COOPERATIVE PEST SURVEY BULLETIN

State of Wisconsin
Department of Agriculture
Trade & Consumer Protection

Agricultural Resource Management

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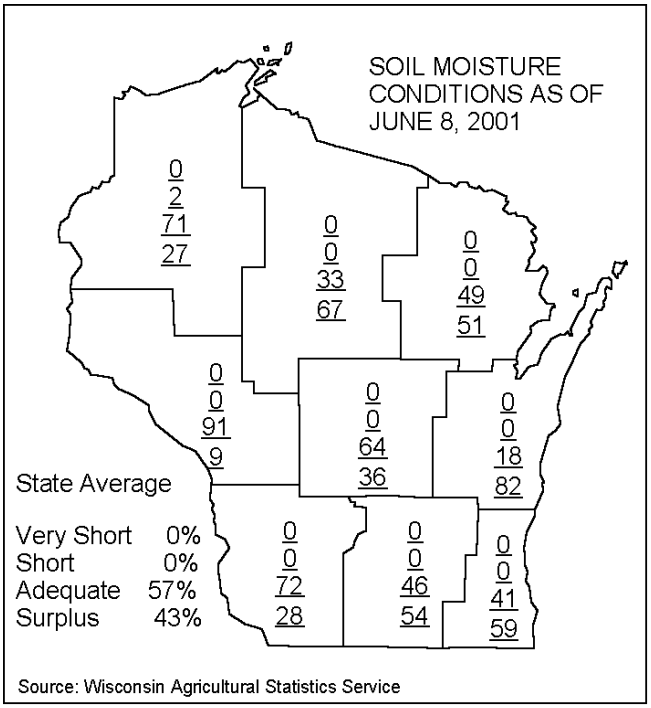

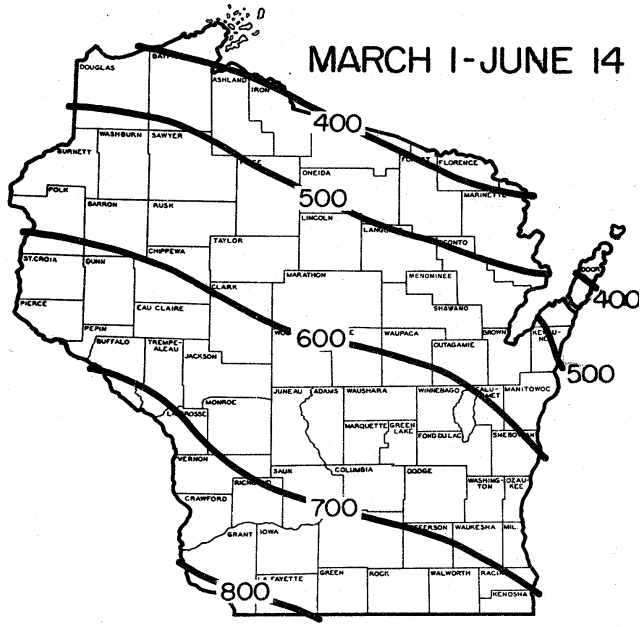

Historical Average Growing Degree-Days Accumulated Since March 1. (Wisconsin Agricultural Statistics Service)

WEATHER AND PESTS

Caterpillars everywhere! If it's not **forest tent caterpillar** causing accidents (see **FOREST, SHADE TREE, ORNAMENTALS AND TURF**) then it's **armyworms** devouring corn (see **CORN**). Corn and soybeans are growing very slowly with recent cool, wet conditions. These last few days of hot weather should push the crops along, though.

Statewide soil moisture was rated 57% adequate and 43% surplus. Degree days are still behind last year's but about equal to the thirty year average in most areas of the state.

Growing degree days from March 1 through June 13 were:

Site	GDD*[1]	2000 GDD	Normal GDD	Base[1] 48	Base[1] 40
SOUTHWEST					
Dubuque, IA	736	847	785	766	1371
Lone Rock	671	769	725	689	1289
SOUTHCENTRAL					
Beloit	747	778	746	783	1405
Madison	666	704	717	697	1283
Sullivan	697	714	693	722	1340
Juneau	678	716	646	714	1309
SOUTHEAST					
Waukesha	634	678	681	670	1012
Hartford	630	674	643	672	1240
Racine	569	629	674	609	1157
Milwaukee	550	600	655	597	1123
EAST CENTRAL					
Appleton	570	612	656	610	1132
Green Bay	501	536	535	540	1045
CENTRAL					
Big Flats	614	663	634	627	1175
Hancock	610	650	626	625	1172
Port Edwards	563	624	649	572	1096
WEST CENTRAL					
LaCrosse	678	840	703	689	1259
Eau Claire	617	745	622	640	1170
NORTHWEST					
Cumberland	566	618	613	592	1096
Bayfield	387	380	338	382	800
NORTH CENTRAL					
Wausau	508	572	570	518	1012
Medford	508	557	550	532	1013
NORTHEAST					
Crivitz	473	500	528	497	989
Crandon	492	517	509	503	969

[1]Data from Bill Bland et. al., Soil Science, Univ. of Wisconsin-Madison.

GDD (Growing Degree-Days) are synonymous with degree-days above modified base 50°F, with no low temperature below 50°F or above 86°F used in calculation. See map for Historical Average Growing Degree Days.

ALERTS

Zeta-cypermethrin (Fury 1.5EC) - The Environmental Protection Agency (EPA), the Food and Drug Agency (FDA), and State Department of Agriculture officials are investigating the suspected illegal use of the restricted-use pesticide **zeta-cypermethrin,** manufactured by FMC Corporation. It may be sold under the trade names **Fury 1.5EC**, **Fury 1.5EW, and Mustang 1.5 EW**. It is believed that **zeta-cypermethrin** may have been applied on wheat to control armyworms in Alabama, Illinois, Louisiana, Missouri, Tennessee and Texas. Illegal applications have been confirmed in Arkansas and Mississippi.

Zeta-cypermethrin is not registered for use on wheat. It is registered for control of certain insects on cotton, cabbage, head lettuce, bulb onion, garlic, shallots and pecans. Interstate shipments of wheat that test positive for **zeta-cypermethrin** residues may be seized by the FDA. Wheat that contains **zeta-cypermethrin** residues that are mixed with clean wheat will contaminate the clean wheat. Growers are advised to have their wheat tested before it is moved or mixed with other wheat, if they think it may have been treated with **zeta-cypermethrin**.

If you believe your crops have been improperly treated with **zeta-cypermethrin**, please contact the compliance section or pesticide specialists ((608) 224-4500) at the Wisconsin Department of Agriculture, Trade and Consumer Protection.

CORN

Armyworm – **Armyworm** larvae ranging from third to fifth instar were detected in alfalfa and field corn stands surveyed in the southern part of the state. As many as 7 early instar larvae were collected per 10 sweeps in alfalfa. In field corn, most of the damage observed was confined to field margins, while little or no damage evident toward the interior of the fields. Fourth and fifth instar larvae were observed feeding within the whorl. The last two larval instars (5^{th} and 6^{th}) do most of the feeding, causing the greatest amounts of damage. When scouting, look for marginal leaf feeding damage and frass build-up in the whorl. These are good indicators of **armyworm** presence. Assessing the need for **armyworm** control is difficult, especially when infestations are concentrated in field margins. UW Extension publication A1684 offers detailed information on thresholds and control recommendations.

European Corn Borer – No egg masses were found in field corn surveyed in Dane, Rock, Jefferson, Green Lake, Dodge and Columbia, Waupaca and Portage Cos. Despite these negative finds, growers can expect to see **European corn borer** egg masses and hatching larvae in the near future. Fresh market sweet corn growers should begin scouting for egg masses now. When scouting, examine a total of 50 plants (10 plants in 5 separate areas). For treatment recommendations for sweet corn see Extension Publication A3422, for field corn see Extension Publication A3646.

Hatching European Corn Borer Larvae
http://www.ipm.iastate.edu/pest/cornborer/ecblifestag.html

Eyespot- A 5% disease incidence of **eyespot** was detected in a field in Adams Co. **Eyespot** generally occurs during silking or at maturity. However, plants at V4-V6 growth stages had **eyespot** infection this year. In some cases symptoms were found on new leaves. The fungus overwinters in corn residue. Spores produced on residue are windborne and spread to nearby plants. The fungus may also be seed-borne.

Anthracnose leaf blight - Leaf spots on seedling corn collected in the central sands areas were identified as **anthracnose leaf blight**, caused by *Colletotrichum graminicola.* The fungus can infect the stalks of young corn plants. *Colletotrichum graminicola* overwinters in corn debris, so the disease is more severe in corn-on-corn fields. Resistant varieties are available.

FORAGES

Alfalfa weevil – Few larvae (0 to 1.5 per sweep) were found in regrowth alfalfa in Grant, Iowa, Dane, Columbia, Dodge, Green Lake, Jefferson and Fond du Lac Cos. We have not seen much of this pest so far this season, and we don't expect to see much of a problem.

Alfalfa blotch leafminer – Sixty to 90 percent of the leaves in 24+ inch alfalfa harbored leaf mines in Fond du lac Co. Pinhole feeding occurred on 40 to 60 percent of the leaves. **Alfalfa blotch leafminer** was not found in Grant, Iowa, Dane, Columbia, Dodge, Green Lake or Jefferson Cos. The alfalfa surveyed in these counties was 6-12 inches tall. Leaf mines tend to occur in more mature alfalfa.

Potato leafhopper – Keep an eye on this pest. Nymphs were reported on rhubarb in northern Dane Co. but have

not been found on alfalfa. We did find adults in below threshold numbers in Grant, Iowa, Dane, Columbia, Dodge, Green Lake, Jefferson and Fond du Lac Cos. **Potato leafhopper** numbers may dramatically increase by migration from the southerly winds from the gulf region or by reproduction. Hot, dry weather supports the increase of the population. Heavy rains knock down the population. However, as we saw in the last few years, favorable conditions following the storms may give the potato leafhopper a boost. Although the numbers are below threshold, the populations may increase rapidly.

SMALL GRAIN


Loose smut of wheat

Image by Dr. Erik Stromberg, Virginia Tech
http://www.ppws.vt.edu/stromberg/smallgrain/biology/wlsmut.html

Diseases- Recent visits to winter wheat fields in Fond du Lac, Sheboygan and Calumet Cos. found **powdery mildew** in 13 of 14 fields , with severity ranging from mild to severe. Five of the fields showed symptoms of **barley yellow dwarf virus** with incidence of less than 1%, and **loose smut** was present in three of the fields at trace levels. Also present in 11 fields at significant levels was **septoria leaf spot**, caused by *Septoria tritici*. No **rust** has been reported on wheat yet this year.

VEGETABLES

Late Blight-The first **late blight** of the season was diagnosed yesterday in two fields near Hancock, WI. Symptoms were observed on the stems and oldest leaves and according to the person observing the infestation, the symptoms were difficult to see unless he pulled the canopy open to expose the lowest portion of the stem. In the first field, the stems of three plants with symptoms were almost girdled by the pathogen. With gentle pressure, the plants literally fell over. These first visible infections were likely present for several days before detection.

The announcement that **late blight** is present on this year's crop of potatoes, while disappointing, is not a surprise given the weather conditions during the past two weeks. Plants in the first two fields with **late blight** symptoms are being killed with vine desiccant and the remainder of these fields and adjoining fields are being sprayed with fungicide. Warm nighttime temperatures will likely shorten the kick-back activity of Curzate. Other choices of fungicides for **late blight** control include Acrobat and Previcur mixed with the protectants mancozeb, chlorothalonil, or metiram. The protectants mancozeb, chlorothalonil, or metiram, can also be applied alone at full label rates. The newly labeled Gavel would also be a good choice for **late blight** control, but supplies are not expected in the state until later this month.

Regardless of the spray program used, it is important to strive for full coverage of all parts of the plant canopy, including the lower stem, old leaves and young leaves. For those scouting fields, you'll need to be checking not only the upper canopy and leaves visible as you walk the fields, but also the lower canopy. This requires the turning of leaves to see what lies at the base of the plants. Brown to black stem lesions, often with a light covering of white fuzz can be indicative of **late blight**. Further microscopic examination is needed to confirm **late blight**, and microscopes reside in the Stevens Point and Antigo County Extension Offices, the Hancock Ag Research Station, UW Madison and IPM consultants.

With weather conditions continuing to favor sporulation, infection and spread of the **late blight** pathogen, the next few days will be critical for containment of the problem. **(Walt Stevenson, UW-EX)**

Pythium root rot of peas- A **Pythium** species was isolated from pea fields in the central sands area. The incidence and the severity levels were less than 1%. Often the cause of seed rots, poor emergence or damping off, **Pythium** is a greater problem in wet soils. Seed quality plays a role in **Pythium** occurrence, as poor-quality seed with split seed coats exudes more compounds that stimulate the fungus for infection. Chemical seed treatment will usually provide good protection against seed rot.

Rhizoctonia root rot of peas- This disease was detected in a field in Waushara Co. with a 5% incidence and a severity of 1%. Lower parts of the stem and the roots were discolored, and the stems were constricted at the lesion edge. The disease is most often seen on seedling peas emerging under warm-weather conditions. The fungus can survive in the soil as sclerotia (a hard walled resting stage). Fungicide seed treatments can provide protection against seed rot, but are not effective against epicotyl infection.

Ascochyta leaf spot- This disease was detected in a field in Waushara Co. The incidence was about 10% and the severity level was about 1%. Infected leaves exhibited brown to black circular spots. **Ascochyta leaf spot** survives in crop debris and in seed. Infection is favored by high humidity, frequent rains accompanied by wind, and temperatures less than 82 °F.

SOYBEANS

Bean Leaf Beetle - Foliar feeding damage was observed in all soybean fields surveyed this week. The extent of feeding injury ranged from 2%-30% in Dane, Columbia, Jefferson, Dodge and Green Lake Cos. Although some amount of damage was visible in all fields, very few adults were actually observed.

Adult **bean leaf beetles** are approximately ¼ inch in length, and highly variable in coloration. Most are reddish-brown to yellow with black margins. All have a black, triangular spot at the base of the forewings.

http://muextension.missouri.edu/xplor/agguides/pests/g07150.htm

The characteristic rounded holes made by **bean leaf beetles** differ from ragged holes caused by caterpillars and other soybean foliage feeders. Foliar damage can be striking, but isn't generally considered economically significant.

http://muextension.missouri.edu/xplor/agguides/pests/g07150.htm

In addition to feeding on soybean foliage, **bean leaf beetles** attack soybean pods and seeds. When adults feed at the base of the pod, pod clipping may occur, resulting in complete pod loss. Adults also feed on the pod wall, causing wounds that make plants increasingly susceptible to secondary pathogens. Pod damage is considered the most critical type of injury.

Scouting efforts should target adults. In most regions of the state it is still too early for sweeps nets, but direct observations and stand counts are effective measures for assessing the need for control. During the seedling stage, five or more bean leaf beetles or one damaged plant per foot of row is economically significant. Later in the season, counts of adults plus the number of damaged pods can be used to determine the need for treatment.

Soybean Aphid – The first-ever **Soybean aphid** survey is underway throughout the southern part of the state. Counties surveyed this week include Dane, Columbia, Dodge, Jefferson, Rock and Green Lake. So far surveyors have seen no signs of **soybean aphid** activity. UW Entomologists are looking as well, and have had similar results.

The **soybean aphid**, *Aphis glycines,* had never been detected in the U.S. prior to 2000, so no one is sure what to expect from this pest. We anticipate the migration of winged adults from overwintering sites (buckthorn spp.) to soybean fields soon, although no **soybean aphids** have been detected on buckthorn.

To view this pest, look on the world wide web at **http://www.inhs.uiuc.edu/cbd/aphid/photos.html**

Brown spot on snap beans- This disease was found in Waushara and Adams Cos. with the incidence ranging from 50-100% and a severity of 1-5%. **Brown spot** can cause defoliation and yield losses of up to 15 % when it is severe. Symptoms of **Brown spot** are small, irregular, dark brown spots, varying in size from minute to 4 mm. These spots appeared on both the upper and lower leaf surfaces. Leaf spots may coalesce and form large dark brown lesions. Late in the season, infected leaves will have a rusty brown appearance.

APIARY

Apiary program – The spring apiary survey showed a high percentage of hives surveyed were infected with **chalkbrood** (29%). **Chalkbrood** is a fungal disease caused by *Ascosphaera apis.* This fungus infects the larva which become overgrown by mycelia and swell up to fill the brood cell. The affected larvae, called mummies turn chalky white with some black or totally black. They may be found at the hive entrance after bees have been cleaning out brood cells and on the bottom board. **Chalkbrood** often appears in hives during wet, cold weather with poor foraging conditions. Bees are usually able to overcome infections with **chalkbrood**. **Chalkbrood** is very contagious and frames from infected hives should not be moved to healthy colonies. Some strains of honeybees are more susceptible therefore replacing the old queen with a prolific young queen is a traditional and worthwhile method to reduce **chalkbrood** problems.

Preventative measures include avoiding apiary sites where moisture gathers in a low spot. Weeds and grasses should be kept low around hives. Increase ventilation within the hive and allow moisture to escape through the top by simply propping up the cover with a wedge.

GINSENG

Special ginseng pesticide registration granted for BRAVO – Effective June 15, 2001 Wisconsin has declared a Crisis Exemption under Section 18 of FIFRA for the use of Bravo Weather Stik and Chloronil 720 on ginseng to control **Alternaria leaf and stem blight**. The special registration was granted because of too much rain causing serious **Alternaria leaf and stem blight** problems in ginseng gardens.

This exemption will allow the application of Bravo Weather Stik and Chloronil 720 (6 lb a.i./gal) formulations at the rate of 2 pints (1.5 lb a.i.) per acre in a minimum of 80 gallons of water. Applications may be made at 7 to 10 day spray intervals with a maximum of 8 applications during 2001. A 28 day pre-harvest interval must be observed.

Plant disease diagnostics clinic – Dr. Brian Hudelson reports three year old plants with **Phytophthora root rot**, seedlings with **Mystery seedling disease** and a sample with **slug** damage with the typical half moon shaped bite mark on the lower stem.

Ginseng research garden – Dr. Michael Drilias reports **leaf rollers** and **spittle bugs** showing up in research gardens. They do not warrant control treatment. In three year old plots **Alternaria stem** and **leaf blight** symptoms are appearing on small plants below the main canopy. Plants below the main canopy are more prone to the disease because they lack adequate ventilation and they often do not receive adequate fungicide coverage. **Mystery seedling disease** is starting to show up scattered throughout seedling gardens.

FOREST, SHADE TREE, ORNAMENTALS AND TURF

Snow covered roads we can deal with, but caterpillars...- The Oneida County Sheriff's Department reports that crushed **forest tent caterpillars** on the roadway contributed to a recent accident involving two motorcyclists. The mishap happened last weekend on U. S. Highway 51 in Oneida Co., just north of Tomahawk. The accident report states that the roadway was slickened by a combination of light rain and the remains of migrating caterpillars. The first motorcyclist was attempting to slow down to make a turn and skidded on the slippery road; the second bike went down trying to avoid him. An Oneida Co. Sheriff's Department spokesman said that the motorcyclists' injuries were not life-threatening. The deputy added that to his knowledge, this was the first "serious" accident this year in the county that involved caterpillars on the roadway.

Pine spittlebug - Moderate to heavy amounts of spittle were observed on Austrian and white pine at nurseries in Kenosha, St. Croix and Waukesha Cos.

Bronze birch borer - Heavy amounts of damage was noted on crimson frost birch at a nursery in Waukesha Co.

Viburnum shoot tip sawfly - Damage was light on nannyberry at a nursery in Burnett Co.

Fletcher scale - Light amounts of mature scales were found on yews at a nursery in Kenosha Co. At a nursery in Polk Co. light to moderate numbers of adults were found along with newly hatched crawlers. Now is the time to treat for **Fletcher scale** if you have a problem.

Maple petiole borer - Green mountain maple at a nursery in St. Croix Co. had light amounts damage from this sawfly.

Honeylocust pod gall midge - Small numbers of galls were seen on honeylocust at a nursery in St. Croix Co.

Spiny witch-hazel gall aphid - River birch at a Waukesha Co. nursery had moderate numbers of leaves affected by this aphid.

Birch leaf miner - Light amounts of mining were observed on whitespire birch at a nursery in St. Croix Co.

Aphids - Light to moderate amounts of aphid activity on spirea was observed at nurseries in Burnett, Kenosha, Polk, St. Croix and Waukesha Cos.

Hawthorn leafminer - Small numbers of mines were noticed on cockspur hawthorn at nurseries in Kenosha and Waukesha Cos. In a St. Croix Co. nursery moderate to heavy damage was observed on cockspur hawthorn.

Euonymus caterpillar - Small numbers of tents were found on burning bush at a nursery in Kenosha Co.

Bristly rose slug - Light amounts of feeding was found on Sir Thomas Lipton rose at a nursery in Eau Claire Co.

Leafhoppers - numbers are starting to build on maples at nurseries in Kenosha Co. Look for cupping and blackening of new leaves.

Golden canker - Moderate to heavy amounts of damage was being inflicted on pagoda dogwood at a nursery in St. Croix Co.

Anthracnose - Fungal fruiting structures were observed on red maple leaves at a nursery in Kenosha Co. Maple, oak and ash at nurseries around the state are seeing light to

heavy amounts of **anthracnose.**

Botryosphaeria canker - Moderate to heavy amounts of cankering were occurring on hornbeam at a nursery in Fond du Lac Co. The area the trees were in was heavy clay and very wet. Cankers from this disease were also noted on willow in Vernon Co.

Mycosphaerella leaf spot - Tiny leaf spots on green ash leaves turned out to be this fungus at a nursery in Kenosha Co.; damage was light.

Septoria leaf spot - Evening primrose had moderate amounts of leaf spotting at a nursery dealer in Washington Co. Light amounts of damage were found on hybrid magnolia at a nursery in Lafayette Co.

Black knot - Canada red cherry at a nursery in St. Croix Co. had heavy numbers of knots distorting branches.

Asteroma leaf spot - American linden at a nursery in Kenosha Co. had light amounts of this fungal disease starting to show up. Heavy amounts can cause premature leaf drop in summer.

Guignardia leaf blotch - Lesions were just starting to form on leaves of horse chestnut at a nursery in Kenosha Co.

Pear blast - Ornamental pear trees at a nursery in Kenosha Co. had light amounts of damage from this bacterial disease.

Verticillium wilt -Green ash at a nursery in Kenosha Co. had heavy to severe amounts of damage from this vascular wilt.

Hail damage - Light to moderate amounts of damage to trees was noticed at a few nurseries in St. Croix Co.

STATE/FEDERAL PROGRAMS

Gypsy Moth Program - Trappers are continuing to set traps statewide. As of 6/13/01, trappers have set 10,482 (31%) of the expected 33,421 traps. Five counties have been completed: Dodge, Florence, Kenosha, Manitowoc, and Pepin. Counties that are at least 50% complete are: Buffalo (72%), Clark (59%), Crawford (97%), Grant (50%), Green (91%), LaCrosse (69%), Oconto (82%), Polk (52%), Rusk (64%), St. Croix (54%), Sauk (57%), Sawyer (54%), and Waushara (53%). Trap setting will continue for about 3 more weeks.

Trappers wear a blaze orange vest and carry a picture I.D. card to identify themselves when making landowner contacts to set traps on private property. If a landowner is not home, the trapper is instructed to leave a "Notice of Gypsy Moth Survey" sheet in the door to make the property owner aware that a trap was set on their property. Land owner cooperation is appreciated in giving permission to set traps on their property.

The "Slow the Spread" mating disruption (pheremone flakes) aerial applications will begin on June 25 and hopefully end by June 29th. There are 14 sites with approximately 64,296 acres in 7 different counties.

A small but heavy infestation of **gypsy moth** was successfully treated in the city of Madison. **Gypsy moth** caterpillars were observed spinning down onto slow moving rush hour traffic including buses leaving from an adjacent city bus transfer point. Soon after treatment the caterpillars began falling from the heavily infested oak tree. Two five-gallon buckets of caterpillars were swept from the sidewalk alone!

For more information on the **Gypsy Moth Program**, please call our hotline at 1-800-642-MOTH or visit our website at http://datcp.state.wi.us/static/gypsymoth

Apple Insect Trapping Results

County City	Date	STLM	RBLR	CM	OBLR
Grant Co.					
Sinsinawa	6/4-6/11	0	0	0	0
Crawford Co.					
Gays Mills-E2	6/6-6/13	45	0	1	5
Gays Mills-W2	6/4-6/11	0	0	0	0
Richland Co.					
Hill Point	6/5-6/11	0	0	1	0
Richland Center-E	6/6-6/13	4	0	4	16
Richland Center-W	6/6-6/13	21	1	19	8
Iowa Co.					
Dodgeville*	6/7-6/14	85	0	6	11
Dane Co.					
Deerfield	6/5-6/12	8	0	0	0
Waunakee	6/6-6/13	0	0	3	0
Green Co.					
Brodhead	5/31-6/6	0	0	0	1
	6/6-6/12	11	0	0	7
Juneau Co.					
Mauston	6/3-6/10	24	2	0	0
Trempealeau Co.					
Galesville	6/4-6/11	12	0	0	0
Jackson Co.					
Hixton	5/28-6/5	185	2	7	7
Dunn Co.					
Menomonie	6/6-6/13	81	0	0	0
Pierce Co.					
Beldenville	6/2-6/9	0	9	0	0
Spring Valley	6/5-6/12	51	0	0	0
Fond du Lac Co.					
Rosendale	6/4-6/11	4	2	1	
Malone	6/4-6/11	0	0	3	0
Marquette Co.					
Montello*	6/3-6/10	0	3	0	1
Racine Co.					
Rochester*	6/7-6/13	133	0	10	0

* indicates NEW COOPERATOR!

Department of Agriculture,
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Web Site of the Week
Checklist of the Vascular Plants of Wisconsin, http://wiscinfo.doit.wisc.edu/herbarium/ This site from the Wisconsin State Herbarium at the University of Wisconsin will dispel any notions of herbariums as stodgy, dusty rooms full of little-used cabinets. An excellent search engine provides access to WI flora— search by name, habitat, county or status. Over four thousand photos and more than 2600 distribution maps provide a wealth of information; features like "What's Blooming" make this a site to visit often.