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Wisconsin Department of Agriculture, Trade & Consumer Protection

Wisconsin Pest Bulletin

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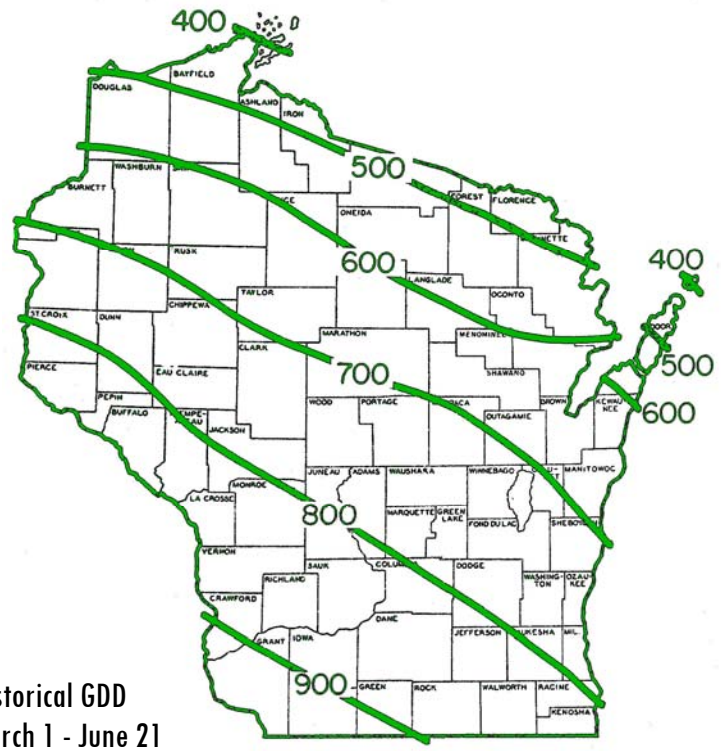
Your weekly source for crop pest news, first alerts, and growing season conditions for Wisconsin

Weather and Pests

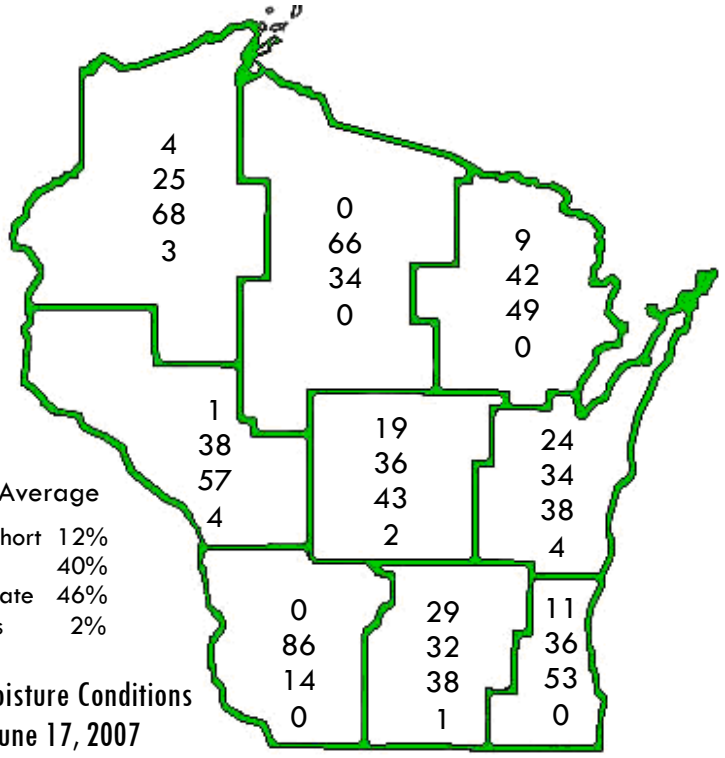
High temperatures and timely rainfall continued to accelerate plant growth and development of insects during the past week. Corn reached a record average height of 23 inches, which compares to 14 inches in 2006 and a five-year average of 11 inches, and soybean emergence is nearly complete. Some early-planted sweet corn fields have begun to tassel in the south central district. Numerous thunderstorms moved across northern and central Wisconsin mid-week, producing large hail, damaging winds up to 70 mph, and bringing down trees and power lines. The accompanying precipitation alleviated dry conditions for the time being, but also favored the development of lush vegetative growth associated with armyworm development.

Growing Degree Days through 06/21/07 were

	GDD 50F	2006	5-Yr	48F	40F
Dubuque, IA	1084	901	946	1120	1853
Lone Rock	1031	865	902	1048	1770
Beloit	1057	948	939	1064	1817
Madison	984	833	869	1015	1714
Sullivan	949	862	868	940	1659
Juneau	938	798	835	962	1646
Waukesha	914	782	802	945	1619
Hartford	926	774	793	958	1630
Racine	876	727	730	896	1571
Milwaukee	881	737	727	911	1575
Appleton	899	785	747	933	1569
Green Bay	810	699	657	848	1475
Big Flats	936	843	832	930	1609
Hancock	905	827	808	887	1551
Port Edwards	915	849	791	929	1578
La Crosse	1098	970	941	1090	1864
Eau Claire	987	940	859	996	1700
Cumberland	904	817	735	900	1565
Bayfield	642	573	505	655	1208
Wausau	838	750	706	850	1463
Medford	815	758	684	839	1442
Crivitz	775	689	628	801	1395
Crandon	751	676	629	749	1329



Historical GDD
March 1 - June 21



State Average

Very Short	12%
Short	40%
Adequate	46%
Surplus	2%

Soil Moisture Conditions
as of June 17, 2007

Alert

European corn borer - The treatment window for first generation European corn borer has closed at advanced locations in the southwest, south central and west central districts. Chemical sprays are no longer effective now that 1,000 GDD (base 50°F) have been surpassed and larvae are tunneling into corn stalks. The most opportune treatment period lasted just 10 days near Dubuque and La Crosse, from June 7 when 800 GDD were reached, to June 17 when 1,000 GDD were exceeded. Near Madison and Eau Claire, the treatment window officially opened on June 12 and closed on June 22. Pesticides directed against European corn borers should have been applied during this specific window, between egg hatch and the time larvae bore into plants, in order to be effective. Only larvae that have not bored into plants can be killed by insecticide sprays.

Corn fields near Appleton, Hancock and Wausau, particularly conventional, non-Bt hybrids, must be scouted over the weekend (June 23-24) and treatment decisions made based on the percentage of fresh whorl feeding and the presence of live larvae in the whorl. Treatment is an option only as long as the majority of larvae are feeding in the whorl and have not entered the stalk. Bt and stacked corn hybrids should also be examined for efficacy at this time; control of first generation larvae is expected to be very effective with all events. See UWEX Publication No. A1220, European Corn Borer, to determine cost versus benefit of insecticidal control in whorl-stage corn.

European corn borer shot-hole feeding *Krista Hamilton DATCP*

Looking Ahead

Western bean cutworm – A network of more than 100 milk jug traps has been established by DATCP survey specialists and several cooperators throughout the state to monitor western bean cutworm flight activity this season. The first moth capture of the season was registered near Arcadia in Trempealeau County on June 20. Pheromone-baited traps located in the western one-half of the state should document an increase in moth numbers in the week ahead as emergence begins in full. Last season the first official WBCW moth captures were registered in the southwest during the final week of June, counts escalated throughout July, and peak flights were documented by the first week of August. Beginning next week, moth counts for the 2007 season will be posted on the Iowa State University **Western Bean Cutworm Monitoring Network** website at http://www.ent.iastate.edu/trap/westernbeancutworm/isite.

Western bean cutworm moth *Marlin E. Rice*

True armyworm – Continue to scout for first generation armyworm damage in grassy corn fields and lodged small grains in the week ahead as the potential still exists for localized outbreaks. Captures of moths in black light traps have increased at some black light trap sites in the past two weeks, and egg deposition in grassy weed hosts is expected to be heavy at this time. The current flight of true armyworm moths will give rise to the largest and most damaging second generation of larvae early next month.

Soybean aphid – Surveys of V1-V5 soybean fields in the southwest indicate densities are mostly low at this time, and aphids have not fully dispersed throughout soybean fields. According to University of Minnesota temperature studies on soybean aphid, development rates peak and doubling time is fastest at temperatures near 80°F. Temperatures are projected to be in the 90s early next week, which may temporarily slow population growth, but the first economic populations are expected to develop by the second week of July. Scouting efforts should be initiated next week to determine if soybean aphids have begun to colonize fields and to detect any unforeseen, early economic populations. Continuing a once-a-week scouting regimen throughout July will establish when populations reach or exceed the economic threshold.

Corn rootworm – Emergence of the first adults of 2007 may begin at advanced southern sites as soon as next week. Expect the greater part of the population to make an appearance during the first few weeks of July.

Corn leaf aphid – Corn leaf aphids have begun to colonize early-tassel stage south central corn fields. Populations

are very low at this time, but should be closely monitored during the late whorl to pollen shed stages. This aphid species is a vector of Maize Dwarf Mosaic Virus (MDMV), a widespread viral disease of corn. Most dent corn varieties show resistance to MDMV, but a greater concern is that populations in excess of 50 aphids per plant on 50% of the plants in a field may interfere with pollen shed.

Corn leaf aphids Krista Hamilton DATCP

Periodical cicada – Brood XIII cicadas continued to emerge in droves and fill the air with their courtship racket. Emergences of *Magiciada septemdecim* were reported near Clyde and Spring Green in Iowa County in the past week. As of June 21, cicadas have been documented at various locations in Dane, Iowa, Richland, Rock and Walworth counties. Emergences should also occur in Crawford, Grant, Kenosha, Racine and Sauk counties, although no sightings have been reported. By mid-July, the seventeen-year cicadas will have disappeared, leaving behind little evidence of their activity, besides oviposition scars and scattered cast skins.

Rare blue-eyed cicada Jen Swofford, Highland Park IL

Corn earworm – Migratory moth activity was registered at pheromone trapping sites during the June 15 to 21 reporting period. Light, consistent moth captures since early June suggest any corn fields with fresh silks will be good candidates for earworm infestation. Counts this week were as follows: Coles Valley 4, Janesville 0, Lancaster 24, Manitowoc 14.

Apple maggot – Scattered rains improved soil moisture conditions in many parts of the state, which could stimulate the emergence of apple maggot flies in the week ahead. Research has demonstrated that soil moisture of 20% is most favorable for the emergence of apple maggot flies. The economic threshold for apple maggot on an unbaited red ball trap is one fly per trap per week. The threshold increases to five flies per trap per week when red ball traps are baited with a fruit volatile or ammonia attractant. The same treatment threshold applies to yellow sticky boards.

Apple Maggot Event	Degree Days (50°F)
First adult emergence	900
First eggs laid	1,100
Peak adult emergence	1,600
Peak egg laying	1,750
End of adult emergence	2,800

Codling moth – Expect moths of the second flight to begin appearing in pheromone traps between 873-1,296 GDD (base 50°F). The progeny of this second flight are usually the most damaging to developing apples. Monitor traps closely next week for the beginning of the second sustained flight of moths. The economic threshold for codling moths remains at five moths per trap per week. Counts in the past week ranged from 0-31 moths per trap.

Corn

European corn borer – Observations in the southwest, south central, central, and east central districts indicate that populations of first generation corn borers in field corn are generally low, with the exception of very few moderate to heavily infested fields. Larval feeding was evident on a maximum of 16% of the corn plants in most Crawford, Grant, Iowa, Lafayette, Richland, Sauk and Vernon County fields, although three exceptional fields in Crawford, Grant, and Sauk counties were 25-45% infested. Surveys in Dane, Green, Jefferson, and Rock counties found larval feeding on 0-10% of the plants, and one Dane County field was 71% infested with second and third instar larvae. In the southwest and south central districts, 33 of 68 fields (49%) examined had no detectable populations of larvae.

Comparable populations of first generation European corn borers were detected in the central and east central districts. Larval feeding was noted on a maximum of 13% of the corn plants in Brown, Calumet, Green Lake, Manitowoc, Marquette, Ozaukee, Washington, Waushara and Winnebago counties, and 19 of 35 fields checked (54%) had no detectable populations of larvae.

The very low percentages of larval feeding observed during surveys this week may largely be due to the

increased acreage of Bt hybrids and hybrids with stacked traits planted this season. Larvae were predominantly in the second and third instars in the southwest and south central counties and in the second instar in the east central counties as of June 21.

Pupation is expected to begin in southern counties by early next week, once 1,272 GDD (base 50°F) have accumulated. The first moths of the second flight should begin to appear in black light traps around 1,400 GDD. Based on current degree day accumulations, this event could commence as soon as July 2 near La Crosse, July 4 near Beloit, July 8 near Madison, and July 14 near Wausau. Last year the second flight of moths was projected to begin nearly two weeks later statewide, on July 13, July 15, July 21, and July 30, respectively. Both corn and corn pest development are progressing at record rates this season, which means scouting for first generation larvae must be done much earlier than usual. The treatment window is expected to close across the entire southern one-half of the state by early next week (June 26-27).

True armyworm – Another minimum tillage field, this one in western Dane County, was reported to be infested with a high number of armyworms. Similar reports of economic armyworm populations have been received from a few locations in the western half of the state in recent weeks, particularly from Monroe and La Crosse counties. UW-Extension Agent Bill Halfman reported heavy damage to two Monroe County fields planted after hay using minimum tillage practices, and agronomists with the Tomah Cooperative found moderate armyworm activity on the eastern side of the county. The two fields with 70-75% infestations of ½ inch-long larvae were sprayed last week, while the others supported light to moderate armyworm infestations that did not justify control measures.

Armyworm leaf feeding injury *Krista Hamilton DATCP*

As post-emergence herbicides begin killing the grasses in some of the later-planted, weedy corn fields, armyworm larvae may concentrate on the corn plants in numbers sufficient to cause serious problems. Damage is most likely to occur in grassy and lodged peas, lodged grains and grassy corn fields, which are not uncommon this spring. Surveys this week detected very low levels of feeding injury in Green Lake, Marquette, Ozaukee, Waushara and Winnebago County corn fields where a maximum of 5% of the edge row plants and 2% of the interior plants were affected. Larvae were found in two of five infested plants in a Washington County field. In Iowa, Grant, Richland, Sauk and Vernon counties, a maximum of 4% of the plants showed feeding injury by first generation armyworm larvae.

Grass in corn *Clarissa Hammond DATCP*

Stalk borer – Larval injury was noted on a maximum of 11% of the corn plants in the margins in Crawford, Grant, Iowa, Lafayette, Richland, Sauk and Vernon counties, 20% of the plants in Dane, Green and Rock counties, and 18% of the plants in Green Lake, Marquette, Ozaukee, Waushara and Winnebago counties. In an exceptional Dane County field, nearly 100% of the border row plants showed stalk borer feeding injury. Fields such as this one, which was at the V6 stage of growth on June 20, would benefit from spot treatment of the heavily infested rows. Once corn plants have developed beyond V7, stalk borer feeding injury is unlikely to kill corn plants.

Corn rootworm – Damage by the root-feeding larvae of this insect should soon become apparent in heavily infested fields, particularly if more severe wind and rain storms occur. Throughout the southern counties, larvae have hatched from overwintered eggs and begun to invade corn roots. After three larval instars are completed over a period of three weeks, larvae enter the pupal stage and emerge as adults a day or two later. The peak larval damage interval is expected to occur by mid-July. The first adults normally could be expected by the first week of July, but with insect events about one to two weeks ahead of schedule in most areas of the state, a few could emerge before the end of the month. The western corn rootworm adults appear slightly before the northern corn rootworm, with males of the species usually preceding the females.

Forages

Potato leafhopper – Despite daytime high temperatures in the mid-80s, a significant increase in potato leafhopper populations was not observed in the southeast and east

central districts in the past week. Counts in second crop alfalfa in Dodge, Ozaukee, and Washington County ranged from 0.1 to 0.6 per sweep, and nymphs constituted a very minor portion of the population. Sweep net counts in Brown, Calumet, Fond du Lac, Kewaunee, Manitowoc and Sheboygan counties ranged from 0 to 1.7 leafhoppers per sweep. Nymphs were noted in 10 of 26 (38%) second crop alfalfa fields sampled.

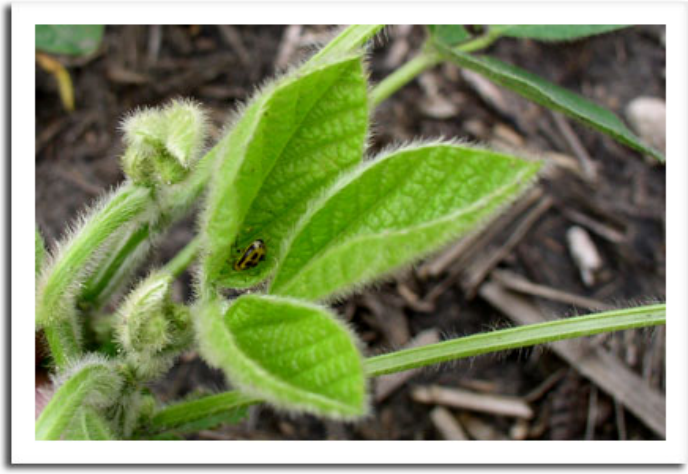
The low potato leafhopper populations detected in the southeast and east central regions may be the exception to the rule. A considerable amount of spraying was done in the southern and western districts earlier this month and many fields in these areas currently exhibit the v-shaped yellowing of leaf tips referred to as "hopperburn". Alfalfa fields that have been recently cut or are more than 7-10 days from harvest should be regularly scouted. The economic threshold for potato leafhopper in alfalfa is 0.5 per sweep in 3-6" fields, 1.0 per sweep in 6-12" fields, and 2.0 per sweep in fileds 12-14" or taller. Leafhopper pressure is likely to escalate in alfalfa and other susceptible plants as more nymphs are produced in the coming week.

Alfalfa weevil – Numbers of larvae in second crop regrowth have declined substantially due to pupation. Surveys in the southeast district found very low densities ranging from 0.1 to 0.6 larvae per sweep, and populations of late instar larvae in the east central counties did not exceed 0.5 per sweep.

Soybeans

Soybean aphid - Colonies of soybean aphids continue to establish and disperse throughout soybean fields. Densities are still very light relative to the threshold of 250 aphids per plant on 80% of the plants, but populations are increasing and more plants per field are becoming infested with aphids. Growers who have scouted their fields but have not found aphids on the newest growth are advised to check more locations per field, as they may be overlooking infested areas. During surveys this week the highest count of alates and nymphs per infested plant was 112, whereas last week the highest count was 95. Soybean aphid populations are expected to increase rapidly over the next few weeks provided temperatures do not escalate into the 90s, which limits reproductive activity. Previous surveys have detected the first economic populations during the second or third weeks of July, but threshold levels could be reached much sooner since soybean emergence and development are well ahead of schedule this season.

Bean leaf beetle – Results of the annual spring survey of overwintered bean leaf beetles indicate that winter survival of beetles in the southern two tiers of counties was higher than in previous years (since 2003), and a northward expansion in the geographic range of overwintered beetles was documented. During the spring survey from May 4 to June 13, a total of 183 first-crop alfalfa fields were sampled for bean leaf beetles. The highest numbers of beetles were collected from sites in the southern two tiers of counties, while fewer beetles were collected as the survey moved north in the central counties. Nonetheless, bean leaf beetles overwintered successfully in many parts of central Wisconsin, and were detected in several counties, such as Buffalo, Jackson, La Crosse, Manitowoc, Outagamie, and Trempealeau for the first time since spring surveys began in 2003. Survey data are still being tabulated and beetles processed for BPMV. Final results and a summary map should be available in next week's issue.



Bean leaf beetle in newest trifoliate *Krista Hamilton DATCP*

Weeds

True armyworm - Corn fields with an abundance of grass weeds are at an increased risk of infestation by second generation true armyworm larvae. Female armyworm moths are especially attracted to grasses for egg laying, including those in field crops. Some of the later emerging grass species commonly found in corn fields are foxtail (*Setaria* sp.), quackgrass (*Agropyron repens*), goosegrass (*Eleusine indica*) and yellow nutsedge (*Cyperus esculentus*). Northern corn fields with dense grass growth may benefit from a treatment over the weekend to prevent eggs from being laid, while grassy fields statewide should be watched closely over the next few weeks for armyworm larval feeding.

Captures of true armyworm moths were registered in black light traps during the past two weeks, and egg deposition in grassy weed hosts is expected to be heavy in the southern and central parts of the state. Eggs deposited on grass hosts hatch within 7-10 days and the damaging larvae feed for three to four weeks before pupating. The flight of true armyworm moths presently underway may produce a damaging second generation of larvae by early next month. See the CORN section for additional information.

Weeds in corn - Velvetleaf (*Abutilon theophrasti*), field bindweed (*Convolvulus arvensis*), giant ragweed (*Ambrosia trifida*), and yellow nutsedge (*Cyperus esculentus*) were the most abundant weeds observed this week in corn. These weeds generally continue to emerge

through a later time in the season, sometimes being missed by herbicide treatments. Of the weeds mentioned, giant ragweed, velvetleaf and field bindweed are generally the most troublesome. Giant ragweed and velvetleaf can cause significant yield losses due to their ability to grow quickly and attain great heights. Field bindweed winds around corn plants, occasionally preventing normal growth and tassel formation (see image below).

Field bindweed in corn *Clarissa Hammond DATCP*

Roadside weeds – Wild parsnip (*Pastinaca sativa*) continued to flower this week and some individual plants have started to form seed. Curly dock seeds (*Rumex crispus*) are maturing quickly and beginning to be shed. Chickory (*Cichorium intybus*) and Canada thistle (*Cirsium arvense*) began flowering this week, while musk thistle (*Carduus nutans*), plumeless thistle (*Carduus acanthoides*) and bull thistle (*Cirsium vulgare*) are approaching the peak flowering period.

Canada thistle *Clarissa Hammond DATCP*

Fruit

Spotted tentiform leafminer – The second flight of moths began about two weeks ago in the southern and central districts, following the accumulation of 610 GDD (base 50°F). Trap counts this week indicate peak captures may have occurred near Beldenville, New Berlin and Raymond. Apple growers should plan to scout for second generation sapfeeders on the undersides of leaves roughly one week after a peak flight is registered. At the present rate of degree day accumulation, the second flight of moths should peak near Beloit by June 26, near Madison and Eau Claire by June 30, near Wausau by July 6 and near Bayfield by July 25 once 1,150 GDD are surpassed. The economic threshold for second generation spotted tentiform leafminers is one mine per leaf.

Codling Moth – First generation egg hatch is now 50% complete in nearly all of the state (except for Bayfield) and larvae are tunneling toward the core of developing apples. The young larvae feed and mature throughout July, pupate, and then produce a mid-summer flight of moths. In Wisconsin there are usually two generations of codling moths each season and sometimes a partial third in warm years; approximately 1,000 GDD (base 50°F) are required to complete each generation. Expect moths of the second flight to reappear in pheromone traps between 872 to 1,296 GDD. Apple insect trappers should replace codling moths lures at this time.

Light brown apple moth – A suspect adult specimen of the LBAM detected in Alameda County, California, was confirmed as LBAM on March 22, 2007, by USDA. Once confirmed, the California Department of Food and Agriculture (CDFA) aggressively conducted delimitation surveys to discover the extent to the infestation, which is still under investigation. The CDFA has imposed internal quarantines and USDA has issued a Federal Order.

LBAM, if left uncontrolled, could cause significant damage to many different kinds of crops, including stone fruit (peaches, plums, nectarines, cherries, and apricots), pome fruit (apples and pears), grapes, and citrus. In addition, several countries such as Chile, South Korea, Peru and South Africa list LBAM as a quarantine pest and may require certification of apples, pears, grapes, citrus, cherry and stone fruits. Canada and Mexico are also considering a similar requirement.

Several cooperating orchards in Wisconsin reported captures of moths in traps baited with LBAM lure. Because there are many native tortricids that can be confused for the LBAM, adult moths must be identified by a qualified entomologist. Larval stages cannot be reliably identified using morphological characters. Orchardists who suspect the presence of LBAM, are urged to submit suspect moths or call the Pest Hotline at 1-866-440-7523.

Vegetables

Corn earworm – Pheromone trap counts decreased from 43 to 24 moths at Lancaster in the southwest district and increased from 7 to 14 moths at Manitowoc in the east central district. In the second week after being deployed, the Coles Valley trap registered 4 moths, while the Janesville cooperator reported no moths this week. The first migratory moths of the season usually appear in

Wisconsin around mid-June, and this year was no exception. Damage by early corn earworm moths is generally inconsequential unless heavy flights are registered. Corn earworm larvae, also known as tomato fruitworms and cotton bollworms, feed on corn, tomato, cotton, beans, alfalfa and tobacco, but prefer silking corn.

Pheromone trapping is a highly effective way to monitor corn earworm populations and determine the best time to treat fields. Ideally one trap should be set at each field, but since this is impractical for most growers, traps should be placed in a centrally located field prior to tasseling or moved from field to field in response to different maturation rates. Treatment of corn earworm is warranted when green silks are present AND at least five corn earworm moths are caught per night. Repeated applications may be necessary in some years depending on length of the flight period and number of moths caught. If the first insecticide application is applied at 70% silking, treatment should be repeated every 3 to 5 days until 90% of silks have turned brown. Treatment of fields within 7 to 10 days of harvest is unnecessary.

Cabbage looper trapping – Very low numbers of moths were registered at both Lancaster and Chippewa Falls in the past week. Flight activity is expected to increase early next month. Cabbage looper activity normally begins by mid-July and continues through September, but due to above-normal temperatures and rapid accumulation of degree days, the first surge in moth numbers could occur next week or during the first week of July at advanced southern sites.

Swede midge – Swede midge is a pest to crucifer plants or cole crops such as cabbage, broccoli, cauliflower, brussel sprouts, turnips and radishes. Adults lay eggs on the growing point of plants and larvae feed aggressively after hatching. Swede midge is not known to occur in Wisconsin, but is found throughout Canada. DATCP will be monitoring for this pest with pheromone baited traps this summer. Anyone interested in monitoring a trap should contact Clarissa Hammond at 608-224-4544 or clarissa.hammond@wisconsin.gov.

Nursery, Forest and Landscape

Fire blight – This destructive bacterial disease of apples and pears was observed on 'Autumn Blaze' pear in a Fond du Lac County nursery. Fireblight occurs worldwide and infests more than 130 species in the family Rosaceae, including apple, pear, serviceberry, rose, hawthorn, mountain ash, and spirea.

Fire blight produces several very recognizable symptoms. The first is a blossom blight, which causes flowers or flower clusters to droop, shrivel, and turn brown or black. The second symptom, referred to as "shepherd's crook", is characterized by drooping, diseased tips that have turned brown or black. Another classic symptom of fire blight is a canker which develops in the twigs and branches at wound sites or natural openings where the fire blight bacterium initially infected the tree. During the growing season, bacterial ooze is exuded from these cankers.

Fire blight on pear *www.extension.iastate.edu*

The fire blight bacterium overwinters in the margins of cankers or in the buds and twigs of host plants infected during the previous year. When temperatures increase in the springtime, the bacteria resume activity, expanding cankers and increasing ooze production. Fire blight is spread when bacterial ooze is dispersed by rain, birds, insects or human activity. New infections often occur on stigmas of flowers, fresh wounds, or through the stomatas of leaves and lenticels of twigs.

There is no 100% effective approach to fire blight control, but the chance of infection may be reduced by pruning branches at least 6-8 inches below the diseased area. Pruning during the dormant season is strongly advised; however, if pruning must be done during the growing season, cuts should be made at least 12 inches below the diseased area and pruning tools disinfected after each cut. Diseased branches and leaf debris should be burned or buried.

Other nursery inspection finds this week include:

South central region: Leafcurl aphids on ash, black spot on roses, septoria on spirea, cedar apple rust on Jonathan dwarf apple, Hosta Virus X (HVX) on 'Paul's Glory' hosta, powdery mildew on bee balm, slugs on 'Royal Standard' hosta, scab and spidermites on ornamental crab apple in Dane County

Southeast region: Powdery mildew and black spot on rose, botrytis on geranium and peony, septoria on dogwood, shothole disease on purple leaf sand cherry, Tobacco Rattle Virus (TRV) on bleeding heart, leaf streak on daylily, anthracnose on hosta, colletotridum on phlox, and rust on hollyhock in Milwaukee County. Black spot on 'Flower Carpet' rose in Washington County.

West central region: Rose chafer on arrowwood viburnum and rose, needlecast on Colorado blue spruce, scab on crab apple, dothistroma on Austrian pine and leaf streak on daylily in La Crosse County.

East central region: Ash flower gall and leaf curl aphid on ash, bladder gall on maple, leafminer on hackberry, verticillum wilt on Freeman maple, shoot tip borer on Autumn blaze maple, leaf scorch on viburnum, septoria on spirea, powdery mildew on roses, cottony maple scale on maple, anthracnose and oak leaf blister on swamp white oak, fire blight on Autumn blaze pear, cedar hawthorn rust on crimson cloud hawthorn black knot on prunus and midrib leaf gall on ash in Fond du Lac County.

Guanardia leafspot on horsechestnut, cottony scale, leafhopper burn, gypsy moth larvae and canker on maple, anthracnose and cottony scale on ash, apple scab on apple, oak leaf blister on red oak, phyllosticta on serviceberry, shoot tip sawfly on Freeman maple, gypsy moth larvae on 'Emerald luster' maple, and borers on 'Newport plum' in Manitowoc County.

Northwest region: Spidermites on sweet potato vine, pear slugs on sweet potato purple leaf vine, Hosta virus X (HVX) on 'Sum & Substance' hosta and aphids on pepper in St. Croix County.

Aphids on shrub form hibiscus, leaf galls on boxelder, canker on white ash, spruce sawfly and eastern spruce gall adelgid on black hills spruce, HVX on 'Golden Tiara' hosta, powdery mildew on 'Bright Eyes' and 'Pixie Twinkle' phlox, TRV on bleeding heart and leaf streak on 'Pardon Me' and 'Sunday Gloves' daylily in Polk County.

Eriophyid gall makers - Nursery inspections in Brown County found discolored leaves and twigs on white oak, maple and ash caused by eriophyid mites. Eriophyid mites overwinter in the bark of host trees and begin feeding on new leaves in spring. Their feeding stimulates leaves to produce bladder, spindle, or erineum galls which enclose the mite. Inside the gall, the mite lays eggs that will eventually hatch, mature, and leave the gall in search of new leaves to infect. The distinctive red galls formed on the upper surface of leaves are unattractive, but rarely harm the host plant. Control of eriophyid mites is extremely time sensitive and difficult to achieve. However, since their galls ordinarily do not damage plants, treatment is unnecessary. Mite activity is expected to decelerate as the season progresses.

Erophyid mite galls on oak *University of Minnesota Extension*

Gypsy Moth

Gypsy moth spray program - Pheromone flake treatments are scheduled to begin in southern Wisconsin on Tuesday, June 26, weather permitting. Six yellow spray planes will spray the sticky, green and flat particles in six counties: Crawford, Grant, Iowa, Monroe, Richland and Sauk. The flakes carry the scent of the female gypsy moth, which confuses male moths in search of mates. Gypsy moths have about two weeks to mate before they die. Spraying will start after 7:00 a.m. and may continue into the evening if weather conditions allow. Spraying will move northward through July and possibly into August.

Gypsy moth trapping program – As of this week, gypsy moth trappers have set 22,489 traps, or 70% of the expected total for the 2007 season. Trap setting will continue during the next two weeks and all traps should be deployed by the first week of July. There have been reports of gypsy moth pupae in Rock, Dane and Adams County. This life stage is dark reddish-brown with small protruding hairs. The male pupa is about ½ long, while the female pupa is slightly larger and ranges from ¾ to 1 inch in length. The pupal stage lasts about 10 days with male moths emerging a few days before the females. Moth flight is expected to begin during the first or second week of July in the southern part of the state, and roughly one week to 10 days later in the northern part of the state.

For more information on either the gypsy moth trapping or spraying programs, please call the Gypsy Moth Hotline at 1-800-642-MOTH or visit the Website gypsymoth.wi.gov. Readers also can go to the DATCP website at www.datcp.state.wi.us/index.jsp and click on "Gypsy Moth Spraying" under the Agency Topics heading for more information on spraying activities.

Black Light Trap Counts through June 21

Black light trap summary - A decrease in European corn borer moths in all locations but Reedsburg indicates that egg laying should subside over the next week. At Reedsburg, 39 moths were registered this week compared to 32 last week. Black light trap catches ranged up to 63 moths and averaged just 15.3 moths per site during the peak first flight interval from May 31 to June 6, which suggests the first flight of moths was very light. Counts in other locations were as follows: Lancaster 0, Mazomanie 7, Arlington 3, Janesville 4, Sparta 0, Chippewa Falls 11, Marshfield 22, and Manitowoc 0.

Counts of true armyworm moths also decreased at all black light trap locations except Mazomanie. Counts from last week compared to this week were as follows: Lancaster 13 to 6, Mazomanie 22 to 54, Janesville 78 to 37, Sparta 8 to 0, Chippewa Falls 16 to 11, Marshfield 237 to 137, and Manitowoc reported no moths both weeks.

Manitowoc, Marshfield, Sparta, Janesville and Mazomanie reported increases in spotted cutworm moths, and at

Marshfield the dingy cutworm count remained near 30 moths again this week. The Janesville black light trap continued to attract low numbers of bristly cutworm moths.

	ECB[1]	TA[2]	BCW[3]	SCW[4]	DCW[5]	WBCW[6]
Southwest						
Lancaster	0	6	0	4	0	0
Reedsburg	39	-	-	-	-	-
South central						
Mazomanie	7	54	0	19	0	0
Arlington	3	53	0	6	0	0
Southeast						
Janesville	4	37	1	1	0	0
West central						
Sparta	0	0	0	47	0	0
Chippewa Falls	11	4	0	0	4	0
Central						
Marshfield	22	137	2	39	27	0
East Central						
Manitowoc	0	31	1	32	0	0

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

	CabL[8]	CelL[9]	AlfL[10]	ForL[11]	FA[12]	VCW[13]
Southwest						
Lancaster	0	0	0	8	0	0
South central						
Mazomanie	0	5	0	2	0	0
Arlington	0	3	0	0	0	0
Southeast						
Janesville	0	8	0	0	0	0
West central						
Sparta	0	3	0	0	0	0
Chippewa Falls	0	0	0	0	0	0
Central						
Marshfield	0	11	0	0	0	8
East Central						
Manitowoc	0	1	0	0	0	0

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

Exotic Pest of the Week

Brown marmorated stink bug – The brown marmorated stink bug, *Halymorpha halys*, has a native range extending throughout China, Japan, Korea and Taiwan. The first detection of this species in the United States was in eastern Pennsylvania in 1998. *Halymorpha halys* has since spread into New Jersey, and there have been reports of sightings across the country in Oregon. This exotic species is thought to have been introduced into the United States in shipments from Asia. It is not clear whether it will become an agricultural pest in the U.S., but it behaves much like the notorious multicolored Asian ladybeetle that invades Wisconsin homes and buildings each fall. The primary concern with this insect is when large numbers assemble on the outsides of houses on warm fall days and eventually move indoors in search of overwintering sites.

Adult stink bugs are about 17 mm long. They start life as 5 mm orange and black nymphs, and complete five nymphal instars before reaching adulthood. Distinguishing characteristics are light bands on the antennae, dark bands on the membranous portion of the wings, and small rounded depressions that are copper or metallic blue on the head and pronotum. In the warmer parts of China, this insect undergoes four to six generations per year. In more temperate areas such as Japan, and probably Pennsylvania, the adults overwinter then mate and lay eggs from June to August.

Brown marmorated stink bug *njaes.rutgers.edu*

Brown marmorated stink bugs are a pest of many fruits and vegetables, including apples, peaches, figs, citrus, mulberries, persimmon and soybeans. They also commonly feed on ornamental plants and weeds. Their feeding leaves behind scarring known as “cat facing”, and the damaged fruits cannot be sold. As mentioned, stink bugs are also an annoyance to humans because of their overwintering habits. Similar to multicolored Asian ladybeetles, adults begin flying to look for a warm place to overwinter in September and the flight peaks in October. While they do no structural damage to the house, do not reproduce in it, and leave in the spring, these insects are particularly annoying because of their smell. When disturbed or agitated they produce a very pungent odor from the scent glands on their abdomen, which is especially unpleasant when large numbers are present in a home. This exotic species should not be mistaken for native stink bugs that occur in Wisconsin. The brown marmorated stink bug may be differentiated by the anatomical characteristics mentioned earlier. To report brown marmorated stink bug suspects, call the DATCP PEST HOTLINE at 1-866-440-7523.

Apple Insect Trap Counts from June 15 to 21, 2007

County	Site	Date	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	AM red[5]	AM yellow[6]
Bayfield	Erickson	6/15-6/21	175	0	4	0		
Bayfield	Gellerman	6/11-6/17	20	0	0	0		
Bayfield	Lobermeier	6/15-6/21	0	0	0	15		
Bayfield	Bayfield Apple	6/15-6/21	42	0	9			
Bayfield	Bayfield Apple	6/15-6/21	301	0	8			
Bayfield	Shuga	6/14-6/20	6	0	4	0		
Brown	Oneida	6/15-6/21	651	7	6	5		
Crawford	Turkey Ridge	6/15-6/21	474	130	16	1		
Dane	Deerfield	6/14-6/21	502	19	5	0		
Dane	Stoughton	6/15-6/21	143	99	9	4		
Dane	West Madison	6/14-6/20	45	25	2	8		
Dodge	Brownsville	6/15-6/21	63	14	6	4	0	0
Fond du Lac	Campbellsport 1	6/15-6/21	100	13	18	30		
Fond du Lac	Campbellsport 2	6/15-6/21	112	3	15	40		
Fond du Lac	Rosendale	6/15-6/21	131	10	1	2	0	0
Fond du Lac	Malone	6/15-6/21	540	38	1	0		
Grant	Sinsinawa	6/15-6/21	86	78	7	2		
Green	Brodhead	6/15-6/21	5	47	11	3		
Iowa	Dodgeville	6/15-6/21	475	107	31	6		
Iowa	Mineral Point	6/15-6/21	43	100	5	1		
Jackson	Hixton	6/15-6/21	285	0	1	9		
Marquette	Montello	6/10-6/17	292	18	0	2		
Ozaukee	Mequon	6/14-6/21	125	22	7.6	1		
Pierce	Beldenville	6/15-6/21	1500	5	21	10		
Pierce	Spring Valley	6/15-6/22	240	8	4.5	4		
Racine	Rochester	6/15-6/21	160	7	5.7	1	0	0
Racine	Raymond	6/15-6/21	1450	106	9	9		
Sheboygan	Plymouth	6/15-6/21	1062	0	10	10		
Waukesha	New Berlin	6/15-6/21	1452	47	13	25		

[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.

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EXOTIC PEST OF THE WEEK

Brown marmorated stink bug, *Halyomorpha halys*