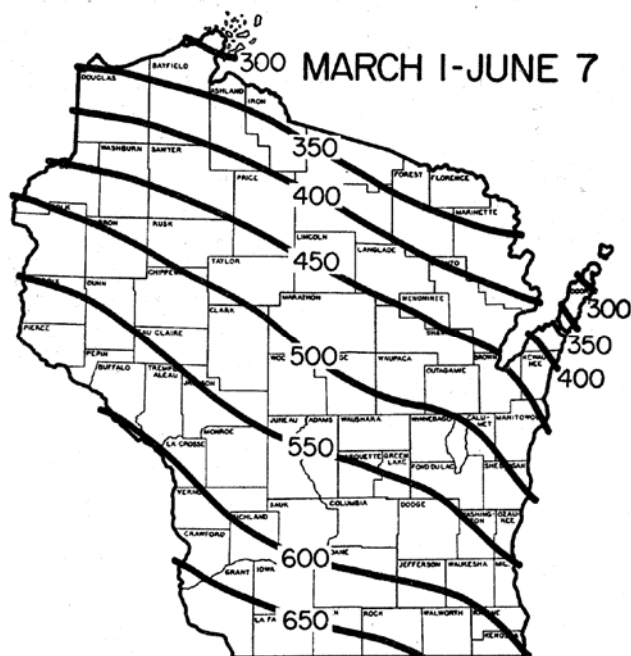


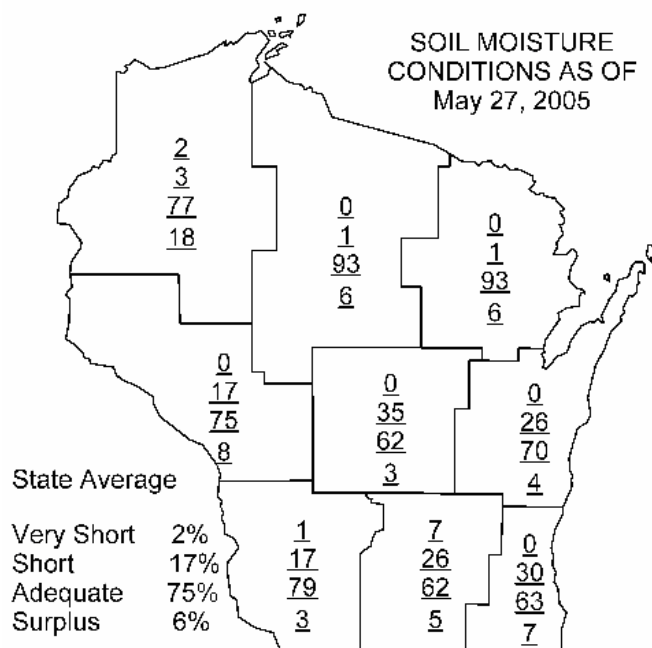
# Wisconsin Pest Bulletin

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

Volume 50 Number 8 Date 06/04/2005



Historical Average Growing Degree Days  
Accumulated since March 1.  
(Wisconsin Agricultural Statistics Service)



Source: Wisconsin Agricultural Statistics Service

## Weather and Pests

We hope this new structure will make the Pest Bulletin more accessible and more useful to our readers. Our reader survey last summer made it clear that a substantial majority of Bulletin users would prefer an HTML-based format for use on the Web. This new format, a database-driven structure, will allow more frequent updates and more timely reports of pest outbreaks. Another new feature we'll be rolling out soon, an RSS newsfeed, will allow readers to automatically receive information about updates to the Pest Bulletin.

As always, input from our readers is crucial, and we hope you'll let us know what you think. Email us at [bulletin@datcp.state.wi.us](mailto:bulletin@datcp.state.wi.us) or call us at 800-462-2803.

And on to the real content....

## Growing Degree Days

Growing degree days from March 1 through June 2 were:				
Site	Mod 50 GDD*	2004 GDD	Sine Base 48	Mod Base 40
<b>SOUTHWEST</b>				
Dubuque, IA	575	622	601	1099
Lone Rock	540	563	549	1028
<b>SOUTH CENTRAL</b>				
Beloit	563	605	576	1058
Madison	533	522	554	1031
Sullivan	548	552	554	1033
Juneau	522	508	536	1006
<b>SOUTHEAST</b>				
Waukesha	476	509	480	945
Hartford	463	471	474	931
Racine	387	451	400	841
Milwaukee	384	424	395	836
<b>EAST CENTRAL</b>				
Appleton	417	347	416	843
Green Bay	351	299	355	773
<b>CENTRAL</b>				
Big Flats	499	453	499	954
Hancock	482	418	480	926
Port Edwards	463	390	460	892
<b>WEST CENTRAL</b>				
LaCrosse	550	559	577	1059
Eau Claire	501	421	518	969
<b>NORTHWEST</b>				
Cumberland	410	300	413	831
Bayfield	261	174	244	606
<b>NORTH CENTRAL</b>				
Wausau	406	322	393	797
Medford	386	290	385	781
<b>NORTHEAST</b>				
Crivitz	334	246	322	728
Crandon	366	265	338	724

The wait for warm weather ended this week as temperatures soared into the 80s at long last. Growth of corn and soybeans is now progressing at an improved rate. The first harvest of alfalfa has been completed throughout the southern third of the state, but remains a few days off in the central and northern districts. The only missing element is moisture. Rains are badly needed in most parts of the state to give a boost to emerging crops.

Recent warm, dry conditions have promoted insect development as well as crop growth. The first flight of corn borers is expected to peak in the week ahead, production of potato leafhopper nymphs should get underway and overwintered bean leaf beetles will continue to move into soybean fields to lay first generation eggs.

## Looking Ahead

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**Bean leaf beetle** - DATCP's annual spring survey for overwintered bean leaf beetles in alfalfa progressed northward into Buffalo, Trempealeau, Portage, Wood and Waupaca Cos. this week. Survey specialists found no beetles in these counties and only a small number of adults from centrally located counties, such as Adams, Juneau and Marquette. The absence of beetles suggests one of two things: either bean leaf beetles did not overwinter in those counties, or beetles have already left alfalfa fields. As more acreage of first crop hay is harvested and soybeans continue to emerge, overwintered beetles will depart alfalfa for soybeans fields to mate and lay eggs. Light amounts (>5%) of defoliation have already been detected in Columbia and Dodge Co. soybeans, indicating the egg laying is underway. Click on the SOYBEAN link for more information.

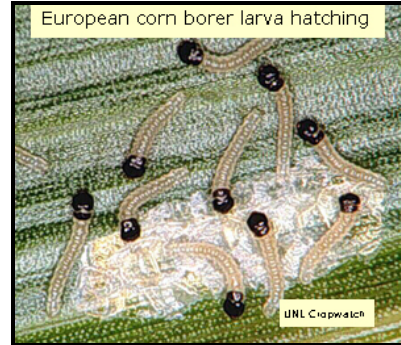
**Plum curculio** - The first oviposition scars of the season were observed on fruits in an Ozaukee Co. orchard on May 30, suggesting that it's time for growers to step up scouting efforts. Spray applications to control plum curculio should be timed to prevent egg laying by the overwintered generation of weevils and may be warranted when 0.5-1% fruit injury is detected. Because plum curculio is a direct pest of apples, very little injury can be tolerated. For specifics on plum curculio, follow the link in the FRUIT section.

**Alfalfa blotch leafminer** - Comma-shaped leaf mines grew noticeable in southern and east central alfalfa fields this week where 15-100% of the plants in fields surveyed showed mines, pinholes, or both. Many uncut fields supported economically important densities of alfalfa blotch leafminers, certainly the highest levels observed in the last two to three years. Fields in which 40% of the plants have signs of pinhole feeding should be harvested as soon as possible to prevent further damage. Click on the ALFALFA heading for detailed information on this week's survey findings.

**Potato leafhopper** - If present temperatures persist, nymph production could begin by next week. Adult leafhoppers were common in fields surveyed earlier this week, but counts have still not risen substantially since migrants first arrived around May 17. Look for a marked increase in leafhopper

populations, and possibly the first sighting of nymphs, in the week ahead.

**European corn borer** - Low black light trap captures continued for a third consecutive week, lending further support to the forecast for an exceptionally light first flight this season.



Currently, first generation eggs are being laid in susceptible hosts wherever 450 GDD<sub>50</sub> have accumulated. Approximately 68 GDD<sub>50</sub> from today, by June 9, black light traps near Janesville in Rock Co. are expected to document the first

peak flight of European corn borer moths. The first flight of moths is projected to peak near Madison by June 11, near Hancock by June 16, and near Wausau by June 25. Corn remains too short to support larvae at this time; thus, hosts other than corn are likely to attract females for egg laying.

**Black cutworm** - Approximately 281 GDD<sub>50</sub> have accumulated since the first concentrated capture occurred near Lancaster on April 21, indicating growers can expect to see the effects of 4th instar cutworms in Grant Co. fields in the very near future (31-83 GDD<sub>50</sub> from now). As southern Wisconsin enters into the period when cutting is expected to be most intense, begin scouting for black cutworm larvae and cut plants. Efforts should continue through the V5 stage of corn development.

**Pea aphids** - The presence of winged forms in south central alfalfa fields suggests a migration from alfalfa to pea fields is near. On the whole, counts of aphids in alfalfa number fewer than 16 per sweep, not even beginning to approach threshold levels of 100 aphids per sweep. A quick estimate suggests 10-20% of the present population is winged. Pea fields should be monitored closely in the next week or two as the migration of winged pea aphids from alfalfa fields begins.

## Corn

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**European corn borer** - By June 9, approximately 68 GDD<sub>50</sub> from today, black light traps near Janesville in Rock Co. are expected to document the first peak flight of European corn borer moths. The first flight of moths is projected to peak near Madison 98 GDD<sub>50</sub> from now, by June 11, near Wausau in 225 GDD<sub>50</sub>, by June 25, and near Hancock in 151 GDD<sub>50</sub> by June 16.

The spring flight of corn borers officially began on May 18 with sightings of moths in Jefferson and Rock Cos. alfalfa fields. Since that time, black light traps from Janesville to Sparta have reported only minimal numbers of moths. In fact,

the highest moth captures to date were 20 moths at East Troy last week (May 20-26) and five moths at Janesville the week before (May 13-19). This week the highest capture of six moths was reported from Mazomanie.

Monitoring corn borer counts in black light traps in the next two weeks will be critical in determining what to expect from the first generation of corn borers. Aside from being somewhat on the dry side, current weather conditions are very favorable for the night-flying moths. Presently there are no factors that should inhibit moths from flying and appearing in black light traps. Look for captures to increase as the first peak flight of moths approaches. What transpires in the two weeks ahead will not only heavily influence corn borer first generation corn borer levels, but also lay the foundation for second generation corn borer problems later this season. Just to reiterate, based on last fall's historically low population corn borers, we are anticipating an exceptionally light first flight of moth. Black light reports received thus far support this forecast -- *Krista Lambrecht*.

**Black cutworm** - In yesterday's issue of the Wisconsin Crop Manager, Extension Entomologist Eileen Cullen provided an excellent biofix-based model for predicting when destructive 4th instar black cutworm larvae are likely to appear in susceptible fields. The model incorporates the first concentrated captures of moths, which occurred near

Table 1. Accumulated degree-days (developmental threshold of 50F) from the first intensive capture of black cutworm moths to the first occurrence of each life stage and activity.		
Life Stage	Activity	Degree-Days (F)
Intensive capture	Egg laying	0 (biofix)
1st to 3rd instar	Leaf feeding	91 - 311
4th instar	First cutting	312 - 364
5th instar	Cutting	365 - 430
6th instar	Cutting slows	431 - 640
Pupae to moth	Cutting stops	641 - 989

(Bailey , W. and Boyd M. 2005) - *WI Crop Manager*, June 2 issue

Lancaster (Grant Co.) on April 21, Newark (Rock Co.) on April 28, and Janesville (Rock Co.) on May 10. Approximately 281 GDD50 have accumulated since the first concentrated capture occurred near Lancaster, indicating growers can expect to encounter 4th instar cutworms in Grant Co. fields in the very near future, 31-83 GDD50 from today. As we enter into the period when cutting is expected to be most intense, begin scouting for black cutworm larvae and cut plants. Efforts should continue through the V5 stage of corn development -- *Krista Lambrecht*.

**Western bean cutworm** - The black light trap located near Arlington in Columbia Co. captured the first Western bean cutworm moth of the season this week, much earlier than expected. The Western bean cutworm is an emerging pest of concern to Wisconsin corn growers. Historically, it has been a pest of corn and dry beans with a very limited range in the western cornbelt states of Nebraska, Wyoming, Kansas and

Colorado. In recent years, that range has expanded eastward into Wisconsin where low numbers of moths have been making a regular appearance in black light traps late in August and September.

Western bean cutworm is a late-season pest of corn and dry beans which occurs at the same time as the corn earworm. Unlike the corn earworm, Western bean cutworm larvae are not cannibalistic and several larvae may infest a single ear. In addition, Western bean cutworm has the potential to cause large 30-40% yield losses in corn; larvae from one egg mass can infest plants within 6-10 foot radius.

In Wisconsin the potential impact of Western bean cutworm remains uncertain. DACTP survey specialists have plans to place a network of pheromone traps in the eastern half of the state to better assess the distribution of Western bean cutworm in Wisconsin. We have received no reports of injury, but the increasing frequency of moth sightings suggest it's time for growers to be on the lookout for this pest while in the field -- *Krista Lambrecht*.



**Hop vine borer** - Damage from hop vine borer was observed in some areas of a field in Monroe Co. on June 2. Adults lay eggs in grassy weeds, usually quackgrass, along field edges in late summer. After hatching in the spring, larvae quickly move to corn seedlings, where they feed on the below-ground portion of the stem, then bore up the base of the stalk. Wilting or death of the central whorl of leaves is the first sign of borer damage, and, unfortunately, by the time damage is noticed, it is too late to treat since insecticide treatment is not effective once the larvae enter the plant. -- *Bill Halfman*

## Forages

### ROUND TWO: INSECTS TO LOOK FOR IN SECOND CROP HAY

Now that most alfalfa acreage in the southern half of the state has been harvested, it's time to begin thinking about another round of pests that show up to damage second crop regrowth, and subsequent hay crops. Any reduction in pest numbers that cutting affords is only temporarily. Alfalfa growers know that pest populations have the uncanny ability to recover quickly and densities of **leafhoppers, weevils, plant bugs, and aphids** almost always seem to multiply exponentially in second crop hay.



**Alfalfa weevil** - Any hay in the southern three tiers of Wisconsin Cos. that has not already been harvested is facing excessive levels of alfalfa weevil. The few uncut fields surveyed in Kenosha, Racine and Walworth Co. earlier in the week showed levels of tip feeding injury in the range of 35-85%, with 1.1-12.1 larvae per sweep. Tip feeding in Columbia and Dodge Cos. fields was less severe, ranging from 10-35% with 0.2-3.6 larvae per sweep. In the coming week, make a point to scout regrowth for larval and adult feeding. New, tender growth is particularly vulnerable to alfalfa weevil injury -- *Krista Lambrecht*.

**Potato leafhopper** Surprisingly, sweep net counts of leafhoppers adults have not increased considerably in the last week. Samples ranged from 0.3-2.2 adults per sweep in 24-36 inch Columbia, Dodge, Kenosha, Racine, and Walworth Co. alfalfa fields. Warm daytime temperatures and absence of rainfall are conditions that favor outbreaks of potato leafhoppers and prompt nymph production. The first nymphs of the season typically appear by the first or second week of June, depending on weather conditions and when leafhoppers first arrive in Wisconsin. In the week ahead crops scout should be on the lookout for tiny, green nymphs which tend to collect on the rims of sweep nets and move sideways when disturbed. -- *Krista Lambrecht*



**Alfalfa blotch leafminer** - This minute leafmining fly was the leading pest of concern in uncut Dodge and Columbia Co. alfalfa fields this week. Fields were heavily spotted with multitudes of white, comma-shaped mines and countless tiny pinholes. The characteristic mines are the work of alfalfa blotch leafminer maggots which feed and develop between the top and bottom layers of the leaflet, while the pinholes are caused by ovipositing female flies. A single female fly may make approximately 3,769 pinholes during her lifetime.

Sampling of trifoliate in Columbia and Dodge Cos. found fields with mines, pinholes or a combination of the two on 15-100% of the plants. The average level of infestation was 56%. Dodge Co. fields were more heavily infested, with an average of 71% of plants with mines or pinholes. In many fields up to 12 mines were observed on a single plant. Columbia Co. fields were somewhat less afflicted, with an average of 39% of plants showing leafmines and pinholes during this week's surveys.

The Columbia and Dodge Co. infestations detailed above should be considered excessive. Any alfalfa blotch leafminer infestation affecting 25-50% of the leaflets in a given field may result in loss of quality. With that being said, it is important to point out that while feeding damage may reduce forage quality, it seldom results in yield loss. Yield loss is not expected unless significant leaf drop occurs.

The need for chemical control is difficult to determine with alfalfa blotch leafminer. In nearly all cases control is not warranted nor recommended, primarily because insecticides used to control this pest do not provide consistent, predictable control, nor are the economic benefits clear. Trials conducted by researchers at the University of Minnesota in 1997, shortly after alfalfa blotch leafminer was first detected in the Midwest, found that some insecticides may help to reduce mining, but none reduced pinholing. Research studies also found the use of insecticides did not significantly improve alfalfa yield or protein content (R.C. Venette, W.D. Hutchison, E.C. Burkness, and P.K. O'Rourke, 1999).

Growers who are concerned about alfalfa blotch leafminer should scout fields weekly to determine the percentage of leaves with pinhole feeding. Decisions to treat must be made during the adult pinhole feeding stage. Control is only necessary if more than 40% of leaflets show adult pinhole feeding. Early cutting can be used to reduce damage and is most beneficial during first cut, as subsequent cuttings may not coincide with peak larval damage -- *Krista Lambrecht*.

## Soybeans

**Bean leaf beetle** - DATCP's spring survey for overwintered beetles in alfalfa came to an end this week, with findings of beetles in Adams, Juneau and Marquette Cos. Survey data are still being analyzed, but preliminary results indicate the counties named above represent the northernmost distribution of overwintered beetles in Wisconsin.

Beetles collected during the survey will be tested for bean pod mottle virus (BPMV) to determine the general incidence of BPMV in the overwintered population. Given the absence of BPMV in soybean fields last season, we are anticipating few or no beetles to test positive for BPMV. In addition, BPMV test results may hint at the potential for early season BPMV transmission to young soybean plants. Again, in view of the situation last summer (low bean leaf beetle populations and no BPMV detections), we do not expect early season BPMV transmission to be an issue this season.

Growers should continue to scout emerging fields for indicators of bean leaf beetle activity throughout early June, and look for complete survey results in next week's issue of the Wisconsin Pest Bulletin. The economic threshold for soybeans during the V1 (unifoliate) stage is 16 bean leaf beetles per foot of row. By V2 (first trifoliate), the threshold increases to 39 beetles per foot of row -- *Krista Lambrecht*.

Readers interested in learning more about the forecast for bean leaf beetle this season are encouraged to visit Eileen Cullen's Wisconsin Crop Manager May 18 article at the website for UW-Madison's [Integrated Pest & Crop Management](#).

**Soybean rust advisory** - DATCP obtained from EPA, a Section 18 emergency exemption for use of nine active ingredients to combat Asian Soybean Rust (ASBR). This represents nearly two million gallons of fungicide products authorized for emergency use on soybeans in Wisconsin through the 2007 season, if they are needed.

On nearly a weekly basis, additional products are being promoted as being effective against ASBR. As EPA, DATCP and the UW consider adding them to the Section 18, growers are reminded that shrewd pesticide use will be their greatest ally against this invasive species.

Resistance is a serious concern with these products. The spores, once in Wisconsin, will have already been repeatedly hit with the same arsenal of pesticides. Treatments applied to the pest as it gradually drifts up from the south may generate some resistance.

Judicious product use will serve growers' best interest in terms of minimizing product costs and unexpected environmental consequences. The following requirements and guidelines will help soybean growers manage this pest safely and legally.

- Growers are allowed no more than three applications of any of the Section 18 products AND no more than TWO applications of the same active ingredient.
- As new products are approved for use in Wisconsin, they may only be used by growers who have not yet exceeded these application rates. Growers will want to avoid spraying too early or too late to maximize their options for new products and depend on scouting, sentinel plots and advice coordinated through the DATCP ASBR Action Plan.
- Guidance from University Extension experts to determine whether and when to treat.
- New on Section 18 use directions is the requirement to protect endangered species. To protect them the applicator must know where they are. The DATCP Endangered Species biologist provides consultation to persons in all counties if they are uncertain of the presence of a protected species.
- DATCP environmental field investigators conduct inspections of pesticide applications, watching for violations of product label and use directions. Violations related to the Section 18 registrations will result in enforcement, including notification to EPA for their action.
- Applicators are required to carry both the Section 18 use directions and container label in the field and notify DATCP of any adverse environmental or health effects caused by these

products. Careful evaluation of the field conditions prior to applications and following the Section 18 and label directions will help minimize the potential for adverse effects -- *Pat Kandziora, DATCP*.

## Vegetables

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**Wireworms** - Wireworms have many hosts including: corn, small grains, beans, beets, cabbage carrots, lettuce, onions, peas, potatoes, radishes. If you notice reduced germination, snakehead seedlings and wilted or stunted seedlings, wireworms could be the cause. The worm-like larvae are shiny, jointed, sometimes flattened, and as thin as 1/8 inch. Larvae can grow to be 1/4 - 1 1/2 inch long. The adults of this insect are commonly known as "click" beetles. If the beetle ends up on its back, it rights itself by repeatedly popping into the air, until it lands on its front. In the process, the beetle produces a clicking noise, hence "click" beetle.

Wireworms or click beetles can take up to six years to complete one generation. Damage is more likely in the first 1-4 years after plowing up sod or in poorly drained lowlands. Wireworms live in the top six inches of soil, and can only migrate short distances. There is no recommended treatment since outbreaks are rare -- *Rachel Klein-Koth*.



**Flea Beetles** - Reports continue to come in from growers vowing never again to grow brassicas after the attack of flea beetles this spring. Last week Karen Delahaut reported that a grower in Walworth County had seeded a brassica salad mix and immediately covered the field securely with row cover. Because his farm is organic, he used crop rotation so the overwintered beetles didn't emerge beneath the row cover. Despite these measures, his brassicas were still hard hit by flea beetles. Likewise, a researcher at the Arlington Research Station who had attempted to grow mustard greens for an insecticide efficacy trial reported that his greens had been hammered by the beetles. In fact, he said he may have to treat with a registered insecticide with excellent efficacy just to knock down the population enough to have a crop on which to try the experimental products. See the April 29 issue of the Bulletin for more information on flea beetles -- *Karen Delahaut, UW*.



**Cabbage maggot** - This insect has reportedly destroyed 75% of the spring cole crop plantings on an organic farm in Polk County. The first generation of cabbage maggot flies emerged at 300 GDD43 and the second generation of flies is expected to emerge at 1476 GDD43. As of late May in Madison just 824 GDD43 had accumulated, but with continued warm weather we'll likely see the second generation flight soon. Remember, cabbage maggots are specific to crops in the Brassicaceae. Fact sheets on the cabbage maggot can be found at [http://cecommerce.uwex.edu/pdfs/A3719\\_e.PDF](http://cecommerce.uwex.edu/pdfs/A3719_e.PDF). Refer to this publication for information on planting/transplanting during the fly-free period -- *Karen Delahaut, UW*.

**Bean leaf beetle** - Bean leaf beetles are now moving into emerged legumes. In Rock Co. shell peas and sugar snap peas have been in full blossom since May 25th and the first harvest is expected around June 16th -- *Karen Delahaut, UW*.

**Colorado potato beetle** - Overwintered adults continue to emerge; those that have been active for a week are laying eggs in the Central Sands -- *Karen Delahaut, UW*.

**Aster leafhopper** - Reports of infectivity levels from Michigan State using PCR technology indicate that at this time the percent of aster leafhoppers carrying the aster yellows phytoplasma is 0%. In Wisconsin, infectivity levels will be tracked as the summer progresses -- *Karen Delahaut, UW*.

**Seed corn maggot** - Maggots were the most likely cause of poor germination of pea seed planted between mid-April and mid-May in southeastern Wisconsin. Cool weather conditions during this time favored seed corn maggot development, at the same time at seed "sat" in the soil and didn't germinate immediately. In southern Dane Co. 902 GDD39 have accumulated and the third generation of flies will begin emerging at 1000 GDD39. **Onion maggot** - Over the past week one complaint of onion maggot damage to alliums was received. The second generation of onion maggot flies is expected to emerge at 1950 GDD40. Currently, onion maggot degree day accumulation in southern Wisconsin is 1038 GDD40 -- *Karen Delahaut, UW*.

## Fruit

**Spotted tentiform leafminer** - On the whole, pheromone trap counts declined this week as populations are currently in the larval stages. The second flight of moths should begin in regions where 539-750 GDD50 have accumulated. Expect peak second flight of STLM moths, and maximum pheromone trap catches, to next occur around 1150 GDD50. -- *Krista Lambrecht*

**Plum curculio** - In last week's issue of the Wisconsin Pest Bulletin, an advisory was issued to suspend spraying for plum curculio until oviposition scars or related injury were observed in orchards. The rationale for this recommendation was based on the delayed movement of adults out of hibernation quarters and into orchards this spring. Ordinarily, this event begins once temperatures exceed 60 degrees F, and accordingly sprays are applied first at petal-fall, then at first cover. However, this season, unfavorable weather conditions slowed adults leaving hibernation sites, throwing off the usual timing of sprays in some locations.



In southeastern orchards, early signs of damage are just beginning to surface. The first oviposition scars of the season were observed on May 30 in an orchard near Mequon in Ozaukee Co.. This report suggests growers should step-up scouting efforts in the week ahead to determine if early season control efforts to prevent egg laying by the overwintered generation of weevils is warranted. Growers are urged to examine a minimum of 200 fruits per block for egg-laying scars or feeding injury. No economic threshold levels have been established; however, because plum curculio is considered a direct pest of apples, no more than 0.5-1% fruit injury should be tolerated. -- *Krista Lambrecht*

## Gypsy Moth

**First phase of gypsy moth Slow the Spread spraying almost complete** - The 2005 gypsy moth Slow The Spread spray program is on the threshold of completing the first phase of spraying with the bio-pesticides Btk and Gypchek. As of



Friday, June 3, spray applications have been completed at 38 sites, covering 145,161 acres.

With decent weather conditions, the spraying of Btk and Gypchek should be completed next week, as only 12 sites remain to be sprayed. Starting in late June, spraying of Pheromone Flakes will begin at 13 sites in the second phase of spraying. Spraying for 2005 Slow the Spread Program should be completed by the middle or end of July. Overall in 2005, the STS program plans to spray 65 sites in 19 western Wisconsin counties. Sites will be treated either twice (5-10 days apart) with Btk, or once with NPV (Gypchek) or Flakes. To find out about spray plans, please 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 <http://www.datcp.state.wi.us>. Enter "gypsy moth" in the search box.

Information on Suppression spraying in the eastern half of the state, conducted by the Wisconsin DNR, can be found at [www.gypsymoth.wi.gov/](http://www.gypsymoth.wi.gov/).

**Gypsy moth trapping** - As of June 1, trappers have set 5,791 (15%) of the expected total number of traps. Two counties have been completed: Ozaukee and Winnebago. More counties will be completed this week. Trap setting will continue for the next four weeks and most traps should be in place by the week of July 4th. Once all traps have been set, trappers will take a short break before starting to spot-check traps for the beginning of moth flight. Gypsy moth flight usually begins around mid-July in Wisconsin.

## Forest and Landscape

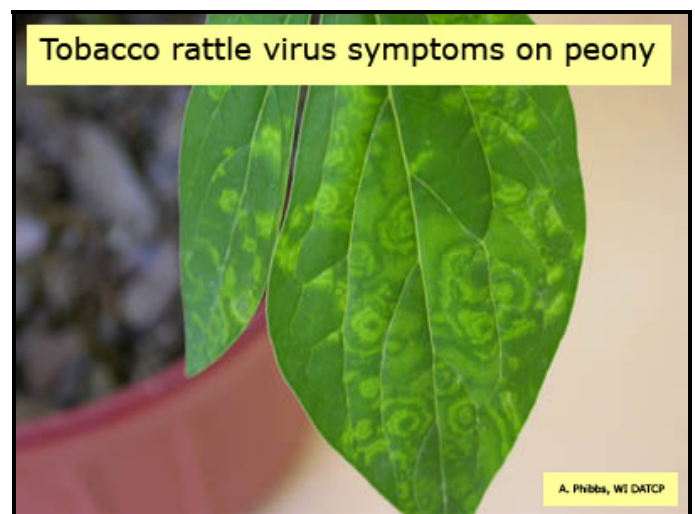
**Tobacco rattle virus (TRV)** - After many years of trying to pinpoint the cause of mosaic symptoms affecting bleeding heart, we have finally found the culprit: tobacco rattle virus. The Plant Industry Lab made the determination using an ELISA test late last week. Interestingly, a peony sample that had gone through Agdia's ornamental screen and came back negative, also tested positive for TRV.



Tobacco rattle virus goes by a few other names, including peony mosaic virus and peony ringspot virus. Most of the bleeding heart plants that Wisconsin inspectors observe with this virus originate in the Netherlands. The virus was first described in 1931 as causing a "stripe and curl" disease of tobacco. In 1960, studies in Holland found the virus to be transmitted by nematodes. TRV is found in parts of Europe, Asia, Japan, Africa, South America, New Zealand and North America, where it has been detected on over 100 plant species. Major hosts include beet, pepper, potato, tobacco, rye, iris, gladiolus and tulip.

The virus can be transmitted by inoculating plants with crude sap and the virus will remain infective for than two months in sap extracts held at room temperature. There are no insect vectors of TRV and most transmission in the field is by two nematode genera, *Trichodorus* and *Parathricodorus*.

The virus can be acquired through feeding on infected roots for at least an hour and can then be transmitted to new hosts in about another hour. Natural spread by nematodes is very slow. Surface water and wind-borne soil particles provide a faster route of spread. -- Bob Dahl

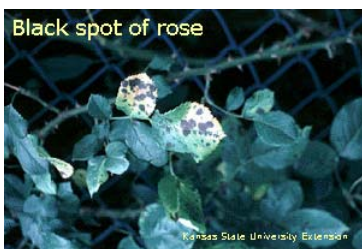


**Powdery mildew** - 'Nearly wild' roses had heavy amounts of powdery mildew covering the leaves at a nursery dealer in Rock Co. While powdery mildew on roses looks unattractive, it poses little threat to plant health. Powdery mildew can occur on leaves, tender shoots, peduncles and sepals of flowers. Small patches of cottony white mycelia are first seen on the lower surface of the leaf, then later on the upper surface and infection may progress to the point where leaves look entirely white. The fungus overwinters primarily in dormant buds as hyphae. In spring, spores become windborne and spread to newly emerging leaves and shoots. Relative humidity of 90-100% and temperatures between 70-80°F favor infection by the fungus. Free water may actually suppress disease development.

Management strategies include choosing resistant cultivars, increasing air circulation and chemical controls. There are

considerable differences of rose cultivars to susceptibility to powdery mildew. Unfortunately no comprehensive list of rose cultivar susceptibility to powder mildew has been published recently -- *Bob Dahl*.

**Black spot** - While there is not much disease or insect activity so far this year, one pest is always certain to appear--black spot on roses. This week, inspectors observed light to moderate amounts at nursery dealers in Grant, Kenosha and Rock Cos.



Black spot development is favored by warm (75°F), wet weather and is most active in late spring or early fall. Black spot overwinters on infected leaf litter beneath rose bushes. In the spring, fungal spores are

rain-splashed on to newly-emerging leaves on the lower portion of the plant. As the season proceeds, spores from newly infected foliage are splashed or blown upward to infect more leaves. The fungus has not been found to survive in the soil.

Black spot disease control should start with the selection of an appropriate planting site and the use of resistant cultivars, if possible. Roses should be planted in an area that receives plenty of sunlight and good air circulation; good air circulation reduces the length of time the foliage remains wet. Blackspot infection can take place after just seven hours of continuous leaf wetness.

Growers can reduce the likelihood of infection by avoiding dense plantings, and by not watering late at night, or not misting or hosing down the foliage. In addition, fall leaf debris should be raked up and discarded and diseased plant material should not be composted. Removal of leaf litter combined with pruning out diseased canes will help reduce the amount of overwintering inoculum.

Starting at the first sign of disease, fungicide applications should be made at 7-14 day intervals, depending on weather. The most effective disease control strategy will include a combination of cultural practices, sanitation measures, and fungicide treatments --*Bob Dahl*.

**Anthracnose** - Moderate amounts of leaf spots from this anthracnose fungus were found on river birch at a nursery dealer in Rock Co.

**Ash plant bug** - Moderate numbers of nymphs were observed on green ash at a nursery dealer in Rock Co.

**Apple scab** - *Hopa* (a.k.a Hopeless) crabapples had moderate amounts of apple scab infecting its leaves at a nursery dealer in Rock Co. -- *Bob Dahl*.

**Oak tatters** - This condition currently is apparent on individual burr oaks near Cooksville in Rock Co. and near Beaver Dam in Dodge Co. Distribution of the problem is scattered, geographically, and occasionally only parts of trees are affected -- *Lee Lovett*.

**Elm leafminer** - Damage was noted on slippery elm in eastern Dane Co. near Cambridge -- *Lee Lovett*

## UW Plant Disease Diagnostics Clinic

The Plant Disease Diagnostics Clinic provides a wide range of diagnostic services. This season, the PDDC will be accepting samples of suspected soybean rust at no charge. More information, and access to the collection of excellent UW plant disease fact sheets is available at <http://www.plantpath.wisc.edu/pddc/pddcgraphics/index.htm>

CROP	DISEASE/DISORDER	PATHOGEN	COUNTY
<b>VEGETABLE</b>			
Potato	Bacterial Soft Rot	<i>Erwinia carotovora</i>	Langlade
Tomato	Ethylene Exposure	Chemical Injury	Brown
<b>FRUIT</b>			
Citrus (Including Ruby Red and Valencia)	Nutritional Deficiency	Physiological	Walworth
<b>EVERGREEN</b>			
Cedar (Including White, Red, Western)	Cedar-Apple Rust	<i>Gymnosporangium</i> sp.	Jefferson
	Root Rot	<i>Pythium</i> sp., <i>Phytophthora</i> sp.	Outagamie
	Winter Injury	Environmental Injury	Racine
Fir (Including White)	Root Rot	<i>Pythium</i> sp., <i>Phytophthora</i> sp.	Outagamie
Holly	Anthracnose	<i>Gloeosporium</i> sp.	Dane
	Phyllosticta Leaf Spot	<i>Phyllosticta</i> sp.	Dane
Pine (Including Austrian)	Dothistroma Needle Blight	<i>Dothistroma pini</i>	Racine
Spruce (Including Bird's Nest, Black Hills, Colorado Blue)	Phomopsis Tip Blight	<i>Phomopsis</i> sp.	Dane
	Rhizosphaera Needle Cast	<i>Rhizosphaera kalkhoffii</i>	Dane
	Root Rot	<i>Phytophthora</i> sp.	Outagamie
	Spruce Needle Drop	<i>Setomelanomma holmii</i>	Dane
	Weir's Cushion Rust	<i>Chrysomyxa weirii</i>	Dane
Yew	Macrophoma Needle Blight	<i>Macrophoma</i> sp.	Sheboygan
<b>HERBACEOUS ORNAMENTAL</b>			
Geranium	Gray Mold	<i>Botrytis</i> sp.	Brown
	Nutritional Deficiency	Physiological	Walworth
Fachysandra	Volutella Blight	<i>Volutella</i> sp.	Dane
Snapdragon		Chemical Injury	Dane
<b>ORNAMENTAL</b>			
Ash	Girdling Root	Physiological	Jefferson
Currant (Including Alpine)	Powdery Mildew	<i>Oidium</i> sp.	Dane
Honeylocust	Crown Rot	Misc. Brown Rot Fungi, White Rot Fungi, <i>Xylaria</i>	Dane
Rose (Including Pink Peace)	Possible Rose Mosaic	Viral	Walworth
Viburnum	Cold Injury	Environmental Injury	Rock



## Apple Insect Trapping Results

APPLE INSECT TRAPPING RESULTS						
	Date	STLM	RBLR	CM	OBLR	PC
Grant Co.						
Sinsinawa	5/26-6/2	0	0		2	0
Crawford Co.						
Gays Mills 1	5/22-5/29	39	1	4		
Gays Mills-W2	5/25-5/31	0	0	0	1	
Iowa Co.						
Dodgeville	5/26-6/2	0	0	10	0	
Richland Co.						
Hill Point	5/25-5/31	28	0	0	0	
Dane Co.						
Deerfield	5/26-6/1	2	2	4	1	
West Madison	5/26-6/2	0	1	2	0	
Dodge Co.						
Brownsville	5/27-6/2	0	3		0	0
Green Co.						
Brodhead	5/26-6/2	0	0	0	0	
Racine Co.						
Raymond	5/26-6/2	1	1	0	1	
Rochester	5/26-6/2	12	0	5.1	0	0
Kenosha Co.						
Burlington	5/19-6/2	250	0	0	0	
Ozaukee Co.						
Mequon	5/27-6/2	250	0.5	2.5	0	0
Waukesha Co.						
New Berlin	5/26-6/2	0	1	0	1	
Pierce Co.						
Beldenville	5/27-6/3	310	6	0	3	
Spring Valley	5/27-6/3	45	10	1	0	
Jackson Co.						
Hixton	5/25-5/31	20	6	1	1	
Marquette Co						
Montello	5/22-5/30	131	8	0	0	0
Brown Co.						
Oneida	5/22-5/30	80	9	2	0	
Sheboygan Co.						
Plymouth	5/27-6/3	122	27	1	2	
Fond du Lac Co.						
Campbellsport	5/26-6/2	39	0	0	0	
Malone	5/26-6/2	6	4	2	0	
Marinette Co.						
Wausaukee	5/27-6/3	1	2	2	0	

## Black Light Trapping Results

Black Light Trapping Results												
Trap Site	Date	European Corn Borer	True Armyworm	Fall Armyworm	Black Cutworm	Doggy Cutworm	Spotted Cutworm	Variegated Cutworm	Western Bean Cutworm	Cabbage Looper	Celery Looper	Corn Earworm
<b>Arlington</b>												
Lancaster	5/27-6/2	1	6	0	0	0	1	0	0	0	6	0
<b>South Central</b>												
Arlington	5/26-6/2	0	0	0	1	0	0	0	1	0	1	0
Mazomanie	5/27-6/2	6	5	0	0	0	3	2	0	0	0	0
West Madison	5/27-6/2	3	9	0	6	0	4	3	0	0	27	0
<b>Southeast</b>												
Janesville	5/28-6/2	2	2	0	0	0	0	1	0		1	0
<b>West Central</b>												
Sparta	5/27-6/2	2	1		1		2	0			0	
<b>East Central</b>												
Mantowoc	5/28-6/3	1	8	0	0	17	1	0	0	0	24	0
<b>North Central</b>												
Wausau	5/29-6/3	1			1						3	
Marshfield	5/26-6/2	1	5	3	3	1	0	3	0	0	1	0



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### Web Site of the Week

#### UW Integrated Pest and Crop Management

<http://ipcm.wisc.edu/>

Information from several UW programs, all aimed at encouraging smarter pest control. Excellent access to UW publications and training

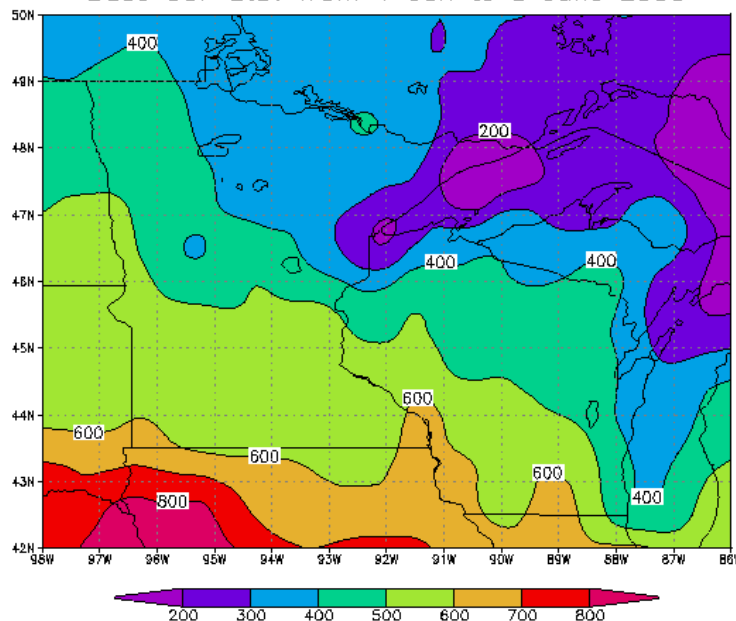
### Quote of the Week

*Just because everything is different doesn't mean anything has changed.*

~ Irene Peter (b. 1945)

June 4, 2005

Base 50F D.D. from 1 Jan to 5 June 2005



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