Wisconsin Department of Agriculture, Trade & Consumer Protection

Wisconsin Pest Bulletin

Your weekly source for crop pest news, first alerts & weather information for Wisconsin.

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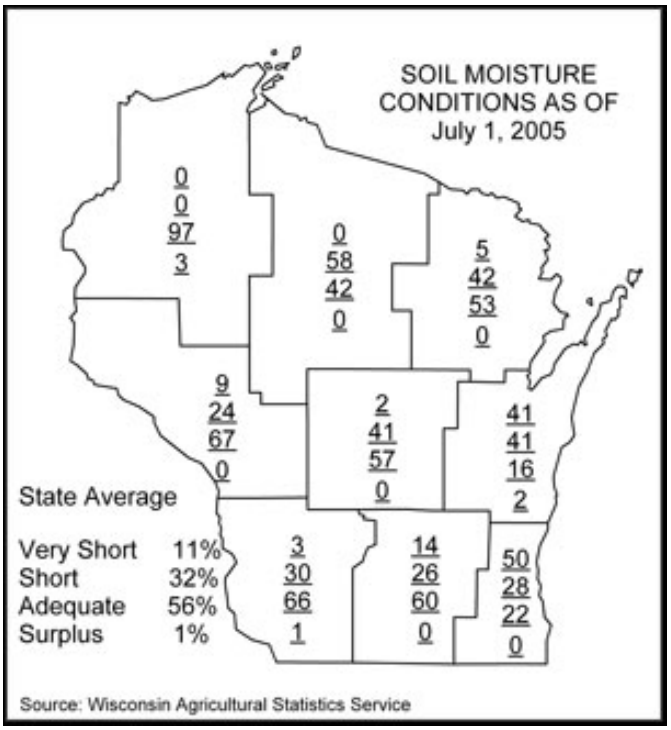
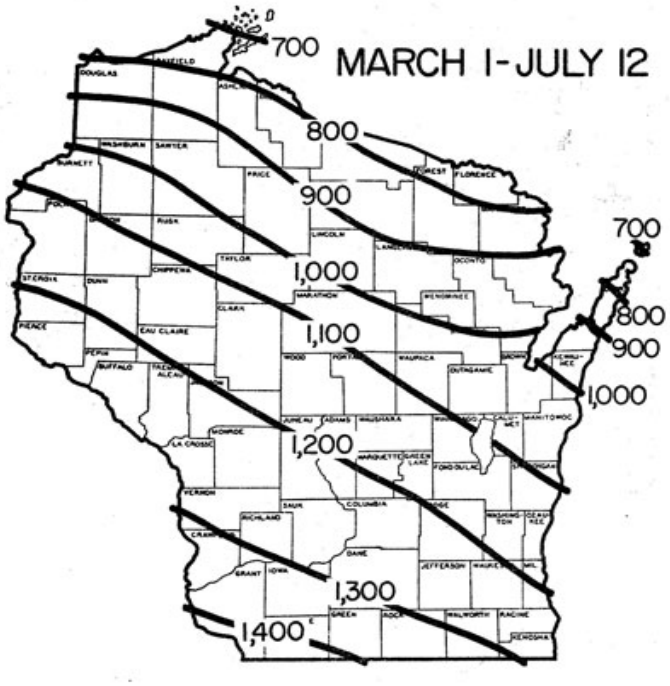




Historical Growing Degree-Days Accumulated
Since March 1, 2005
(Wisconsin Agricultural Statistics Service)

Weather and Pests

Evening rains combined with temperate conditions in the last week have reinforced strong crop conditions. Corn and soybeans continue to exhibit unusually rapid growth. An estimated 17% of the state's soybeans have bloomed (R1), significantly higher than last year's and the five-year average of 0%. Corn growers are reporting the best-looking crop in recent memory. On the basis of degree day accumulations, we are about eight days ahead of last year in the Madison area.

Recent weather conditions have been highly favorable for the reproduction of soybean aphids. In some southern counties, densities reminiscent of the soybean aphid outbreak of 2003 were detected this week. Fortunately, there's no need for most growers to worry just yet; a vast majority of Wisconsin soybean fields continue to support below-threshold levels of soybean aphids (<250 aphids per plant). Corn rootworm beetle emergence began this week with sightings in Dane and Rock Cos. The majority of this season's beetle population isn't expected to emerge in full until early August.

Growing degree days from March 1 through July 7 were:

Site	GDD*	2004 GDD	Base 48	Base 40
SOUTHWEST				
Dubuque, IA	1322	1227	1308	2209
Lone Rock	1269	1124	1272	2117
SOUTH CENTRAL				
Beloit	1316	1195	1277	2183
Madison	1282	1090	1282	2142
Sullivan	1298	1103	1230	2154
Juneau	1273	1063	1245	2122
SOUTHEAST				
Waukesha	1215	1044	1185	2047
Hartford	1199	1003	1199	2030
Racine	1112	971	1125	1926
Milwaukee	1096	930	1097	1909
EAST CENTRAL				
Appleton	1104	814	1138	1886
Green Bay	1010	745	1049	1786
CENTRAL				
Big Flats	1217	952	1219	2028
Hancock	1190	910	1192	1992
Port Edwards	1150	850	1171	1932
WEST CENTRAL				
LaCrosse	1312	1122	1311	2185
Eau Claire	1193	929	1257	2017
NORTHWEST				
Cumberland	1013	706	1069	1781
Bayfield	704	500	724	1371
NORTH CENTRAL				
Wausau	1041	733	1070	1778
Medford	1009	691	1049	1750
NORTHEAST				
Crivitz	949	629	971	1695
Crandon	948	654	956	1643

Looking Ahead

European corn borer - Throughout most of the state, first generation larvae have already tunneled into stalks and treatment is no longer effective. At advanced sites where 1272 GDD50 have accumulated, such as Beloit, Sullivan, and La Crosse, pupation of first generation larvae is in progress. The earliest emerging adults of the second flight can be expected to appear in black light traps near Lone Rock, La Crosse and Madison around July 14, near Hancock by July 20, and Racine by July 25.

Soybean aphid - Pockets of extremely heavy aphid densities were found in the northeastern corner of Walworth Co and in northwestern Rock Co. this week. In Walworth Co. fields, as many as 1,420 aphids were found on individual plants, while in the Rock Co. fields surveyed, densities exceeded 300 aphids per plant. These heavily infested fields were the exception this week; most fields continued to support below-threshold levels of aphids (<250 aphids per plant). Growers are urged to step up scouting efforts in the next two weeks to determine the need for soybean aphid control. Aphid densities are expected to reach peak levels during the early reproductive stages of soybean growth R2 (full bloom) to R4 (full pod).

Corn rootworm - Adult emergence commenced this week, and a small number of beetles of both the western and northern variety were spotted in advanced Walworth and Dane Co. fields. Although the greater part of adult emergence isn't expect to occur until early August, growers should be alert to the possibility of silk pruning by corn rootworm adults in the next two weeks. In addition, look for lodging damage to become apparent in fields where corn root systems have been compromised by heavy larval infestations. The first two to three weeks of July are the most opportune time to assess the degree of larval injury to corn plants, and the first two weeks of August are the best time to evaluate adult populations. Mark your calendars and plan to scout for corn rootworm frequently and intensively in the month ahead.

Western bean cutworm (WBCW) - Pheromone traps are now in place to catch the earliest emerging western bean cutworm moths of 2005. Survey specialists will be watching WBCW flight activity very closely this season to learn more about this relatively new corn pest to Wisconsin. Already moths have been captured in eight Illinois Cos., which is usually a reliable indicator that the same is event is approaching in the southern Wisconsin counties. This season's trapping efforts are aimed at determining: 1) when moths begin to appear; 2) when the flight of moths peaks; and 3) how far east the WBCW distribution extends in Wisconsin. Look to future issues of the Wisconsin Pest Bulletin for reports on WBCW activity.


Western bean cutworm larvae
K. Lambrecht, WI DATCP

Soybean stem borer (*Dectes texanus* LeConte) - This longhorned beetle pest of soybeans was sighted in Walworth Co. field earlier in the week, where adults were swept at the rate of 1-2 per 100 sweeps. Because the soybean stem borer is not common in Wisconsin fields, survey specialists consider this find to be a noteworthy event. In fact, *D. texanus* has only been collected from Racine, Walworth and Waukesha Cos. to date; therefore, we are highly interested in learning more about its distribution and activity. In southern states the soybean stem borer is considered to be an occasional pest. The larvae tunnel within the soybean stem, making control very difficult to achieve. Fortunately, the levels present in the infested Walworth Co. fields were not high enough to suggest economic levels of injury might result. It appears D. texanus may be confined to the southernmost tier of Wisconsin counties; still, readers are encouraged to be on the lookout for longhorned beetles when scouting soybeans across the state.

Armyworm - In general, very low numbers of larvae and injured corn plants are being found throughout the south, but monitoring of susceptible forage and cereal crops should continue. In Wisconsin, the second larval generation is customarily the most damaging. This generation emerges in July. When high numbers of large armyworm larvae feed in corn, the results can be rather alarming. To scout for armyworm in corn, look for defoliation on a minimum of 20 plants at five separate locations in each field. Record the number of damaged plants and the number of armyworms per plant. Spot treatment may be beneficial when there are two or more armyworms at 3/4 inch or longer per plant on 25% of the plants, or there is one armyworm per plant on 75% of the plants. Grassy or weedy fields, or fields adjacent to small grains or hay fields, are most susceptible to attack.

Armyworm feeding in corn
Marlin E. Rice

Apple maggot - Additional captures of apple maggot flies on a yellow sticky board were reported from Dodgeville this week. No captures of flies on red ball traps were recorded. In the week ahead, scouting and control efforts should be intensified in all apple growing areas.

Spotted tentiform leafminer - The second flight of moths reached peak levels in nearly every part of the state this week. The highest capture of 888 STLM moths was reported from Rochester in Racine Co. Peak pheromone trap catches of spotted tentiform leafminer moths signal that time to begin scouting is about a week away. Apple growers are encouraged to scout for sap feeder leaf mines on the undersides of leaves in the next week, or one week after the peak flight occurs in your orchard. Consider treating second generation sap feeders when an average of one mine per leaf is detected.

Apple ermine moth (suspects) - Southern and central orchards are entering the period during which apple ermine moths, or moths that looks remarkably similar to apple

ermine moths, begin to show up in traps baited with apple ermine moth lure. It remains unclear if these suspect moths are indeed the exotic apple ermine moth, the closely-related cherry ermine moth, or the euonymus moth (another apple ermine moth look-alike). The moths alone are not enough for identifiers to differentiate between the similar species.

In order to confirm the presence of apple ermine moth, live larvae or the communal tents made by the larvae must be detected. Orchardists should look for the communal tents to appear two to three weeks after suspects are captured in pheromone traps. The tents look much like the familiar tents of the Eastern tent caterpillar, but since tent caterpillar have already run their course this season, any webs now appearing in orchard are more likely to be made by ermine moth larvae. Be on the lookout for communal webs in late July and early August, and please report any sightings to the Pest Survey Hotline at 1-800-462-2803.

Corn

European corn borer - Detections of localized hot spots continued this week. A small number of fields in northern Walworth Co. and western Dane Co. had infestations affecting 24-33% of the plants. Most fields surveyed in the area had much lower infestations, ranging from 7-16%. Heavy feeding injury occurred in an early fresh market planting of sweet corn near Stoughton in southern Dane Co., where an estimated 40% of the plants were infested with first generation larvae. This field required treatment late last week to lessen the impact of corn borers. Elsewhere corn borer populations are light. Infestations ranging from 0-5% were detected in Clark and Wood Co. fields.

In most regions of the state, larvae are predominantly in the third and fourth instars, although at advanced southern sites, pupation of first generation larvae began this week. The treatment window for first generation larvae has closed in all regions where 1100 GDD50 have accumulated, as far north as Port Edwards in Wood Co. In the northeast district, some time is left; however, management decisions will need to be made in the next few days. As a reminder, any infestation exceeding 50% in grain corn is considered high, a count over 25% in processing corn is high, and a general action threshold in fresh market sweet corn is 10%.

With pupation in progress, emergence of the second flight of moths isn't far behind. Black light trappers near Janesville, Lancaster, and Mazomanie can expect first summer moths at 1400 GDD50, or around July 14. The first eggs of the second generation are laid at 1450 GDD50 and hatching should occur around 1550 GDD50. Preferred egg laying sites for the summer flight of moths are late planted or late maturing varieties of corn, with sweet corn being the most-favored host. Peak second flight activity is not likely to take place for two or three more weeks (1700 GDD50), or around July 27 near Beloit.

Corn rootworm - The earliest Western and Northern corn rootworm beetles began emerging in south central Wisconsin corn fields this week. A small number were spotted crawling about corn plants; one was observed in a soybean field. Adult emergence typically begins just after the 4th of July, but significant activity doesn't occur late July to mid-August, about the same time Wisconsin cornfields are in the silk stage.

Although silk pruning and leaf feeding by corn rootworm adults may weaken plants or interrupt pollination, the damage caused by the root-feeding larvae between June and August is typically more severe, and may reduce yields by as much as 30%. Expect larval damage symptoms to show up in severely infested fields in the very near future, and plan root rating activities accordingly. The best time to evaluate root conditions will be next week or the following. The standard 1-6 root rating scale, developed by Iowa State entomologists, is provided below:

Randomly select and pull or dig up 10 widely separated corn plants from a field. After the roots have been extracted, clean them as best as possible to see the roots and rootworm injury clearly. Examine the roots for the overall amount of injury, and rate each root system according to the 1-6 system. Add all of the ratings of roots from an individual field, and divide by the number of roots examined to obtain an average root rating for the field. Growers should not see more than a few roots pruned back to within 1.5 inches of the plant stem. A low root rating, usually 3 or less, indicates that rootworm levels are low or an insecticide applied earlier has adequately protected the roots.

ROOT RATING SCALE

1. No injury or only minor feeding scars.
2. Some roots with feeding scars, but no roots pruned off to within 1.5 inches of the plant.
3. Several roots pruned off to within 1.5 inches of the plant, but never an entire node.
4. One node of roots (or equivalent) pruned off to within 1.5 inches or the plant.
5. Two nodes of roots pruned off to within 1.5 inches of the plant.
6. Three nodes of roots pruned off to within 1.5 inches of the plant.

Stalk borer - Very minimal larval infestations were encountered in southeastern and south central fields earlier in the week. Populations were light, affecting fewer than 7 of 100 plants, and were restricted to the border rows in the fields surveyed. Larvae were nearly full-grown.

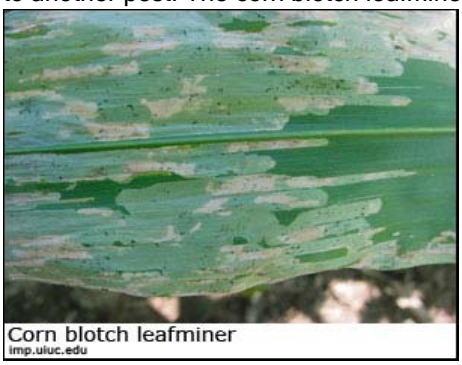
Corn earworm - With the exception of four moths at the Sturtevant trapping site, corn earworm pheromone traps were empty this week. So far 2005 has been a somewhat atypical year for this pest. The earliest migrant moths began funneling in during the week of June 17, when no fresh corn silks were available for egg laying. Interestingly, very little moth activity has been detected since. The major flight of corn earworm moths is not expected to begin until August. Late-planted sweet corn is particularly vulnerable to corn earworm in late August and early September because the fresh silk attracts female moths for egg laying.

Armyworm - All susceptible crops should be checked for this pest. Although only light infestations were observed this week (0%-7% in Walworth and Dane Cos.), there may be scattered problem areas near West Madison and Manitowoc where relatively high armyworm moth counts were reported from traps last week (72-75 moths). As a reminder, armyworm infestations are more likely to occur in fields where grassy weeds, such as foxtail, quackgrass, and nutsedge are present and available for egg laying. Also, border rows of corn fields are more prone to infestation, especially where corn grows next to small grains or forage crops. When scouting for armyworms at this time of year, examine a minimum of 20 plants in five separate areas within a field. Record the number of armyworms found on each plant, only counting larvae that are ¾ inch or smaller. Spot treatment may be justified when one armyworm larva is present on 75% of the plants in a field, or two larvae are present on 25% of the plants.

Picnic beetles (*Glischrochilus quadrisignatus* (Say)) - Beetles were noted in a European corn borer tunnel in a Walworth Co. field this week (as well as on the author's plate while she dined at a downtown Madison restaurant). A major picnic beetle emergence usually coincides with the emergence of corn rootworm beetles, an event that is just beginning in the south. These black beetles with numerous yellow spots are also inclined to invade raspberry patches where over-ripened fruit may be present. Once picnic beetles detect the alluring scent of rotting fruit, they are next to impossible to control.


Picnic beetle
koleotrerologie.de

Corn blotch leafminer - Light amounts of leaf mining attributed to this insect were observed several southern Wisconsin corn fields surveyed earlier this week. The leaf mines caused by the corn blotch leafminer (see image below) are quite common, but often overlooked or credited to another pest. The corn blotch leafminer adult is a tiny fly, about 1/4 inch in length. The flies lay eggs on corn leaves, and the hatching maggots burrow between the corn leaf tissues. The maggots feed internally by scraping away green leaf tissue, leaving behind transparent tunnels or mines. While leaf mining is common in Wisconsin corn fields, this insect rarely attains economically damaging levels.


Corn blotch leafminer
imp.uiuc.edu

Forages

Potato leafhopper - What happens in alfalfa does not stay in alfalfa. As growers know all too well, alfalfa insects are highly mobile creatures with a strong inclination to pick up and migrate to nearby hosts as soon as the distant hum of the mower is heard. For this reason, alfalfa is in several ways an indicator crop. Pest insects like potato leafhoppers, bean leaf beetles, pea aphids and armyworms all inhabitant alfalfa fields at varying times throughout the growing season, and all move into other crops once hay fields are cut. Beginning with the first cutting and continuing into fall, sweep fields on a weekly basis to stay in the know when it comes to alfalfa pest trends.

Since mid-June potato leafhopper reproduction has escalated considerably, and populations in second and early third crop alfalfa are currently moderate to high. In Dane, Walworth and Rock Cos., sweep net counts ranged from 0.6 to 2.4 adults and mature nymphs per sweep, but no more than 15% hopperburn was observed. In Clark Co. fields, adults were found at the rate of one per sweep, and 10% hopperburn was noted. Pressure should continue to build in the weeks ahead, and injury is likely to become noticeable in fields where excessive populations have developed. Look for overall yellowing and the characteristic hopperburn, v-shaped yellowing at the tips of alfalfa leaflets in the week ahead, and watch for mass movement of leafhoppers out of hay an into alternate hosts as more acreage of second and third crop hay is harvested.


Hopperburn
www.ipm.uiuc.edu

Soybeans

Soybean aphid - Aphids continue to spread across the state as levels within fields gradually worsen. Pressure intensified in southern Wisconsin fields during the past week, and infestations affecting 100% of the plants have become more prevalent. While aphids are now colonizing more plants per field, the number of aphids per infested plant remains extremely variable. In general, densities are still below-threshold levels of 250 aphids per plant in Grant, Jefferson, Lafayette, Rock, Walworth and Waukesha Cos. A few noteworthy hot spots were encountered in northeastern Walworth Co. and northwestern Rock Cos., where infested plants were saturated with an average of 300-1420 aphids.


Soybean aphid on leaf
K. Lambrecht, WI DATCP

Many southern soybean fields have reached the R2 (full bloom) stage of growth. Aphid populations are expected to continue to build from R2 through the early reproductive stages, and peak around R4 (full pod). This means the most opportune time to assess soybean aphid densities and make management decisions is fast approaching. Beyond R5 (beginning seed), high aphid densities may persist, but the benefits of spraying to protect yields at that late stage of the game are not certain. Continue to monitor soybean aphid levels over the next week to determine whether control will be warranted and the most effective treatment window.

Soybean stem borer (*Dectes texanus* LeConte) - Several individuals of this longhorned beetle family (Cerambycidae) were swept from the margins of a Walworth Co. soybean field earlier in the week. The beetles were collected at the rate of 1-2 per 100 sweeps. Each year a few stem borers are detected while surveys are being conducted in Walworth Co., but elsewhere in Wisconsin *D. texanus* is uncommon. In fact, beetles have only been found in Racine, Waukesha and Walworth Cos. to date. The soybean stem borer is more prevalent in states to our south, where it is considered to be an occasional pest of soybeans.

Although the silvery, gray longhorned beetles are the visible stage of this insect, it is the larvae that tunnel up the main stem and hollow out the pith of the soybean plant that cause the most serious damage. The feeding larva (one per stem) cuts the plant stem from the inside. Because the larvae are not visible during scouting, infestations usually go unnoticed until plants begin to lodge.

The Walworth Co. field in which the beetles were found was bordered by dense growth of ragweed. Ragweed is another known host of the soybean stem borer, and it was not clear whether the beetles were laying eggs in the soybeans, the ragweed or both host plants. Soybean stem borers are extremely difficult to control with chemicals since the vulnerable stage remains protected within the plant. Further, there is not clear evidence to demonstrate that control of this pest is necessary in southern Wisconsin fields. Nonetheless, be on the lookout for this small silvery, gray beetle with very long antennae when scouting soybeans, and please report any sightings to the Pest Survey Hotline 1-800-462-2803.


Soybean stem borer
oznet.ksu.edu

Potato leafhopper - Soybean fields surveyed in the south central and southeast districts had adults and mature nymphs the rate of 1 to 2 per plant. No soybean fields were encountered with populations exceeding the economic threshold for potato leafhopper.

Soybean rust - Soybean rust has now been reported on soybeans in the following locations: Baldwin County in Alabama, Marion County in Florida (6/29)and Seminole County in Georgia. The Alabama and Florida finds were in sentinel sites, while the Georgia find was on volunteer soybeans which have since been destroyed. Seven counties in Florida have now reported soybean rust on kudzu, the latest find was in Gadsden county on July 5th which is adjacent to Leon County in Northern Florida. Intensive scouting is continuing throughout eastern North America from the Gulf coast to southern Ontario wherever soybean is grown with no new finds. Although many areas in the southeast U.S. has been wet this past month, which encourages disease spread, air temperatures are now climbing to levels that are less favorable for spore production. However, if the winds and rain associated with tropical storm Arlene were involved in transporting soybean rust spores from known U.S. sources, and potentially other unknown sources in the U.S. and the Caribbean basin, new soybean rust infections could soon be observed. (Information from http://www.sbrusa.net/)

Vegetables

Cabbage looper - Ninety-five cabbage loopers were caught between June 30 and July 7 in a Scentry pheromone trap at the Lancaster Ag Research Station. As reported in previous Bulletins, cabbage loopers have been drifting into the state since mid-June, and have been causing some damage to vegetable crops in Monroe, Ozaukee, Dane, Rock, and Racine Cos., but we can now say with confidence that cabbage looper migration is in full swing, and right on schedule, since the bulk of cabbage looper moths normally arrive in mid-July. Now is the time to set pheromone traps in cabbage plantings to monitor for moths. If moths are caught, scout for eggs and tiny larvae 3-6 days after moths arrive. Treatment depends on level of infestation and the growth stage of the crop. See thresholds below.


Cabbage looper
www.hort.uconn.edu

Other cabbage looper activity (from early migrants) was observed in several locations this week: One early-instar larvae was found in a Racine Co. cabbage field. In Ozaukee Co, 11 moths were caught in pheromone traps, and three eggs were found on a cabbage plant. In Dane Co., three moths were caught in a pheromone trap. At a Rock Co. location, several early and late-instar larvae were found on various cole crops.

Imported cabbageworm - Butterfly activity seemed to slow for a few days in the south when temperatures cooled down, but activity resumed as temperatures rose. On Wednesday, only 11 butterflies were spotted at a glance in a 4+ acre Racine Co. cabbage field, but larvae were found on 10% of plants (cupping-to-early-heading stage). At an Ozaukee Co. location, there were no butterflies observed, perhaps due to light precipitation in the area, and only a few eggs found on cole crops. However, by Thursday, two Dane and Rock Co. vegetable fields had too many butterflies to accurately count. The recently treated planting at the Dane Co. site had few larvae, but the Rock Co. site had larvae of various instars on at least 20% of plant examined.

Diamondbacks - Larvae continued to feed on cole crop fields in Racine and Rock Cos. this week.

Thresholds for Imported Cabbageworm, Diamondback, or Cabbage Looper (% 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: 10%

Flea beetles - At the West Madison Research Station, Asian greens are being attacked by flea beetles, but the eggplant planted right next to the greens is relatively untouched. Why? Because Asian greens are actually members of the crucifer family, eggplant belongs to the nightshade family, and different flea beetle species prefer one over the other. The flea beetle currently infesting the Asian greens is the striped flea beetle, which prefers crucifers. There are a couple of flea beetle species that prefer eggplant, but apparently not at West Madison this year. See the below for thresholds and see UW-Extension Garden Facts Publication A3720-E for more information on flea beetles.

Thesholds for flea beetles on various crops

- Beets: Treat when beetles cause stand reduction on small plants
- Cole crops: undetermined
- Eggplant: >6 inches = 8 beetles/ plant
- Horseradish: Treat only if beetles are found in high numbers early in the season
- Potato: >2 beetles/ sweep
- Tomato: >2 beetles/ plant

Black cutworm - Black light trapping in southeast and south central Wisconsin showed an increase in black cutworm moth activity this week, which will give rise to the 2nd generation of black cutworm larvae this season. Black cutworm larvae will attack vegetable crops in the seedling stage, but corn in the V3-V4 stage should be mature enough to withstand cutting. According to the UW-Extension Vegetable Crop Scouting Manual, larvae will instead burrow into the corn plant, below ground level, resulting in "wilted whorl" or "dead heart", and causing newly emerging leaves to wilt.

Armyworm - Black light trapping indicates armyworm flights are on the rise across the state. Catch numbers have been increasing for the past few weeks in Lancaster, Sparta, Madison, Janesville, Manitowoc, Marshfield, and Wausau. The moths will give rise to the 2nd generation. Larvae emerge one week to 10 days after eggs are laid. Damage appears as ragged feeding on corn leaves. See the UW-Extension Vegetable Crop Scouting Manual for treatment thresholds.

Fruit

Spotted tentiform leafminer - The second flight of spotted tentiform leafminer moths has peaked throughout the southern and central regions of the state. Several cooperating orchards reported increased counts of second flight moths this week, ranging from 10-888. In orchards where a peak flight has been documented, growers should begin to see second generation sap feeder mines on the undersides of leaves in the week ahead. Expect the third flight to begin once 1479-1523 GDD50 have accumulated. The threshold for third generation leafminers is fives mines per leaf, although treatment is seldom useful or encouraged by the time the third flight is active.

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). The action threshold for spotted tentiform leafminer, provided below, increases with each generation.

STLM Action Thresholds

- First generation: 0.1 mine per leaf
- Second generation: 1 mine per leaf
- Third generation: 5 mines per leaf

Codling moth - Cooperators are encouraged to change their codling moth traps and lures soon, as the second flight is underway wherever 873-1296 GDD50 have been reached. Expect this flight of moths to peak around 1577 GDD50, which could occur as early as July 22 near Beloit and La Crosse, July 28 near Hancock and August 1 near Racine.

Apple maggot - Earlier this week two adults were captured on a yellow sticky board trap at an Iowa Co. orchard; elsewhere red ball trap and yellow sticky boards were devoid of apple maggot flies. The recent increase in soil moisture levels this week should accelerate emergence throughout the state, as 20% soil moisture is most favorable for the emergence of apple maggot flies. Conditions drier than this generally cause desiccation of pupae. The threshold for apple maggote is five flies per baited red ball trap per week, and one fly per unbaited ball trap or yellow stick board per week.


Apple maggot
www.ucl.ac.uk

Obliquebanded leafroller - Look for trap captures of second generation moths to escalate as growing degree day accumulations (base 43F) approach 2050. The peak egg laying period for OBLR has passed throughout nearly all of the state and larvae are now actively feeding in orchards. Treatment may be warranted when there is an average of three or more OBLR larvae per tree.

Obliquebanded Leafroller Event

- Peak adult emergence 1150 GDD43
- Peak egg laying 1250 GDD43
- First emergence of 2nd gen adults 2050 GDD43
- First eggs laid by 2nd gen adults 300 GDD43

(Michigan State University model)

Forest and Landscape

Tobacco rattle virus (TRV) - A monkshood (*Aconitum sp.*) sample submitted to the Plant Industry Laboratory tested positive for tobacco rattle virus. The sample was collected came from a Pierce Co. greenhouse where *Brunnera* plants were found infected with the same virus. Infected *Brunnera spp.* were also found at nurseries in Chippewa, Pierce and Kewaunee Cos.


Tobacco rattle virus on brunnera
A. Phibbs, WI DATCP

Hosta virus X - 'Sum and Substance' and 'Gold Standard' hostas from a nursery in Fond du Lac Co. tested positive for hosta virus X this week.

Rust - A sample of *Silphium integrefolium*, prairie rosinweed, from a Rock Co. nursery tested positive for rust, *Puccinia silphii*. Most of the planting was affected and rust pustules could be observed on the leaves and stems. At a nursery in Marquette Co. rust was observed in moderate amounts on *Silphium perfoliatum*, cupplant.

Lace bugs - Lace bugs were observed doing moderate to heavy amounts of damage to Ratidiba pinnata at a nursery in Rock Co. Lace bugs were also observed feeding on stiff goldenrod at a nursery in Marquette Co. Damage was light to moderate.

Viruses on lobelia - A sample of *Lobelia x gerardii* tested positive for impatiens necrotic spot virus and tomato spotted wilt virus. The sample was taken from a Racine Co. greenhouse.


Impatiens necrotic spot virus - Lobelia
A. Phibbs, WI DATCP

Imported willow leaf beetle - Larvae were observed feeding on willow trees at a nursery in Lincoln Co.

Venturia shoot blight - Heavy amounts of injury were observed on poplar at a nursery in Fond du Lac Co. This fungal disease is usually most severe on young aspen and hybrid poplars. The terminal and lateral shoots become blackened and die, distorting the form of the tree. Repeated attacks may kill small trees. Infections are predominantly caused by conidia from shoots killed the previous season. Infection can also develop from spores on leaves that had fallen during the previous season. Only young, succulent shoots and leaves are susceptible.

Spiny witch-hazel aphid - This aphid species was observed this week on its alternate host, river birch, at a Fond du Lac Co. nursery. On birch, these aphids tend to colonize leaves from the bottom up, causing leaves to pucker and become rough. Treatment is rarely needed.

Elm flea weevil - This relatively new pest was found on Chinese elm at a residence in Kenosha Co. Adults feeding left leaves with shot-hole injuries. Very little is known about the life cycle of this insect. As a larva it mines the leaves of elms and demonstrates a preference for trees with some amount of Chinese elm "blood".

Eastern spruce adelgid - Eastern Spruce Gall adelgid caused a light to moderate amount of galls to form on Black Hills and Norway Spruce at a nursery grower in St. Croix Co. The galls are currently green in color but will turn to brown in late August and open up in September to release the adelgids to overwinter under spruce buds. Best time to treat is in fall when galls open or in the spring, before new shoot growth has started.

Gypsy Moth

Gypsy Moth Slow The Spread spraying draws to a close - The 2005 Gypsy Moth Slow The Spread spray program is scheduled to finish spray operations for the 2005 season on Friday, July 8, 2005, in Eau Claire, Clark, Jackson and Monroe counties, with final applications of pheromone flakes. Overall in 2005, the STS program will have sprayed

65 sites in 19 western Wisconsin counties. Sites have been treated either twice (5-10 days apart) with Btk or once with NPV (Gypchek), and some were treated once with pheromone flakes.

To find out about spraying, you can call our toll-free number at 1-800-642-Moth (800-642-6684). Background information, maps of spray blocks and a chart showing spray schedules and progress can be accessed at the Wisconsin Department of Agriculture, Trade and Consumer Protection website at www.datcp.state.wi.us. Click on the Insects and Pesticides box and then click on the Gypsy Moth link under the Insects header to bring up the Gypsy Moth home page.

Information on the completed Suppression spraying in the eastern half of the state, conducted by the Wisconsin DNR, can be found at www.gypsymoth.wi.gov/.

Gypsy moth life cycle
WI DATCP

Gypsy moth trapping program- As of July 6, trappers have set 32,690 traps, or 86% of the expected total number of traps. Trapping is now complete in 54 Wisconsin counties. All trap setting will be finished by July 15. Gypsy moth larvae are pupating in the southern part of the state. Adult moths should begin to appear in trap set in the southern part of the state around July 15, and about one to two weeks later in northern parts of the state. Trappers will start checking traps south of Highway 10 on July 18; north of Highway 10, trappers will conduct spot checks to help determine the start of moth flight in northern counties.

If you have any questions about the **Gypsy Moth Program**, please call our hotline at **1-800-642-MOTH**, or choose the gypsy moth link at www.datcp.state.wi.

Male (left) and female gypsy moth

ForestryImages.org

UW Plant Disease Diagnostics Clinic

CROP	DISEASE/DISORDER	PATHOGEN	COUNTY
FIELD			
Soybean	Bacterial Tan Spot	*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*	Dane
	Brown Spot	*Septoria glycines*	Marinette, Marquette
	Root Rot	*Phytophthora* sp., *Pythium* sp., *Fusarium* sp.	Rock
	Root Rot	*Pythium* sp., *Rhizoctonia solani*, *Fusarium* sp.	Sheboygan
	Root Rot	*Pythium* sp.	Green Lake, Marinette
	Herbicide Exposure	Chemical	Waukesha
	Manganese Deficiency	Nutritional Disorder	Green Lake, Iowa
Wheat	Leaf Rust	*Puccinia tricina*	Pepin
	Barley Yellow Dwarf	Barley Yellow Dwarf Virus	Pepin
VEGETABLE			
Garlic	Basal Plate Rot	*Fusarium oxysporum*	Brown
	Root Rot	*Pythium* sp.	Brown
Kale	Black Rot	*Xanthomonas campestris* pv. *campestris*	Dane
FRUIT			
Apple	Juglone Toxicity	Chemical Injury	Marathon
	Phomopsis Canker	*Phomopsis* sp.	Marathon
	Root Rot	*Pythium* sp.	Marathon
Currant (Including Black)	Anthracnose	*Asteroma* sp.	Kewaunee
	Root/Crown Rot	*Pythium* sp., *Phytophthora* sp.	Kewaunee
Grape	Downy Mildew	*Plasmopara viticola*	Vernon
Muskmelon	Root Rot	*Pythium* sp.	Green
	Possible Herbicide Injury	Chemical Injury	Green
	Dehydration	Physiological disorder	Green
Peach	Prunus Necrotic Ringspot	Prunus Necrotic Ringspot Virus	Dane
Strawberry	Root/Crown Rot	*Phytophthora* sp., *Pythium* sp.	Bayfield
	Water Stress	Physiological	Clark
Watermelon	Possible Herbicide Injury	Chemical Injury	Green
	Dehydration	Physiological disorder	Green
EVERGREEN			
Arborvitae	Water Stress	Physiological	Waukesha
Fir	Herbicide Exposure	Chemical Injury	Green
Juniper	Transplant Shock	Physiological	Outagamie
Pine (Including Red, White)	Black Stain	*Ophiostoma* sp.	Kewaunee
	Sphaeropsis Tip Blight	*Sphaeropsis sapinea*	Rock
	Systemic Stress	Physiological	Outagamie, Walworth, Waukesha, Ozaukee
Spruce (Including Blue, Serbian, White)	Cytospora Canker	*Cytospora kunzei*	Dane
	Rhizosphaera Needle Cast	*Rhizosphaera kalkhoffii*	Door, Sheboygan, St. Croix, Walworth
	Sphaeropsis Tip Blight	*Sphaeropsis sapinea*	Walworth
	Spruce Needle Drop	*Setomelanomma holmii*	St. Croix
	Herbicide Exposure	Chemical Injury	Waukesha
	Water Stress	Physiological	Sheboygan
HERBACEOUS ORNAMENTAL			
Aster	Phyllosticta Leaf Spot	*Phyllosticta* sp.	Dane
Black-Eyed Susan 'Golstrum'	Downy Mildew	*Plasmopara* sp.	Iowa
Daylily	Root Rot	*Pythium* sp.	Green
Hosta	Alternaria Leaf Spot	*Alternaria* sp.	Rusk
Marigold	Root Rot	*Pythium* sp., *Fusarium* sp.	Brown
Sunflower	Leaf Spot	*Pseudomonas* sp.	Dane
	Septoria Leaf Spot	*Septoria* sp.	Dane
WOODY ORNAMENTAL			
Ash (Including White)	Root Rot	*Pythium* sp.	Outagamie
	Over-Mulching	Physiological	Outagamie
	Water Stress	Physiological	Outagamie
Currant (Including Apline)	Leaf Spot	*Gloeosporidiella* sp.	Douglas
	Powdery Mildew	*Oidium* sp.	Douglas
Elm	Dutch Elm Disease	*Ophiostoma ulmi*	Dane, Jefferson
Hydrangea	Herbicide Exposure	Chemical	Rock
Lilac	Verticillium Wilt	*Verticillium* sp.	Waukesha
Oak (Including Bur, White)	Anthracnose	*Gloeosporium* sp.	Dane
	Oak Wilt	*Ceratocystis fagacearum*	Dane
	Tubakia Leaf Spot	*Tubakia* sp.	Dane
	Chlorosis	Nutritional Disorder	Dane
Redwood	Water Stress	Physiological	Sheboygan
Rose	Chlorosis	Nutritional Disorder	Dane

For additional information on plant diseases and their control, visit the PDDC website at: www.plantpath.wisc.edu/pddc.

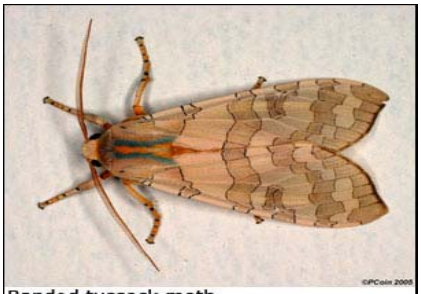
Black Light Trapping Results

Trap Site	Date	ECB	TA	FA	BCW	DCW	SCW	VCW	WBCW	CabL	CelL	CEW
Southwest												
Lancaster	6/30-7/7	0	42	0	5	0	1	0	0	0	10	0
South Central												
Arlington												
West Arlington	7/1-7/8	9	9	0	22	5	0	0	0	0	0	0
Mazomanie	6/30-7/7	2	17	0	11	6	8	0	0	0	0	0
West Madison	6/30-7/7	0	41	0	25	0	0	0	0	0	9	0
Southeast												
Janesville	6/30-7/7	0	151		24		1				27	0
East Troy												
Eagle	6/30-7/7				2							
West Central												
Sparta	6/30-7/6		5			1	7	1			1	
Chippewa Falls	6/30-7/5	5										
East Central												
Manitowoc	7/1-7/8	2	26	0	0	0	6	0	0		15	0
Central												
Hancock	6/28-7/7	1			1							
Wausau	7/1-7/8	14	28	0	1	0	27	0	0	0	3	0
Marshfiled	6/30-7/6	50	34	7	0	0	25	3	0	0	1	1
Plover	6/30-7/7	0										
Plainfield	6/30-7/7	0										
Northwest												
Cameron	6/30-7/7	22										

ECB- European corn borer, TA- true armyworm, FA- fall armyworm, BCW- black cutworm, DCW- dingy cutworm, SCW- spotted cutworm, VCW- variegated cutworm, WBCW- Western bean cutworm, CabL- cabbage looper, CEW- corn earworm

•Blank cells indicate species presence was not determined.

Banded tussock moth (*Halysidota tessellaris*) - A total of 38 moths of this species were captured at the Mazomanie black light in the past week. Banded tussock moth is one of many non-economically important moth species that frequently appears in black light traps each season. *H. tessellaris* belongs to tiger moth family Arctiidae. The larvae are the familiar "woollybear" caterpillars. Woollybears and other hairy caterpillars should not be handled, as their hairs on can be irritating to individuals with sensitive skin.


Banded tussock moth
Patrick Coin (2005)

The presence of relatively high numbers of banded tussock moths suggests adult activity may be peaking. Host plants include oak, willow, poplar, hickory, grape and hackberry.

Unknown ermine moth - Twelve ermine moths appeared in black light traps near Mazomanie for the first time this week. Unfortunately, it is not clear exactly which ermine moth species this is. Ermine moths, members of the genus *Yponomeuta* are all incredibly similar in appearance. In fact, even expert insect identifiers can not distinguish between the species. The only sure way to differentiate one species from another is to finding live larvae or the communal tents made by the larvae on different hosts. Ermine moths feed and develop in apples, cherries and euonymus.

Striped blister beetle (*Eipcauta vittata* (Fabricius)) - The recent appearance of striped blister beetles in black light traps may be of interest to vegetable growers. Striped blister beetles are considered to be one of the most damaging of the blister beetles to vegetable crops. The adults are generalist vegetable feeders, but they seem to prefer solanaceous plants. Blister beetles can be easily controlled by picking off adults from the foliage whenever practical; however, blister beetle contain an oil the can blister the skin if the beetles are accidentally crushed. Be sure to wear gloves when handling the adults. It's worth noting that blister beetles aren't all bad. The larvae are beneficial, feeding on grasshopper eggs.


Ermine moth
Troy Bartlett (2000)

Apple Insect Trapping Results

	Date	STLM	RBLR	CM	OBLR	AM red ball	AM yellow	PC
Crawford Co.								
Gays Mills 1	6/26-7/3	164	9	3				
	6/19-6/26	117	7	10				
Gays Mills-E2	6/30-7/7	860	81	3	8	1 (unbaited)	0	
Iowa Co.								
Dodgeville	6/30-7/7	10	2	2	0	0	2	
Richland Co.								
Hillpoint	6/29-7/5	440	20	1	1	0	4	
Richland Center - E	6/30-7/7	475	82	6	38	2 (baited)	0	
Richland Center -W	6/30-7/7	102	22	1	4	1 (unbaited)	0	
Richland Co.								
Baraboo	6/30-7/7	255	47	2	3	0	0	
Dane Co.								
Deerfield	6/29-7/6	223	34	3	0	0		
West Madison	6/30-7/6	58	0	0	3	0		
Dodge Co.								
Brownsville	7/1-7/7	39	7	2	2	0	0	
Racine Co.								
Raymond	6/30-7/7	370	81	4	14	0	0	
Rochester	6/30-7/7	888	144	3.5	3.5	0		0
Waukesha Co.								
New Berlin	6/30-7/7	112	21	8	1	0	0	
Pierce Co.								
Beldenville	6/30-7/7	110	24	3	1	0	0	
Spring Valley	7/1-7/8	336	12	0	0	0	0	0
Marquette Co.								
Montello	6/29-7/4	240	0	0	3	0		0
Brown Co.								
Oneida	6/27-7/4	170	4	1	0	0		
Sheboygan Co.								
Plymouth	7/1-7/8	620	58	1	0	0	0	
Fond du Lac Co.								
Campbellsport	6/29-7/6	0	19	0	0	0		
Malone	6/30-7/7	10	3	0.5	1	0	0	
Marinette Co.								
Wausaukee	7/1-7/8	147	2	0	2	0	0	0

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Division of Agricultural Resources Management
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Quote of the Week

"Summer afternoon, summer afternoon; to me those have always been the two most beautiful words in the English language."

Henry James (1843-1916)

http://www.soils.wisc.edu/wimnext/tree/arbor.html