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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

Dry, mild weather dominated the state, aiding seasonal fieldwork and promoting development of summer crops. Temperatures averaged near to slightly below normal, with highs generally in the lower and middle 70s. Light showers and isolated storms developed mid-week, increasing local moisture supplies in portions of western and southern Wisconsin. Rain continued to bypass the north-central and northeastern counties, where soil moisture conditions are now rated as short for an average of 35% of croplands. According to the Wisconsin Statistical Reporting Service, corn was about 83% emerged as of June 13, and soybeans were 64% emerged. In addition, first crop alfalfa was 66% harvested statewide, compared to 73% last season. Winter wheat development reportedly ranged from the late boot to flowering stages, and lodging was noted after last week's severe storms.

LOOKING AHEAD

EUROPEAN CORN BORER: The most advanced corn is now susceptible to infestation by first generation corn borers. Leaf feeding and small larvae were observed during the past week on 2-5% of plants in Monroe and Richland counties. Early signs of damage, including leaf pinholes and shotholes, should be noticeable in southern and central Wisconsin corn fields in the week ahead.

APPLE MAGGOT: Emergence could begin by June 23 near Janesville, June 30 near La Crosse, and July 13 near Racine. This annual event corresponds with the accumulation of 900 degree days (base 50°F) when soil moisture is adequate. Traps should be placed next week in perimeter trees adjacent to abandoned orchards or woodlots to capture the first male flies.

SOYBEAN APHID: Early colonies were detected for the first time this season on June 7 in La Crosse County. Surveys in the last reporting period found aphids in 5 of 24 sampled fields. Densities were very low and ranged from 2-6 per infested plant on 1-8 per 100 plants. The aphids were noted in Dane, Monroe, Sauk and Waukesha counties.

STALK BORER: Larvae ranging in size from ¼ - ½ inch caused light leaf injury to 1-6% of edge row plants in Dane, Monroe and Sauk County corn fields. Similar levels of infestation were documented last week in Richland and Columbia counties. Migration of stalk borer larvae from grasses and broadleaf weed hosts into corn is expected to accelerate next week. Spot treatment may be warranted for fields that show 10% of plants with feeding damage.

SQUASH VINE BORER: Moth emergence and egg laying can be anticipated by June 23 in the southern areas, about the time chicory blooms. Pumpkins, squash,

gourds and other vine crops should be examined daily for eggs and evidence of larval boring from 900-1,000 degree days (base 50°F). Insecticidal controls should be applied to the stems of plants when the adults are first noticed, especially while runners are less than two feet long. Repeat applications may be required throughout the three-week oviposition period.

Squash vine borer tlburton outdoors.webshots.com

WESTERN BEAN CUTWORM: The first moth of the season was caught in the Arlington area of Columbia County on June 8. None were reported this week at the any black light or pheromone trap location. In preparation for the start of the adult flight period, traps are now being placed at selected sites statewide. Participants in the DATCP western bean cutworm network are reminded to submit datasheets with trap locations to Clarissa Hammond at clarissa.hammond@ wi.gov no later than June 22.

FORAGES

ALFALFA WEEVIL: Larval populations have declined due to pupation and harvest of first crop alfalfa. Some carryover into regrowth has been observed, but counts are below 1.2 per sweep and leaf damage is generally less than 20%. Larvae are primarily in the late instar stages and most should pupate within the next few days.

POTATO LEAFHOPPER: Alfalfa surveyed in the southwest, southeast and east-central areas contained low counts of 0.1-0.5 per sweep. Economic populations of 1.0 per sweep for alfalfa 8-11 inches and 2.0 per sweep for alfalfa 12 inches or taller have not been detected in any surveyed field. Nymphs were collected in about 10% of alfalfa fields checked as of June 15.

DEGREE DAYS JANUARY 1 - JUNE 15

LOCATION	50°F	2010	NORM	48°F	40°F
Dubuque, IA	750	961	—	701	1382
Lone Rock	709	934	—	668	1319
Beloit	762	1012	—	706	1404
Madison	659	897	789	631	1248
Sullivan	667	937	786	637	1260
Juneau	610	877	—	591	1174
Waukesha	541	811	—	540	1086
Hartford	528	786	—	522	1055
Racine	471	744	—	475	1003
Milwaukee	464	722	632	463	978
Appleton	514	778	681	520	1019
Green Bay	443	674	653	462	932
Big Flats	563	834	—	540	1081
Hancock	559	848	794	529	1078
Port Edwards	540	801	737	522	1043
La Crosse	665	929	855	639	1259
Eau Claire	579	825	758	583	1110
Cumberland	518	738	715	515	1008
Bayfield	349	519	504	342	764
Wausau	490	724	672	483	951
Medford	501	726	598	486	967
Crivitz	431	653	—	426	868
Crandon	439	650	569	424	896

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

PLANT BUGS: Nymphs and adults are common in most alfalfa fields. Counts range from 0.1-1.3 per sweep in second crop alfalfa in Grant, Green, Lafayette, Monroe, Ozaukee, Sauk, Walworth and Waukesha counties, and from 0.5-1.4 per sweep in first crop alfalfa in Brown, Fond du Lac, Manitowoc, Outagamie, Sheboy-gan and Winnebago counties. The economic threshold is 5.0 per sweep.

CORN

EUROPEAN CORN BORER: The spring flight of moths has peaked in the southwest, south-central and west-central areas. Black light trap counts have been extremely low at most sites since the flight began in late May, with the exception of Coon Valley where 44 moths were registered from June 9-15. Oviposition is occurring on corn, snap beans, potatoes and weed hosts and leaf feeding by first instar larvae should be evident in the tallest non-Bt corn fields next week.

TRUE ARMYWORM: Larval infestation rates ranged from 2-13% in corn fields examined from June 9-15. These averages are considered non-economic, but actual populations may be larger and more widespread than indicated by our surveys. Continued scouting of corn and lodged wheat is strongly advised this month.

In addition, the black light traps near Arlington, Janesville, Marshfield and Wausau have registered significant flights of 28-90 moths per week since early June. This development, coupled with the current larvae, could present a consistent population for several more weeks.

SLUGS: Defoliation caused by these mollusks has been observed in scattered corn fields as far north as Barron County. In most cases, the degree of damage is light and restricted to the lower leaves, but an exceptional field near Cumberland showed 40% of plants with injury. Severe defoliation of young plants in the pre-whorl and early whorl stages has been shown to delay development.

Slug leaf feeding Krista Hamilton DATCP

SOYBEANS

SOYBEAN APHID: Light populations were detected in 5 of 24 soybean fields (V1-V3 stages) sampled in the past week. In Dane, Monroe, Sauk and Waukesha counties, 1-8% of the plants had very low densities of 3-34 aphids per 100 plants, with an average of 13 per 100 plants. Surveys in Grant, Lafayette, Ozaukee, Walworth and Washington counties found no aphids, suggesting that very few have colonized soybeans thus far.

BEAN LEAF BEETLE: Defoliation is apparent in the southern and west-central counties. Less than 10% of soybean plants were affected in Dane, Grant, Lafayette, Monroe, Walworth, Waukesha, and Washington County fields and surveys yielded no more than 1-2 adults per 20 feet of row. Treatment is justifiable at about 40% defoliation or 39 beetles per foot of row during the vegetative stages.

Bean leaf beetle Krista Hamilton DATCP

HAIL DAMAGE: Severe weather in the form of thunderstorms, hail, and a tornado affected portions of southern and central Wisconsin on June 8. Large hail stones measuring 1.25-1.75 inches in diameter caused extensive damage to soybeans, corn and other crops as well as nursery stock and orchard trees. Damaged plants usually show noticeable recovery within 3-5 days under favorable weather and soil moisture conditions.

FRUITS

CODLING MOTH: The first flight of moths has slowed in most southern orchards and accelerated in the north. Larvicides or other controls should be applied or maintained to prevent problems by the current and subsequent generations. Effective control of first brood larvae is key to reducing the size of the second flight and later damage by the second generation in August. As a reminder, pheromone lures degrade rapidly at current temperatures and should be replaced every three weeks.

OBLIQUEBANDED LEAFROLLER: Moth flight and larval emergence have increased in the southern two-thirds of the state. The current flight is expected to continue for another two weeks. Apple growers who have experienced late-season OBLR problems in recent years should consider setting additional traps now to determine where to concentrate sampling efforts. Control of the overwint-

ered larval generation at petal fall is most effective in reducing populations, but monitoring the second brood now appearing in terminals should indicate the potential for problems in August.

Obliquebanded leafroller moth *Ilona L. bugguide.net*

PLUM CURCULIO: Apple orchards throughout southern Wisconsin are 308 degree days (base 50°F) or more beyond petal fall. The majority of the beetle population is expected to have migrated into orchards by now. If temperatures remain favorable, the egg laying period could extend through June, leading to severe injury by early July in unprotected orchards. Most codling moth (CM) treatments should also control plum curculio, but damage could arise in orchards that applied CM sprays early (by 150 degree days post-biofix) or orchards that have not made a post-bloom application. Continued scouting for 1-2 more weeks is recommended.

VEGETABLES

CABBAGE LOOPER: Migrants have not been captured in black light traps as of June 15. The main flight ordinarily occurs from mid-July though September.

CORN EARWORM: The pheromone traps near Janesville and Mazomanie registered a total of 45 moths in last last two reporting periods, indicating an early migration is underway. Larvae resulting from June flights such as this one are rarely a problem in Wisconsin, except when large infestations develop in early-planted sweet corn.

COLORADO POTATO BEETLE: A UW-Madison vegetable crop report states that most of the overwintered population has emerged and beetles are depositing eggs in clusters on the undersides of potato leaves. These early individuals are usually less destructive than the summer generation, but they can be damaging in some years. Treatment is recommended when 6-8 inch plants show 20-30% defoliation.

WEEDS

GIANT RAGWEED: This weed currently averages 8-12 inches tall in some southeastern Wisconsin fields and densities as high as 10 plants per m^2 have been observed in Walworth County. Soybeans in particular are susceptible to giant ragweed competition and require a prolonged ragweed-free period to avoid yield reductions. Early planted soybean fields that have been subject to ragweed pressure during the last 3-4 weeks could incur losses of 25% or more if the weeds are not promptly controlled. By most standards, herbicide treatments should be applied before ragweed plants are 6-10 inches tall.

Giant ragweed in corn *Kelly Renner DATCP*

NURSERY & LANDSCAPE

ELM SPANWORM: DNR specialists believe there is potential for moderate defoliation by this caterpillar in the Greenfield, Freedom, Merrimac and Sumpter townships of Sauk County. The twig-like larvae are either slate black or light green; the darker form is more abundant at high population densities. Both color variations were noted in the Parfrey's Glen area.

BROOM RUST: Balsam fir trees in Eau Claire County are beginning to show rust pustules on the lower surfaces of needles. The orange spores produced in the pustules will

become windborne and spread infection to chickweed hosts in Christmas tree fields. Balsam firs in fields heavily infested with chickweed may develop a dozen or more broom growths, greatly reducing quality and marketability. Removing the alternate host and pruning out and destroying the brooms is suggested.

Broom rust spores on balsam fir *Konnie Jerabek DATCP*

GYPSY MOTH: The last of this year's Btk treatment was completed in Bayfield County on June 13. More than 58,000 acres were treated by the DNR Suppression Program and the DATCP Slow the Spread Program. Mating disruption treatments may start as early as next week in southern Wisconsin.

EMERALD ASH BORER: Parasites of this ash tree-killing beetle were released on June 8 near Newburg in Ozaukee County. This is the first year of the interagency effort to introduce natural enemies for eventual control of the emerald ash borer. Two species of stingless wasps that parasitize the larval stages were released and a third species that attacks the eggs will be introduced later this summer.

ROSE CHAFER: This beetle has been found on perennials, field crops, and in home gardens in the past week. The adults deposit eggs in the soil that hatch into grubs that feed on the roots of grasses, weeds and garden plants. Defoliation is expected to increase in the next 3-4 weeks, especially in areas of the state with sandy soils.

ARABIS MOSAIC VIRUS: Hosta suppliers who test plants only for hosta virus X (HVX) should be aware of the six other known virus diseases of hostas, including Arabis mosaic virus (ArMV), impatiens necrotic spot virus (INSV), tobacco rattle virus (TRV), tobacco ringspot virus (ToRSV), tomato ringspot virus (TomRSV) and tomato spotted wilt virus (TSWV). Of these viruses, HVX is the most common and ArMV is the rarest. Arabis mosaic virus causes leaf blanching, spotting, and occasionally stunting or a mosaic pattern. Some infected plants may remain asymptomatic. This virus is transmitted by vegetative propagation, nematodes and pollen. Infected plants must be eliminated to prevent its spread.

Arabis mosaic virus on hosta 'Paul's Glory' *Konnie Jerabek DATCP*

MAPLE EYESPOT GALL: The maple variety 'Burgundy Belle' was lightly infested with this gall midge (*Cecidomyia ocellaris*) at nurseries in Eau Claire and St. Croix counties. The leaf gall larva causes a circular spot on maple leaves which is often mistaken for a fungal leaf spot. This is not an insect that requires control.

Maple eyespot gall *forestryimages.org*

COLUMBINE LEAFMINER: Leaf mines caused by the larval stages of this insect were noted this week on columbine in a Sauk County nursery. The serpentine mines initially appear whitish in color and eventually turn

tan or brown later in the season. Removing and destroying infested leaves will reduce this aesthetic problem.

Columbine leafminer *Tim Boyle DATCP*

SEPTORIA LEAF SPOT: Spirea shrubs in Sauk and Columbia counties were showing symptoms of this common fungal disease, characterized by small, dark lesions that first appear on the lower leaves and stems and later enlarge and spread to the upper leaves. Control consists of spacing plants to increase airflow.

Septoria leaf spot on Spirea *Liz Meils DATCP*

IMPATIENS NECROTIC RINGSPOT VIRUS: This virus disease was confirmed on a Jacob's ladder sample collected from a West Bend garden center. INRV is spread primarily by the western flower thrips and propagation of infected plants or cuttings. Symptoms vary by host and may include stunting, brown or yellow circular spots on leaves, ring spots, black or brown stem discoloration, browning of leaf veins, yellow line patterns in leaf tissue, or as in this case, mosaic patterns.

Impatiens Necrotic Ringspot Virus can infect plants such as New Guinea impatiens, exacum and gloxinia, rendering them unsalable. More than 300 plant species from 50 plant families are susceptible, most notably: African violet, ageratum, amaranthus, anemone, aster, begonia, calendula, calla lily, chrysanthemum, coleus, cosmos, cyclamen, dahlia, fuschia, marigold, petunia, snapdragon, verbena and zinnia.

Control of thrips populations in greenhouse settings is critical to reducing INRV spread. Petunias can serve as indicator plants. For example, the cultivars 'Calypso', 'Super Blue Magic', and 'Summer Madness' develop brown ringspots around thrips feeding scars if the virus has been effectively transmitted.

Carrying over plant material from season to season increases the risk of INRV and should be avoided by nurseries and greenhouses with virus problems. Plants infected with this virus must be promptly destroyed.

Impatiens necrotic ringspot virus on Jacob's ladder *Tim Boyle DATCP*

APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 9 - 15

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	OBLR[5]	AM RED[6]	YELLOW[7]	GDD 50°F
Bayfield	Keystone	6	3	0	0				
Bayfield	Orienta	11	0	—	—				
Brown	Oneida	325	17	6	0				
Chippewa	Chippewa Falls	0	0	11	0	2			602
Columbia	Rio	6	0	6	5				
Dane	Deerfield	114	0	10	28				
Dane	Mt. Horeb	0	0	0	20				
Dane	McFarland	—	19	35	22				
Dane	Stoughton	9	24	0	2	1			582
Dane	West Madison	0	0	7	5				
Fond du Lac	Campbellsport	0	17	0	1				
Fond du Lac	Malone	0	0	8	5				
Fond du Lac	Rosendale	4	11	6	0				
Grant	Sinsinawa	0	0	0	1				
Green	Brodhead	0	0	2	3	3			
Iowa	Mineral Point	1	0	2	1	2			580
Jackson	Hixton	20	3	6	3	6	0	0	
Kenosha	Burlington	8	0	1	15				495
Marinette	Niagara	16	0	24	0				394
Marquette	Montello	0	0	1	0				
Ozaukee	Mequon	0	2	24	—				471
Pierce	Beldenville	0	0	25	0	0			
Pierce	Spring Valley	0	1	2	4	1			
Polk	Turtle Lake	0	0	6	0				
Racine	Raymond	0	0	10	0	0			
Racine	Rochester	0	0	12	15				528
Richland	Hillpoint	0	1	10	7	0			
Sheboygan	Plymouth	22	9	20	0	—			463
Walworth	East Troy	—	—	—	—	—			
Walworth	Elkhorn	—	—	—	—	—			
Waukesha	New Berlin	0	0	31	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]
Columbia	Arlington	0	28	0	1	0	0	3	0	2	0
Dane	Mazomanie	2	0	1	0	0	2	0	0	3	0
Grant	Prairie du Chien	11	1	1	5	0	0	0	0	4	0
Manitowoc	Manitowoc	0	8	0	0	0	0	0	0	0	0
Marathon	Wausau	0	32	0	6	0	0	4	0	0	0
Monroe	Sparta	3	4	0	0	0	0	0	0	2	0
Rock	Janesville	0	14	0	0	0	0	11	0	6	0
Walworth	East Troy	8	0	1	3	0	0	1	0	7	0
Wood	Marshfield	3	19	1	7	0	1	12	0	7	2
Vernon	Coon Valley	44	23	0	4	0	0	19	0	0	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.