

Wisconsin Department of Agriculture, Trade & Consumer Protection

Wisconsin Pest Bulletin

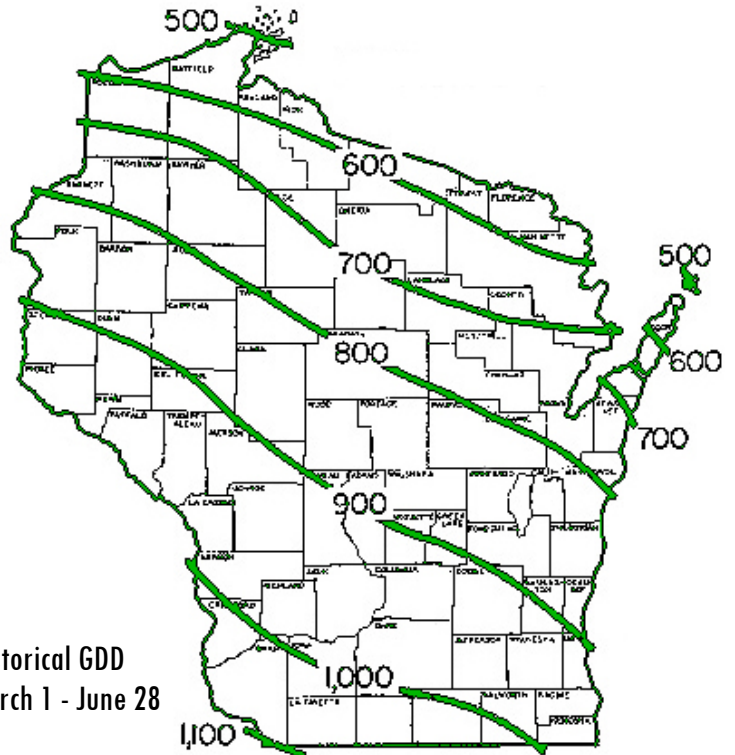
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Your weekly source for crop pest news, first alerts, and growing season conditions for Wisconsin

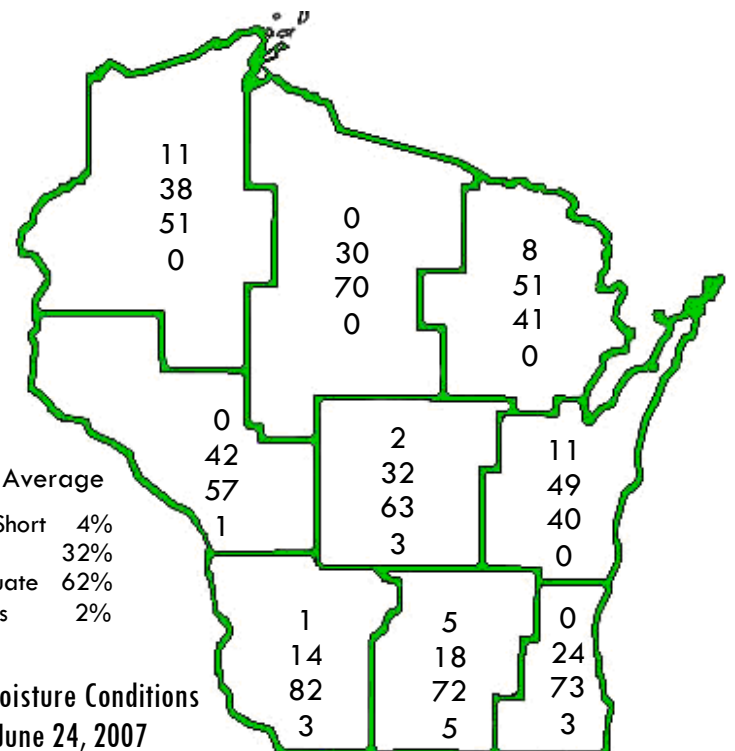


Weather and Pests

Following several days of hot, hazy conditions, a cold front moved across the southern half of the state mid-week. Cooler and drier air behind the front brought relief from the tropical temperatures and humidities that were felt statewide. High temperatures ranged from the low 70s near Superior to the low 90s near Kenosha. The extreme heat accentuated both moisture shortages and pest problems. Corn fields on lighter soils exhibited plants with curled leaves, although most fields were generally tall, vigorous and deep green in color. In insect news, considerable publicity has been given to the abundance of red admiral butterflies that are presently in flight. This is the first time in the past eight to 10 years that the butterflies have been so numerous and widespread.



Historical GDD
March 1 - June 28



State Average
 Very Short 4%
 Short 32%
 Adequate 62%
 Surplus 2%

Soil Moisture Conditions
as of June 24, 2007

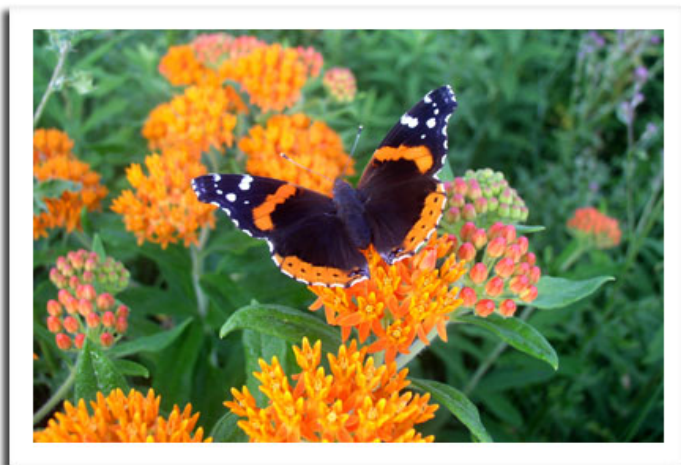
Growing Degree Days through 06/28/07 were

	GDD 50F	2006	5-Yr	48F	40F
Dubuque, IA	1219	1015	1080	1259	2059
Lone Rock	1161	0970	1029	1181	1972
Beloit	1192	1064	1071	1213	2021
Madison	1117	0934	0998	1152	1919
Sullivan	1076	0969	0996	1070	1857
Juneau	1068	0895	0962	1095	1848
Waukesha	1042	0884	0966	1075	1818
Hartford	1056	0875	0917	1091	1831
Racine	1008	0829	0855	1042	1773
Milwaukee	1010	0840	0850	1044	1776
Appleton	1031	0882	0866	1069	1774
Green Bay	0934	0792	0772	0975	1670
Big Flats	1059	0948	0954	1056	1804
Hancock	1032	0927	0929	1017	1751
Port Edwards	1040	0959	0909	1057	1775
La Crosse	1241	1098	1076	1236	2080
Eau Claire	1124	1064	0985	1136	1910
Cumberland	1032	0918	0846	1030	1764
Bayfield	0755	0653	0600	0779	1385
Wausau	0958	0839	0815	0973	1654
Medford	0931	0849	0790	0959	1629
Crivitz	0901	0774	0739	0928	1590
Crandon	0868	0753	0731	0865	1512

Highlights

Red admiral (*Vanessa atlanta*) - A population explosion of the red admiral butterfly is evident in southern and central Wisconsin for the first time in several years. Multitudes of these black and orange butterflies have been extremely active along forest margins, roads, open fields, parks, marshes, yards, gardens and orchards in the past two weeks. Unlike its close relative the painted lady, *Vanessa cardui*, larvae of this species eat weeds and are not considered to be an agricultural pest. Adults may be found on the flowers of buddleia, Joe-Pye weed, milkweed, thistle, red clover, aster, and alfalfa, and are attracted to sap flows, fermenting fruit, and bird droppings. The primary larval food plant is stinging nettle.

Contrary to its common name, the red admiral is mostly black in color, and may be distinguished from related butterflies in the genus *Vanessa* by the small, white spots and prominent red-orange band on each of the forewings, and a red-orange band along the margins of the dorsal hindwings. The red admiral is a seasonally migratory species. The butterflies now active are the progeny of migratory butterflies that arrived in May. Explosions such as this one are infrequent in Wisconsin, occurring approximately every eight to 10 years. This season's high population may be due to increased winter survival, decreased predation, parasitism and disease, and the widespread availability of the preferred food plant nettle. Adults are expected to be active for another week to 10 days.



Red admiral, *Vanessa atlanta*

Krista Hamilton DATCP

Looking Ahead

European corn borer - The treatment window for control of first generation European corn borer larvae has closed in all areas where 1,000 GDD (base 50°F) have been surpassed. Third and fourth instar larvae are tunneling into corn stalks and midribs in the southern and central counties and are no longer susceptible to insecticides. Chemical treatments may still be effective for a few more

days near Green Bay, Wausau and Medford. Pupation is expected to begin in areas where 1,272 GDD will be reached by July 1 or 2, such as Beloit, Dubuque, and La Crosse. The first summer moths should appear in black light traps in these locations by July 8 or 9, if evening temperatures are conducive for flight activity.



European corn borer feeding injury

Krista Hamilton DATCP

Western bean cutworm - Low numbers of moths are appearing in Wisconsin milk jug traps. The first official captures of the season were registered on June 20 and 21 in Trempealeau and Columbia counties, respectively. Counts ranging as high as 130 moths were reported in Iowa from June 21 to 25, but thus far no comparable captures have been documented in Wisconsin. The high count this week was 5 moths registered near Newark in Rock County. Trap counts are likely to escalate during July and peak around the first week of August. To view this week's trapping results from over 100 Wisconsin trapping locations, visit Iowa State University's Western Bean Cutworm Monitoring Network website at <http://www.ent.iastate.edu/trap/westernbeancutworm>.

Corn rootworm - The first apparent damage could be observed as soon as next week. Two adults of the northern variety were observed on June 28 in western Dane County. Both were very pale specimens, indicating they may have just emerged. It will be another two to three weeks before large numbers of rootworm adults are evident in corn fields.

Potato leafhopper - Reproduction is heavy in the south central and central districts and hopperburn injury has begun to appear at dry sites in these areas. Populations reportedly are starting to explode in eastern Manitowoc and Sheboygan counties where adults and nymphs were noted in increasing numbers. This insect is a definite threat to forage crops, some of which should be cut immediately. Damage to early third crop alfalfa is a distinct possibility.

Soybean aphid - Expect soybean aphid densities to increase sharply as more soybean fields enter into the early reproductive stages of growth. Ordinarily populations

in Wisconsin build to peak levels during the R2-R4 stages. The most opportune time to assess soybean aphid densities and make management decisions is approaching. Continue to monitor soybean aphid levels over the next week to determine if the economic threshold of 250 aphids per plant on 80% of the plants is exceeded. Some fields may develop economic populations in the next two weeks.

Apple maggot - The first apple maggot flies of the season were captured at five trapping locations on both baited red ball traps and yellow sticky boards. In the week ahead, scouting and control efforts should be intensified in all apple orchards where flies are beginning to emerge. According to the degree day model available for apple maggot, the first eggs are being deposited where 1,100 GDD (base 50°F) have been reached, namely in the south central, southwest and west central counties. Control efforts are directed against female apple maggot flies before they have had the opportunity to lay eggs in developing fruits. The economic threshold for apple maggot on an unbaited red ball trap or yellow sticky board is 1 fly per trap per week. That threshold increases to 5 flies per trap per week when traps are enhanced with an ammonia attractant.

Two spotted spider mite - Two-spotted spider mites are beginning to increase on soybeans in the east central counties. Soybean fields should be checked for this insect, soybean aphids, and bean leaf beetles in the coming week.

Corn

European corn borer - The first flight of moths has concluded in the southern districts, as indicated by minimal black light trap catches during the June 21 to 28 reporting period. Larval infestations are light in most fields. Observations in the southwest and south central districts showed the typical infestation affecting less than 5% of the plants. Larval feeding was apparent on 0-1% of the plants in Dane County, 0-5% of the plants in Green County, and no injury was noted in 4 of 5 fields surveyed in Rock County. Occasional fields in Dane, Richland and Rock counties had 78%, 32%, and 40% of the plants infested, but these were exceptional. Surveys in the southeast district showed very light infestations affecting less than 3% of the plants. Larval feeding was observed on 0-1% of the plants in Kenosha County, 0-3% of the plants in Racine County, and 0-2% of the plants in Walworth County. A total of 13 of 18 (72%) fields checked in the southeast counties had no detectable population of larvae. Similar low levels of infestation were detected in the north central district where larval feeding was noted on less than 9% of the plants. Infestations affected 2-5% of the plants in Clark County, 0-9% of the plants in Portage County, and no larval feeding injury was found in the fields checked in Marathon County. Third instar larvae are now the dominant stage in the southern and west central districts, although a few fourth instar larvae were observed boring

into the bases of corn stalks in advanced Dane and La Crosse County fields.



European corn borer frass and entrance hole

Krista Hamilton DATCP



European corn borer shot hole feeding

Krista Hamilton DATCP

True armyworm - Light feeding injury by armyworm larvae was observed in the margins of a few Clark County fields. Approximately 0-12% of the plants in the third edge row showed feeding injury associated with this pest. This comes as no surprise given the high numbers of moths registered in the nearby Marshfield black light trap during the month of June. Damage to corn is expected to intensify by mid-July as the progeny of the current flight of moths matures. Routine scouting of grassy corn fields, lodged grains and peas throughout July is strongly advised.

Common stalk borer - Damage to marginal rows of corn is apparent in most parts of the state. Larval feeding was noted on a maximum of 17% of the plants in Dane, Green and Rock counties, a maximum of 13% of the plants in Kenosha, Racine and Walworth counties, and a maximum of 6% of the plants in Clark, Marathon and Portage counties. Larvae are presently in about the 4th instar stage in these areas.

Corn leaf aphid - Trace numbers of aphids continue to colonize V8-V10 southern and central corn fields.

Populations are expected to build over the next few weeks and peak around tassel emergence. Corn leaf aphids injure corn plants by removing plant sap, introducing disease, and secreting a sticky substance called “honey dew” that provides a medium for the growth of sooty mold. Plants with dense corn leaf aphid populations develop a black, sooty appearance. Corn plants are most susceptible to corn leaf aphid injury during the late whorl to pollen shed stages. Populations usually decline rapidly after tassel emergence due to natural enemies and winged aphids migrating to other hosts. Large-scale outbreaks of corn leaf aphid are infrequent, but economic populations develop in a few scattered fields each season. Treatment is warranted when 50% of the plants have 50 or more aphids. A single application should be made before tassels have emerged, but not before the upper whorl leaves open to expose tassels.

Rose chafer - Rose chafers are short-lived scarab beetles that appear in the sandy regions of the state in late June or early July and are active for about three weeks. Growers in the west central district occasionally experience heavy populations of this insect. This week, chafers were spotted in La Crosse and Monroe County corn fields. Rose chafers skeletonize the leaves on a wide variety of plants, including grapes, fruit trees, roses, and raspberries. Any feeding done during their brief lifespan rarely reaches economically important levels.



Rose chafer

Sarah Clark

Forages

Alfalfa weevil - It appears that the danger from this insect is over for the season. A residual population of both larvae and adults remains in most alfalfa fields but numbers rarely exceed 4.5 per 10 sweeps in the south central area or the Central Sands region.

Potato leafhopper - Populations are generally erratic. Counts in Dane, Columbia and Sauk counties remained relatively high with an increase evident in the past week. Fields averaged 1.1 to 4.8 adults and nymphs per sweep. Counts ranged from 0 to 1.6 per sweep in Green and Rock counties, and from 0.8 to 1.9 per sweep in Clark, Marathon

and Portage counties. Numbers reportedly are “starting to explode” in the central counties, particularly in Manitowoc, Sheboygan, and Shawano counties, and some fields on sandy soils are showing yellowing which in most cases is associated with the potato leafhopper. Populations in these fields, in conjunction with high numbers of plant bugs and dry conditions, are such that treatment may be warranted. Nymphs have been observed in most fields, but adults predominate.

Pea aphid - This insect is much more conspicuous in alfalfa fields in the southern areas of the state in comparison to the central and northern areas. Counts vary according to the concentration of the stands, but in denser fields numbers range from 11 to 49 per sweep. Populations are noticeably lower in the central area, ranging from 5 to 24 per sweep.

Soybeans

Bean leaf beetle - The annual spring survey of bean leaf beetles in alfalfa yielded both a higher total number of beetles and a higher average number of beetles per site, as compared to the previous four years. During the survey from May 9 to June 13, 2007, overwintered bean leaf beetles were collected from 86 of 183 (47%) first crop alfalfa fields. The total number of beetles collected was 509, which compares to 171 beetles in 2006, 180 beetles in 2005, 180 beetles in 2004, and 151 beetles in 2003. The average number of bean leaf beetles collected per site was 2.8. This represents nearly a three-fold increase over the 2006 average of 0.8 beetles per 200 sweeps and the 2005 average of 0.9 beetles. Counts ranged from 0 to 26 beetles per site, with the highest numbers of beetles swept from fields in Lafayette, Rock and Walworth counties.

The spring survey also documented a northward expansion in the geographic range of overwintered bean leaf beetles. Surveys in the central counties north of the La Crosse to Sheboygan County line yielded a total of 40 beetles from 90 sites. Although this is just 8% of the total number of beetles collected (40 of 509 beetles), their presence indicates a small percentage of the population overwintered successfully in the central districts. Ordinarily bean leaf beetles are not found north of the third or fourth tier of counties. Overwintered beetles were detected in Buffalo, Jackson, La Crosse, Manitowoc, Outagamie, and Trempealeau counties for the first time since the annual spring survey began in 2003.

A table summarizing the results of annual spring surveys from 2003 to 2007 is provided on page 108. As part of this year's survey, alfalfa fields from Grant County north to Eau Claire County and east to Kenosha and Door counties were sampled by taking 200 sweeps (four sets of 50 sweeps). A systematic sampling pattern was used to ensure a representative sample from each field. The beetles collected were labeled, frozen, and later tested for Bean Pod Mottle Virus (BPMV) at the DATCP Plant Industry Laboratory. ELISA tests revealed that

overwintered beetles from 11 alfalfa fields in Iowa, Lafayette, Racine, Rock, Walworth counties carried BPMV. This is the highest number of sites with bean leaf beetle/BPMV detected since 2003. A follow-up soybean virus survey scheduled for next month should determine if BPMV develops in Wisconsin fields this summer.

Japanese beetle - The distinctive skeletonization of leaves caused by this insect is evident in many southwest and south central soybean fields. Light to moderate defoliation, ranging from 5-25%, was observed on a maximum of 14% of the plants in Dane, Iowa and Sauk counties. No more than 30% defoliation should be tolerated during the vegetative stages of growth, 20% defoliation for flowering soybeans, and 25% defoliation after pod fill.



Japanese beetles on soybean leaves by Ron Hines, Univ of IL, The Bulletin

Reports from the University of Illinois-Extension indicate “remarkable numbers” of beetles are active in certain areas of the state, particularly in Massac County where a record 68,372 beetles were captured on June 17, and a 309,352 were captured during the week ending June 19. These extreme numbers of Japanese beetles represent both a single-day and a weekly record for the Massac County trapping site, according to Kevin Steffey (The Bulletin No. Article 5, June 22, 2007). Growers of soybeans and corn in Wisconsin are advised to be on alert for Japanese beetles this month, particularly in areas where soil moisture levels are short.

Soybean aphid - A minor increase in the incidence of soybean aphids was documented during surveys in the past week. The slow rate of population growth was presumably influenced by high temperatures in the upper 80s and low 90s. More plants per field continued to be colonized by aphids relative to last week, but the average number of aphids per plant remains low in comparison to the economic threshold of 250 aphids per plant on 80% of the plants. Some southern soybean fields have developed to the R1 (beginning bloom) stage of growth, defined by one open flower at any node on the main stem. Soybean aphid populations are expected to increase to peak levels during the R2 (full bloom) to R4 (full pod) stages of soybean growth. Soybean aphid densities should be evaluated next week and once a week throughout July.

Surveys this week revealed the following soybean aphid densities: Columbia County 5-30% of plants infested with 1 to 20 aphids per infested plant; Dodge County 0-15% of plants infested with 2 to 11 aphids per infested plant; Jefferson County 55-90% of plants infested with 1 to 19 aphids per infested plant.

Weeds

Surveys in the southwest found that corn and soybean fields generally appear to be outcompeting weeds that had an earlier start this season. Weedy Roundup Ready soybeans were sprayed during the past few weeks, which effectively minimized most June weed problems. At the start of July, the field crop now exhibiting the most dense weed growth is later planted corn. These corn fields are at an earlier vegetative stage of growth and weeds can still be controlled by herbicides or tillage. Weeds are less of a concern in taller fields where they should soon be dwarfed by the corn’s canopy.

Giant ragweed - *Ambrosia trifida* persisted as the dominant weed species this week. Individual ragweed plants in Rock and Green counties have exceeded the 4-foot tall mark and some in Grant County are even taller yet. Giant ragweed seeds are among the largest of the agricultural weeds. The size and corresponding larger endosperm allows young seedlings to grow and use nutrients from the endosperm for a longer period of time, as opposed to relying on those in the soil. By the time endosperm nutrient supplies are depleted, the plant is large and its root system is better developed than most other agricultural weeds would be. Therefore, giant ragweed is more competitive for sunlight, water and nutrients in the soil. Its comparably larger seeds may germinate at deeper depths in the soil.



Giant ragweed

Clarissa Hammond DATCP

However, *Ambrosia trifida* also has attributes that can decrease competitive ability relative to other weeds. Giant ragweed plants do not produce as many seeds nor is the seed coat as durable as some smaller seeded counterparts, such as pigweed (*Amaranthus* sp.) and

common lambsquarters (*Chenopodium album*). Its weaker seed coat prevents long periods of dormancy in the soil and makes seeds more susceptible to rotting and secondary infection by pathogens. If these inherent flaws are exploited, giant ragweed populations can be markedly thinned after just a few years of concerted control directed at preventing seed formation.

Roadside weeds - Roadsides in the south continue to be punctuated with the yellow, purple and periwinkle flowers of wild parsnip (*Pastinaca sativa*), crown vetch (*Securigera varia*) and chicory (*Cichorium intybus*). Wild parsnip flowers are shrinking in size and are less vivid in color compared to last week, signifying this species is approaching the end of its flowering period. Musk thistle (*Carduus nutans*) plants are forming seed while plumeless thistle (*Carduus acanthoides*) and Canada thistle (*Cirsium arvense*) are at or just past their peak flowering times.



Plumeless thistle

Clarissa Hammond DATCP

Fruit

Light brown apple moth suspects - During the past two weeks, several apple orchards reported captures of moths in pheromone traps baited with Light Brown Apple Moth (LBAM) lure. Cooperators near Beldenville (Pierce County), Brownsville (Dodge County), Deerfield (Dane County), Malone (Fond du Lac County), Raymond (Racine County), and Spring Valley (Pierce County) submitted specimens for identification, all of which were identified as native tortricids in the genus *Sparganothis*. The capture of the same non-target moth species suggests the LBAM lure is not as specific as it should be. Cooperators are urged to continue to check exotic fruit moth traps and submit suspects for identification, despite apparent problems with the LBAM lure.

Apple maggot - Emergence of apple maggot flies began in full this week with reports of catches at five of the 24 trapping network orchards. The highest count registered in the last reporting period was four flies on a yellow sticky board at Stoughton. Female apple maggot flies are depositing eggs in orchards where 1,100 GDD (base 50°F) have been reached.

With careful monitoring using red ball traps and yellow sticky boards, effective control of apple maggot can be achieved with a minimum number of sprays. The key is to use the traps to time sprays to eliminate flies before egg laying takes place. Yellow sticky boards attract unmated male and female flies during the 8-10 day pre-oviposition period after the flies first emerge. Red ball traps attract mated female flies in search of ripe fruits for egg deposition.



Apple maggot flies

www.vegedge.umn.edu

When apple maggot flies are captured on a yellow sticky board and the action threshold is exceeded (1 fly per week on an unbaited trap, 5 flies in a week on a baited trap), the first insecticide spray should be applied **7-10 days** later. When apple maggot flies are found on a red ball trap, the first spray should be applied **immediately** to prevent further egg laying. Subsequent sprays may be applied every 14-21 days, and if trap catches of apple maggot are continuous and heavy, spray intervals should be shortened to 14 days. For specific recommendations, visit the UW Extension Commercial Tree Fruit Spray Guide <http://cecommerce.uwex.edu/showcat.asp?id=16>.

Spotted tentiform leafminer - Emergence of the second flight of spotted tentiform leafminers has peaked in orchards where 1,150 GDD (base 50°F) have been surpassed. Scouting for sapfeeder mines should begin approximately one week after a peak flight is registered. To assess numbers of spotted tentiform leafminer mines in the orchard, collect five leaves from 10 random trees for a total of 50 leaves. Using a hand lens, examine the underside of each leaf for active sap feeder mines (avoid counting parasitized mines). Use an average of 1.0 mine per leaf as the action threshold for second generation leafminers.

Vegetables

Corn earworm - As anticipated, very light moth activity was reported again this week. The single pheromone trap location that reported corn earworm counts was Manitowoc, where a total of 2 moths were captured. The Janesville, Lancaster and Coles Valley trap sites all

reported 0 moths. The second and main flight of migratory corn earworm moths is expected to begin around mid- to late July. Its magnitude and impact is largely influenced by weather patterns and if prevailing southerly winds carry moths as far north as Wisconsin.

Cabbage looper - Near Chippewa Falls in the northwest district, a total of 45 moths were caught during the seven-day period from June 21 to 28. Susceptible vegetable crops in this area should be scouted for eggs and tiny larvae approximately 3 to 6 days from now. Hatch is expected to occur within 4 to 6 days after eggs are laid. See the table below for treatment thresholds in cabbage, broccoli and cauliflower.

Economic thresholds for Cabbage Looper, Imported Cabbageworm & Diamondback Moth

	% Plants with Eggs or Larvae
Broccoli and Cauliflower	
Seedbed	10%
Transplant to first flower or curd	50%
First flower or curd to maturity	10%
Cabbage	
Seedbed	10%
Transplant to cupping	30%
Cupping to early heading	20%
Early heading to mature head	20%

Nursery, Forest and Landscape

Sapstreak disease - Nursery inspections in the past week detected sapstreak disease, *Ceratocystis coerulescens*, on maple in Brown County. This disease is more often a forest problem, but is occasionally found in nursery settings. Sapstreak infects sugar maples and tuliptrees, and occurs from Wisconsin east to Vermont and south to North Carolina.

Because this disease is not considered to be economically important, it has been insufficiently studied and the disease cycle remains poorly understood. The sapstreak pathogen infects trees through fresh wounds and/or exposed roots. Once the spores have entered the tree, they attack the sapwood, creating water-soaked lesions throughout the entire lower trunk region, including major roots. The sapwood necrosis leads to reduced vigor, chlorosis, dwarfed leaves and crown dieback. As the disease progresses, the xylem also begins to develop lesions, causing dark green to black or reddish brown streaks. Once the sapwood is surrounded by the dark streaks it begins to turn a yellow-green to yellow-brown colored stain. Most affected trees die within 2 to 4 years.

There is no cure for sapstreak disease. Once a tree has been identified as having this disease, it should be

removed immediately. Be sure to burn or bury the infected trees as this fungus can sporulate within days of being cut down, and is able to infect nearby susceptible stock. Pruning tools must be sanitized after use.

Other nursery inspection finds this week include:

Southeast region: Botrytis on petunia, rhizosphaera on blue spruce, septoria and golden twig canker on dogwood, Zimmerman moth on Austrian pine, fletchers scale on yew and arborvitae, euonymus caterpillar on euonymus, shoot tip borer on Korean spice viburnum, leafhopper burn on amur maple, tar spot on maple, powdery mildew on serviceberry and cedar hawthorn rust on 'Winter King' hawthorn in Waukesha County.

Black spot on roses, septoria on dogwood, slugs on hosta, scab on ornamental crabapple, powdery mildew on honeysuckle vine and leafhopper burn on Freeman maple in Washington County.

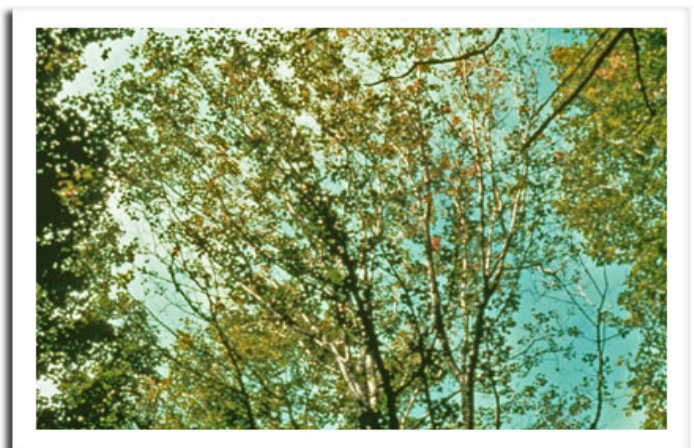
Canker on Montmorency cherry and weeping willow, septoria on variegated dogwood, scab on 'Robinson' and 'Pink' crabapple and black spot on 'Easy Elegance' and 'Nearly Wild' rose in Ozaukee County.

West central region: Plant bug on ash, asteroma on linden, eastern spruce gall adelgid on spruce and European pine sawfly on white pine in Columbia County.

Northwest region: Shothole disease on purple leaf sand cherry, pear slug larvae and leafminers on 'Saskatoon Regent' serviceberry, fletchers scale on taunton yew, pine bark aphids on white pine, pitch mass midge on blue spruce, Tobacco Rattle virus (TRV) on peony and rose chafer on 'White Rugosa' rose in Washburn County.

Apple scab on 'Red Splendor' crabapple, shothole fungal disease on plum, septoria on Pagoda dogwood, rhizosphaera on blue spruce, leafcurl aphids on snowball viburnum and fletchers scale on yew and juniper in Price County.

Northeast region: Root rot on northern red oak, verticillium wilt on Deborah maple and root girdling on northwoods maple in Oneida County.



Sapstreak on sugar maple

forestryimages.org

Gypsy Moth

Gypsy moth spray program - Pheromone flake treatments started on June 27 in Crawford, Grant, Iowa, Monroe, Richland and Sauk counties. Treatments continued in Clark, Eau Claire and Jackson counties on June 28. The last pheromone flake treatment for the year is scheduled for Saturday, June 30, in Ashland and Bayfield counties, weather permitting. If the treatments are successful, this will complete the gypsy moth spraying season.

Gypsy moth trapping is 84% complete. About 26,900 traps have been set in 28 counties as of June 27. All traps will be set around the first week of July.

At this time, gypsy moth caterpillars are beginning to pupate. About 10 days after pupating, moths will begin to emerge. Recently, there have been reports of flying male moths, according to Mark Guthmiller from the DNR. A female moth also was sighted at Rocky Arbor State Park earlier this week.



Female gypsy moth

Black Light Trap Counts through June 28

The first flight of European corn borer moths has declined in the southern counties, but low numbers of moths continue to be caught in the eastern and central districts where development is slower. Black light trap counts increased from 11 to 14 moths at Chippewa Falls, from 22 to 45 moths at Marshfield, from 0 to 1 at Manitowoc, and remained at 0 near Sparta. Counts in the southern districts were as follows: Arlington 0, East Troy 0, Janesville 0, Lancaster 0, Mazomanie 3, and Reedsburg 16. These light captures signal egg laying activity has slowed. Most of the first generation of larvae observed in corn fields this week were in the third instar stage.

Low to moderate numbers of true armyworm moths also appeared in black light traps. Counts were generally lower compared to last week, and were as follows: Arlington 73, Chippewa Falls 2, Janesville 62, Lancaster 10, Mazomanie

61, Marshfield 50, Manitowoc 30, and Sparta 2. The count of 62 moths registered at Janesville represents an increase from 37 moths the previous week, and counts at Mazomanie increased from 54 to 61 moths. Egg laying is expected to continue in areas where captures were reported.

Spotted cutworm activity decreased slightly. Black light trap locations documented very low counts, ranging from 0 to 37 moths. Several other nocturnal moths were captured in low numbers this week, including black cutworm, dingy cutworm, western bean cutworm, cabbage looper, celery looper, forage looper, and variegated cutworm. Refer to the table below for black light trap counts during the June 21 to 28 reporting period.

	ECB ¹	TA ²	BCW ³	SCW ⁴	DCW ⁵	WBCW ⁶
Southwest						
Lancaster	0	10	0	1	0	0
Reedsburg	16	-	-	-	-	-
South central						
Mazomanie	3	61	7	8	0	2
Arlington	0	73	1	5	0	0
Southeast						
Janesville	0	62	1	0	0	0
East Troy	0	0	0	6	0	0
West central						
Sparta	0	2	0	0	0	1
Chippewa Falls	14	2	0	0	16	0
Central						
Marshfield	45	50	4	37	0	0
East Central						
Manitowoc	1	30	1	14	0	0

¹European Corn Borer; ²True Armyworm; ³Black Cutworm; ⁴Spotted Cutworm; ⁵Dingy Cutworm; ⁶Western Bean Cutworm; ⁷Corn Earworm.

	CabL ⁸	CeL ⁹	AlfL ¹⁰	ForL ¹¹	FA ¹²	VCW ¹³
Southwest						
Lancaster	0	3	0	35	0	0
South central						
Mazomanie	0	1	0	17	0	5
Arlington	0	5	1	5	0	4
Southeast						
Janesville	0	9	0	8	0	0
East Troy	0	0	0	0	0	0
West central						
Sparta	0	0	0	0	0	0
Chippewa Falls	1	2	0	0	0	0
Central						
Marshfield	0	16	0	0	0	4
East Central						
Manitowoc	1	2	0	0	0	0

⁸Cabbage Looper; ⁹Celery Looper; ¹⁰Alfalfa Looper; ¹¹Forage Looper; ¹²Fall Armyworm; ¹³Variegated Cutworm.

Exotic Pest of the Week

Siberian moth - The Siberian moth is a major defoliator of spruce, larch, and fir forests in its native Siberia, and is "probably one of Russia's top three pests in economic damage," according to USDA Animal and Plant Health Inspection Service (APHIS) officials. Assessments by USDA's Forest Service and APHIS rank the Siberian moth, *Dendrolimus superans sibiricus*, as a moderate risk for becoming established in the U.S. and a high risk for damaging conifer forests. Siberian moth could be imported into the northern United States or Canada in wood or forest products from Siberia. An introduction of *D. s. sibiricus* would require quarantines or other trade restrictions to be imposed. USDA APHIS officials have suggested the gypsy moth would "pale by comparison" if the Siberian moth were to become established here.

The Siberian moth is particularly difficult to control due to its unusual biology and complex life cycle. In Siberia two years are required to complete development, while in moderate climates in the southern part of its range just one year is required. Larval populations typically build over several years, reach outbreak levels at intervals of 8 to 11 years, and then ultimately collapse. Outbreaks may last from 1 to 3 years and usually follow 2 to 3 years of water deficit.

Pine (*Pinus*) and larch (*Larix*) are preferred for egg laying, although the larvae may develop in fir (*Abies*), spruce (*Picea*), hemlock (*Tsuga*) and a variety of other conifers. In low-density years, females deposit egg masses on needles

in the lower part of the crown, but during outbreak years they are less selective, and may deposit egg masses on any part of the tree or on the ground. Each female lays an average of 200-300 eggs.

In Siberia, *D. s. sibiricus* larvae are most destructive in May and June of the third summer of feeding. During this time, they consume 95% of the food needed for development and often defoliate entire trees. Millions of acres of forest may be defoliated during Siberian moth outbreaks. Conifers that withstand larval feeding are left injured and increasingly susceptible to attack by other insects, most commonly wood-boring beetles. There have been no known introductions of the Siberian moth to North America.



Siberian moth

Vladimir Petko

Spring Bean Leaf Beetle Survey Results 2003 to 2007

Year	Dates	No. Sites Surveyed	No. Sites with BLB	% of Sites with BLB	No. BLB collected	Ave No. BLB per site	No. Sites with BLB	Counties with BLB positive for BPMV
2003	5/12-6/19	107	40 (37%)	37%	151	1.4	~31	Columbia, Dane, Dodge, Green, Iowa, Jefferson, Lafayette, Rock, Sauk, Walworth
2004	5/17-6/10	101	62 (61%)	61%	180	1.8	8	Jefferson, Lafayette, Walworth, Waukesha
2005	5/04-6/01	204	51 (25%)	25%	180	0.9	1	Rock
2006	5/04-6/09	202	81 (40%)	40%	171	0.8	3	Grant, Juneau, Walworth
2007	5/09-6/13	183	86 (47%)	77%	509	2.8	11	Iowa, Lafayette, Racine, Rock,

Apple Insect Trap Counts from June 21 to 28, 2007

County	Site	Date	STLM ¹	RBLR ²	CM ³	OBLR ⁴	AM red ⁵	AM yellow ⁶
Bayfield	Erickson	06/22-06/28	558	0	11	3	—	—
Bayfield	Gellerman	06/18-06/24	15	0	0	1	—	—
Bayfield	Bayfield Apple	06/22-06/28	429	0	4	0	—	—
Bayfield	Bayfield Apple	06/22-06/28	754	0	6	0	—	—
Brown	Oneida	06/22-06/28	1215	64	8		—	—
Crawford	Turkey Ridge	06/22-06/28	422	135	7	2	2	2
Dane	Deerfield	06/23-06/28	433	144	4	2	0	0
Dane	Stoughton	06/22-06/28	103	145	3	4	0	4
Dane	West Madison	06/22-06/28	95	0	15	0	0	0
Dodge	Brownsville	06/22-06/28	26	109	9	1.5	0	0
Fond du Lac	Campbellsport 1	06/22-06/28	70	80	11	5	0	0
Fond du Lac	Campbellsport 2	06/22-06/28	50	50	7	8	0	0
Fond du Lac	Malone	06/22-06/28	900	72.5	4	2	0	0
Green	Brodhead	06/22-06/28	18	37	0	0	0	0
Iowa	Dodgeville	06/22-06/28	465	67	24	4	0	0
Iowa	Mineral Point	06/22-06/28	67	117	0	0	0	0
Jackson	Hixton	06/22-06/28	44	6	7	0	0	0
Marquette	Montello	06/18-06/27	56	15	0	1	0	0
Marinette	Wausaukee	06/22-06/28	132	0	7	2	0	0
Ozaukee	Mequon	06/21-06/28	125	17.5	5.1	0	0	0
Pierce	Beldenville	06/22-06/28	560	0	3	10	0	2
Pierce	Spring Valley	06/22-06/29	343	12	2	1	0	0
Racine	Rochester	06/22-06/28	90	8	11.8	3	0	1
Racine	Raymond	06/22-06/28	1270	144	11	34	0	0
Richland	Hill Point	06/21-06/28	800	80	6	2	0	0
Sheboygan	Plymouth	06/22-06/28	2070	122	12	20	2*	0
Waukesha	New Berlin	06/22-06/28	945	69	12	0	0	0

¹ Spotted tentiform leafminer; ² Redbanded leafroller; ³ Codling moth; ⁴ Obliquebanded leafroller; ⁵ Apple maggot red ball trap; ⁶ Apple maggot yellow sticky trap; *baited red ball trap.



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EXOTIC PEST OF THE WEEK

Siberian moth, *Dendrolimus superans sibiricus*