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Wisconsin Department of Agriculture, Trade & Consumer Protection

Wisconsin Pest Bulletin

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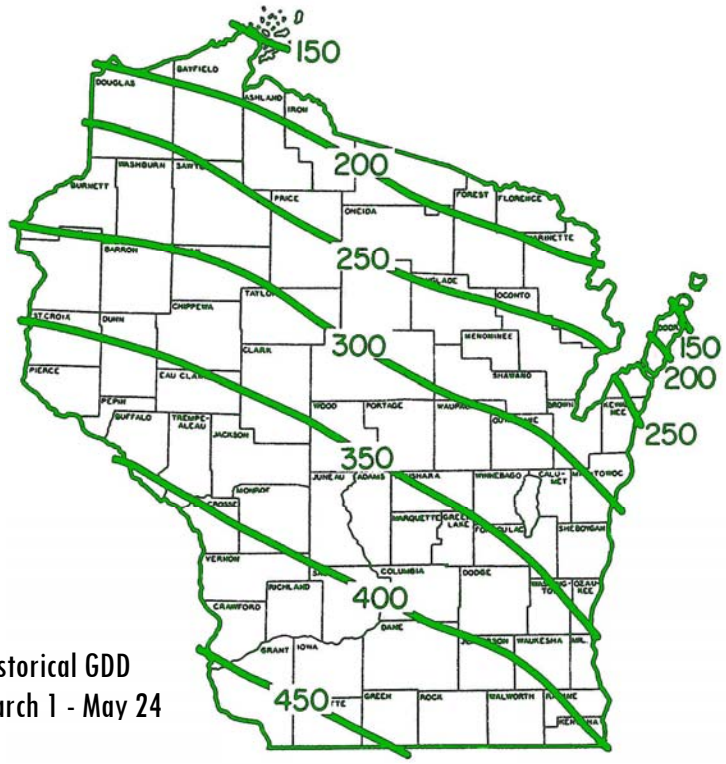
Your weekly source for crop pest news, first alerts, and growing season conditions for Wisconsin

Weather and Pests

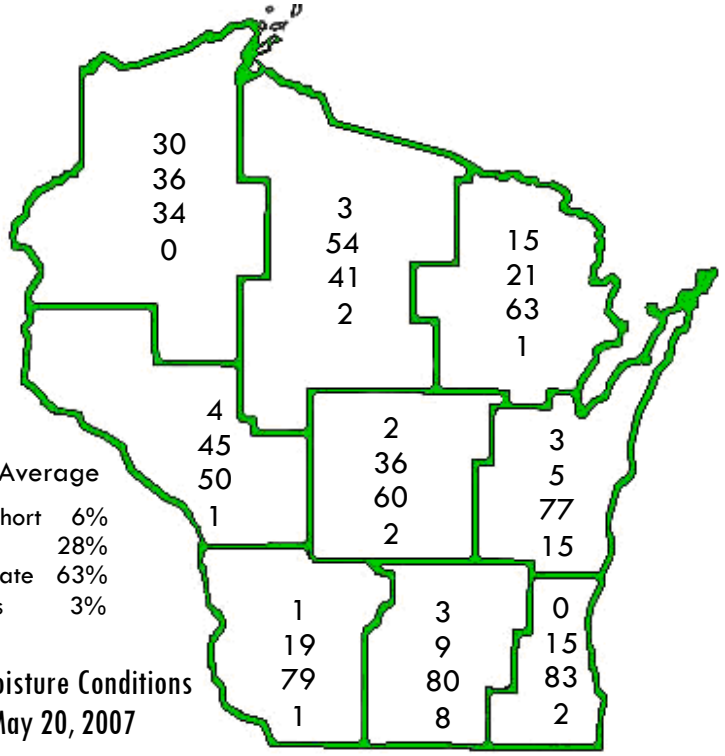
Weather conditions were variable this week, initially being cold and cloudy with frost advisories in the north, followed by a series of hot, extremely windy days. The season is seven to eight days ahead of last year and both crop and insects are developing at an astonishing rate. Development of several pest insects, such as the European corn borer and eastern tent caterpillar, is so advanced that events usually forecasted for mid-June have already occurred. Alfalfa is rapidly being harvested and corn is growing well. In the first case this will minimize further alfalfa weevil damage but in the latter case corn will be tall enough to attract female corn borers for egg laying. Insects at this point in the season have been very influential to early crop development.

Growing Degree Days through 05/24/07 were

	GDD 50F	2006	5-Yr	48F	40F
Dubuque, IA	580	383	472	608	1072
Lone Rock	543	368	446	552	1008
Beloit	550	412	465	556	1027
Madison	496	339	414	507	949
Sullivan	477	363	421	469	913
Juneau	465	320	392	469	900
Waukesha	450	315	376	452	881
Hartford	449	309	364	452	879
Racine	411	276	325	412	829
Milwaukee	410	283	320	412	829
Appleton	427	309	328	423	825
Green Bay	369	257	271	369	762
Big Flats	482	353	397	474	896
Hancock	467	344	381	453	861
Port Edwards	464	354	370	458	867
La Crosse	579	414	441	592	1065
Eau Claire	500	391	408	510	939
Cumberland	452	325	339	447	850
Bayfield	295	203	207	282	622
Wausau	416	297	321	402	788
Medford	408	304	310	397	783
Crivitz	345	260	255	338	702
Crandon	363	258	276	341	696



Historical GDD
March 1 - May 24



State Average

Very Short	6%
Short	28%
Adequate	63%
Surplus	3%

Soil Moisture Conditions
as of May 20, 2007

Looking Ahead

Soybean aphid – The first soybean aphids of the 2007 season, one adult and two nymphs, were detected at the West Madison Research Station on May 24. Dave Hogg, Professor of Entomology at the UW-Madison reportedly examined just one plant before finding the aphids. The identification was confirmed by Phil Pellitteri at the UW-Madison Insect Diagnostic Lab. Soybean aphids generally begin to colonize Wisconsin soybean fields during the first or second week of June, which makes this find earlier than normal. In 2006 the first aphids were detected by June 7, and in 2005 the first aphids were found on June 3. In the weeks to come aphid populations may build slowly or swiftly depending on temperatures and weather conditions; temperatures above 90°F slow aphid reproduction, while temperatures from the low 70s to mid-80s are ideal for development.

Periodical cicada - Emergence of Brood XIII cicadas began near Homewood and Peoria, Illinois on May 20 and at several other locations in Illinois and Indiana in the past week. Cicadas of Brood XIII are expected to make a springtime appearance in southeastern Wisconsin and possibly in Dane and Richland counties later this month and throughout June. A USDA leaflet issued in 1953, titled "The Periodical Cicada", summarized the forthcoming event as follows:

"After years of living underground, millions of cicadas issue from the earth as if by a predetermined signal, undergoing startling transformations, and spread through nearby trees and bushes. From morning till night they fill the air with their weird, droning song. In a few weeks, after mating and laying eggs, they die."

Adult cicada emerging (taken near Peoria, IL) *Liz G. www.cicadamania*

During the 1990 emergence, cicadas first appeared between June 15 and 20. The current brood should begin to emerge earlier, once soils warm to a suitable temperature. For the latest information on Brood XIII and more than 500 images of captivating cicadas, visit www.cicadamania.com.

European corn borer – The first eggs of the season will be laid in the tallest corn fields over the Memorial Day weekend in areas where 450 GDD (base 50°F) have accumulated. With much of the state's corn acreage too short to support larvae at this time, alternate hosts such as potatoes, small grains and early snap beans are likely to attract higher than normal egg laying until more corn grows at least 18 inches tall.

Eastern tent caterpillar – Fully developed caterpillars have left the foliage of host trees in search of suitable sites to spin cocoons and pupate. "Wandering" larvae were observed crossing roadways in Marquette County earlier in the week. Webbing and larvae appeared to be more numerous this spring in Marquette and Adams counties than in the southern two tiers of counties. Adults should begin to emerge once 750 GDD (base 50°F) have been reached.

Eastern tent caterpillar web *Clarissa Hammond DATCP*

Potato leafhopper – Surveys this week found fewer than two adults per 10 sweeps in alfalfa fields throughout the southern and central districts. Potato leafhoppers only recently arrived in the Wisconsin, and populations have not yet started to build. High temperatures and strong southerly winds on May 23-24 are likely to have caused an abrupt escalation in leafhopper numbers. Surveys next week should reveal if recent weather systems directed more migrants into the state.

Bean leaf beetle – Preliminary spring survey results indicate that a high number of adults survived the winter months. A total of 428 beetles have been collected from 84 alfalfa fields surveyed since May 9. The highest counts of 23-26 beetles per 200 sweeps were detected in Jefferson, Lafayette, Rock and Walworth counties. The earliest emerging soybean fields will be highly attractive to these overwintered bean leaf beetles. Growers are strongly urged to scout fields closely for bean leaf beetle activity as soybeans begin to emerge in the week ahead.

Black cutworm – Emerging corn is highly susceptible to cutting at this time. Continue to watch fields closely for indications of cutworm activity as parts of southern and west central Wisconsin enter the heaviest period of

cutworm activity, from 562-640 GDD (base 50°F). The injurious cutting stage may last for 2 ½-3 weeks (through V5) depending on temperatures.

True armyworm – No serious armyworm infestations have been detected this season, but the migratory moths that entered Wisconsin during the last several weeks are laying the foundation for problems next month and during July. Surveys for armyworm larvae should begin 10-14 days after a peak flight has been registered and should be biased toward surveying the most attractive host fields such as corn and wheat. Scout field margins first for signs of armyworm feeding.

Codling moth – Degree day accumulations and trap catches are such that the peak first flight of codling moths should occur in parts of southern and western Wisconsin next week. Expect codling moth eggs to begin hatching in areas where 491 GDD have been surpassed. High catches ranging from 6.5 to 33 moths were registered in orchards near Deerfield, Dodgeville, Mequon, Stoughton, and West Madison this week. The biofix, or sustained capture of five male moths, was recorded at several sites nearly two weeks ago.

Wool sower gall – The peculiar, fuzzy white galls with pink speckles produced by larvae of the small gall wasp, *Callirhytis seminator*, have become evident on white oaks in Adams County. Wool sower galls are specific to white oak and only occur as the new growth emerges in the springtime. This insect is seldom abundant enough to threaten the vigor of infested trees. Each gall contains seed-like structures in which the tiny gall wasp develops.

Wool sower gall on white oak www.forestryimages.org

Forages

Alfalfa weevil – Heavy alfalfa weevil pressure and high percentages of tip injury persist in many unharvested first crop alfalfa fields. Counts of larvae in Dane County vary from 2.1 to 11 per sweep, in Jefferson County from 2 to 8.5 per sweep, in Walworth County from 4.3 to 13.4 per sweep, in Waukesha County from 0 to 7.9 per sweep, in Columbia County from 3.8 to 4.1 per sweep, in Marquette County from to 1.2 to 26 per sweep, and in Adams County 2.9 to 12 per sweep. Alfalfa weevil larvae are in all stages of development, but the first and second instars are more prevalent in the Adams and Marquette County areas, whereas more advanced third and fourth instar larvae predominate in Dane, Jefferson and Walworth counties. This variability in conjunction with the time of cutting will determine the degree of damage to be expected. The longer harvesting is postponed, the greater the likelihood of economic losses. Near Dubuque and La Crosse, some larvae will enter the pupal stage in a matter of days, once 596-814 GDD (base 48°F) have been surpassed.

Several fields checked this week had been sprayed, and in those stands fewer than 1.5 larvae per sweep were found and tip feeding ranged from 2.5-10%. In other fields surveyed, the degree of tip feeding damage was moderate to heavy, ranging up to 90% with severe skeletonization of the leaflets. Surveys in the central counties also found many large, late instar clover leaf weevil larvae in addition to first-third instar alfalfa weevils. A distinction was not made as to the exact source of the damage in these fields, and some portion of the tip feeding observed was undoubtedly caused by the clover leaf weevil larvae.

Glandular-haired, potato-leafhopper resistant alfalfa varieties checked near DeForest in northeastern Dane County showed much lower populations relative to other untreated fields in the county, ranging from 0.2 to 2.3 per sweep and 5-12% tip feeding. Some glandular-hair types show resistance to both alfalfa weevil and potato leafhopper.

With harvesting of first crop hay in progress throughout the southern one-half of the state, the question remains as to the impact of this insect on alfalfa regrowth or in those fields which will not be cut until after alfalfa is in full blossom. Much of the alfalfa cut in the hard bud stage or 10% flower stage may act as a trap crop and the young larvae will be killed. However, the adult weevils will likely survive and continue to lay eggs. Adults are still very active and numerous at this time, and damage to second crop alfalfa by this pest is a strong possibility.

Alfalfa blotch leafminer – The characteristic comma-shaped mines produced by larvae of this species, *Agromyza frontella*, were noted in Dane and Columbia County fields at the low rate of 1 per 25 stems. Control of alfalfa blotch leafminer is rarely justified, but should be directed against the adult pinhole feeding stage if 30-40% of leaflets show pinhole feeding. Fields must be scouted on a weekly basis to accurately assess the percentage of leaves with pinholes.

Plant bugs – Nymphal populations are low to moderate in most alfalfa fields. Numbers of adults and nymphs did not exceed the economic threshold of five plant bugs per sweep in any of the fields checked during recent surveys. Counts of 1-3 per sweep were common in Dane County where nymphs outnumbered adults. This species, as well as the tarnished plant bug, has begun to mature, which suggests the proportion of nymphs to adults should soon

shift in favor of the adults. In Adams County the dominant species was the very distinctive, black plant bug, *Capsus ater*. This generally all-black mirid with an elliptical shape may be recognized by a greatly swollen distal portion of the second antennal segment (see image below). *Capsus ater* is a widely distributed, introduced European species.

Alfalfa plant bug nymph *Krista Hamilton DATCP*

Black plant bug, Capsus ater *Krista Hamilton DATCP*

Pea aphid – Populations continue to increase in first growth alfalfa. Counts as high as 22.7 per sweep were present in one Dane County field but generally averaged roughly 10 per sweep in most fields. Winged forms currently comprise a very small percentage of the population (less than 10%). Aphid numbers in Jefferson, Waukesha and Walworth counties were variable, and ranged from in 0.4 to 11 per sweep.

Potato leafhopper – This tiny, ⅛ inch-long insect has remarkable timing. After migrating from the Gulf Coast region, adults customarily appear in Wisconsin alfalfa when the first crop is ready for harvest. The first cutting is usually not affected, but subsequent crops may be severely impacted. Whenever an alfalfa stand is allowed to grow for more than three weeks between cuttings, sufficient time is provided for potato nymphs to mature to the adult stage, and the numbers of potato leafhopper adults increase significantly. It should be noted that adult potato leafhopper populations may increase at any time during the season due to immigration from adjacent or distant sources such as late-harvested hay fields.

Surveys this week found low counts of 1-2 per 10 sweeps in the Adams, Dane, Columbia, Juneau, Marquette, Jefferson, Waukesha and Walworth counties. Potato leafhopper-resistant varieties checked in northeastern Dane County had 0-1 leafhoppers per 10 sweeps. The effectiveness of these new leafhopper-resistant varieties will be put to the test early next month and throughout July after more migrants arrive and reproduction begins. The economic benefits of planting such varieties are realized under conditions of severe potato leafhopper pressure. Current potato leafhopper populations are too low to assess the effectiveness resistant varieties.

Meadow spittlebug – Nymphs have not matured as of yet. Four in ten examined in Columbia County fields had developed wing pads, indicating they should reach maturity in the next few days. Nymphs averaged one per 20 stems in Dane County where populations are very low. Higher densities ranging up to three per 20 stem were found in Adams and Marquette County fields. There should not be drying difficulties due to high populations of this pest.

Spotted alfalfa aphid – As its common name suggests, the spotted alfalfa aphid may be readily distinguished from the pea aphid by its distinctive spots, pale yellow coloration, and short cornicles. Pea aphids lack spots, are pale green in color, and have cornicles blackened toward the tips. Because action thresholds differ among aphid species found in alfalfa, it is imperative that the species be accurately identified before any management decision is made. Recent surveys have not detected this species in any southern or central fields, but growers should be aware that the pea aphid is not the only aphid species that occurs in high numbers in Wisconsin alfalfa.

Alfalfa pest predators – *Nabis ferus* is relatively common in most alfalfa fields averaging about 2-4 per 10 sweeps. This damselbug species appears to be a greater control of plant bugs than pea aphids as number of pea aphids are generally moderate to high in most fields. Ladybeetles are not particularly abundant, averaging one per 20 sweeps. Green lacewings are present in low numbers in many alfalfa stands.

Corn

European corn borer - Emergence of European corn borer moths has accelerated since last week. The first flight is underway as far north as Green Bay in the east central district. Activity of the first flight of moths is expected to peak around May 27 in Rock County, May 29 in Dane County, and June 3 in Marathon County, if the warm weather continues. Pinhole feeding by first instar larvae should become evident in susceptible whorl stage corn by the first or second week or June. Black light trap captures during the next two weeks will substantiate or discredit the

forecast for a light first flight of moths this season (based on the low 2006 fall population of 0.29 borer per plant). European corn borer moth captures for the May 18-25 reporting period were as follows: East Troy - 2, Lancaster - 4, Mazomanie - 28.

True armyworm - Be alert to armyworm feeding in small grains and corn fields in the week ahead. While moth catches were not high in the past week, a steady amount of armyworm flight activity has been registered this season. Recent surveys in southern and central corn and wheat fields found no noteworthy infestations of this insect.

Black cutworm - Larvae are developing rapidly due to warm temperatures. In the southern one-half of the state most larvae have reached the damaging fourth instar stage. Fields should be scouted closely for leaf feeding and severed plants between 562 and 640 GDD (base 50°F), or during the first week of June. When more than 5% of plants show damage AND the larvae are sixth instar or smaller, a spot treatment may be beneficial. Consult UW-Extension Publication No. A3821 http://learningstore.uwex.edu/pdf/A3821.pdf for scouting and control recommendations.

Soybeans

Bean leaf beetle - The fifth annual spring survey for overwintered beetles continued northward into Adams and Marquette counties this week. As of May 24, a total of 84 alfalfa fields have been surveyed, with 428 bean leaf beetles collected from 65 of the 84 fields (77%). Although very preliminary, these numbers are already substantially higher than any documented in previous spring surveys. The highest numbers of beetles (23-26 per 200 sweeps) were collected in Jefferson, Lafayette, Rock and Walworth counties.

Early survey results indicate there may be significant damage to soybeans in the southern counties. Soybeans emerging in the week ahead will be highly attractive to the overwintered generation bean leaf beetles, and could suffer severe defoliation. Growers are encouraged to scout emerging soybean fields for bean leaf beetles. During the early seedling stage, the threshold for bean leaf beetles is 16 per foot of row. At V2+ the threshold increases to 39 per foot of row. Preliminary results of the 2007 survey are compared to results of spring surveys since 2003 in the table on page 71.

Weeds

Weeds in all stages of development--from emergence to seed formation--were observed this week in southern Wisconsin. Newly-emerged velvetleaf cotyledons were abundant in V1-V3 stage corn, flowering white cockle and yellow rocket plants were scattered throughout uncut alfalfa fields, while dandelion and shepherd's purse seeds filled sweep net samples. Some weeds surpassed the two-foot tall mark, such as leafy spurge at the Arlington Research Station weed garden and musk thistle growing along Highway 18 in Jefferson County. Other species observed during surveys this week were curly dock (forming seed), giant ragweed (6"), common ragweed (6"), milkweed (10"), lambsquarters (4") and wild buckwheat. Tiny velvetleaf seedlings were the dominant weed in southeastern Wisconsin corn, with common lambsquarters in close second.

Lambsquarters and palmer amaranth *Clarissa Hammond - DATCP*

Wild buckwheat *Clarissa Hammond*

Continuous corn - Field corn acreage is expected to increase substantially this season. Already rural landscapes are filling in with more corn seedlings than in previous years. The recent increase in continuous corn acreage has several implications for pest management. Growers are urged to consider the risks associated with planting continuous corn.

By removing crop rotation as a pest management technique, farmers have one less option for averting pest problems. Integrated Pest Management (IPM) is defined by the implementation of a wide variety of approaches to minimize or control pests; the fewer strategies employed, the less "integrated" management becomes. Furthermore, pest insects, diseases and weeds are more likely to develop resistance to one strategy used repeatedly.

Earlier this season, UW-Madison and University of Illinois Weed Extension Specialists discussed the topic of weed management in continuous corn in several online articles. Although most farmers have likely decided on weed management plans by now, these articles offer a number of important points to consider, especially if the trend toward multi-year corn continues to increase.

Fruit

Spotted tentiform leafminer – Pheromone trap counts have declined to the lowest levels in three weeks, indicating populations are currently in the late larval stages. The second flight of spotted tentiform leafminer moths could begin in advanced southwestern and south central orchards over the Memorial Day weekend. Degree day accumulations near Dubuque, Beloit, La Crosse and Lone Rock are right for moth emergence (539-750 GDD base 50°F). The Bayfield County orchards that registered peak counts beginning May 4-10 and again during the May 11-18 reporting period should not expect to see moths of the second flight for at least another 17 days, possibly by June 9 if warm temperatures continue.

Codling moth - Flight activity has escalated noticeably in southern and central orchards. Captures ranging up to 33 moths were registered during the May 18-25 reporting period, and counts exceeding the threshold of five moths per trap per week were documented at 13 orchards. This week's high count of 62 moths was reported by John Aue in Richland County. The first codling moth eggs of the season are hatching in orchards where 491 GDD (base 50°F) have been surpassed, and the first flight of moths is expected to peak following the accumulation of 500 GDD. Sprays to control this insect should be directed against the young larvae before they tunnel into developing fruits.

Redbanded leafroller – Apple insect trapping cooperators reported a substantial decrease in flight activity this week. Larvae are feeding and developing rapidly in orchards, and will soon enter the pupal stage in the southern one-half of the state. Emergence of second flight redbanded leafroller moths should be expected around June 1 near Dubuque, June 3 near Beloit, June 5 near Madison, June 10 near Racine, and June 11 near Wausau, once 780 GDD are reached.

Obliquebanded leafroller - The first moth flight of the season is in officially underway in the southern two-thirds of the state where trap counts ranging up to seven moths were reported. First flight activity of obliquebanded leafrollers begins significantly later than the spotted tentiform leafminer and redbanded leafroller because this insect does not overwinter in the pupal stage like the others. In contrast, obliquebanded leafrollers overwinter as young larvae in cocoons on the trunks of trees and must complete larval development and pupate before emerging as adults in early June.

During the past few weeks various orchards have reported captures of non-target moths in obliquebanded leafroller traps. The cooperator located near Hill Point in Richland County submitted a sticky trap sample with several gray moths with brown markings near the tips of the wings. The moths were similar in size to the obliquebanded leafroller, but were not bell-shaped and light brown with angled crossbands. Obliquebanded leafroller is the largest of the fruit moths monitored as part of the DATCP apple insect trapping program. Images of this insect and the non-target moths recently captured in pheromone traps are provided below.

Unknown moth found in OBLR trap *Krista Hamilton DATCP*

Obliquebanded leafroller *www.nysipm.cornell.edu*

Plum curculio - Adult weevils began moving into orchards approximately two weeks ago, according to John Aue of Threshold IPM Services. Growers should begin to see the characteristic signs of plum curculio activity, such as feeding and oviposition scars on developing fruits. Recent warm temperatures have been highly favorable for plum curculio migration into orchards. It is recommended that orchard perimeters be checked closely, particularly in orchards where sprays for other pests (e.g. codling moth, leafrollers) were not applied at petal fall. Spray applications directed against plum curculio should be timed to prevent egg laying and may be warranted when 0.5-1% fruit injury is detected.

Vegetables

Red turnip beetle – Adults were abundant on the leaves, stems and flowers of hoary alyssum, *Berteroa incana*, growing in alfalfa fields on sandy soils in Adams County. These distinctive, bright red beetles with three black bands were easily spotted due to their contrasting coloration (see image below). The larvae feed on vegetables and weeds in the mustard family Brassicaceae, including cabbage, turnips, radishes, shepherd's purse and wild mustard. The ½ inch-long adults appear in gardens from late May through June and feed for just two to three weeks. Damage occurs only sporadically in Wisconsin, usually when the beetles migrate into home gardens from nearby fields. Young seedlings and transplants are most susceptible to injury by this defoliator. Handpicking larvae and adults from foliage is the recommended method of control.

Red turnip beetle *Krista Hamilton DATCP*

Wireworm – Adult wireworms, also known as click beetles were active and numerous in alfalfa fields surveyed this week. Wireworms are not considered a significant crop pest in Wisconsin, but in years when populations are high their feeding causes poor germination, "snakehead" seedlings and wilted or stunted seedlings in corn, small grains, beans, beets, cabbage, carrots, lettuce, onions, peas, radishes, and potatoes. Wireworms should be considered as a possible cause of injury in fields exhibiting the symptoms mentioned above. Adult females commonly burrow into the ground and lay eggs on or near roots of grasses. The larvae, which live in the top six inches of soil and feed on the seeds and roots, have an extended life cycle that may require up to six years to complete. Fields most susceptible to injury are those that have been in sod for several years. If wireworm damage is suspected, dig up the affected plants along with 4-6 inches of surrounding soil to check for larvae.

Colorado potato beetle – Rapid growing degree day accumulations mean larvae are developing fast. According to the degree day model for Colorado potato beetle, third instar larvae should be active in the warmer parts of the state such as La Crosse and Beloit, while first instar larvae are feeding in potato fields near Hancock and Green Bay. A degree day model for Colorado potato beetle is provided below.

CPB Life Stage	Degree Days (base 52F)
First eggs	120
First instar larvae	185
Second instar larvae	240
Third instar larvae	300
Fourth instar	400
Pupal stage	675

Striped cucumber beetle – Adults have begun appearing on cucurbits in Dane and Sauk counties in moderate numbers. Small, recently emerged or transplanted vine crops are highly susceptible to direct feeding injury by this pest. In addition, the beetles vector bacterial wilt, which is particularly damaging to cucumbers and muskmelons grown in Wisconsin. The economic threshold for striped cucumber beetle is 4-5 beetles per 50 plants.

Bean leaf beetle – High numbers of bean leaf beetles were swept from Jefferson, Walworth and Waukesha County alfalfa fields this week, suggesting many beetles ovewintered successfully. While this insect is of prime concern to early emerging soybeans, severe defoliation is also likely to occur on other legumes such as sugar snap peas, shell peas and snap beans in years when populations are high (such as this one). Large, round holes on new leaves are a good indicator of bean leaf beetle activity. Look for this characteristic defoliation to appear in the week ahead.

Cover crops - Using a summer cover crop is a good way to reinvigorate soil and interfere with pest life cycles before or after early or late season vegetables. Though summer may seem an unusual time to use cover crops, soil building cover crops can be much more effective at this time of year. A field does not have to be put out of production for the entire season either. Cover crops can be sown after lettuce, peas, early beans, spinach and small grains or before later vegetables such as pumpkins broccoli, and late cucumbers.

Buckwheat and sudangrass or sorghum-sudangrass are the principle choices for June. Sudangrass works well to improve soil organic matter and to reduce root-knot nematode pressure. Buckwheat suppresses weeds by covering the ground quickly and out-competing weeds. Sudangrass should be in the ground 60-70 days while buckwheat needs 35-40 days, but both need to be mowed after 40 days. The remaining days for sudangrass are the most important for root growth and nematode suppression.

Risks are associated with both crops. Buckwheat problems occur if the crop is let go to seed or the stand fails. Be sure to remove the crop before green seeds appear. Sundangrass poses a risk when it grows too tall to mow, or to incorporate into the soil after frost killed it.

The first mowing should occur when plants are about three-feet tall and the second cutting when the mower can still chop the vegetation well. -- *Excerpted from an article by Thomas Bjorkman, Department of Horticulture at Cornell University.*

Nursery, Forest and Landscape

Daylily rust – This disease, which is caused by the fungus *Puccinia hemerocallidis*, was observed on 'Burgundy Velvet' daylily in Racine County. Daylily rust is relatively new to the United States and was first found in the southeast in 2000.

Symptoms of this disease first appear as yellow to brown streaks on the leaves. As the disease progresses, small raised yellow-orange spots, or pustules, appear on the undersurface of leaves, while the upper surface of leaves exhibit small yellowish spots. The pustules release orange spores when rubbed. It is during this time, when daylily rust is sporulating, that the disease readily spreads to other daylilies through wind dispersal. When spores land on new plants they germinate and produce a second type of spore which can then infect the secondary host, *Patrinia sp.*, on which the disease overwinters. It should be noted that daylily rust has not been shown to overwinter in Wisconsin; instead, spores typically arrive on infested nursery stock or strong southerly winds.

Some fungicides may be helpful in controlling daylily rust. The likelihood of infection can may be reduced by growing daylilies without *Patrinia* species nearby.

Daylily rust *Anette Phibbs DATCP*

Other nursery inspection finds this week include:

Southwest region: Black aphids on nicotiana in Dane County.

Southeast region: Black spot and Rose Mosaic Virus (RMV) on tree rose, apple scab on 'Pink Spire' crabapple, fireblight on 'Prairie Fire' crabapple, red leaf gall on 'Freeman' maple, leafhoppers on 'Autumn Blaze' maple and leaf scorch on euonymus in Washington County. Anthracnose on daylily and chlorosis on Oriental poppy in Dodge County.

Anthracnose on hosta, leaf streak on daylily, botrytis on geranium, shothole on purple leaf sand cherry, leaf spot on petunia and pansy, Tobacco Rattle Virus (TRV) on bleeding heart and black spot and powdery mildew on rose in Waukesha County.

West central region: Cold damage on mock orange and alpine currant, powdery mildew on rose, cedar apple rust on apple, woolly aphids on crab apple, rust on serviceberry, TRV on bleeding heart, aphid and thrips feeding on chrysanthemum and botrytis on impatiens in Sauk County.

East central region: Leafspot on daylily, virus on paeonia, apple scab on 'McIntosh' apple, cold damage on Malus Cinderella and euonymus, Fletcher's scale on densiformis yew, powdery mildew on 'Winky Blue & White' columbine, and needle miner on arborvitae in Manitowoc County.

Cold damage on hydrangea, spider mites and scale on citrus tree and RMV on 'Oklahoma #2' rose in Kewaunee County.

Hollyhock rust on 'Crème de Cassis' hollyhock, aphids on 'Gernadin Yellow' hollyhock, leafspot on New Guinea impatiens and leaf miner on 'Leprechaun Gold' columbine in Door County.

Gypsy Moth

Gypsy moth spraying update - This year may be a record finish for Btk/NPV spraying. The spray season began on May 10 in southern Wisconsin, and on May 25 – if weather conditions are favorable – all Btk and NPV treatments will be completed.

Ashland, Bayfield and Burnett counties are scheduled to receive a second treatment of Btk on May 25. The counties received the first treatment on Monday, May 21.

As Btk/NPV spraying nears an end, more than 16,000 postcards for pheromone flakes treatment are in the works. This mailing is scheduled to arrive at residences near or in targeted areas in early June. Flake treatment is scheduled to start in southern Wisconsin in mid-June and will move northward.

Gypsy moth trapping program - Gypsy moth trappers set 2,200 traps during the first week of the trapping program, which is 7% of the expected total for the 2007 season. Trap setting will continue for the next 4-5 weeks. During this time, gypsy moth larvae will grow and molt (shed their skin) several times until they reach approximately 2½ inches in length. Once the larvae are full-grown, five pairs of blue dots and six pairs of red dots will be noticeable along the back with hairs tufting from the sides (see image below). The general body color is ash gray and the head is yellow with large black "eye spots". Gypsy moth larvae feed on over 300 species of trees but prefer oak, willow,

basswood, crabapple, birch, and aspen. By late June or early July, the larvae will begin to fatten and shrink in size in preparation for pupation. Using a few fine threads, the caterpillars then attach themselves to a tree and remain in place during the pupal stage.

For more information on 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.

Gypsy moth larva www.forestryimages.org

Exotic Pest of the Week

Silver Y Moth – This moth has been on the exotic species radar for a number of years in the United States. Although no introductions have been documented, over 469 interceptions of *Autographa sp.* were made on incoming vegetables, ornamentals, cut flowers and others plants from 1985 to 2003. Interceptions of *A. grapha* have been reported from approximately 130 separate plant taxa.

Silver y moth www.forestryimages.org

Silver Y moth is native to Europe, New Zealand, and Northern Africa where it is very common and abundant during certain times of the year. *Autographa gamma* is considered highly likely to become established if introduced into the United States; the consequences of its establishment for U.S. agricultural and natural ecosystems were rated as high in a risk assessment conducted by Venette et al. (2003) at the University of Minnesota.

Larvae of the silver Y moth feed primarily at night and on more than 200 different hosts, including red beets, potatoes, cereals, flax, tomatoes, beans, tobacco, many other vegetable crops and some nursery crops. In high population years, swarms of thousands of silver Y moths may invade cultivated fields (beets, potatoes) in search of nectar and suitable egg-laying sites.

Adult moths closely resemble two looper species known to occur in Wisconsin, making identification and detection difficult. The brassy-brown forewings have silvery white Y-shaped marking, similar to cabbage and celery looper moths. Adults are active both at day and night.

Reference:

Robert C. Venette, R.C., E. E. Davis, H. Heisler and M. Larson. 2003. Mini Risk Assessment Silver Y Moth, Autographa gamma (L.) (Lepidoptera: Noctuidae). Department of Entomology, University of Minnesota. 24p.

Black Light Trap Counts through May 24

	ECB[1]	TA[2]	BCW[3]	SCW[4]	DCW[5]	WBCW[6]	VCW[13]
Southwest							
Lancaster	4	2	1	0	0	0	0
South central							
Mazomanie	28	7	0	4	0	0	9
Southeast							
Janesville	0	6	0	0	0	0	0
East Troy	2	1	2	0	0	0	1
West central							
Sparta	0	2	0	0	1	0	1
Central							
Marshfield	0	11	1	0	0	0	2
East Central							
Manitowoc	0	14	1	0	0	0	0

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

Apple Insect Trap Counts from May 18 to May 25, 2007

County	Site	Date	STLM[1]	RBLR[2]	CM[3]	OBLR[4]
Bayfield	Gellerman	5/14-5/20	14	1		
Bayfield	Lobermeier	5/18-5/24	31	46	0	
Bayfield	Bayfield Apple	5/18-5/24	508	0	0	
Bayfield	Bayfield Apple	5/18-5/24	1656	1	0	
Brown	Oneida	5/18-5/24	405	16	5	
Crawford	Gays Mills E	5/18-5/24	35	4	23	0
Dane	Deerfield	5/17-5/24	7	1	24	2
Dane	Stoughton	5/18-5/24	14	19	6.5	3
Dane	West Madison	5/18-5/24	0	1	15	2
Dodge	Brownsville	5/18-5/24	7	3	2.5	0.5
Fond du Lac	Campbellsport 1	5/18-5/24	0	0	0	3
Fond du Lac	Campbellsport 2	5/18-5/24	0	19	5	7
Fond du Lac	Rosendale	5/18-5/25	56	33	2	0
Fond du Lac	Malone	5/18-5/24	50	5	0.66	0
Grant	Sinsinawa	5/18-5/24	0	2	0	0
Iowa	Dodgeville	5/18-5/24	4	1	33	1
Iowa	Mineral Point	5/18-5/24	3	14	0	1
Jackson	Hixton	5/18-5/25	32	11	1	4
Marquette	Montello	5/15-5/22	13	4	0	0
Marinette	Wausaukee	5/18-5/24	105	12	0	0
Ozaukee	Mequon	5/18-5/24	35	6	13.8	
Pierce	Beldenville	5/18-5/25	5	3	12	3
Pierce	Spring Valley	5/18-5/24	36	32	4	5
Racine	Rochester	5/18-5/24	0	3	8	0
Racine	Raymond	5/18-5/24	15	1	2	1
Richland	Hill Point	5/17-5/23	35	5	3	0
Richland	Richland Ctr E	5/18-5/24	35	5	62	0
Richland	Richland Ctr W	5/18-5/24	45	9	4	0
Sheboygan	Plymouth	5/18-5/24	105	36	11	
Waukesha	New Berlin	5/18-5/24	12	2	1	0

[1] Spotted tentiform leafminer; [2] Redbanded leafroller; [3] Codling moth; [4] Obliquebanded leafroller

Bean leaf beetle spring survey results 2003-2007 (results from 2007 are preliminary)

Year	Survey dates	No. Sites Surveyed	No. Sites with BLB	No BLB collected	No Sites with BLB positive for BPMV	Counties with overwintered BLB carrying BPMV
2003	5/12-6/19	107	40 (37%)	151	~31	Columbia, Dane, Dodge, Green, Iowa, Jefferson, Lafayette, Rock, Sauk, Walworth
2004	5/17-6/10	101	62 (61%)	180	8	Jefferson, Lafayette, Walworth, Waukesha
2005	5/04-6/01	204	51 (25%)	180	1	Rock
2006	5/04-6/09	202	81 (40%)	171	3	Grant, Juneau, Walworth
2007	5/09-5/24	84	65 (77%)	428	NA	NA

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EXOTIC PEST OF THE WEEK

Silver Y Moth, *Autographa gamma*