Wisconsin Pest Bulletin

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Wisconsin Department of Agriculture, Trade & Consumer Protection

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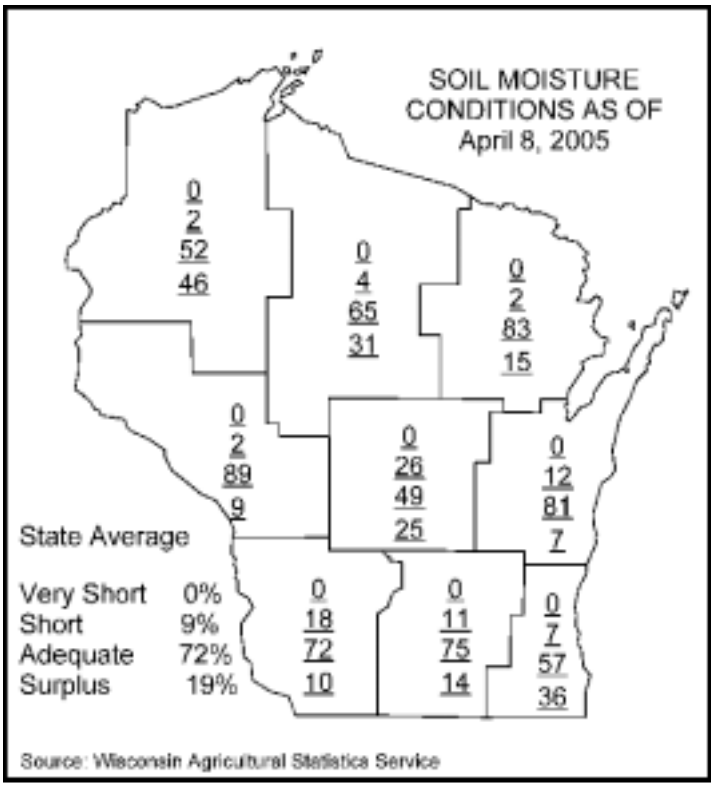

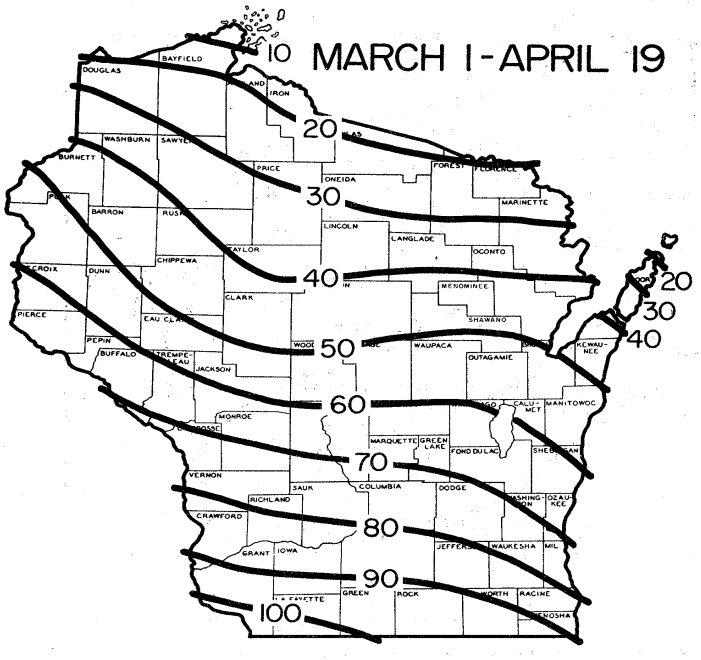

Historical Average Growing Degree-Days Accumulated Since March 1. (Wisconsin Agricultural Statistics Service)

Weather and Pests

Unseasonably warm April weather has prompted a rush of agricultural fieldwork throughout the Wisconsin countryside. Temperatures continued to be 4 to 11 degrees higher than normal, making conditions this month nearly ideal for early season field activity. Wisconsin's farmers have taken advantage of the early spring by planting oats, potatoes, cabbage and peas. Preparations are also being made for planting corn and soybeans.

Insect activity in forage legumes is beginning to escalate with the hatching of alfalfa weevil larvae and pea aphids. Apple orchards are astir with leafminers and leafrollers, and a concentrated capture of black cutworm moths is likely to occur in the week ahead.

Alerts

Pine shoot beetle, *Tomicus piniperda* - A total of 115 Lindgren funnel traps have been in place in 30 Wisconsin counties since mid-February to detect pine shoot beetle, an exotic pest of all species of pine. Within the last two weeks, *Tomicus piniperda* has been found at sites in Outagamie, Racine, Richland and Waukesha Cos. These counties will be added to the list of quarantined Wisconsin

Growing Degree Days from March 1 through April 21 were:

Site	GDD*	2004 GDD	Base 48	Base 43
SOUTHWEST				
Prairie du Chien	163	111	205	327
Boscobel	144	94	190	297
SOUTH CENTRAL				
Madison	126	86	157	274
SOUTHEAST				
Milwaukee	61	80	81	165
EAST CENTRAL				
Green Bay	51	49	72	154
WEST CENTRAL				
LaCrosse	169	102	210	317
Sparta	96	67	129	237
NORTH CENTRAL				
Wausau	55	39	91	181
Medford	50	21	76	172
Rhinelander	51	NA	72	149

**GDD above modified base 50º F, with no low temperature below 50ºF or above 86º F used in calculation.*

counties, bringing the total to 13 regulated counties. Pine shoot beetle was first detected in Wisconsin in 1998 and has since been found in Dane, Green, Grant, Jackson, Kenosha, Lafayette, Rock, Sauk, and Walworth Cos., in addition to the counties listed above.

Soybean Rust Update - Since the last Pest Bulletin, no new finds of soybean rust have been confirmed in the United States. To date for the year, rust has been found in three counties in Florida, in each case on kudzu. Host material is greening throughout much of the South, and southern soybeans are beginning to emerge. Scouting efforts are underway as far north as the NE corner of Arkansas, and from Texas to Georgia. (http://www.sbrusa.net/) Spore transport modeling indicated a "low threat" status since last Friday, as weather conditions were unfavorable for spore transport, survival and infection through the period. http://www.ces.ncsu.edu/depts/pp/soybeanrust/index.php

Looking Ahead

A brief forecast of pest-related events that growers can anticipate in the upcoming week

Alfalfa weevil – At the current rate of growing degree day accumulation, alfalfa weevil eggs should begin to hatch in portions of southwestern, south central and west central Wisconsin over the weekend, once 200 GDD_{48} are reached. Low levels of larvae should be detectable by the latter part of next week. Plan to initiate scouting efforts at 300 GDD_{48}.

Codling moth – Pheromone traps should be in place to detect the earliest emerging codling moths of the season. The first flight of moths is expected to begin in southern Wisconsin early next week, once 201 GDD_{50} have accumulated.

False codling moth – Several cooperators reported captures of codling moths this week; however, degree day accumulations indicate it's still too early for this species, even at advanced southern sites. Instead, it seems more likely that the moths currently appearing in pheromone traps are actually another species, possibly the false codling moth. See FRUIT section for more information.

Black cutworm – The first "concentrated capture" of nine moths in a two-night period is a very distinct possibility in the week ahead. A capture of seven moths in two nights was reported at the Lancaster trapping site this week. See CORN section for current black cutworm pheromone trap catches at 22 southern Wisconsin locations.

Spotted tentiform leafminer – Apple growers monitoring STLM activity should look for the first flight of moths to peak this weekend or early next week, once 150 GDD_{50} are reached. Peak flight may have already occurred at some advanced southwestern Wisconsin orchards. Scouting for sap-feeder mines should commence one week after a peak capture of STLM moths occurs.

Redbanded leafroller – The first RBLR eggs of the season are being laid in southern Wisconsin orchards, wherever 82-162 GDD_{50} have accumulated. Apple insect trappers can anticipate a noticeable escalation in pheromone trap catches as the first flight of moths peaks in the week ahead, between 106-160 GDD_{50}.

Plum curculio – Plum curculio trappers are encouraged to remain watchful in the week ahead as adults become active and move into orchards. The predictive model for plum curculio activity suggests the first capture of adults may occur once 100 GDD_{50} have accumulated. South central and southwestern Wisconsin orchards are well beyond this point; southeastern district will likely reach 100 GDD_{50} by April 27.

Black light trapping – Traps were installed at several trapping sites this week to detect early season activity of several nocturnal crop pests. Cooperators who will be monitoring insect activity this season are encouraged to place traps by April 29 and report the first week's counts to Rachel Klein-Koth by May 6. Look for captures of armyworms and variegated cutworm and black cutworm in the week ahead.

Aster leafhopper – A few early migrants could begin to arrive in the week ahead if weather proves suitable for a

rapid migration into Wisconsin. Growers of carrots, celery and leafy greens are encouraged to follow future reports on aster leafhopper activity and potential for aster yellows infectivity in 2005.

Corn

Black cutworm – A light stream of migrants continued to arrive in southern Wisconsin this week, but the much anticipated "concentrated capture" of nine moths in a two-night period has yet to occur. Seven moths appeared in a trap located at the Lancaster Research Station, and six were reported between April 15-22 from the Janesville trapping site, suggesting the first concentrated capture could occur next week. Once a capture of nine moths in two nights takes place, pest survey specialists will begin counting growing degree days in order to predict when seedling corn will be most susceptible to cutting. After 310 GDD_{50} have accumulated following a concentrated capture, black cutworm larvae will have reached the larval instar where they become capable of cutting through corn seedlings. This event remains at least four to five weeks away.

Black Cutworm Trap Catches April 14-21

Site	BCW	Site	BCW
Grant Co.		**Green Co.**	
Benton	1	Cadiz Springs	2
Hazel Green	0	W Monroe	1
Sinsinawa	0	E Monroe	4
Dickeyville	2	Juda	0
Lancaster	7	Brodhead	0
Lafayette Co.		**Rock Co.**	
South Wayne	5	Avon	1
Gratiot	1	Newark	2
West Gratiot	0	West Beloit	1
Shullsburg	1	East Beloit	0
West Shullsburg	1	Clinton	2

Black Cutworm Degree Days

BCW Event	GDD50	Ave.date in Madison	Projected 2005 in Madison
First moth	20	March 29	April 5
Early moth peak	55	April 12	April 10
Eggs laid	175-255	May 1	April 27
Larvae hatch	310-390	May 17	May 10

Seed corn maggot – Emergence of adults began more than a week ago and egg laying is in progress in susceptible southern Wisconsin fields. Seed corn maggot flies mate within two to three days after emerging and lay eggs in soils with abundant decaying organic matter and on seeds or young plants within fields. At this time of year, large swarms of flies are often visible flying over freshly plowed fields.

Black cutworm adult

R. Klein-Koth, WI DATCP

A number of factors make fields increasingly susceptible to seed corn maggot infestation. The adults are attracted to freshly plowed fields, fields with manure, and fields with rotting organic matter. To lessen the attractiveness of fields to seed corn maggots, avoid plowing animal manure, weeds, green manure, or other cover crops in spring; if there is a winter cover crop, plow it as early in spring as possible and cover with floating row covers. Whenever possible, plow crops in fall rather than spring. Seed corn maggots cause the most damage to seedlings during cool, wet springs when germination is delayed (unlike current spring conditions). Peak emergence of the first three generations occurs when 200, 600, and 1000 GDD_{39} have accumulated. Current seed corn maggot degree days are as follows: Boscobel: 404; Prairie du Chien: 427; Madison: 379; Milwaukee: 313; LaCrosse: 427; Green Bay: 250; Rhinelander: 229; Wausau: 266.

Soybeans

Bean leaf beetle – Overwintered beetles could begin to emerge from overwintering sites and migrate into alfalfa fields and other forage legumes within the next two weeks. Last season the first overwintered bean leaf beetles were detected in a Rock Co. alfalfa field on May 17; however, with temperatures considerably higher than normal for this time of year, activity could resume slightly earlier. The 2005 spring survey for bean leaf beetles in alfalfa is scheduled to begin by May 9.

Bean leaf beetle

©Marlin E. Rice

Marlin E. Rice, Iowa State University

Forages

Alfalfa winter kill – Growers in Jefferson, Kenosha, Richland, Rock, Waukesha and Winnebago Cos. are reporting considerable winter injury to alfalfa, and in the northeastern portion of the state survey specialists observed numerous fields that sustained heavy damage over the winter months. Winter kill may occur when alfalfa crowns are exposed to temperatures below 15°F, and typically results from lack of substantial snow cover, ice sheeting, low soil fertility, low soil pH, lack of crop residue, or planting of sensitive varieties. To reduce the potential for winter kill, growers should leave 6-8" of stubble in the fall. In many regions it is still too early for an accurate assessment of the extent of damage.

Alfalfa weevil – Adults are active in southern Wisconsin and a single larvae was swept from a Grant Co. alfalfa field earlier in the week. Scouting should begin after the accumulation of 300 GDD_{48}.

In Wisconsin, peak larval numbers generally occur at flowering, just after first crop hay should be cut. Although significant alfalfa weevil populations have grown less common in Wisconsin in recent years, weevil populations fluctuate considerably from one year to the next and outbreaks may develop on occasion. In 2005 growers are encouraged to err on the side of caution this season and be willing to take first or second cuttings earlier than normal should heavy weevil populations develop. Scout first and second crop hay regularly and treat weevils as though they could develop into a serious threat. See the table below for current alfalfa weevil growing degree days.

Alfalfa Weevil Growing Degree Days (Base 48°F)	
Boscobel	190
Green Bay	71
LaCrosse	210
Madison	157
Medford	76
Milwaukee	81
Prairie du Chien	205
Rhinelander	72
Sparta	129
Wausau	91

Pea aphid – Overwintered eggs should be hatching in the southern districts. Adults, but no nymphs, were active in Dane, Grant and Green Co. hay fields surveyed this week. Monitoring pea aphid levels in alfalfa is helpful in forecasting when migration to pea fields (the preferred host) is likely to occur. Early-season pea aphid surveys should be directed at determining: 1) when the first aphids appear in alfalfa, and 2) when the winged forms begin appearing. Later on it will be important to detect the first aphids in peas and the rate of population build-up. The threshold for pea aphids in alfalfa is 100 aphids per sweep.

Alfalfa caterpillar – Look for bright green alfalfa caterpillar larvae to appear in alfalfa fields in the next week.

Small Grains

Powdery mildew – Several fields of winter wheat in Fond du Lac, Calumet and Manitowoc Cos. had trace to low levels of powdery mildew. Powdery mildew is the most common disease of wheat in the Midwest. Infection frequently occurs in the fall, with inoculum from volunteer wheat plants or from straw. Conditions which favor powdery mildew development include good snow cover, mild April and May temperatures, and high N levels. Heavy infection may result in lower test weight and reduced kernel size, with losses as great as 45% on susceptible varieties and optimum disease conditions. Yield loss can be roughly correlated with the height of infection; the greatest loss occurs when the flag leaf becomes heavily infected.

Vegetables

Cabbage maggot – The key to controlling or avoiding cabbage maggot damage is to time planting dates to avoid peak fly emergence, which typically coincides with

MAGGOT DEGREE DAYS *As of April 21, 2005*			
	Seed Corn Maggot	Onion Maggot	Cabbage Maggot
	Base 39F	Base 40F	Base 43F
Boscobel	404	376	297
Prairie du Chien	427	379	327
Milwaukee	313	242	165
Madison	379	351	274
LaCrosse	427	410	317
Green Bay	250	222	154
Wausau	266	244	181
Rhinelander	229	208	149

lilac bloom. Once cabbage maggot damage is noticed, it is too late to apply for control. The first generation of cabbage maggots is the most damaging, so planting seeds or transplants after the peak of adult emergence and egg laying in the spring may provide the best control.

Aster leafhopper – If strong southerly winds turn in our direction, early aster leafhopper migrants could begin to arrive in Wisconsin next week. Aster leafhopper transmits aster yellows, a highly damaging organism that has been known to destroy entire lettuce crops in a matter of days. Symptoms begin to appear 24-30 days after leafhopper feeding has occurred. Growers of carrots, celery and leafy greens are encouraged to follow upcoming reports on aster leafhopper activity

Common asparagus beetle – Egg laying has begun near Prairie du Chien and La Crosse, where 150 GDD_{50} were surpassed earlier this week. This event is expected to continue through 240 GDD_{50}.

Imported cabbageworm – Butterflies took flight last week and were spotted fluttering above alfalfa fields this week. Look for larvae between 300-400 GDD_{50}, which could occur as early as May 8 in southwestern Wisconsin.

Variegated cutworm – In the past week three variegated cutworm (VCW) moths were caught in the black light trap at Lancaster, and one at Janesville. The previous week, 12 VCW were caught at Lancaster between April 7 and April 14. The following description of VCW is from an article by John L. Wedburg, Extension Entomologist, that was published in the Wisconsin Crop Manager in 2001.*"VCW is a climbing cutworm known for defoliation rather than cutting. It has a wide host range and our infestations come from adults migrating throughout the Midwest from gulf coast states. The females deposit eggs in the debris of untilled fields in the spring. The larva has six instars and the body color is variable, but there is almost always a row of pale yellow dots along the middle of the back. Feeding is primarily at night, unless there is heavy overcast, and larvae drop to the ground in the morning and burrow into the ground. Feeding resumes in the evening."* The variegated cutworm (VCW) is usually not a troublesome pest in the Midwest, but it has had its moments. Just a few years ago, in 2001, serious damage to vegetable crops, alfalfa, and soybeans was documented in Wisconsin and neighboring states.

Gypsy Moth

Gypsy Moth Program – Sixty-two limited term employees (LTE) will be hired to do the trapping in Wisconsin. Ten will be lead workers and fifty-two will be trappers. Training for lead workers will occur on May 4th in Mosinee. Training for trappers in the southern part of the state will be on May 23-24 in Madison. Trappers in the central part of the state will be trained at Black River Falls on May 18-19. Trappers in the northern part of the state will be trained on May 16-17 in Hayward. Training will consist of gypsy moth biology and identification, trap-setting procedures, safety, map reading, and GPS use. Trappers will also have field training with their crew and then individual field training with the lead worker. Trappers will have a picture I.D. card, wear an orange or green vest, and have vehicle placards on their car/truck to identify them as employees of the Gypsy Moth Program. Trapping will begin on May 23rd and trap setting will take approximately 4-5 weeks to complete. Most traps should be up by July 4th.

Trappers will be setting approximately 38,000 traps statewide. Traps are set to find where gypsy moths are and where they are not in the western part of the state. Traps in the eastern regulated or quarantined counties are used mainly to monitor the population. Traps are not used for eradication. Once an area becomes generally infested, such as in the quarantine counties, it is better to do egg mass surveys on your property to see if you have an infestation. Eventually, trapping will be stopped in quarantine areas.

Gypsy moth delta trap

Two kinds of traps are used: delta and milk carton. Delta traps are orange or green, have a triangular shape, are about seven inches long and are tied to a tree with string at chest height. These traps can hold about 20 moths before they are considered full and must be replaced. Milk carton traps are green, much larger, look like a milk carton with a "roof" on it and are hung from a low tree branch with string. Milk carton traps can hold about a thousand moths.

If you have any questions about the GYPSY MOTH PROGRAM, please call our hotline at 1-800-642-MOTH or visit our website at:

http://www.datcp.state.wi.us/arm/environment/insects/gypsy-moth/

Fruits

False codling moth – Degree day accumulations indicate it's still too early for the emergence of the native

codling moth, thus, the moths currently showing up in codling moths traps may actually be the false codling moth, *Cryptophlebia leucotreta*. An apple insect trapping cooperator located near Mequon reported, "There were several moths in some of my codling moth traps, and they almost had me fooled. They were about the right size, but seemed a bit dark and didn't have the correct grey striped pattern. When I looked at them with a hand lens I could see they were quite different: a little small, dark, and with conspicuous (well, sort of) dark "bumps" on the wings." The flight of real codling moths could begin next week if 200 GDD_{50} are reached.

Redbanded leafroller – Moths flight began in the southern portion of the state more than a week ago, and peak flight is either in progress or fast approaching at many orchards. Redbanded leafrollers is a pest with an uncommonly wide host range, which means pheromone trap counts are not necessarily indicative of the level of infestation in an orchard. Pheromone trap captures indicate when a peak flight has occurred and can help to determine when to scout for larvae and time sprays. Orchards that have experienced redbanded leafroller problems in the past may want to control this pest by targeting the early larval instars with an insecticide spray. Control sprays for leafroller are usually sprayed at petal fall and in cover sprays.

Peak RBLR catch and approximate start of egg hatch begins around 106-160 GDD_{50}. Expected:

Madison:	in progress, April 18 to 25
Milwaukee:	April 28 to May 6
LaCrosse:	in progress, April 16 to 21
Prairie du Chien:	in progress, April 15 to 21
Sparta:	April 24 to 27

First RBLR larvae of the season are expected at 167-228 GDD_{50}. Likely date of occurrence:

Madison:	April 25 to May 2
Milwaukee:	April 30 to May 8
LaCrosse:	April 21 to April 28
Prairie du Chien:	April 23 to 29
Sparta:	April 27

Spotted tentiform leafminer – According to the growing degree-day model available for STLM, the first eggs of the season are being laid near Prairie du Chien, Madison and LaCrosse, where accumulations have surpassed 127 GDD_{50}. With key STLM events in progress throughout the state, apple growers who have a history of STLM problems should prepare to scout for the first leafmines at 329-402 GDD_{50}. There are two different types of mines to look for. One type is caused by younger, sap-feeder larvae, while the other is caused by more mature, tissue-feeder larvae. Sap-feeder mines are detectable first. They are more difficult to see when scouting because they are visible only on the underside of leaves. Tissue-feeder mines are more obvious and visible as an oval, speckling pattern on the upper leaf surface.

The reason it is important for growers to be able to differentiate between the two types of mines is because chemical sprays targeting STLM larvae are only effective against the sap-feeding stage. For effective control of STLM, growers must develop the ability to recognize and scout for sap-feeder mines. Pheromone traps are particularly useful when it comes to timing when to scout for sap feeder mines. Begin scouting for first generation sap-feeder mines on undersides of leaves approximately one week after a peak moth flight. The first flight of STLM moths is expected to peak in southwestern and south central districts and near La Crosse this weekend. For detailed STLM scouting instructions, see UW-Extension Publication A3211 Spotted Tentiform Leafminer: A Pest of Wisconsin Apple Orchards by D.L Mahr and N.C. Ravdin.

First STLM flight and peak trap catch occur around 150 GDD_{50}. Expected:

Madison:	April 24
Milwaukee:	May 3
LaCrosse:	occurred on April 21
Prairie du Chien:	occurred on April 20
Sparta:	April 25

XGT1001

University of Wisconsin Pest Alert

UW Extension
University of Wisconsin-Extension

Provided to you by:

How to Submit a Soybean Rust Sample to the Plant Disease Diagnostics Clinic

Brian Hudelson, UW-Madison Plant Pathology

If you believe you have found soybean rust, getting a high quality, intact sample to the Plant Disease Diagnostics Clinic (PDDC) is critical for verification. The following is a list of suggested steps that you should take when collecting, packaging and shipping a sample to make sure that the sample will arrive for diagnosis in the best possible condition and with the greatest likelihood of being properly evaluated.

- *Select a representative group of leaves (or other plant parts) that exhibit the range of symptoms that you have observed in the field;*
- *Be sure to collect detailed information on the location where the sample was collected so that the site can be revisited if necessary. If you know the GPS coordinates of the site, please provide these;*
- *If possible, place the leaves between layers of cardboard and paper towels to keep them flat (i.e., layer the materials as follows – cardboard, paper towel, leaves, paper towel, cardboard, paper towel, leaves, paper towel, cardboard, etc.);*
- *Place the leaves in a self-sealing plastic bag and seal the bag shut;*
- *Place this bag inside a second self-sealing plastic bag, being particularly careful that the outside of this second bag does not become contaminated;*
- *Keep the leaves cool (e.g., by placing them in a cooler or refrigerator) between the time of collection and the time when they are shipped to the PDDC;*
- *Ship samples to the PDDC by overnight mail whenever possible. The PDDC address is:*

Plant Disease Diagnostics Clinic
Department of Plant Pathology
University of Wisconsin-Madison
1630 Linden Drive
Madison, WI 53706-1598

- *Include with the sample a completed copy of the "Soybean Rust Submission Form" on the back of this sheet;*
- *If possible, call the PDDC at (608) 262-2863 to let the PPDC staff know that a suspect soybean rust sample is on the way.*

For more information or help in diagnosing soybean rust: *Contact Brian Hudelson, Department of Plant Pathology, University of Wisconsin-Madison, 1630 Linden Drive, Madison, WI 53706-1598, phone: (608) 262-2863, fax: (608) 263-2626, email: bdh@plantpath.wisc.edu.*

Revised Dec. 2, 2004

XGT1001

University of Wisconsin Pest Alert

University of Wisconsin-Extension

For PDDC Use Only:
Intake Number: __________
Date Received: __________
Forwarded to APHIS: Yes/No
Date Sent: ___________

Plant Disease Diagnostics Clinic

Soybean Rust Submission Form

Please use a separate form for each sample.

Date: ______________________________

Submitter: ____

*Address: (Street)*____

____

*(City)*_________________ *(State)* ________ *(Zip Code)* ___________

Telephone Number: ____

Grower (if different from submitter): _______________________________________

*Address: (Street)*____

____

*(City)*_________________ *(State)* ________ *(Zip Code)* ___________

Telephone Number: ____

County where sample was collected: _______________________________________

Description of the location where the sample was collected: ____________________

____

GPS coordinates of field where sample was collected, if available: ______________

____

Host plant: ____

Send report to: _____ *Submitter* _____ *Grower*

Submit the sample to the:

Plant Disease Diagnostics Clinic
Department of Plant Pathology
University of Wisconsin-Madison
1630 Linden Drive
Madison, WI 53706-1598

Mr. Ben Johnson, hoeing potatoes near Black River Falls, WI, June, 1937

Photo by Russell Lee, Farm Security Administration - Office of War Information Photograph Collection (Library of Congress)

Mr. Eddie Saugstad buying feed at the Cooperative Exchange, Westby, WI, August 1942.

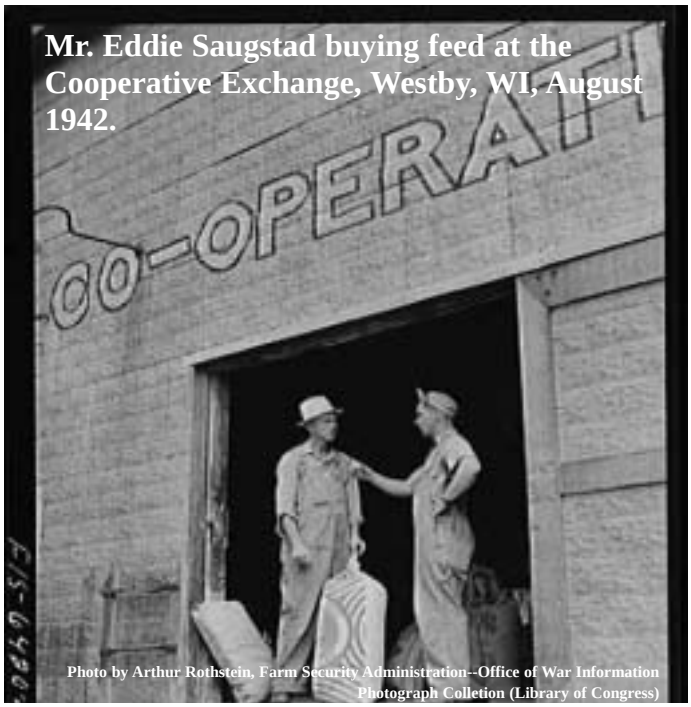

Photo by Arthur Rothstein, Farm Security Administration--Office of War Information Photograph Colletion (Library of Congress)

Apple Insect Trapping Results through April 22, 2005

Trap Site	Date	STLM	RBLR	CM	OBLR
Grant Co.					
Sinsinawa	4/15-4/22	17		19* (false?)	
Crawford Co.					
Gays Mills - 1	4/9-4/15	84	36		1
Gays Mills-W2	4/12-4/18	200	12		0
Iowa Co.					
Dodgeville	4/15-4/21	87	31		
Richland Co.					
Hill Point	4/13-4/19	114	12		
Dane Co.					
Deerfield	4/16-4/20	57	82	1	34
Dodge Co.					
Brownsville	4/15-4/21	0	17		
Ozaukee Co.					
Mequon	4/13-4/21	258	60	0	
Racine Co.					
Rochester	4/14-4/21	560	151	0	
Trempealeau Co.					
Galesville	4/15-4/22	1000	21	0	8
Pierce Co.					
Spring Valley	4/15-4/22	83	73		
Fond du Lac Co.					
Malone	4/14-4/21	25	20		

***STLM**: Spotted tentiform leaf miner; **RBLR**, Red banded leaf miner; **CM**, Codling moth; **OBLR**, Oblique banded leaf roller*

Black Light Trapping Results through April 22, 2005

Trap Site	Date	ECB	True AW	Fall AW	BCW	DCW	SCW	VCW	WBCW	CabL	CelL	CEW
Southwest												
Lancaster	4/14-4/21	0	2	0	0	0	0	3	0	0	0	0
South Central												
Mazomanie	4/15-4/22	0	0	0	2	0	0	7	0	0	0	0
Southeast												
Janesville	4/15-4/22	0	4	0	0	0	0	1	0	0	0	0

***ECB**, European corn borer; **AW**, armyworm; **BCW**, black cutworm; **DCW**, dingy cutworm; **SCW,** spotted cutworm; **VCW**, variegated cutworm; **WBCW**, western bean cutworm; **Cab L**, cabbage looper; **CelL**, celery looper; **CEW**, corn ear worm*

Department of Agriculture,
Trade & Consumer Protection

Division of Agricultural Resources Management
PO Box 8911
Madison WI 53708-8911

Web Site of the Week

http://www.nws.noaa.gov/

This week was Tornado Awareness Week. The National Weather Service website provides weather forecasts and alerts for severe weather. A particularly cool feature is the "Hourly Weather Graph" function, providing charts for the next 48 hours.

Quote of the Week

"Weather forecast for tonight: dark."
George Carlin

We're sorry, but due to continuing technical difficulties, the color GDD map is not available.

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