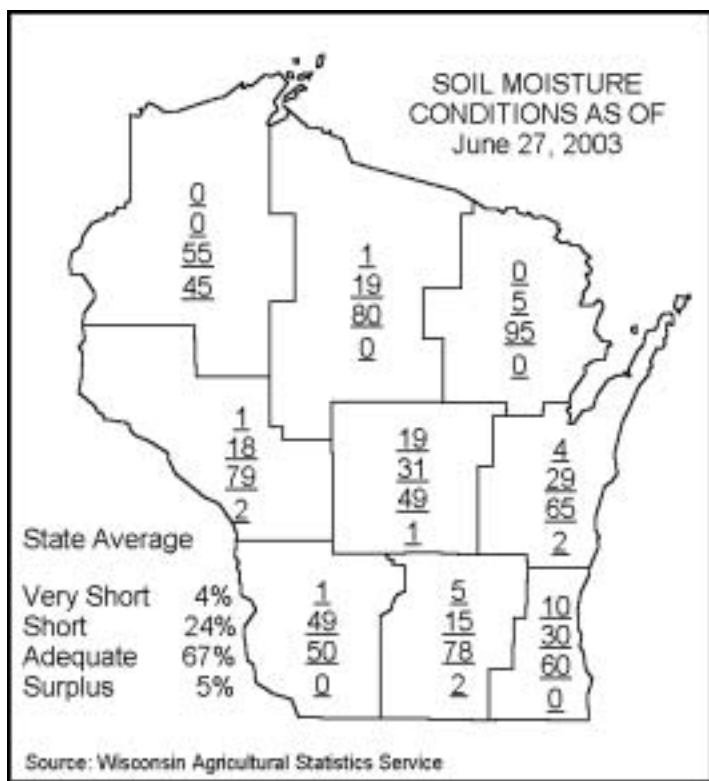




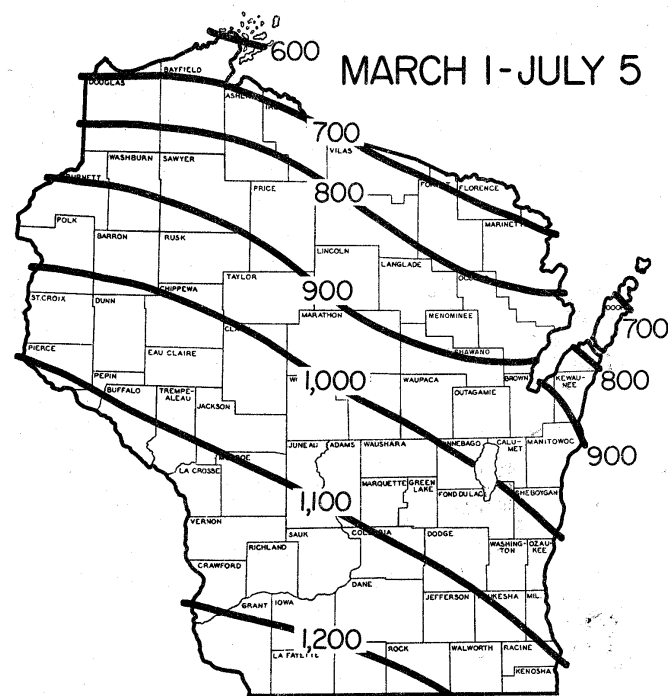
Weather and Pests

Hot humid weather in the last week has stimulated rapid growth of corn, soybeans and hay crops, and to our dismay, has positively affected insect development. Early-planted corn in the southern and central districts is looking very good, with many fields waist high and some nearly shoulder high. Second crop hay harvest is well under way in the southern two thirds of the state and conditions this week were good for drying. In the week or two ahead we expect the emergence of **corn rootworm** (*con't. next page*)

Growing degree days from March 1 through July 1 were:

Site	GDD*	Base 48	Base 40
SOUTHWEST			
Dubuque, IA	1010	1046	1783
Lone Rock	1006	1018	1764
SOUTHCENTRAL			
Beloit	984	1008	1767
Madison	957	993	1726
Sullivan	916	929	1673
Juneau	893	916	1652
SOUTHEAST			
Waukesha	833	852	1577
Hartford	830	854	1574
Racine	742	779	1465
Milwaukee	743	769	1462
EAST CENTRAL			
Appleton	832	862	1547
Green Bay	699	748	1378
CENTRAL			
Big Flats	949	952	1675
Hancock	931	952	1662
Port Edwards	877	892	1579
WEST CENTRAL			
LaCrosse	1010	1013	1763
Eau Claire	978	998	1723
NORTHWEST			
Cumberland	861	876	1533
Bayfield	605	575	1135
NORTH CENTRAL			
Wausau	795	811	1460
Medford	765	777	1420
NORTHEAST			
Crivitz	695	715	1345
Crandon	707	705	1329

* 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.



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

adults, the rapid growth of **soybean aphid** colonies, possible **armyworm** problems in corn and oats, and continued pressure from the **potato leafhopper**.

Looking Ahead

Corn rootworm – In heavily infested fields, damage by larvae will become evident soon. The first adults are expected to begin emerging next week.

European corn borer – Larval feeding is evident on 11%-20% of the corn plants in Dane Co. The treatment window for 1st generation corn borers is closing in the south. In the north, treatments in corn should still be effective for another week or two, or until 1100 GDD (base 50°F) have passed.

Armyworm – Adults were relatively scarce this week, but larval infestations are likely to increase in corn, alfalfa and oats in the next week or two. The heaviest populations of armyworm moths typically appear in July and these moths may give rise to an abundance of larvae.

Green peach aphid – Small colonies are building up in alfalfa in the central sands. Other susceptible crops should be watched.

Forages

Potato leafhopper – Numbers were fairly low in the south central district with fewer than 2 to 4 per sweep common. Nymphs were present in all southern fields surveyed. In Marathon, Langlade and Wood Cos., numbers ranged from 0 to 1 per sweep. Fields at the Marshfield Agriculture Research Station were treated this week to control high numbers of potato leafhoppers. Several reports have come in now from the central part of the state where growers are facing problems with excessive numbers of leafhoppers.

Alfalfa weevil – Larval damage is still being reported from a few northern and east central counties. In Sheboygan Co., high numbers of larvae and heavy tip feeding were reported in second crop hay. The finding of adults in the south central fields suggests the end has come for this season's infestation in this district.

Corn

European corn borer – Larval injury was noted on as high as 20% of the plants in some southern corn fields. On average, 11% to 16% of the plants were infested in fields nearing the early tassel stage. In one Wood Co. field a 40% infestation was detected; both 1st and 2nd instar larvae were present in the fields surveyed. Most of the larvae observed this week were still feeding in the whorls, where they would be most susceptible to controls. The most effective treatment period is between

800 and 1100 GDD (base 50°F), which is quickly passing in the southern districts. Treatments in the north should still be effective until about mid-July. Fields with infestations affecting 50% or more of the plants should be considered for treatment.

Corn leaf aphid – A few colonies were noted in Dane and Sauk Co. fields this week. In one of the Dane Co. fields, a colony of 76 aphids was observed. It is probable that high populations of this insect may develop in the later-planted fields.

Stalk borer – Some southern fields are showing signs of worsening stalk borer infestations. Infestations ranging from 9% to 25% were detected in Dane Co. fields, and some Iowa Co. fields had 6% to 19% infestations. Larvae in these counties were predominantly in the 4th instar.

Armyworm – Low percentages of plants were infested with armyworm larvae in the interior of southern fields surveyed this week. Infestations ranged from 2% to 14%. Black light trap catches from this week were not particularly high either, but the potential does still exist for heavy infestations to occur in some areas. It is in the weedy or late-planted fields that armyworm larvae may concentrate on the corn plants in numbers high enough to cause substantial amounts of damage. Continue to scout for armyworm damage in the week ahead, as black light trap counts will likely increase. Typically the largest numbers of moths appear in July and these moths can give rise to an abundance of larvae.

UW-Extension recommends the following procedure for scouting for armyworm: Take at least 10 random samples of 20 plants and record the number of damaged plants. Note the number of rows severely damaged, the abundance of worms already in the field, and most importantly, the number of larvae still in the adjacent field or fence row serving as the source of the infestation. If the number of armyworms suggests possible defoliation of more than 3 rows, treat the outer 8 to 10 rows on that side of the field and the area giving rise to the infestation (UW-Extension publication A3327-The Armyworm). For additional information on economic thresholds and control, see UW-Extension publication A1684-Pest Control in Corn.

Corn rootworm – Adults will begin emerging from the soil in the week's ahead. Between mating and laying eggs, they'll clip corn silks and feed on the foliage, and in some areas may reach levels high enough to disrupt the pollination process. Now's the time to scout for larval injury and prepare to look for adults in the next two weeks.

Soybeans

Soybean aphid – Aphids colonies were found in Marinette and Wood Cos. this week, while soybean aphids were still absent from Langlade Co. fields. Infestations in the northern region were very light, ranging from 2.5% to 12%, with fewer than 25 aphids per plant. In the southwest and south central districts counts are on the rise. Survey staff returned to the same Dodge, Jefferson, Walworth, Sauk, Iowa, Lafayette and Juneau Co. fields that were surveyed last week, to monitor the change in level of infestation. In Dodge Co., infestations rose from 2% to 20% with an average of 18 aphids per infested plant. Jefferson Co. levels rose dramatically from 23% to 93%, and the number of aphids per infested plant from 14 to 33. In Walworth Co., the percentage of infested plants per field also rose substantially from 8% to 18% in one field, and 33% to 98% in another, with 27 aphids per infested plant.

In Iowa Co., the percent of infested plants ranged from 0% to 30%. In Lafayette Co., no infestations higher than 8% were detected, but one plant had an estimated 250 aphids in a field where only 3 plants were infested out of the 40 that were examined. In one Sauk Co. field, the counts actually dropped from 18% to 3% since last week, but the number of aphids per infested plant rose from 2 to 17. In a second Sauk Co. field, the infestation went from 48% to 52%. In Juneau Co. fields, infestations ranged from 0% to 10%. Levels of infestation are still highly variable from one county to the next, but it appears populations are building quite fast in some of the southernmost counties.

Bean leaf beetle – Signs of adults activity were present in all the soybean fields surveyed this week, but no more than 5% defoliation was detected in any of the Dane, Iowa and Sauk Co. fields.

Downy Mildew - *Peronospora manshurica* is starting to show up, causing infections on a few isolated plants in soybean fields in Green and Rock Cos. Initial infections look like small pin head size light green dots on the upper leaf surface with brownish purple fuzzy fruiting bodies forming on the corresponding lower leaf surface. As the infection spreads throughout the leaf tissue larger areas turn light green and more fruiting bodies form large fuzzy areas on the lower leaf surface, easily seen even without magnification. Downy mildew can be confused with powdery mildew (*Microsphaera diffusa*), which is easily distinguished by its powdery white mycelium that will grow all over the plant.

Potatoes

The Wisconsin potato crop continues to look good from a disease standpoint. I can't remember a crop looking this good at this point in the growing season. Most fields are uniform in emergence, canopy height, leaf color and

flowering. There are currently no reports of late blight anywhere in Wisconsin. It's been awhile since I've been able to make that statement on July 1. Rainfall during the past few days helped to extend the periods of high relative humidity. Consequently the number of severity values increased by about 4 SV's at most monitoring sites. The only area in the state with more than the threshold number (18) of severity values is Antigo. The majority of these severity values accrued in the first 10 days after emergence of the earliest emerging fields. Growers in that area are advised to keep close watch on their crop for symptoms of late blight and to treat accordingly. In the absence of volunteer potatoes and cull potatoes, the likelihood of late blight is small, but it pays to be observant. Once plants begin touching in the row, it would be wise for growers in the Antigo area to begin their fungicide program, even though severity values are now increasing slowly.

Most growers in central WI have initiated a fungicide spray program on at least the earliest emerging fields since we are now past the threshold of 300 P-Days where we anticipate an increase in the airborne inoculum of the early blight pathogen. Symptoms of early blight are beginning to appear on the older leaves where fungicides have not been applied. The early lesions can be up to ½" in diameter, angular where bordered by major leaf veins, appear as multiple concentric circles and are bordered with yellow tissue. There are many fungicides with good to excellent efficacy for control of early blight. My recommendation continues to include strobilurin fungicides (Quadris, Headline or Gem) tank mixed with a protectant fungicide such as chlorothalonil, mancozeb or metiram on weeks 1, 3 and 5 after you reach 300 P-Days and treatment with one of the protectant fungicides on the remaining weeks. An additional protectant fungicide mixture that has worked well in past years is triphenyltin hydroxide (TPTH)(Super Tin) tank-mixed with mancozeb or metiram or chlorothalonil. Applying this mixture beginning in late July through early August has provided good early blight control in past years. Remember that you should never mix TPTH fungicide with MH-30 or oil-based insecticides and be cautious about spraying TPTH fungicides during hot humid weather, especially on sensitive varieties such as some of the red skinned varieties.

In field visits during the past week, I continue to observe symptoms of Rhizoctonia stem canker on slow emerging and slow growing plants of several cultivars. The typical lesions of Rhizoctonia stem canker include brick-red superficial lesions that girdle affected sprouts and stolons and can kill sprouts before emergence.

In other fields I've observed a brown to black discoloration and pinching-off of sprouts at a uniform height of about 2-3 inches above the seedpiece prior to

emergence. This is not *Rhizoctonia* stem canker since we are unable to isolate the stem canker pathogen from symptomatic tissues. Symptoms appear to be related to chemical or possibly fertilizer burn since the symptoms appear after hilling and fertilizer application and symptoms from one plant to another appear at a uniform height above the seedpiece.

I've also observed small amounts (<1%) of what appears to be PVY and leafroll in fields for fresh market in central WI (Gold Rush and Silverton). Plants affected by presumed PVY are somewhat shorter than their neighbors and there is a slight mottling and mosaic of affected leaves. Plants affected by leafroll are stunted with severe rolling of the lower leaves. Diagnostic tests are underway. (Walt Stevenson, 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	6/30	186	22
Antigo emerging June 14	6/30	115	4
Grand Marsh emerging 5/19	6/30	288	11
Grand Marsh emerging 5/24	6/30	264	11
Grand Marsh emerging 5/28	6/30	242	11
Hancock emerging 5/13	6/30	388	10
Hancock emerging 5/17	6/30	314	10
Hancock emerging 5/25	6/30	268	8
Plover emerging 5/13	6/30	326	7
Plover emerging 5/24	6/30	266	7
Plover emerging 6/3	6/30	203	7

Vegetables

Soybean aphids are beginning to appear in several areas of the state and there is concern about **aphid transmitted virus diseases on snap bean plantings**.

Virus problems caused severe damage on snap beans in 2000 and 2001 in southeast and eastern WI. With delayed and reduced populations of the soybean aphid in 2002, virus related losses were minimal. Snap bean growers and processor field personnel who observe plant stunting and associated mottling of leaves, blossom drop and pod malformation are asked to give us a call so that we can include affected fields in survey activities this summer conducted by Dr. Tom German. We also plan on planting variety evaluation trials at West Madison and Manitowoc during July where we will test approximately 40 cultivars and breeding lines for their in-field reaction to aphid transmitted virus diseases.

Recent rainfall and warm conditions favor the development of **Septoria leafspot on tomatoes**. The fungal pathogen overwinters on leaf debris and spores are splashed onto susceptible foliage by rainfall and overhead irrigation. Leaf lesions are approximately 1/8" in diameter and there can be dozens of lesions per leaflet when conditions are ideal for spore release and leaf

infection. The disease moves from the lower infected leaves up the plant until almost complete defoliation occurs. Fungicide sprays including strobilurin materials (Quadris, Cabrio), chlorothalonil and mancozeb are effective for controlling *Septoria* leaf blight and will also control other foliar and fruit diseases of tomato. (UW)

Forest, Shade Trees, Ornamentals and Turf

Leaf curling aphids - During grower inspections we are starting to find these aphids on ash and hawthorn in Dodge and Green Lake Cos. These aphids are found at the tips of the branches where their feeding during leaf development causes the leaf to curl, creating a protected area for the aphids.

Leafminers — We continue to find miners on alder, birch and hawthorn during grower inspection in Dane, Dodge, Door, Kenosha, St. Croix, Walworth and Waukesha Cos. The injury varied from light to heavy. A brown patch develops and grows larger as the leafminer develops inside the leaf. By the time you see the mines it is late to apply any treatments because the pest is protected by the leaf's epidermal layers. Treatment in the early stages may help some to reduce the injury and control some of the population.

Spiny witch-hazel gall aphids, *Hamamelistes spinosus* - For the first time this season, this aphid was found during inspections in Dodge and Rock Cos. on river birch in trace to light amounts. The aphid feeds on the underside of the leaves and causes the leaves to pucker between the veins. Generally they attack the leaves near the end of the branch and are often farmed by ants for honeydew. These aphids alternate between witch-hazel and birch species. The injury is more aesthetic and no real damage usually occurs to the plant. Treatment is rarely needed to control this pest.

Rose chafer- Adults were found feeding on roses during a nursery grower inspection in Green Lake Co. in light amounts. These pests were also noted on roses and walnut trees in Richland Co. and on Ninebark and viburnum in Marquette Co. This insect is similar to Japanese beetle but is light tan and a bit smaller and skinnier. This insect will feed on many hosts but prefers roses. The adult beetle skeletonizes leaves of the host plant. Rose chafers are usually found in areas with sandy soil. Treatments are similar to treatments for adult Japanese beetles. For more information on rose chafer beetles see

<http://www.uwex.edu/ces/wihort/flowers/RoseChafers.htm>
(DNR in part)

Spider mites – Moderate numbers of spider mites were found on Butterflybush during a grower inspection in Washington Co. With this hot, dry weather the spider mite populations will start to increase. Two-spotted

spider mites have a large host range and can reduce growth rates of the host. Driving rains help to keep populations in check. Check for mites by looking for stippling, bronzing, and webbing generally on newer growth. Take a white piece of paper and shake the branch over the paper and look for very tiny spots which move; you may need a hand lens to see them.

Didymellina Leaf Spot — This leaf spot was found on iris at a nursery grower in Dodge Co. in trace amounts. The leaf spots are generally tan and surrounded by a water soaked margin that is dark green in color. These spots are generally found on older leaves and towards the tips. This leaf spot usually shows up after the iris is done blooming and can cause necrosis of the infected leaves. This fungus only affects the foliage and can be managed by fall clean up of leaves and, if needed, chemical control during the growing season.

Entomosporium Leaf Spot — This fungal leaf spot was found on European mountain ash at a nursery field in Green Lake Co. in moderate amounts. This leaf spot can affect apples; crabapples, chokeberry, cotoneaster, hawthorns, pears, quince and serviceberry. The symptoms vary somewhat but usually start as a dark spot that develops a yellow halo, eventually leading to chlorosis of the entire leaf. This leaf spot starts to develop in early summer and is spread by water splash. The spores overwinter on the leaves that drop off, so clean up of fallen leaves is important. Chemical control is also an option.

Insolibasidium blight — This fungus affects only honeysuckle and was found at a nursery in Green Lake Co. in moderate levels. This is a common fungal disorder of honeysuckle in the upper Midwest. Infected leaves are yellowish on the top with a whitish bloom on the undersides of the leaves. Eventually the leaves become necrotic and wither. Cleanup of infected leaves can lessen the incidence. Overhead irrigation exacerbates this disease in nursery settings. Fungicides may be used to protect foliage from infection, but frequent applications may be necessary.

Iron Chlorosis - Scattered oaks on the bluffs of western WI are showing signs of Iron Chlorosis. The leaves are turning pale green to yellow. (Saw this in Buffalo, Pepin, and Pierce counties. But I'm sure it's like that all over in the bluff country). (DNR)

Tar Spot — The first report of tar spot on silver maple was made during a nursery grower inspection in Green Lake Co. This fungal leaf spot generally shows up in mid to late summer. The spots are easy to identify as they look like tar on the upper surface of the leaves. These spots range in size from ¼ to ¾ inch across and will sometimes coalesce. The spores overwinter in fallen leaves. The spores on the fallen leaves infect newly

emerging leaves in the spring. Remove leaves in the fall to reduce inoculum for next year.

State/Federal Programs

The defoliation and nuisances caused by **gypsy moths** are expected to peak in the first two weeks of July. Populations of gypsy moth continue to increase and spread in the parts of the state where they were observed last summer in northeast, southeast and central Wisconsin. Preliminary reports from areas treated during the DNR gypsy moth suppression program, however, indicate that nearly all sites treated have significant reductions in the gypsy moth population. In southeast Wisconsin, gypsy moth outbreaks are scattered. Caterpillars are becoming a nuisance in many communities in Milwaukee, Waukesha, Ozaukee Cos and in the southern part of Washington Co. Defoliation is noticeable in some of these areas and will increase until caterpillars stop feeding in mid-July to pupate.

The Twin Lakes area of Kenosha Co. is already experiencing defoliation. The most extensive defoliation in southeast Wisconsin is at Holy Hill in Washington Co. In northeast Wisconsin, patches of complete defoliation have already developed in Marinette Co. and in the Berry Lake area of Oconto Co. These areas are particularly favorable for gypsy moth, and egg mass densities in these areas were among the highest in the state. .

In Green Bay and Oskosh, the population of caterpillars is high enough to cause numerous complaints but no defoliation has developed in either area yet. Last summer, defoliation was reported for the first time in the central counties of Waupaca, Portage and Waushara.. For information on the DNR Gypsy Moth Suppression Program, contact Andrea Diss at (608) 264-9247, or visit the DNR Web site at:
<http://www.dnr.state.wi.us/org/land/forestry/Fh/gm/index.htm>

(DNR Wisconsin Forestry Notes, July 2003)

Odds -n- Ends

Asian Longhorn Beetle - Phone calls are coming in from the public saying they've found ALB. So far, all reports have been negative, the beetles turned out to be native borers. (DNR)

Vegetable imports- The U.S. Department of Agriculture's Animal and Plant Health Inspection Service has expanded the list of fruits and vegetables eligible, under specified conditions, for importation into the United States.

Examples of the fruits and vegetables now eligible for importation into the United States include: peppers from Chile, figs and rambutan from Mexico, several herbs

(leaves and stems) from El Salvador, and waterlily or lotus (roots without soil) from Guatemala.

Calendar of Events

Rhineland Potato Grower Field Day

July 11, 2003. UW Rhineland Research Station
(715) 369-0619

WI Farm Technology Days

July 15-17, 2003 Waupaca County
<http://www.wcedc.org/farmtechdays/>

WI Arborist Assoc. Summer Field Day.

Wednesday, July 16th, in Janesville at the Rotary Gardens. 9 AM to 3:30 PM

Wisconsin Fresh Market

Vegetable Growers and Berry Growers Field Day

Country Bumpkin Farm in Wisconsin Dells
July 18, 2003. 9:00 am - 3:00 pm
Contact: Anna Maenner at 920-478-3852

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

Vegetable Grower Field Day

July 24. Things That Grow Greenhouse, W3044 County Highway K, Unity (Clark County)
12:30-3:00 pm
FMI Contact Ron Wiederholt at 715-743-5121

Vegetable Grower Walk

August 7, Rock County Community Gardens
6:00 – 8:00 pm
FMI Contact Mike Maddox at 608-752-3885 ext. 17

American Phytopathological Society Annual Meeting

Aug 9-13, 2003. Charlotte, NC
www.apsnet.org/meetings/2003/

Hancock Fruit and Vegetable Tour

Hancock Research Station
August 11 4:00 – 8:00 pm
FMI Contact the station at (715) 249-5961

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) 742-8663

West Madison Horticultural Field Day

featuring a Mexican Garden
August 16, 2003.
Contact: Judy Reith-Rozelle at 608-262-2257

Open House for Market Growers

August 18 West Madison Horticulture Field Day
8502 Mineral Point Road, Madison
6:00 – 8:00 pm
FMI Contact Karen Delahaut at 608-262-6429

Fall Garden Twilight Tour

August 27 Ashland Research Station
68760 State Farm Road, Ashland 6:30 pm until dark
FMI Contact 715-682-7268

Spooner Twilight Garden Tour

August 28 Spooner Research Station
W6646 Highway 70, Spooner
6:30 pm until dark
FMI Contact the Research Station at 715-635-3735

(Black and white photos from USDA Historical Archives--see Web Site of the Week.)

Apple Insect Trapping Results

County City	Date	STLM	RBLR	CM	OBLR	AM red ball	AM sticky
Crawford Co.							
Gays Mills-W2	6/25-6/30	200	0	2	2	0	0
Dane Co.							
Deerfield	6/23-6/30	55	2	2	0	0	0
Green Co.							
Brodhead	6/26-7/2	20	0	6	0	0	0
Pierce Co.							
Beldenville	6/25-7/2	100's	0	18	9	0	0
Fond du Lac Co.							
Rosendale	6/23-6/30	17	0	1	1	0	0
Malone	6/26-7/2	50	2	1	2	0	0
Marquette Co							
Montello	6/22-6/29	420	10	0	0	0	0
Brown Co.							
Oneida	6/23-6/30	96	0	0	0	0	0
Waukesha Co.							
Waukesha	6/21-6/27			11			
Racine Co.							
Rochester	6/27-7/2	764	6	0.5	0	0	0
Sheboygan Co.							
Plymouth	6/27-7/3	603	0	3	20		
Washburn Co.							
Bayfield	6/20-6/27	0	0		0		

Black Light Trapping Results

through July 2

Trap Site	European corn borer	Armyworm	Black Cutworm	Variegated Cutworm	Spotted Cutworm	Celery Looper	Forage Looper
South Central							
Arlington	7	15	1				
Madison	9	11	1				
Mazomanie	41	19	0	0	0	0	0
Central							
Marshfield	8	12	0	0	50	6	0
Northwest							
Chippewa	14						

Quote of the Week

“Encouragement of agriculture and of commerce as its handmaid I deem essential principles of our government, and consequently those which ought to shape its administration.”

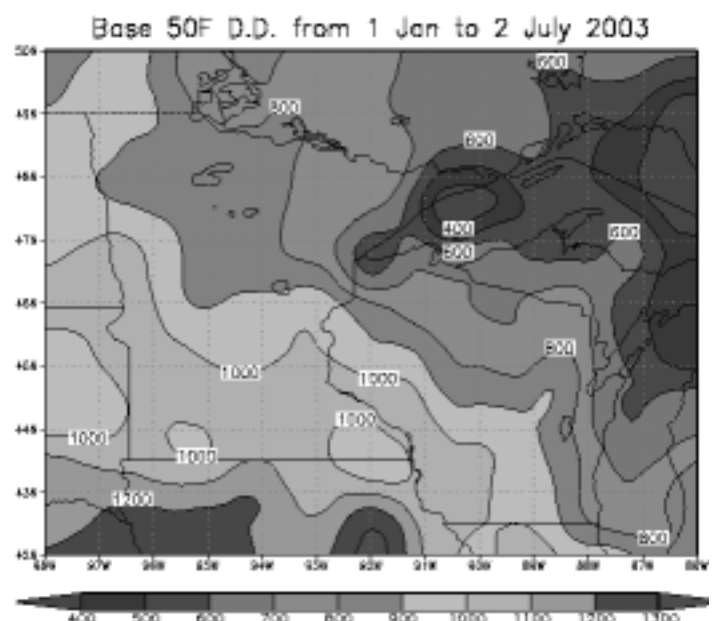
Thomas Jefferson (1743-1826) 1st Inaugural Address, 1801

Website of the Week

USDA Historical Photos

<http://www.usda.gov/oc/photo/histfeat.htm>

Mostly Farm Service Administration photos taken between 1937 and 1943, these photos are a treasure. Farming, community life, education, machinery—the photographers of the FSA captured it all. We hope USDA makes more of the 300,000 images in its archive available soon.



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