	4112
Eau Claire	2384	2036	2146	2228	3839
Cumberland	2072	1821	2010	2058	3434
Bayfield	1755	1486	—	1828	2981
Wausau	2090	1779	1968	2018	3436
Medford	2079	1798	1804	2086	3429
Crivitz	2091	1735	—	2064	3453
Crandon	1854	1614	1532	1853	3120

Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2012. NORMALS based on 30-year average daily temps, 1981-2010.

FORAGES

POTATO LEAFHOPPER: Counts in alfalfa are generally below 2.0 per sweep. Nymphs are present in low numbers at a few southern and central sites, but the cooler weather this month has caused a noticeable decline in reproduction and development.

PLANT BUG: Mixed populations of tarnished and alfalfa plant bugs are still common in alfalfa. Counts vary from 0.3-3.1 per sweep, with an average of 1.2. Plant bug nymphs continue to appear in sweep net collections.

CORN

CORN EARWORM: Migratory moths continue to arrive in the state. Counts at the Ripon locations in Fond du Lac County increased to high levels of 202-229 moths, while numbers at other sites decreased or remained the same as the week before. As previously stated, all susceptible sweet corn fields will require monitoring until harvest. Moth counts during the last reporting period were: Bloomington 68, Chippewa Falls 2, Janesville 21, Manitowoc 3, Marshfield 0, Ripon[a] 202, Ripon[b] 229 and Wausau 0.

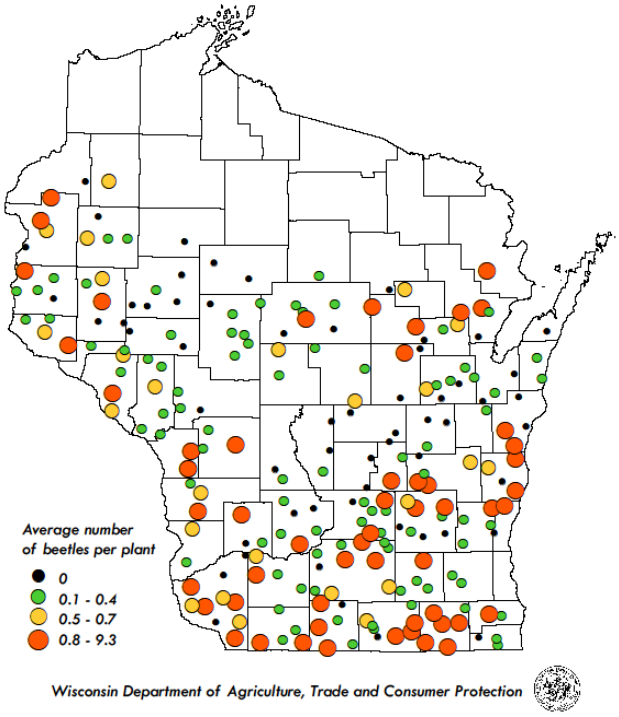
EUROPEAN CORN BORER: Second generation larvae range from second- to fifth-instar in the southern and east-central counties. Larval infestations affecting 10-20% of the ears have been reported in a few later-planted sweet corn fields but most sites appear to have had adequate control. Nearly all of the late-instar larvae present by mid-August will enter diapause and will not pupate until next spring.

CORN ROOTWORM: The map on page 124 summarizes the results of the 2012 corn rootworm beetle survey conducted from July 20-August 17. Populations decreased as compared with the 2011 data in the southwest, south-central, west-central, central and east-central areas and

increased in the southeastern and northern areas. The state average of 0.6 beetle per plant compares to 0.7 last season. District average populations are 0.8 per plant in the southwest, 0.9 per plant in the south-central, 0.9 per plant in the southeast, 0.5 per plant in the west-central, 0.5 per plant in the central, 0.4 per plant in the east-central, 0.5 per plant in the northwest, 0.3 per plant in the north-central and 0.6 per plant in the northeast. Economic counts of 0.75 or more per plant were found in 57 of 230 (25%) fields surveyed.

The cause of the decline in rootworm numbers is uncertain and somewhat unexpected based on the abundance of beetles noted during surveys in alfalfa, soybeans and vegetable crops earlier in July. Nevertheless, average counts in all three southern districts are still considered high or economic and suggest a potential threat of root damage to non-Bt, continuous corn next season.

2012 Corn Rootworm Beetle Survey Results



SOYBEANS

SOYBEAN APHID: Surveys in 82 fields in the past two weeks again revealed remarkably low counts, even lower than when the same fields were checked in July. The reduction in aphid populations at many of the survey sites is due in part to widespread use of insecticides and miticides this season since most of the products registered in Wisconsin for mite control in soybeans also have efficacy against aphids.

GREEN CLOVERWORM: Larval populations have shown a minor increase. Soybean fields in Dane, Jefferson and Monroe counties contained 15-25 per 100 sweeps this week compared to about 0-4 per sweep about 2-3 weeks ago. Defoliation levels remain fairly low at less than 5-10% and treatment for this pest has been unwarranted this year.

FRUITS

CODLING MOTH: Numbers have declined after a prolonged second flight. Counts this week ranged no higher than eight moths per trap. The average from August 17-23, three moths per trap in 20 orchards, is the lowest since the earliest moths began emerging last May. At most orchard locations, the second flight has been smaller but lengthier than the first.

STINK BUG: Adults and nymphs have been observed on the undersides of leaves in southern Wisconsin apple orchards, signaling the potential for fruit injury prior to harvest. Growers are encouraged to monitor fruits for evidence of feeding by these insects. A single adult or nymph can injure many apples and damage may not develop until after the fruits are in storage.

Green stink bug *annkelliot flickr.com*

APPLE MAGGOT: Emergence continued in the southern and central counties. A noteworthy increase from 1-5 per trap was reported from the Rochester monitoring site, although the overall total is not especially high. The weekly high count was 10 flies on a red sphere at Gays

Mills in Crawford County. Many growers have applied their last spray of the season with the expectation of reduced fly activity by early September.

VEGETABLES

SPOTTED CUCUMBER BEETLE: Reports and survey observations suggest that populations are higher than normal this season. This insect has been collected consistently from alfalfa and soybean fields since early July, and surveys in corn earlier this month found more than the usual number of beetles. The spotted cucumber beetle may cause cosmetic damage to melons late in the season decreasing market value of the crop, but insecticidal control is rarely needed.

Spotted cucumber beetle *imarsman flickr.com*

FALL ARMYWORM: Moths are arriving in low numbers in southwestern and south-central Wisconsin and depositing eggs in late-maturing corn. The larvae appear late in the season, from mid-July through harvest, and are typically found damaging corn in patches throughout a corn field. Fall armyworms are similar in appearance to the corn earworm larva but can be differentiated by a conspicuous white, inverted Y-shaped suture on the head capsule between the eyes. Corn normally can sustain considerable damage from this pest before control is required.

LATE BLIGHT: Home gardens in Adams and Waushara counties are reportedly infected with tomato late blight. This disease can develop rapidly under current weather conditions, and entire plants may decline and die in as few as 7-10 days. Gardeners are advised to monitor plants for signs of infection, including brownish-black watersoaked leaf lesions, dark stem lesions or sunken golden- to dark brown spots with distinct rings on the fruit surface. Removal and destruction of infected plants is required if lesions are noticed. Composting will not generate sufficient heat to kill the pathogen and is not recommended.

WEEDS

LATE-SEASON WEED MANAGEMENT: Several of Wisconsin's leading agricultural weeds are near maturity and will soon shed their seeds. By implementing a few simple cultural control practices now and during the next 6-8 weeks, growers can reduce the quantity of seeds entering the soil seedbank. Recommended measures include cleaning harvest equipment between fields, particularly when moving from a very weedy field to a clean field, managing fencerows, and delaying fall tillage to promote seed predation.

Late summer is also a good time to evaluate the efficacy of weed management programs. The presence of weed escapes at this point in the season may indicate one of the following: weeds emerged after herbicides were applied or after fields were tilled, herbicides were applied under poor environmental conditions (e.g. high winds, drought conditions), weeds were taller than the recommended height, or skips in herbicide applications. Documenting or mapping existing infestations should help to identify priority areas for future control efforts.

Field sandbur *biosurvey.ou.edu*

FIELD SANDBUR: The bristly seeds of this summer annual are approaching maturity in central areas, and presumably in most parts of the state. These burs readily cling

to surfaces and are dispersed by animals, humans or equipment. Repeated cultivation prior to bur formation, pre-emergent herbicide application and healthy establishment of desired vegetation will usually provide effective control.

NURSERY & FOREST

TWO-MARKED TREEHOPPER: Adults and nymphs were noted on hoptree and wafer ash trees in Dodge County earlier this week. This distinctive insect with two yellow spots and a thorn-like dorsal projection injures trees by extracting sap from leaves and young shoots, while the female adults can damage twigs by depositing eggs into small slits made by their ovipositors. After the eggs hatch, the slits remain evident as scars for several years. Although these insects may be abundant in some years, their feeding habits usually do not cause serious damage.

Two-marked treehopper *Stephen Cresswell insectsofwestvirginia.net*

DOTHISTROMA NEEDLE BLIGHT: This damaging foliar disease was found on Austrian pines at a nursery in Walworth County. The causal fungus infects needles and may kill pines after successive years of severe infection. Symptoms include needles that turn light green to tan and then brown, while the bases remain green. Infection is usually most severe in the lower crown. Copper fungicides can effectively prevent infection. A mid-May application protects existing needles and a second application 4-6 weeks later protects current-year needles.

HONEYLOCUST BORER: Nursery inspectors report that several 'Sunburst' honeylocust trees in Washington County are severely infested with this metallic wood-boring insect. The larvae bore into trees and feed on the inner bark, forming serpentine tunnels packed with frass (feces). In most instances the honeylocust borer infests trees which are stressed due to environmental factors, cankers or wounds, thus it is considered a secondary pest. Management should emphasize alleviating stress factors. Nursery stock found to be infested with any trunk borer must be removed from sale and destroyed.

Honeylocust borer adult *Marcia Wensing DATCP*

GYPSY MOTH: Pheromone trap take-down is proceeding, with 32% of the 19,000 set traps removed. The state moth count is currently at 115,013 as of August 22. Last year's count was 233,990 moths in 25,001 traps.

APPLE INSECT & BLACK LIGHT TRAP COUNTS AUGUST 16 - 22

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	OBLR[5]	AM RED[6]	YELLOW[7]	GDD 50°F
Bayfield	Keystone	40	1	8	3		9	7	
Bayfield	Orienta	202	0	0	0		0	0	
Brown	Oneida	—	—	—	—		—	—	
Chippewa	Chippewa Falls	—	6	5	0		0	0	
Crawford	Gays Mills	130	45	0	1		10	0	
Dane	Deerfield	*920	*36	*6	—		*3	—	
Dane	McFarland	—	—	—	—		6	—	
Dane	Mt. Horeb	9	4	0	0		0	0	
Dane	Stoughton	12	6	1	0		0	0	
Dane	West Madison	—	12	0	0		0	0	
Fond du Lac	Campbellsport	130	32	0	37		0	0	
Fond du Lac	Rosendale	33	14	0	1		2	0	
Grant	Sinsinawa	—	3	—	—		—	—	
Green	Brodhead	2	8	0	2		0	0	
Iowa	Mineral Point	68	17	7	0		*0	0	
Jackson	Hixton	—	—	—	—		—	—	
Kenosha	Burlington	—	—	—	—		—	—	
Marathon	Edgar	511	11	6	3		5	9	
Marinette	Niagara	103	0	0	0		0	0	
Marquette	Montello	34	18	1	0		1	0	
Ozaukee	Mequon	—	—	—	—		—	—	
Pierce	Beldenville	—	—	—	—		—	—	
Pierce	Spring Valley	44	42	5	0		*2	*0	
Polk	Turtle Lake	111	0	8	2		**0	—	
Racine	Raymond	156	3	2	1		0	0	
Racine	Rochester	160	29	5	0		*5	0	
Richland	Hillpoint	296	14	1	0		**3	**1	
Sheboygan	Plymouth	—	—	—	—		—	—	
Walworth	East Troy	—	—	—	—		—	—	
Walworth	Elkhorn	—	—	—	—		—	—	
Waukesha	New Berlin	321	4	6	0		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]AM yellow board; * Three-week counts.

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	6	0	0	4	0	0
Columbia	Arlington	6	0	0	0	3	0	0	4	0	0
Crawford	Prairie du Chien	1	2	0	0	0	0	0	0	0	0
Dane	Mazomanie	0	0	0	0	3	0	0	0	1	0
Fond du Lac	Ripon	3	0	1	0	8	4	0	0	0	0
Manitowoc	Manitowoc	0	4	0	0	12	0	0	0	7	0
Marathon	Wausau	0	0	0	0	34	0	1	0	4	0
Monroe	Sparta	1	0	0	0	1	0	0	0	2	0
Rock	Janesville	2	0	0	0	0	0	0	0	0	0
Walworth	East Troy	0	0	0	0	2	3	0	0	1	0
Wood	Marshfield	0	1	0	0	14	0	0	0	2	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.