COOPERATIVE
PEST SURVEY BULLETIN

State of Wisconsin
Department of Agriculture
Trade & Consumer Protection

Agricultural
Resource
Management

BUREAU OF PLANT INDUSTRY P.O. BOX 8911 MADISON, WI 53708-8911
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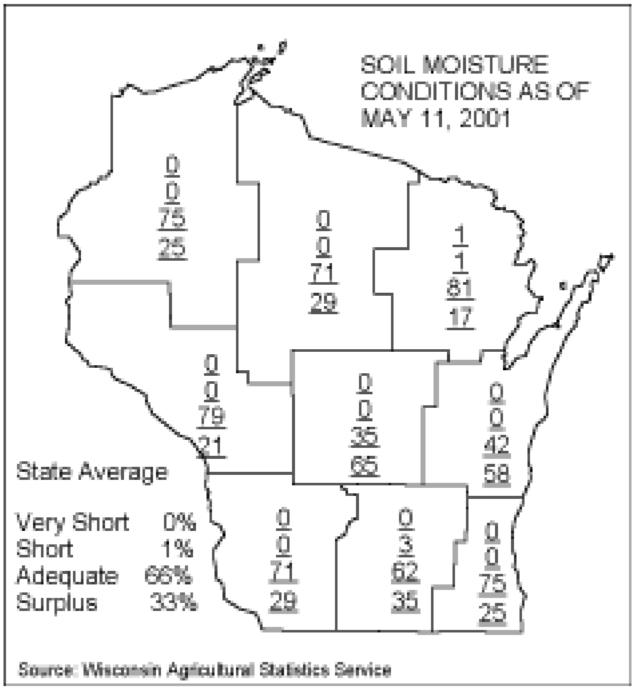
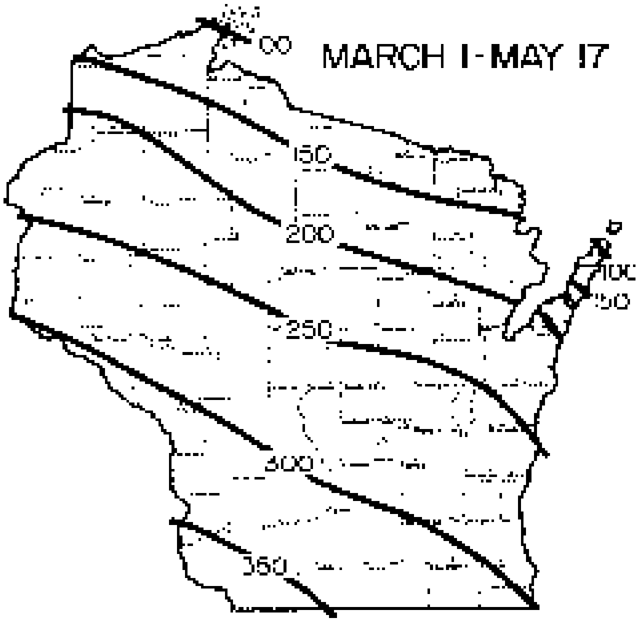
WEATHER AND PESTS

Unusually warm weather pushed crops along this week. Alfalfa and winter wheat are in excellent shape and first harvest of alfalfa could come before corn and soybean planting is complete.

Forest tent caterpillars are starting to cause defoliation in the northeast region of the state. Caterpillars are present from Marinette Co. to St. Croix Co. in the northwest and south to Green Bay. **Gypsy moth** spraying continues with second applications starting Thursday the 17th. **Potato leafhoppers** have arrived in the state (see **ALERTS** section).



Source: Wisconsin Agricultural Statistics Service



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

Growing degree days from March 1 through May 16 were:

Site	GDD*[1]	2000 GDD	Normal GDD	Base[1] 48	Base[1] 40
SOUTHWEST					
Dubuque, IA	437	468	370	455	821
Lone Rock	394	433	330	405	769
SOUTHCENTRAL					
Beloit	451	440	338	476	855
Madison	387	388	328	413	767
Sullivan	410	397	308	425	805
Juneau	392	396	281	418	776
SOUTHEAST					
Waukesha	364	373	303	378	737
Hartford	357	373	276	380	722
Racine	326	342	297	345	669
Milwaukee	309	329	288	326	643
EAST CENTRAL					
Appleton	309	340	244	322	632
Green Bay	263	287	215	276	572
CENTRAL					
Big Flats	342	373	274	343	670
Hancock	339	365	268	341	666
Port Edwards	306	351	265	303	607
WEST CENTRAL					
LaCrosse	381	479	308	385	718
Eau Claire	329	419	265	332	639
NORTHWEST					
Cumberland	289	349	227	293	589
Bayfield	182	220	104	179	179
NORTH CENTRAL					
Wausau	265	320	227	268	547
Medford	262	311	220	269	545
NORTHEAST					
Crivitz	244	289	173	249	533
Crandon	243	273	165	243	511

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

ALERTS

Potato leafhopper – We have not yet seen a large migration of **leafhoppers**. Adults were observed in 14+ inch alfalfa in the southwest and east central regions of the state. In the Southwest, counts ranged from 0.3-1.2 **leafhoppers** per sweep. Counts in Waupaca, Fond du Lac, Winnebago, Calumet, and Outagamie Cos. were slightly lower, ranging from 0.2-0.4 per sweep. All fields surveyed were nearing the first cutting. Cutting may temporarily reduce populations, but growers need to monitor regrowth carefully. **Potato leafhopper** feeding on regrowth may result in stunting and can significantly slow plant development.

Potato leafhopper is a migratory insect pest that arrives in Wisconsin on warm spring winds from the Gulf States. As is the case with all migratory insect pests, damage potential is based on weather patterns, so it isn't easy to predict from year to year. **Potato leafhopper** damage is often first visible along field margins, and problems are most severe when conditions are dry.

Potato leafhoppers damage alfalfa by removing fluids from the tissue and injecting toxins into the plant. **Potato leafhopper** injury, known as *hopperburn*, is characterized by v-shaped yellowing on leaflet tips. Damage symptoms are not immediately evident, and once **hopperburn** does appear, losses have already occurred. Consequently, it is important to diagnose **potato leafhopper** problems early in the season.

Sampling is critical following the first cutting. Begin sampling for **potato leafhopper** now. Using a 15" sweep net, take 20 sweeps in 5 separate areas of the field. Calculate the average number of leafhoppers per sweep. Use the table below to decide whether treatment is warranted. When sampling, be sure to get a representative sample, and avoid wet fields and field edges. In most cases, populations can be controlled by cutting early. Treatment is not necessary if you are within 7 days of your normal cutting schedule.

Height of Alfalfa **(inches)**	Ave. # Plh per Sweep
<3	0.2 adult
6-6	0.5 adults
6-12	1.0 adult or nymphs
12-14	2.0 adults or nymphs

Potato late blight - It is important to remember that all potato **CULL PILES** must be buried, fed to livestock or otherwise destroyed before May 20 to insure that **CULL PILES** are not sources of **late blight** inoculum (ATCP 21.15, Wisconsin Admin. Code). Growers are advised to check the entire farm for 1) cull potatoes left from grading last year's crop, 2) piles of "tuber chips" remaining from your cutting operations, 3) mixture of potatoes and soil left from filling storages last fall and 4) potatoes remaining as you clean out storages this spring.

It is also important to look at fields that were in potatoes last year and to check for emerging volunteer potatoes. Destruction of volunteer potatoes is strongly recommended.

CORN

European corn borer – Adult females were observed in seedling corn (V2) in Calumet Co. First generation spring moths occur around 374 DD (base 50) and peak near 631 DD. Around 450 DD egg laying begins, and females seek out the tallest, most advanced fields to deposit their eggs. If the warm, wet weather persists, **European corn borer** development will occur at an accelerated pace.

www.ipm.iastate.edu/pest/cornborer

Black cutworm – Trap catches from this week indicate the first adult flight is well underway, and growers should begin scouting corn seedlings for black cutworm injury.

Cutting will have begun around 300 DD (base 50F), or approximately 3 weeks after the first adults migrated into the state. More than 3 weeks have passed since the first adults arrived and we've exceeded 300 DD in most regions of the state, so corn seedlings are susceptible to cutting right now. Scout fields every 5-7 days through the 4th leaf stage, checking 50 consecutive plants for leaf feeding, cutting or wilting. When cut seedlings are observed, check soil around the base of the plant for larva. The dark gray, greasy looking larvae are nocturnal feeders. The first generation, which is active into June, often causes the most significant damage.

Trap Catches from 5/9-5/16:

Avoca	0
Darlington	4
Evansville	4
Monroe	8
Madison	2

FORAGES

Alfalfa weevil – Counts ranged from 0.7 to 1.6 larvae per sweep in Rock, Green and Iowa Cos (14 inch alfalfa). These counts fall below the economic threshold for alfalfa of this height; however, they signal the potential for significant damage in regrowth following the first cutting.
In the east central region of the state counts in 14 inch alfalfa were significantly lower, ranging from 0-0.2 larvae per sweep. The 1st and 2nd instar larvae collected appeared yellow and stunted, possibly resulting from frequent rains in this region. A majority of fields surveyed were saturated and/or bordered by ditches filled with standing water.

Again, regrowth following the first cutting is highly susceptible to **alfalfa weevil** larval injury and should be scouted regularly.

Tarnished plant bug – Both the adult and nymphal stages damage alfalfa by removing plant sap and injecting toxins. Stunted, distorted and crinkled leaves are characteristic plant bug injuries. Leaf discoloration, on the other hand, is not. For the most part, **tarnished plant bug** is only an occasional pest of alfalfa, but when conditions are favorable, populations may exceed the economic threshold, requiring treatment.

everest.ento.vt.edu/Fruitfiles/tpb.html

Tarnished plant bug counts in Fond du Lac, Winnebago, Outagamie and Calumet Cos. ranged from 0.1-0.4 per sweep in 14+ inch alfalfa. The economic threshold currently available (see below) combines **alfalfa plant bug** and **tarnished plant bug** counts. Since the fields surveyed are nearing the first cutting, **plant bug** populations will likely be reduced. Cutting early is often an effective control measure.

Height of Alfalfa (inches)	**# Plant Bugs per Sweep**
<3	**3**
>3	**5**

Alfalfa plant bug – Nymphs have emerged from overwintering eggs laid in alfalfa stems, and are developing rapidly. **Alfalfa plant bug** nymphs complete 5 instars before reaching the adult stage. A majority of nymphs observed in the East Central region were in the 3rd instar stage. **Alfalfa plant bugs** cause injury similar to those of **tarnished plant bug**, and the same economic threshold applies (see above).

Bean Leaf Beetle – Adults were swept in Rock, Iowa, and Green Co. alfalfa fields earlier this week. **Bean leaf beetles** feed on and lay eggs in alfalfa until soybeans emerge, then they migrate to soybean fields where they may cause more extensive damage. An average of 0.4 beetles per sweep was observed.

SMALL GRAIN

Oat crown rust – The orange cluster cup (aecia) of this fungus have been observed on buckthorn leaves in southern and central Wisconsin. Buckthorn is an alternate host of this fungus to oats. Susceptible oat varieties can be vulnerable to early infection.

SOYBEANS

Soybean cyst nematode (SCN)- The UW Plant Pathology nematologists found **SCN** in Marquette Co. Established populations of **SCN** in Wisconsinhave now reached 25 counties since 1980. The west central and southeastern regions of the state have the most fields infested with **SCN**. The **SCN** can be disseminated by wind, water, soil peds in uncleaned seed, and machinery. Virtually anything that can move soil can disseminate this nematode.

APIARY

Small hive beetle, *Aethina tumida* - **Small hive beetle** was detected for the first time in Maryland's Washington and Dorchester counties during April 2001. The beetles were introduced via migratory colonies from Florida that had not been inspected. Several beetles were found in a colony/ empty package cage that originated from the same Georgia shipment that introduced the beetle to Delaware. Maryland State Apiarist I. Barton Smith reports that all colonies are being treated with CheckMite and GardStar to prevent beetle reproduction.

GINSENG

CULTIVATED GINSENG – The approval of a Section 18 emergency exemption for Dithane DF by the Environmental Protection Agency is imminent according to Ed Bergman at DATCP. Meanwhile **ALTERNARIA LEAF** and **STEM BLIGHT** can be controlled by alternately using Quadris, Aliette or a tankmix of Rovral and Kocide.

PLANT DISEASE DIAGNOSTICS CLINIC – Dr. Brian Hudelson reports two year old plants with **FOLIAR PHYTOPHTHORA** and four year old plants with **PHYTOPHTHORA ROOT ROT.** Samples of two and three year old plants showed symptoms of **RUSTY ROOT** with *Cylindrocarpon* infections on crown, bud and main root.

Samples with Rusty Root also displayed the typical knobby lateral roots.

Rusty-brown, corky, dry tap-root decay typical of rusty root. B. Hudelson

CULTIVATED GINSENG - PHENOLOGY at Rib Falls Research Gardens reported by Dr. Michael Drilias. Seedlings are now 3 cm (¾-1 ¼") high. In two year old gardens the plants are well emerged and 12 cm (4 ¾") high at canopy level. Three year old plants reached 22 cm (8 5/8").

SLUGS – Very minor, very scattered slug activity in three year old gardens. Slugs are chewing halfway through stems of plants that are still emerging and therefore very tender. The foliage of these plants tips over. Slugs do not cause any significant problems in three year old gardens.

FOREST, SHADE TREE, ORNAMENTALS AND TURF

Columbine sawfly - Small numbers of late instar larvae were found defoliating columbine at nursery dealers in Dane and Walworth Cos. Moderate to heavy defoliation was noted at a Vernon Co. nursery dealer. Larval samples taken in Dane Co. pupated a day later.

Columbine leaf miner - Light to moderate numbers of mines were found on columbine at a nursery dealer in Vernon Co.

Aphids - Colonies were becoming bigger and more numerous on roses and spirea at nursery dealers in Dane, Vernon and Walworth Co. nursery dealers.

Ash leaf curling aphid - Trace amounts of curling were noticed on green ash at a nursery dealer in Dane Co.

Fletcher scale - Densiformis yews at a nursery dealer in Walworth Co. had moderate to heavy numbers of nymphs.

Pine needle scale - Scotch pine at a nursery dealer in Vernon Co. had a light infestation of **pine needle scale**.

Thrips - Light amounts of damage was observed on marigolds at a nursery dealer in Ozaukee Co.

Imported willow leaf beetle - Newly hatched larvae were seen feeding on weeping willow at a nursery dealer in Walworth Co.

Spittlebug - Small nymphs were noted on potentilla, hibiscus, penstemon, and dianthus at nursery dealers in Dane and Vernon Cos.

Forest tent caterpillar - Larvae have caused heavy defoliation on street and yard trees in downtown Rhinelander, Tomahawk, and Merrill. Infested trees in downtown areas include flowering crab, ash, oak, and other broad-leaf trees and shrubs. Caterpillars are not only on the trees but also on the sidewalk, parking meters, stoplights, and so on. Defoliation on trees in forests should become noticeable soon. This is the third year of the outbreak in northern Wisconsin. **(DNR)**

Larch casebearer - A moderate to severe infestation on tamarack was observed in Oneida and Vilas Counties. Some areas have been infested for 3 to 4 consecutive years. **(DNR)**

Ash Plant Bug – Ash plant bug damage is becoming evident in some areas in the northeast. Feeding by ash plant bugs after the leaves have fully emerged causes a stippling of the leaves, what appears as tiny white or brownish spots over the leaf.

Poplar vagabond aphid galls on poplar - These galls are caused by aphids feeding at the tips of twigs. A gall (somewhat resembling a moose antler) forms at the top of the branch. This damage does not usually kill the tree but can reduce the vigor of the tree. For control, prune the galls prior to egg hatch early in the spring

Crown gall - Ivory jade euonymus at a nursery dealer in Dane Co. had galls caused by this bacterial disease. Plants were ordered destroyed.

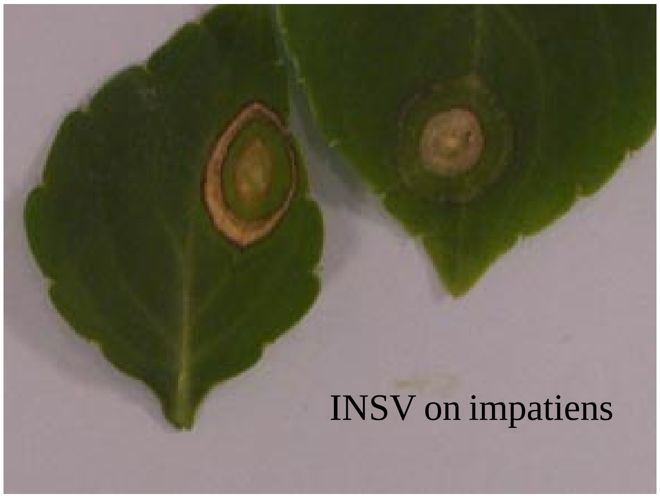
Botrytis leaf spot - Asiatic lilies at a nursery dealer in Vernon Co. had light amounts of leaf spotting caused by *Botrytis elliptica*. Leaf spots caused by *Botrytis cinerea* were found on hostas at nursery dealers in Dane and Walworth Cos.

Leaf blotch of peony - Light amounts of leaf spotting were found on various peony species at nursery dealers in Dane and Walworth Cos.

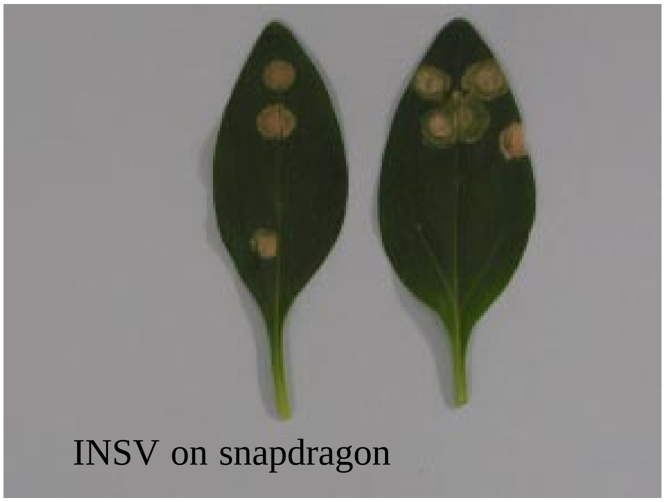
Anthracnose - Daylilies at a nursery dealer in Dane Co. had light to moderate amounts of lesions on their leaves.

Rose mosaic virus complex - Virus infected plants were found at nursery dealers in Kenosha, Vernon and Walworth Cos. Varieties infected include Medallion, Bing Crosby and Paul Becuse.

Impatiens necrotic spot virus (INSV) - Small numbers of lesions were found on impatiens and snapdragon at a nursery dealer in Ozaukee Co.



INSV on impatiens



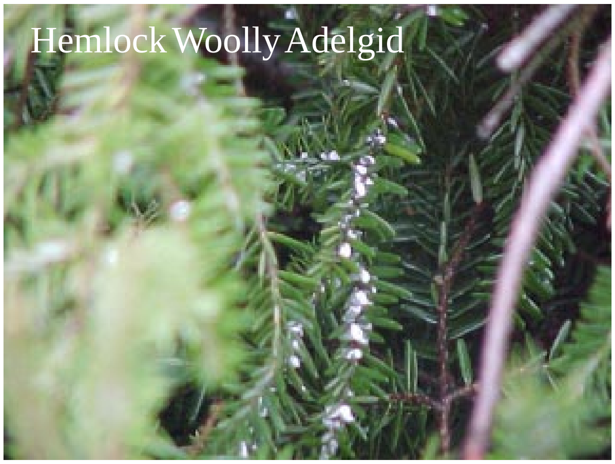
INSV on snapdragon

Apple scab - Radiant crabapple was found with leaf lesions at a nursery dealer in Racine Co.

Black spot - Light to moderate infections were found at nursery dealers in Dane Kenosha, Racine, Vernon and Walworth Cos. on a wide variety of roses.

Powdery mildew - Light to moderate damage was found on roses at nursery dealers in Dane, Racine and Vernon Cos.

Hemlock Woolly Adelgid (HWA) – Hemlock Wooly Adelgid was found recently in Michigan on imported nursery stock. The nursery in question was located near native hemlock stands and posed a severe risk of infesting the native stands.



Hemlock Woolly Adelgid

Hemlock wooly adelgid (HWA) is an exotic insect from Asia similar to a fuzzy aphid or fuzzy scale. It was first found in the US in 1924 and has spread through NJ, PA, MA, CT, southern NY, and is continuing to spread. HWA is a problem because they suck plant juices and can become numerous enough on trees to cause stunting, early needle loss, and tree death within a few years. They attack all ages of hemlocks anywhere that the tree can be found, from pure stands to yard trees. The USDA FS pest alert on HWA is located at *http://www.fs.fed.us/na/morgantown/fhp/palerts/hemlock/hemlock.htm* If you ever find what you think is HWA here in Wisconsin please report it! Early detection is very important! **(DNR)**

Oak tatters — Individual bur oaks adjacent to plowed fields are showing heavy tatters symptoms in southern Dane Co.

White oaks that have produced a heavy flower crop are exhibiting small, yellow, lightly tattered foliage in the upper crown. The smaller, crowded crowns tend to have more flowers and symptoms. The largest white oak crowns have very few flowers and no symptoms of tatters or yellowing. **(DNR)**

Anthracnose of oak and ash — Anthracnose symptoms are showing up on Dane Co. white oaks trees and white ash seedlings. **(DNR)**

STATE/FEDERAL PROGRAMS

Gypsy moth program - Gypsy moth trappers will be trained the week of May 21 in Madison and Tomahawk. Trap setting will begin right after the Memorial Day weekend and continue for 4-5 weeks. All traps should be up by the 4th of July. Each trapper is given 650-700 traps to set and an area that covers 1 county, part of a county, or in some cases, 2-3 counties depending on the trapping density. We appreciate landowners giving permission to set traps on their property.

Cooperator traps will be sent out after May 25th to all cooperators and landowners that have requested traps. Be patient, we will get them to you.

The Gypsy Moth Treatment Program has treated approximately 30,000 acres with Btk since the start of spraying on May 10th. Treatment blocks in Rock, Dane Iowa, Jefferson, Grant, Richland, Sauk, Columbia, Adams, Marquette, Portage, and Wood counties have been treated once. The second application starting in the southern counties will begin on Thursday, May 17th. The first application in the northern treatment blocks (Vilas, Lincoln, Marathon, Wood and Portage counties) will start on May 23, if weather and phenology allows it.

Pheromone flake treatments will be scheduled for late June.

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*

FRUIT

APPLE SCAB- Southern and central Wisconsin are at or past petal fall. It now becomes critical to use fungicides with protectant activity (e.g., captan, EBDC, or strobilurin). Limited research shows that captan is better than the EBDCs (when used at the same rate). The sterol inhibitors (Nova, Rubigan, Procure) by themselves are not enough to protect the young fruit. Many areas in WI had an infection period April 30. If leaves were not protected at that time, then it's likely that infection occurred and secondary spores are or soon will be produced from those infections. If you find sporulating lesions, you should consider strategies to "burn them out." The safest bet (but not cheap) is to mix a sterol inhibitor and captan at the highest legal rates. Dodine (Cyprex, Syllit) has lost its punch in some orchards (fungicide-resistant scab), but is an excellent antisporulant where it hasn't been used much over the years. But whatever you do to halt scab on leaves, include a protectant for the sake of the fruit. **UW-EXT**

Apple Insect Trapping Results

County City	Date	STLM	RBLR	CM	OBLR
Grant Co.					
Sinsinawa	5/9-5/16		3	4	
Lancaster	5/9-5/16	6	49	0	
Crawford Co.					
Gays Mills-	5.7-5/14	20	40	0	0
Richland Co.					
Hill Point	5/8-5/14	360	25	0	
Iowa Co.					
Dodgeville*	5/10-5/17	43	32	29	5
Avoca	5/9-5/16	6	12	4	
Green Co.					
Brodhead	5/10-5/17	12	0	29	
Dane Co.					
Deerfield	5/8-5/14	35	28	1	1
Waunakee	5/9-5/16	12	37	0	3
Jackson Co.					
Hixton	5/8-5/14	650	88	1	0
Dunn Co.					
Menomoni	5/7-5/14	195			
Trempealeau Co.					
Galesville	5/7-5/14	360	8	0	0
Pierce Co.					
Beldenville	5/7-5/14	31	58	2	2
Spring Valle	5/8-5/15	758	81	0	
Juneau Co.					
Mauston	5/6-5/13	181	6	0	0
Fond du Lac Co.					
Rosendale	5/7-5/14	84	26	0	
Malone	5/9-5/15				
Marquette Co.					
Montello*	5/6-5/13	882	221	0	6
Ozaukee Co.					
Mequon	5/8-5/15	1100	22	4	
Racine Co.					
Rochester*	5/10-5/16	73	32	4	6
Brown Co.					
Oneida	5/7-5/14	176	21	2	
Door Co.					
	11-May	940	38	0	
	4-May	600	44	0	
	27-Apr	15	6	0	
Bayfield Co.					
Washburn	5/4-5/11	240	0	0	

* indicates NEW COOPERATOR!

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Agricultural Resource Management Division
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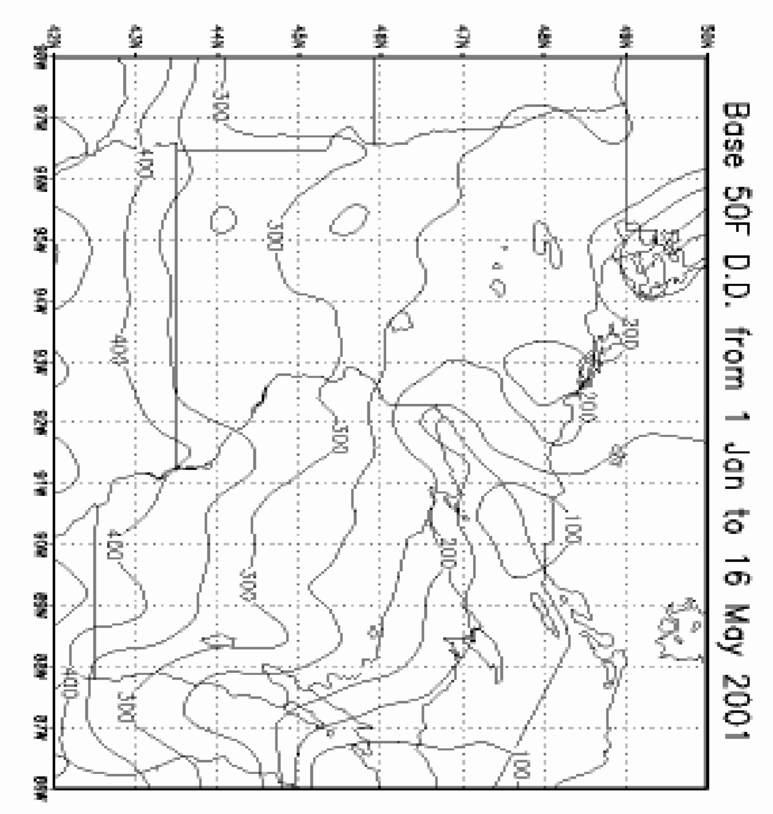
Base 50F D.D. from 1 Jan to 16 May 2001

Web site of the Week
The National Parks Service Integrated Pest Management Manual
http://www.nature.nps.gov/wv/ipm/manual.htm
An excellent resource for IPM in natural areas, including good information on weed management.