Wisconsin Pest Bulletin

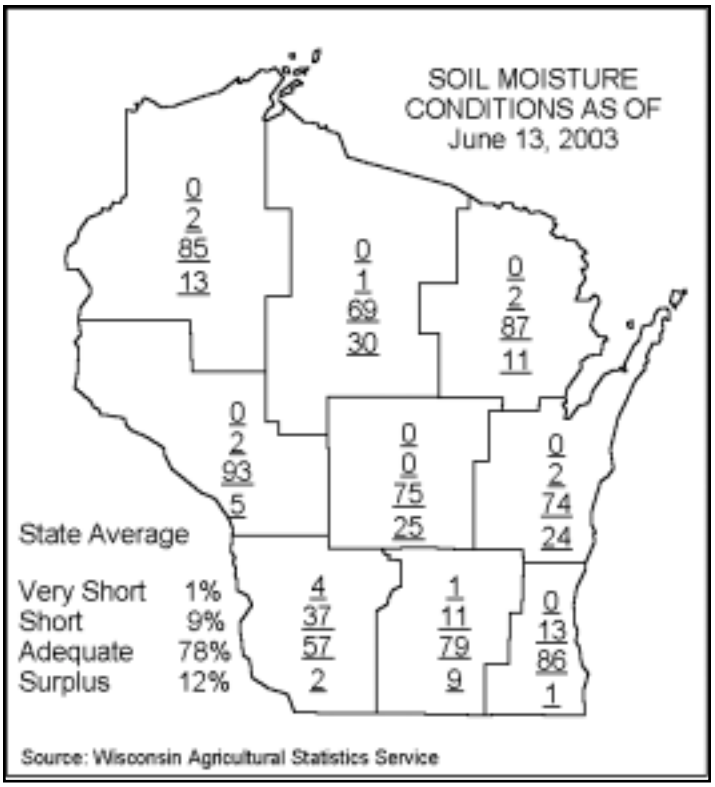
Volume 48, No.11

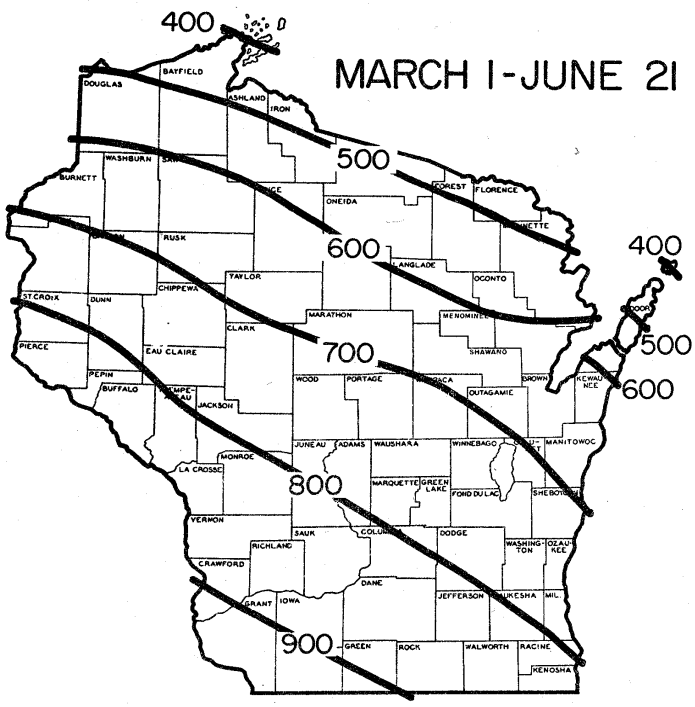
June 20, 2003

Wisconsin Department of Agriculture, Trade & Consumer Protection

PO Box 8911, Madison, WI 53708-8911 Phone: 1-800-462-2803 Fax: 608-224-4656

Website: www.datcp.state.wi.us E-mail: bulletin@datcp.state.wi.us





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

Weather and Pests

The warmer weather needed to accelerate crop development arrived over the weekend. Temperatures near Madison soared into the 80's by mid-week. As temperatures rise and soil moisture decreases, corn fields across the south are beginning to show signs of drought stress. **Soybean aphid**s are showing up in southern soybean fields in higher numbers than we were seeing at this time last year, and **potato leafhopper** reproduction, an event favored by the hot, dry conditions we're experiencing,

Growing degree days from March 1 through June 12:

Site	GDD*	Normal GDD	Base 48	Base 40
SOUTHWEST				
Dubuque, IA	629	785	642	1212
Lone Rock	637	725	633	1205
SOUTHCENTRAL				
Beloit	614	746	634	1203
Madison	589	717	613	1169
Sullivan	561	693	573	1126
Juneau	537	646	559	1106
SOUTHEAST				
Waukesha	493	681	510	1045
Hartford	490	643	512	1043
Racine	422	674	446	952
Milwaukee	425	655	449	953
EAST CENTRAL				
Appleton	505	656	523	1032
Green Bay	406	535	422	901
CENTRAL				
Big Flats	600	634	588	1138
Hancock	582	626	589	1125
Port Edwards	547	649	537	1062
WEST CENTRAL				
LaCrosse	636	703	633	1198
Eau Claire	626	622	621	1181
NORTHWEST				
Cumberland	546	613	526	1031
Bayfield	361	338	313	728
NORTH CENTRAL				
Wausau	487	570	471	969
Medford	472	550	450	941
NORTHEAST				
Crivitz	404	528	406	872
Crandon	425	509	398	872

* GDD (Growing Degree Days) are synonymous with degree-days above modified base 50º F, with no low temperature below 50º F or above 86º F used in calculation.

is occurring at a rapid pace. Hay fields rebounding from the first cutting are particularly vulnerable to potato leafhopper at this time.

Alerts

Sudden oak death (*Phytophthora ramorum*) was discovered in a British Colombia nurseryon June 17, 2003. *http://www.inspection.gc.ca/english/corpaffr/newcom/2003/20030613e.shtml*

Powdery mildew (*Sawadaea bicornis*)- The first report of this disease on Norway maple in North America was recently reported in "Plant Disease", Vol. 78 No. 4, pg 451.

Looking Ahead

Soybean aphid – A growing number of infestations and higher numbers of aphids per plant were detected this week. With colonies growing rapidly, scouting is strongly encouraged. The key to managing soybean aphid outbreaks and avoiding yield losses is monitoring how fast populations grow and determining when they are likely to reach peak levels.

Potato leafhopper – Numbers are variable throughout the south, but with nymph reproduction getting underway and temperatures on the rise, growers should be alert to the possibility of population explosions in forage crops.

European corn borer - The first moth flight is peaking in the south, egg laying is well under way, and newly-hatched first-instar larvae were detected in Dodge and Columbia Co. fields this week. Continue to look for egg masses, first instar larvae, and pin hole feeding next week. Injury could be high in the earliest planted fields.

Forages

Potato leafhopper – Recent weather has favored potato leafhopper nymph reproduction and development. Nymphs appeared this week in Dane, Columbia and Dodge Co. fields. Counts generally averaged fewer than 3 per sweep in 8-10" stands, and nymphs constituted less than 20% of the population in these fields. Farther north, in Portage, Waushara, Waupaca and Wood Co. fields, no potato leafhoppers were detected during this week's survey efforts.

Pea aphid – Counts have risen substantially since last week. Higher counts were detected in the south central district, ranging from 21 to 47 per sweep. Winged adults, non-winged adults, and nymphs were all present.

Meadow spittlebug – Scouts may have noticed the disappearance of spittle masses and nymphs in the last week or two. Meadow spittlebug is an early season pest with only one generation per year in Wisconsin, so once the nymphs reach adulthood this pest is no longer a concern. The spittle masses we saw in weeks past provide a protective covering for the developing nymph, but beyond the nymph stage the mass is no longer necessary. Adult spittlebugs will remain in alfalfa fields for the duration of the season mating and laying eggs, but the eggs will not hatch until next spring. Further, the adults do not damage alfalfa and are not considered economically important. This is one pest insect we don't have to worry about for the rest of the growing season.

Alfalfa weevil – Numbers are down substantially in the south, but fields in the northern counties still face the possibility of heavy tip feeding damage. Growers in the northern 2/3 of the state should continue to check regrowth.

Armyworm – Trace larval populations were observed in alfalfa fields in a few south central counties. Populations did not exceed two larvae/10 sweeps.

Corn

European corn borer – Based on GDD accumulations, the first flight of moths should have peaked in the Madison area by June 16, as the DD above modified base 50°F hit 631. Low countsof egg masses were detected in south central fields this week. No more than two masses per 100 plants were found in any of the fields surveyed. Most masses were freshly deposited, while a minority were in the "blackhead" stage, indicating they were close to hatching. Tiny, first instar larvae were also detected feeding in the whorls in two of the fields surveyed.

Scouting recommendations for first generation corn borers are as follows: Sample 5 sets of 20 plants for every 40 acres in a field, continuing this routine every 3-5 days until insecticide treatment is warranted or scouting shows populations do not require treatment. For each sampled plant, detach the upper 5-7 leaves of the whorl from the rest of the plant, then unwrap the leaves to examine them for larvae or larval feeding. Larvae may be in the midribs of leaves. Scouts should record the number of plants infested and the number of live larvae found. As a general rule treatment for first generation larvae in field corn may be justified when larvae are present and feeding is observed on 50% or more of the plants. For a more precise way to determine if control is needed, see UWEX web site "Assessing the Impact of European Corn Borer on Corn Grown for Silage" at *http://www.uwex.edu/ces/crops/uwforage/ECB.htm*

Control measures, if they should become necessary, would be most effective between 800 and 1000 DD (base 50°F), which could occur as early as next week in the south.

Refer to UW-Extension publication #A1220, "The European Corn Borer", for information on treatment thresholds.

Stalk borer – Severe injury to individual plants was attributed to 1" larvae in field margins in a few Columbia Co. fields. In some fields nearly 40% of the plants in the outer 4 rows were infested. Injury was observed in the fields interiors as well, but to a much lesser extent. In Marathon and Portage Co. fields, 3rd instar larvae were found in V7-stage corn at the rate of 2 to 3 per 100 plants.

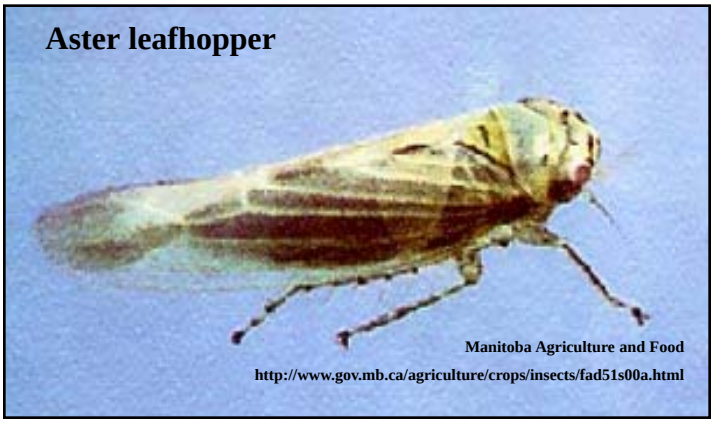
Armyworm – Ragged plants injured by ¾" armyworm larvae were commonly observed in field corn this week. In most cases the injury affected fewer than 6 per 100 plants. Injury was heavier at the field margins. Moth numbers in black light traps have also increased over the past week as the first generation has begun to mature. The peak of armyworm activity is yet to come, so continue to monitor fields closely.

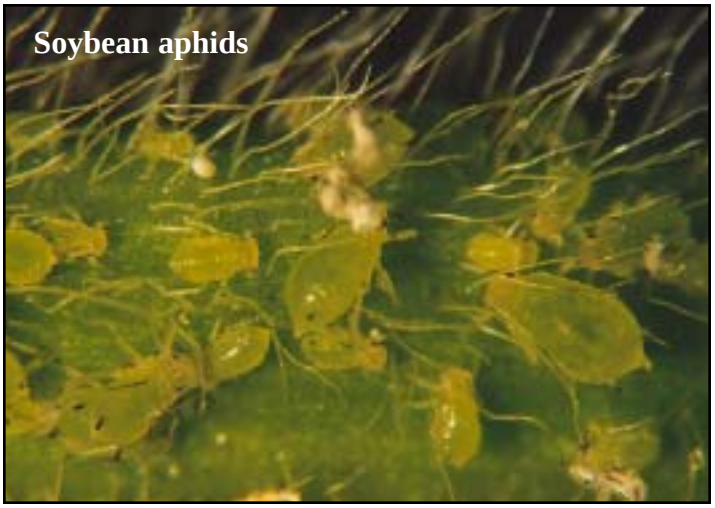
Black cutworm – Light injury to corn was observed in grassy Dodge Co. fields. For the most part, black cutworms seldom cause much damage beyond May or June, but some late-planted fields and fields with heavy weed infestations may still be subject to cutworm problems.

Small Grains

Armyworm – In our surveys, numbers are low but consistent and larvae are seldom more than 1/3 grown. Reports of outbreaks in no-tilled corn from Richland Co. suggest growers should be aware of the potential for problems in localized fields across the state. Control may be warranted when populations exceed three worms per square foot.

Aster leafhopper – Counts in spring grain over the south central district are generally less than one per sweep. Both adults and nymphs were collected in sweep nets. The adults detected during this week's survey will soon move to alternate feeding sites as grain matures. To sample for aster leafhopper, estimate the population based on the average number of leafhoppers per 100 sweeps. In Wisconsin, based on a 2.5% infectivity level, control of aster leafhopper in carrots is currently recommended when sweep net sampling finds 20 leafhoppers per 100 sweeps for susceptible carrot varieties, or 40 per 100 sweeps for resistant carrot varieties (UW-Extension).





Soybeans

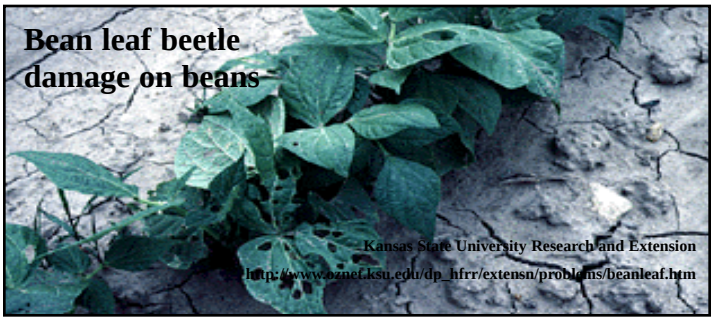
Soybean aphid – An increase in the prevalence of soybean aphid infestations was the highlight of this week's survey efforts in southern soybean fields. In Columbia and Dodge Co. fields the number of infested plants ranged from zero to 24 per 40 plants examined. The number of aphids per plant ranged from 0 to 41, averaging 0 to 11.25 per infested plant (0% - 60% infestation). Jefferson Co. fields had 18-25% of plants infested with 3.4-4.0 aphids per infested plant. In Washington and Waukesha Cos., 13-25% infestations were detected, with 2.2-4.3 aphids per infested plant. The lowest levels of infestation were found in

Green, Iowa and Lafayette Cos. where soybean aphids had not yet colonized a number of fields. In these Cos. the levels of infestation ranged from 0-2.5 %. Levels were also low in the Dane Co. fields surveyed, ranging from 0-10% with 0-6.5 aphids per infested plant.

Although colonies were detected in a majority of the southern fields surveyed, numbers within the fields were highly variable, reinforcing the notion that it is critical to check several separate areas in each field when surveying for aphids. DATCP's 2003 soybean aphid survey protocol involves examining a total of 40 plants per field (10 plants in 4 separate areas), and recording the exact number of aphids per plant. In previous years we've used categories of 0, 1-10, 11-25, etc., but exact numbers have proven more useful in the long run. In fields surveyed this week, not all of the 4 areas had aphid colonies. In fact, in most fields only 2 out of the 4 areas had aphids, indicating that new infestations have not had enough time to spread throughout entire fields. For now, while numbers are still somewhat low, be sure to check plants thoroughly. Aphid colonies are almost exclusively confined to the youngest trifoliate at this time. Keeping a record of the rate of population increase over the next few weeks is key to

determining whether control will be warranted during the later vegetative or early reproductive stages, when populations are expected to peak. Scouts or growers interested in using DATCP's soybean aphid data sheets should contact Krista Lambrecht at (608) 224-4594 or email *krista.lambrecht@datcp.state.wi.us.*

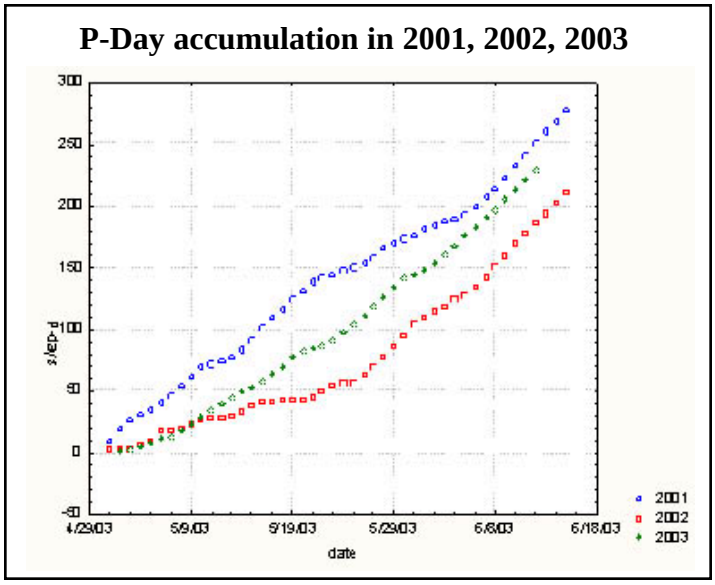
Bean leaf beetle – Surprisingly, very little bean leaf beetle activity was noted this week. No adults were observed in Dane, Columbia, or Dodge Co. fields, and only a low percent of defoliation, less than 5%, was encountered in the V0-V2 stage fields.



Potato leafhopper – Nymphs were observed on the undersides of leaves in south central soybean fields. Counts were low, seldom exceeding one nymph per 5 plants.

Potatoes

Potato disease update- Stands in most fields are excellent with very little seedpiece decay, **blackleg**, or the usual assortment of early season diseases. Rows are beginning to touch in many fields and some growers are reporting tubers larger than golf balls. There are no submissions to the clinic for diagnosis of **late blight.** The number of severity values calculated from in-field weather data remains low for central and southern WI. For the Antigo area, however, we reached 18 severity values last Friday. The severity values have not increased since then and weather conditions are expected to be unfavorable for late blight development for the next several days. It would be wise for the growers in the Antigo area to initiate fungicide treatment, especially if they can band fungicide over the rows during hilling, a less expensive alternative to broadcast treatments at this time of the year.



On June 17th the first sample of **early blight** was observed at the Hancock Ag Research Station. The first symptoms of early blight appear on the oldest leaves near the base of the plants. Lesions are less than ¼ inch in diameter and are surrounded with a yellow halo. As the lesions enlarge, they generally become angular in appearance when bordered by leaf veins. The surfaces of mature early blight lesions exhibit multiple rings, giving the lesions a bullseye appearance. There are many fungicides capable of controlling early blight. The strobilurin fungicides, including Quadris, Gem, or Headline all provide control of early blight, especially when mixed with a broad based protectant such as chlorothalonil, metiram, or mancozeb. Be sure that you do not use back to back strobilurin sprays. Use only three strobilurin sprays for the season alternating with chlorothalonil, metiram, mancozeb or triphenyltin hydroxide (TPTH) mixed with mancozeb. If Quadris fungicide was used as an in-furrow treatment for control of soilborne diseases, your first fungicide spray should not be a strobilurin material. (UW-Madison)

Current P-Day and Severity Value Accumulations for 2003
(http://www.plantpath.wisc.edu/wivegdis/index.htm)

Location	Date	P-Day Total	Severity Value Total
Antigo emerging June 4	6/17	93	18
Grand Marsh emerging 5/19	6/17	192	4
Grand Marsh emerging 5/24	6/17	168	4
Grand Marsh emerging 5/28	6/17	146	4
Hancock emerging 5/13	6/17	242	6
Hancock emerging 5/17	6/17	219	6
Hancock emerging 5/25	6/17	172	4
Plover emerging 5/13	6/17	231	2
Plover emerging 5/24	6/17	171	2
Plover emerging 6/3	6/17	109	2

Apiary

New Varroa mite control – EPA has approved the use of **API-LIFE-VAR** under a Section 18 emergency exemption

to control **varroa mite** in honey bees. API LIFE VAR contains the natural compounds thymol, eucalyptol and menthol.

Varroa mite (*Varroa destructor*) predation of honey bees has been causing serious losses of honey bee colonies since their first arrival in Wisconsin in 1987. Varroa mites have become increasingly resistant to the miticides currently in use, APISTAN and CHECKMITE.

General use information: The API LIFE VAR formulation of Thymol is formulated as an evaporating tablet. Tablets are sealed in polyethylene type bags. When used as directed API LIFE VAR provides suppression of Varroa mite in colonies of honey bees.

Use API LIFE VAR in the late summer or autumn after the honey harvest is complete.

Do not use when honey supers are in place to prevent contamination of marketable honey or wax by unwanted residues. Use when average daily temperatures are between 59ºF and 69ºF. Do not apply the treatment when bees are robbing.

Treatment of Two Story Colonies (bees covering 8 to 20 full-size Langstroth frames or equivalent): Take one tablet from a bag and break into 2 to 3 equal pieces. Place the pieces of API LIFE VAR on the hive body or the four corners of the brood nest. Avoid placing pieces directly above the middle of the brood nest. After 7-10 days, replace with a fresh tablet broken into pieces as above. Repeat procedure again 7-10 days later, leave last tablet for 12 days, and remove residuals from colony. To prevent the bees from gnawing the tablet either enclose each piece in an envelope of screen wire (8 mesh/inch) or place the uncovered pieces above a sheet of metal screen that prevents bees from contacting it.

Remove API LIFE VAR tablets from hive at least 5 months (150 days) prior to harvesting the honey to prevent contamination of the honey.

Notes: Use of API LIFE VAR is most effective when less sealed brood is present.

Do not use API LIFE VAR at temperatures above 90ºF. Use of API LIFE VAR at average daily temperatures below 54ºF may result in less control of Varroa mite.

Wear appropriate protective wear when handling API LIFE VAR: chemical resistant footware and socks, waterproof gloves, and protective eyeware (goggles or face shield). Comparable beekeeping suits and equipment may be used as personal protective equipment if appropriate.

Forest, Shade Trees, Ornamentals and Turf

Aphids—We are continuing to find aphids throughout during nursery inspections, and populations are increasing. We are finding them on many ornamental plants including butterfly bush, sedum, speedwell and viburnums. Treatment can be as simple as spraying cold water on the aphids or using insecticidal soap. Natural predators, such as ladybeetles, also feed on aphids.

Bark beetle- Black River State Forest (Jackson Co.) has a small bark beetle infestation killing jack and white pines. (DNR)

Birch leafminer— Leafminers were found in Dane Co. at a residence late last week. The damage caused by the leafminer is a brown patch that develops in the early stage and that will grow larger as the leafminer develops inside the leaf. When you see the damage it is a little late to treat to control because the pest is between the epidermal layers (the outside surface of the leaf) and is protected from many control measures. Treatment in the early stages may help to reduce the damage and control some of the population. Only systemic insecticides work to control this pest when they are inside the leaf.

Blister beetles (more than one species)- These pests were found feeding on lupine and other plants in Vernon and Waushara Cos. (UWEX)

Euonymus caterpillar—Found on European spindletree in Crawford and Waukesha Cos. in heavy amounts, and also reported in Eau Claire, Waukesha, and Dodge Co. This insect is found feeding in or near light webs generally near the tips of the branches. The larva is off-white with pairs of black spots running down the entire back of the caterpillar. The adult is a white moth with many black spots on its wings. This insect will feed on or near anything in the Euonymus family, including burningbush and spindletree. Treatments of a labeled pesticide can be made when in this larval stage, or when the label indicates. (UWEX in part)

Galls—Many types of galls caused by insects are being found during nursery inspections in the state. They range from **eastern spruce gall adelgid** on white spruce, to **nipple gall** on hackberry, to **ocellated maple gall** on Norway maple. The latter are bright red circles with a white center. Generally it is too late to do any control once the gall has formed. Control should be done early in the spring, when the adults are laying eggs or eggs are hatching, depending on the type of insect causing the gall. (UWEX in part)


Galls on elm leaves

Fletcher scale (Lecanium scale)— This scale is mostly found on yews, and occasionally arborvitae, usually attached to the interior branches. Scales are round-backed and brown. Milky white eggs and crawlers can be found under the protective covering.

Treat for Fletcher scale when *Hydrangea arborescens* 'grandiflora' is in full bloom, and a repeat treatment 10 days later to control the crawlers when they hatch. Currently we are finding hydrangea in bud; they should be blooming in the next week or so.

Gypsy moth larvae- Reports of this exotic pest were received from Fond du lac, Dane, and Racine Co. (UWEX)

Jack pine budworm- Populations are building in certain areas of west central Wisconsin, and may cause moderate defoliation. (DNR)

Rose chafer- This pest was noted in Sauk and Richland Cos. (UWEX)

Rose slugs—Found in Dane Co. on 'Sea Foam' rose at a residence, this pest is not a true slug but one of three types of sawfly larva. The three types are **bristly roseslug**, **curled roseslug** and ***Endelomyia aethiop***s. Damage in the early stages is a white patch, where the interior plant tissue is eaten and the veins remain. As the larvae grow they begin to chew holes in the leaves and eventually eat all the leaf tissue, leaving only the midrib. To control this pest use a strong stream of water to wash them from the foliage. There are also chemical controls for roses. To look for roseslugs check for feeding damage and then look on the undersides of the leaves and protected areas in the foliage. The larva is greenish and about one-half inch long when full-sized. The rose slugs found during inspection were about ¼ inch long and just starting to chew through leaf tissue.

Viburnum borer- This pest was noted in Waukesha, Brown and Dane Cos. (UWEX)

Apple scab—This common apple scourge was found during inspections on apples and crabapples in increasing amounts in Calumet, Racine, and Waukesha Cos., and can be found in most parts of the state. This fungal pathogen causes early leaf drop in both apples and crabapples that are not resistant. It generally starts out as a dull grayish fuzzy patch on the upper surface of the leaf and develops a yellow halo, with the leaves dropping eventually. It is important to clean up leaves that are infected, especially in the fall. This reduces the amount of over wintering spores, which will infect the tree the next spring if conditions are right. There are many resistant crabapples and apples varieties on the market and they may be a better selection for growers have trouble with this disease. Fungicides can be used to reduce or prevent the disease, if treatments are started early in the season and repeated throughout the season.


Powdery mildew on oak

Oak tatters - Reports of oak tatters on white oak from Clark Co. were confirmed this week. (DNR)

Phyllosticta leaf spot— This fungal leaf spot includes many species of *Phyllosticta* spp. and has a wide host range. On maple, *Phyllosticta minima* causes tan necrotic circles. Inside the tan area, black spores or fruiting bodies can be seen with a hand lens. The necrotic areas may have a purplish border. The disease affects almost all types of maples found in the upper Midwest. The spores over inter on fallen leaves, which should be cleaned up to reduce reinfection the following spring. Most of the time treatment is not required.

Powdery Mildew— We are finding this fungus in light to heavy amounts in many counties and mostly on plants that are chronically infected, such as roses, serviceberry and verbena. It is easy to identify by the white fuzzy covering over the foliage, which can be wiped away. Several things can be done to reduce the infections of this pathogen: increasing airflow, removing leaves that are infected and selecting resistant introductions. Chemical control can be very effective because most of the infection superficial.

Venturia leaf blight—This disease is found on poplar and aspen and can cause shoot and leaf blight. The foliage becomes black in patches and sometimes the growing point turns black, brittle, and dies. When the tip dies, the end generally crooks over into a shepherd's crook. It can


Venturia shoot tip blight on aspen

deform or kill a smaller tree. This pathogen seems to be worse when we have extended wet weather. The spores overwinter on the blighted tips and are spread by wind. Controls are to prune out affected branches and reduce moisture that gets on the foliage.

State/Federal Programs

Gypsy moth trapping program - Trap setting continues this week. Trappers have set 16,266 traps or 59% of the expected total of 28,000. Trappers usually set approximately 5,000 traps per week; that means we are about 2-3 weeks from completing the trap setting phase of our program. Most traps will be up by the 4th of July while some traps in the northern counties will finish up shortly after the 4th. Twenty-two counties are complete: Buffalo, Dodge, Jefferson, Kenosha, Kewaunee, LaCrosse, Manitowoc, Marquette, Milwaukee, Outagamie, Ozaukee, Pepin, Pierce, Racine, Rusk, St. Croix, Shawano, Washburn, Washington, Waukesha, Waupaca, and Waushara.

Moth flight is expected in mid-July in the southern part of the state. Trappers will start checking about that same time.

Fruit

Apple maggot – Red ball and yellow sticky traps can be placed now as apple maggot emergence is expected to begin soon. Both are visual traps that attract apple maggot flies based on color. The red ball mimics a ripening apple, attracting mated female flies preparing to lay eggs, while the yellow sticky board mimics apple leaves. The key to using visual traps effectively is to hang them in a spot in the outer canopy and in an edge row, where they are visible to passing flies. Trap catches can be used directly to time sprays. When one maggot fly is caught per red ball trap in a week's time, treatment is warranted. The threshold increases to five flies per trap when using fruit volatile lures along with red ball traps. Because there are a few similar species of fruit flies that occur in Wisconsin, be

sure to closely examine the wing banding pattern to separate the apple maggot from other fruit flies.

Apple scab - Defoliation of infected Hopa crab leaves started in Dane Co. this week. Relatively dry conditions so far had kept the disease "tolerable" up to now.

Odds -n- Ends

Monarch butterfly – Migratory adults are beginning to return to Wisconsin. Adults were seen flitting in Dane Co. backyards in recent days. Monarchs are a common summer sight, but it's fascinating to consider where these beauties we start seeing in mid-June have come from and just how far they've traveled to get here. The butterflies now arriving have traveled up to three thousand miles from their overwintering sites in forests high in the mountains of Mexico. No other butterflies in the world migrate like the Monarchs of North America. They are the only butterflies to make such a long migration every year. Although they may seem commonplace to us, it's really a wonder how they make it back each season to spend the summer in Wisconsin.

European earwig – Active earwigs were observed at a northern Dane Co. residence on Sunday, June 15. Although in large numbers earwigs can damage plants and sometimes cause problems with wells, they are mostly looking for moist places to hide when we encounter them

in our homes, yards and garages. According to UW-Extension entomologist, Phil Pelliteri, "Earwigs often come indoors to hide, or they conceal themselves under outdoor furniture, hoses, garbage cans, or poor-fitting well caps. They do not breed indoors but simply hide, then become active at night." For information on how to control earwig infestation, refer to UW-Extension publication #A3640, "Controlling Earwigs", at

http://www.entomology.wisc.edu/ppearwig.html

Calendar of Events

Greenhouse IPM seminars:
Natural Beauty Greenhouses in Denmark
June 24, 2003. 9:00 am - 4:00 pm $10

Tropical Gardens, Inc. in Mosinee
June 25, 2003. 9:00 am - 4:00 pm $10
FMI call Karen Delahaut 608-262-6429 or email kadelaha@facstaff.wisc.edu

Please note corrected days and times for Potato Field Days

Rhinelander Potato Grower Field Day
July 11, 2003. UW Rhinelander Research Station
(715) 369-0619

WI Arborist Assoc. summer field day.
July 16th, 9 AM to 3:30 PM in Janesville at the Rotary Gardens. **Wisconsin Fresh Market Vegetable Growers and Berry Growers Field Day**
July 18, 2003. 9:00 am - 3:00 pm
Country Bumpkin Farm in Wisconsin Dells
Contact:
Karen Delahaut 608-262-6429
or email kadelaha@facstaff.wisc.edu

Central WI Potato Field Day
July 22, 2003. Hancock Research Station
8:30-noon, lunch at noon
(715) 249-5961

Northeast Wisconsin Potato Field Day
July 23, 2003. Langlade County Airport 1:00 pm
Contact: Ken Williams, UWEX (715) 627-6236

American Phytopathological Society Annual Meeting
Aug 9-13, 2003. Charlotte, NC
www.apsnet.org/meetings/2003/

The WI Nursery Assoc. summer field day
Wednesday, August 13th, at Silver Creek Nursery, in Manitowoc, WI. It is an all day event. Contact Brian Swingle at 414-529-4705 or email bswingle@toriiphillips.com

WI Christmas Tree Producers Association Summer Convention
Aug. 15-16, 2003
Menominee Casino-Bingo-Hotel, Kesheena
Tour Hanauer's Tree Farms, Shawano
Contact: Cheryl Nicholson, Executive Secretary
www.christmastrees-wi.org
Phone (608)745-5802

West Madison Horticultural Field Day
featuring a Mexican Garden
August 16, 2003.
Contact: Judy Reith-Rozelle at West Madison 608-262-2257

BLACKLIGHT TRAPPING RESULTS

through June 19

Trap Site	Euro. Corn Borer	Army-Worm	Black Cutworm	Vari. Cutworm	Spot. Cutworm	Celery Looper	Forage Looper
South Central							
Arlington	299						
Madison	165						
Mazomanie	89	42	4	0	9	0	2
Central							
Marshfield	16	4	0	0	20	3	0
Northwest							
Chippewa	19						

Apple Insect Trapping Results

	Date	STLM	RBLR	CM	OBLR	AM red ball	AM sticky
Crawford Co.							
Gays Mills-W2	6/12-6/19	0	0	0	0		
Gays Mills-E2	6/11-6/18	40	0	10	9		
Richland Co.							
Hill Point	6/5-6/12	6	1	0.5	0		
Richland Center -W	6/11-6/18	27	5	0	5		
Richland Center-E	6/11-6/18	6	2	0	8		
Sauk Co.							
Baraboo	6/11-6/18	4	1	3	5		
Dane Co.							
Deerfield	6/9-6/16	4	0	1	3		
Pierce Co.							
Spring Valley	5/13-5/20	8	0	0	12		
Beldenville	6/11-6/18	0	0	11	8		
Trempealeau Co.							
Galesville	6/13-6/19	0	0	8	0		
Fond du Lac Co.							
Rosendale	6/2-6/16	15	11	1	0		
Malone	6/12-6/19	6	4	3	2	0	0
Marquette Co							
Montello	6/8-6/22	10	2	2	4		
Door Co.							
Sturgeon Bay	6/11-6/17	55	5	7	0	0	0
	6/4-6/10	60	3	13	0	0	0
Brown Co.							
Oneida	6/9-6/16	7	3	5	2	0	0
Marinette Co.							
Wausaukee	6/1-6/19	14	0	1	0		
Ozaukee Co.							
Mequon	6/0-6/16	10	0	0.7	0		
Waukesha Co.							
Waukesha	6/7-6/13			1			
Racine Co.							
Rochester	6/13-6/20	0	0	0	10		
Sheboygan Co.							
Plymouth	6/13-6/20	44	0	19	0	Macs at 18-20mm	

FIRST CLASS MAIL
US POSTAGE
PAID
Madison, WI
Permit No. 110

Department of Agriculture, Trade & Consumer Protection
Division of Agricultural Resources Management
PO Box 8911
Madison WI 53708-8911

Web Site of the Week

USDA Honey Bee Breeding, Genetics and Physiology Lab
http://msa.ars.usda.gov/la/btn/hbb/

Honey bees pollinate more than $9 billion worth of food, fiber and seed crops in the U.S. annually. Researchers at the USDA HBB lab work to improve bee genetic stocks, including extensive research on bee resistance to various pests. (See article this issue on API LIFE VAR registration and Quote Of The Week, below.)

Quote of the Week

So, naturalists observe, a flea
Has smaller fleas that on him prey;
And these have smaller still to bite 'em;
And so proceed ad infinitum.

Jonathan Swift (1667–1745), in *Poetry, a Rhapsody.*

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