Volume 60 No. 14 July 23, 2015

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

After lingering showers and storms departed on Monday, drier weather with seasonable July temperatures and low humidity settled over Wisconsin, benefiting summer crops and orchards. A large area of high pressure brought comfortable summertime conditions for much of the week, with high temperatures near average in the mid-70s to lower 80s, and lows ranging from the lower 50s to lower 60s. The dry, warm weather allowed alfalfa harvesting to resume and promoted the development of corn, soybeans and other crops. According to USDA NASS, the haying season continued at the second fastest pace in more than 35 years (following 2012) and condition ratings for the second and third crops remain 83% in the good to excellent range, despite scattered rain and isolated heavy downpours that have interrupted harvesting throughout June and July.

LOOKING AHEAD

SOYBEAN APHID: Surveys indicate aphid pressure is still low. Of the 58 soybean fields examined since mid-July, none had densities greater than 14 aphids per plant. Moderate to high counts of 200-350 aphids per plant can be found in localized areas within individual fields, but field-wide averages remain low. Insecticide treatment has not yet been justified for any field sampled by DATCP as of July 22. Monitoring of soybeans should be intensified in the next two weeks as more fields enter the intermediate reproductive stages (R3-R4) during which aphid populations usually peak.

WESTERN BEAN CUTWORM: Moth activity has peaked or is expected to peak next week across the southern half of the state. As of July 22, the Wisconsin network of 87 pheromone traps has reported a cumulative total of only 95 moths, the lowest preliminary state count since trapping surveys for this pest began in 2005. High counts in the past week were 19 moths in the black light trap near Pardeeville and 12 moths in the Janesville pheromone trap.

CORN EARWORM: Minimal flights were registered in Dodge, Green Lake, Marathon and Wood counties again this week. Counts at most monitoring sites were very low at only 1-2 moths per trap. Egg deposition on corn silks is occurring and is likely to increase as larger flights of migrants arrive in August. Regular scouting should begin in fields with green silks.

EUROPEAN CORN BORER: Moths are appearing in low numbers in the Prairie du Chien and Ripon black light traps. The peak of summer moth activity is projected for August 5 in the south-central, southwestern and central areas and August 14 in the southeastern and east-central areas. The treatment window for second-generation

larvae has reopened in advanced southern locations with the accumulation of 1,550 degree days (modified base 50°F).

CORN ROOTWORM: Beetles have become slightly more common since the first adults of 2015 were observed on July 8. Peak emergence remains about three weeks away. Corn that has not been pollinated by early August may suffer from silk clipping, reduced pollination and poor kernel set. A threshold of five or more beetles per plant has been established for fields where the silks have been clipped to less than ½ inch and pollination is incomplete. Scouting should occur before 70% of plants are silking.

Western corn rootworm beetles Krista Hamilton DATCP

FORAGES & GRAINS

POTATO LEAFHOPPER: Near-economic counts of 1.4-1.7 leafhoppers per sweep were found in a few scattered fields this week. The relatively high proportion of fields now containing nymphs indicates reproduction is occurring and signals the potential for damaging populations in alfalfa and other crops next month.

PLANT BUG: Mixed populations currently average 0.7 per sweep across the southern half of the state, with a range of 0.1-2.2 per sweep. The week's highest count was recorded in Richland County. Nymphs are generally more abundant than adults at this time.

PEA APHID: Counts remain low at 0-3.0 aphids per sweep in 12 to 30-inch fields. The average for the period of July 16-22 was 0.5 per sweep. Levels of this insect have been consistently low since late June.

DEGREE DAYS JANUARY 1 - JULY 22

LOCATION	50°F	2014	NORM	48°F	40°F
Dubuque, IA	1587	1509	1602	2741	1640
Lone Rock	1517	1488	—	2638	1572
Beloit	1585	1530	1623	2720	1632
Sullivan	1238	1210	1527	2347	1328
Madison	1490	1417	1547	2603	1543
Juneau	1362	1297	—	2468	1445
Racine	1166	1159	—	2266	1245
Waukesha	1238	1210	—	2347	1328
Milwaukee	1175	1157	1418	2282	1263
Hartford	1238	1210	—	2347	1328
Appleton	1292	1198	—	2377	1374
Green Bay	1189	1106	1361	2290	1298
Big Flats	1413	1312	—	2467	1451
Hancock	1413	1312	1501	2467	1451
Port Edwards	1365	1269	1466	2439	1428
La Crosse	1591	1478	1693	2712	1645
Eau Claire	1423	1315	1517	2539	1502
Cumberland	1262	1138	1409	2338	1336
Bayfield	970	813	—	1932	1001
Wausau	1189	1108	1376	2250	1258
Medford	1151	1070	1256	2220	1214
Crivitz	1109	1051	—	2138	1170
Crandon	1044	972	1079	2038	1079

Method: ModifiedB50; Sine48; ModifiedB40 as of Jan 1, 2015. NORMALS based on 30-year average daily temps, 1981-2010.

CORN

WESTERN BEAN CUTWORM: The annual flight continues to produce record-low numbers of moths, with 24 of 87 monitoring locations reporting 12 or fewer specimens this week. The highest black light trap count was 19 moths at Pardeeville in Columbia County. According to the degree day model for this insect, 25-50% of the adult population has emerged in the south-central, southwestern and west-central counties, 10-20% has emerged in the southeast and east-central counties, and emergence is beginning in the northern areas. The DATCP network of pheromone traps registered 56 moths from July 16-22, compared to 10 moths during the previous week. The state cumulative count thus far is only 95 moths. This is the lowest late-July total in the 11-year history of western bean cutworm trapping in Wisconsin.

EUROPEAN CORN BORER: Surveys at 41 sites this week found only one significant infestation affecting 40% of

corn plants in a Richland County field. Fifth-instar larvae, pupae and new moths were the predominant developmental stages in the southern and west-central areas. The treatment window for the second larval generation has opened near Beloit, La Crosse, Madison and other locations where 1,550 degree days (modified base 50°F) have accumulated, and will stay open until 2,100 degree days are surpassed.

CORN ROOTWORM: Beetle emergence is gradually increasing across southern Wisconsin. Counts are still low at less than 0.2 beetles per plant. Corn with fresh silks should be inspected in the week ahead to ensure that pollination is not being impaired. The economic threshold is five or more beetles per plant for fields where the silks have been clipped to less than ½ inch and pollination is occurring. Peak beetle emergence remains another three weeks away.

TRUE ARMYWORM: Larvae are somewhat common in low numbers in corn, alfalfa and wheat. DATCP surveys indicate that infestation rates range from 2-7% and are still well below the 25% treatment threshold. Nevertheless, recent field observations emphasize the need for continued inspection of corn and lodged grains throughout July and into August.

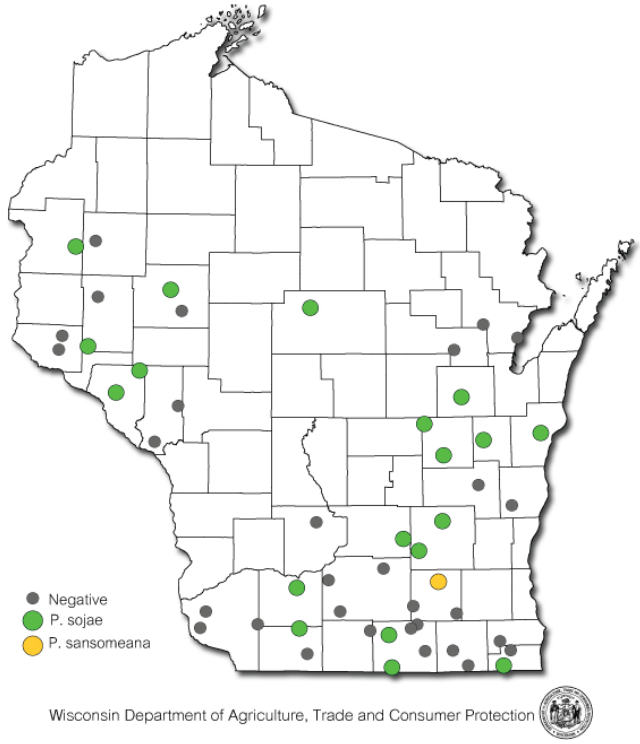
True armyworm larva *Krista Hamilton DATCP*

SOYBEANS

PHYTOPHTHORA ROOT ROT: The June 2-30 survey to determine the prevalence of soybean root rot caused by *Phytophthora sojae* found 38% of fields sampled (19 of 50) tested positive for this disease. This percentage represents a decrease from the 49% infection rate found in 2014, but is still considered very high. Counties in which *P. sojae* was identified were Buffalo, Calumet, Chippewa, Columbia, Dodge, Dunn, Iowa, Kenosha, Lafayette, Manitowoc, Outagamie, Polk, Rock and Winnebago, though no county should expect to be free from the disease after the wet weather experienced last month.

In addition to *P. sojae*, a relatively new Phytophthora species, *P. sansomeana*, was also detected this year in soybean roots from Jefferson County, where it had first been identified in 2012. *Phytophthora sansomeana* has previously been found on soybean in eight other counties: Calumet, Dane, Dunn, Eau Claire, Green, Outagamie, Marathon and Sheboygan. Besides soybean, the pathogen has been isolated from several other hosts in Wisconsin, including corn, balsam fir and Fraser fir.

Soybean Phytophthora Survey Results 2015



SOYBEAN APHID: Colonies on reproductive soybeans are still low for late July. The average count in 58 fields sampled from July 17-22 was less than five aphids per plant. The highest average documented to date was only 14 aphids per plant in the Baraboo area of Sauk County. As previously mentioned, localized hot spots of several hundred aphids per plant are not unusual within some fields, but field-wide averages are still extremely low, emphasizing the need for thorough scouting before con-

trol decisions are made. Treatment is neither economical nor advisable until the threshold of 250 aphids per plant on 80% of the plants has been exceeded. Once again, aphid counts have not surpassed this level in any soybean field surveyed by DATCP this season.

LEAFROLLER: Most of the larval population observed in western Wisconsin soybeans throughout July has pupated. Adult moths should begin emerging by early August, at which point an accurate identification of the exact leafroller species infesting soybean this year can be determined.

Leafroller larva on soybean leaf *Krista Hamilton DATCP*

JAPANESE BEETLE: This pest continues to cause light to moderate (5-15%) defoliation of soybeans, particularly along field margins. Infestations were noted in Columbia, Iowa, Monroe, Richland, Sheboygan and Vernon counties this week. The economic threshold for Japanese beetle and other leaf feeding soybean pests decreases to 20% defoliation between bloom and pod fill. Spot treatment is an acceptable form of control for fields with the heaviest injury occurring in the perimeter areas.

FRUITS

SPOTTED WING DROSOPHILA: The UMN-Extension reports that SWD trap catches in the Minneapolis-St. Paul area increased markedly during the previous week (July 7-15), with counts exceeding 80 per trap in summer and fall raspberries. High counts were also noted in blueberries and grapes. According to the report, the adult numbers observed are significant and indicate a high risk of SWD infestation.

In Wisconsin, the list of counties with confirmed SWD infestations continues to grow. Counties reporting new SWD detections in the past week include: Barron, Portage and Washburn. SWD flies have also been trapped in Burnett, Dane, Door, Iowa, Monroe, Pepin and Waushara counties since late June.

Recommended controls for conventional small fruit growers consist of repeated insecticide applications at four- to five-day intervals. A list of insecticide options can be found on the UW-Madison SWD website at http://labs.russell.wisc.edu/swd/management-2/. For organic operations, the OMRI-approved insecticides PyGanic and Entrust are available for SWD control.

APPLE MAGGOT: Emergence increased in the past week at several orchard locations. Economic counts of 5-9 flies per trap were reported from Edgerton, Plymouth, Rochester and Stoughton. Growers should maintain traps and continue apple maggot sprays as long as counts exceed established economic thresholds of one fly per trap per week on unbaited traps or five flies per trap per week on baited traps.

Apple maggot fly on a red sphere trap *Lisa Reeves DATCP Cooperator*

CODLING MOTH: Most apple orchards are beyond the summer biofix and treatments for second generation larvae have started. Pheromone trap counts should be used at this time to assess efficacy of first generation control or a weakness in a codling moth management program. According to John Aue of Threshold IPM Services, orchards with counts that remain uniform from trap to trap during the second flight likely have a local, in-orchard population. If using organophosphates (Imidan) for control of the summer generation, growers should replace trap liners before an application to monitor the

effectiveness of the material. Moth counts that do not decline to zero or near-zero following treatment suggest resistance issues have developed and use of organophosphate material should be discontinued.

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 mid-August.

GRAPE BERRY MOTH: Controls directed against second-generation grape berry moth (GBM) began last week in Vernon County vineyards, following the accumulation of 810 degree days (simple base 47°F) after wild grape bloom. Applications made at this point in the season coincide with an increase in second-generation egg laying, which is generally the most damaging of the three GBM generations that occur annually in Wisconsin. Control of the third generation is also critical. For vineyards in eastern Wisconsin, treatments targeting the second generation will likely begin by early August. Scouting for larvae and damaged fruits is strongly recommended at this time.

Grapes infested with grape berry moth larvae Krista Hamilton DATCP

VEGETABLES

CUCURBIT DOWNY MILDEW: This disease was diagnosed on cantaloupe and cucumber in Dane County on July 20, representing the first confirmed cases of cucurbit downy mildew (CDM) in the state this season. Dr. Amanda Gevens recommends cucurbit growers in southern and central Wisconsin begin preventive CDM management on susceptible crops. Leaf samples with CDM symptoms, including angular chlorotic lesions between the leaf veins, can be submitted for diagnosis to the Plant Disease Diagnostic Clinic or to the UW Vegetable Pathology Laboratory, 1630 Linden Dr. Rm. 689, Madison, WI 53706.

CDM angular chlorosis symptoms on cucumber G.J. Holmes www.apsnet.org

SQUASH BUG: Economic counts of two to three egg masses per plant were observed this week on squash in a Sauk County home garden. Continued scouting of lower leaf surfaces for eggs is strongly advised and controls should be implemented for flowering plants when a threshold of more than one egg mass per plant is detected. If not controlled at this time, plant damage and yield loss can be expected. Pyrethroid products are most effective against the small, newly hatched nymphs while the larger adults are more difficult to control.

IMPORTED CABBAGEWORM: Moths are common around home gardens from Grant to Shawano County, indicating the potential for damaging larval populations next month. Egg deposition on cole crops is expected to intensify by early August. Scouting is suggested through harvest.

COLORADO POTATO BEETLE: Second generation larvae are appearing on potatoes in the southern and west-central areas. Late-season control of this pest may be warranted if defoliation exceeds 30% during tuber formation. Treatments should be applied when most of the population reaches the intermediate third-instar stage, presuming this does not conflict with label recommendations or resistance management. Proper timing permits most eggs to hatch, but kills the larvae before they reach the destructive fourth-instar. Potato

producers are reminded to avoid consecutive use of the same insecticide product or the use of different products with similar modes of action.

Colorado potato beetle larvae Krista Hamilton DATCP

NURSERY & FOREST

IMPORTED WILLOW LEAF BEETLE: Larvae and adults were observed feeding on willow leaves in a Jefferson County nursery. Foliar injury caused by IWLB generally has little adverse effect on trees, but in rare high population situations, *Bacillus thuringiensis* var. *tenebrionis*, horticultural oils, or insecticidal soaps can be used against the early larval stages. There are two generations per year in Wisconsin.

Imported willow leaf beetles www.toronto-wildlife.com

ELM BLACK SPOT: Nursery inspectors report that elm trees in Fond Du Lac County are showing symptoms of this fungal disease. Symptoms begin in the spring as small, irregular whitish-gray or yellow leaf spots which later develop into raised black spots on the upper leaf surface. Infected leaves become chlorotic and may fall prematurely. Elm black spot is primarily an aesthetic issue that seldom causes serious or long-term tree damage. Control includes planting resistant varieties and, if necessary, applying a protective spray in spring as leaves are expanding.

IRIS BORER: This serious pest of irises was found during recent nursery inspections in Dane County. The pinkish-white larvae emerge in the spring and bore into iris leaves, causing water-soaked spots. Larval feeding continues downward through the leaves and into the below-ground rhizomes during the summer months until pupation occurs in the soil. Adult iris borers appear in late August and early September. Control consists of manually removing and destroying the larvae or using an insect-cide product containing permethrin, cyfluthrin bifenthrin, spinosad or imidacloprid. Treatments must be applied when new iris shoots are four to six inches long, before the larvae tunnel deep into plants. A second application is usually required 10-14 days later. Good fall sanitation including the removal of old plant debris is also recom-mended to reduce overwintering sites.

Iris borer larva dlang labs.russell.wisc.edu

FLEA BEETLE: An assortment of flea beetle species were noted this week on diervilla, elm, forsythia, hydrangea, ninebark, weigela and white oak at garden centers in Dane, Milwaukee and Walworth counties. These tiny beetles chew small pits in leaves that eventually turn brittle and fall off, leaving small circular holes. Heavy feeding can result in plant wilting or stunting. Most flea beetles prefer vegetable crops, though ornamental flowers, shrubs and trees are also susceptible to attack. Chemical control is seldom warranted for nursery stock.

APPLE INSECT & BLACK LIGHT TRAP COUNTS JULY 16 - 22

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	APB[5]	LPTB[6]	DWB[7]	AM RED[8]	YELLOW[9]
Bayfield	Keystone	30	3	0	0	—	—	—	—	—
Bayfield	Orienta	41	4	0	18	0	13	28	—	—
Brown	Oneida	725	83	7	0	0	15	59	1	0
Clark	Greenwood	200	0	2	0	8	12	8	*4	*4
Columbia	Rio	—	—	—	—	—	—	—	0	0
Crawford	Gays Mills	327	13	0	0	0	2	26	2	0
Dane	Deerfield	230	22	9	0	—	—	—	4	0
Dane	DeForest	51	46	1	0	3	4	7	0	0
Dane	Edgerton	549	140	0	4	2	24	—	9	2
Dane	McFarland	63	10	2	—	—	—	0	—	—
Dane	Mt. Horeb	444	81	1	0	2	15	2	—	—
Dane	Stoughton	143	68	1	0	5	10	4	0	7
Fond du Lac	Campbellsport	250	63	0	7	0	13	12	*2	—
Fond du Lac	Malone	70	47	5	1	0	2	47	**0	0
Fond du Lac	Rosendale	126	43	2	4	0	3	—	1	2
Grant	Sinsinawa	46	3	1	0	—	—	0	1	—
Green	Brodhead	6	34	0	0	6	12	36	0	0
Iowa	Mineral Point	385	117	6	3	0	35	19	**3	—
Jackson	Hixton	70	33	3	1	0	5	—	0	1
Kenosha	Burlington	300	207	1	0	0	16	75	**3	—
Marathon	Edgar	1366	25	2	4	0	11	28	0	0
Marinette	Niagara	51	4	0	0	0	2	4	—	—
Marquette	Montello	405	0	3	0	—	—	—	—	0
Ozaukee	Mequon	375	31	3	2	0	0	11	*1	—
Pierce	Beldenville	21	26	2	3	0	0	10	0	1
Pierce	Spring Valley	207	43	0	2	0	9	44	0	0
Racine	Raymond	180	16	3	0	0	18	10	0	0
Racine	Rochester	285	117	2	3	0	0	—	*9	0
Richland	Hill Point	710	18	0	3	1	21	40	**0	0
Sheboygan	Plymouth	950	110	2	5	0	5	35	*5	1
Walworth	East Troy	55	2	0	6	0	4	—	0	0
Walworth	Elkhorn	256	87	0	20	0	49	25	0	0
Waukesha	New Berlin	203	25	2	0	0	20	5	0	0

[1]Spotted tentiform leafminer; [2]Redbanded leafroller; [3]Codling moth; [4]Obliquebanded leafroller; [5]American plum borer; [6]Lesser peachtree borer; [7]Dogwood borer; [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	Arlington	0	5	0	0	0	1	0	3	0	0
Columbia	Pardeeville	2	2	0	6	0	8	3	17	1	19
Crawford	Prairie du Chien	1	0	0	0	1	4	0	1	0	0
Fond du Lac	Ripon	0	0	0	0	5	9	0	5	0	0
Manitowoc	Manitowoc	0	0	0	0	0	5	0	5	0	2
Marathon	Wausau	0	0	2	2	4	16	3	5	0	1
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	3	0	0	0	2	0	78	0	1
Walworth	East Troy	2	1	0	0	0	7	0	0	0	7
Wood	Marshfield	0	14	0	0	1	23	3	18	0	6

[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.