

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

Weather and Pests

Dry conditions persist throughout much of the state and crops on sandy soils in the northern and central districts are looking particularly poor. Soybeans are wilting, alfalfa is extremely yellowed, and corn is highly drought-stressed. On the positive side, soybean aphid development is showing signs of slowing and cooler evening temperatures are expected in the week ahead. Cooler conditions should help to slow overall insect and disease development.

Growing degree days from March 1 through August 14 were

Site	2002	Normal	Base	Base
	GDD*	GDD	GDD	
			48	40
SOUTHWEST				
Dubuque, IA	1945	2113	2203	3162
Lone Rock	1927	2004	2027	3129
SOUTHCENTRAL				
Beloit	1889	2119	2071	3115
Madison	1862	1987	2017	3073
Sullivan	1793	2045	1958	2994
Juneau	1786	1984	1866	2986
SOUTHEAST				
Waukesha	1708	2012	1808	2671
Hartford	1717	1960	1866	2904
Racine	1621	1973	1955	2787
Milwaukee	1618	1921	1931	2779
EAST CENTRAL				
Appleton	1694	1839	1776	2850
Green Bay	1508	1704	1689	2628
CENTRAL				
Big Flats	1821	1916	1897	2989
Hancock	198	1905	1844	2969
Port Edwards	1707	1814	1849	2849
WEST CENTRAL				
LaCrosse	1949	2107	2013	3151
Eau Claire	1888	1954	1889	3081
NORTHWEST				
Cumberland	1696	1738	1750	2811
Bayfield	1276	1326	1257	2226
NORTH CENTRAL				
Wausau	1567	1686	1726	2671
Medford	1506	1592	1721	2599
NORTHEAST				
Crivitz	1477	1602	1600	2565
Crandon	1409	1523	1542	2462

Unfortunately, this week's weather was generally favorable for European corn borer and corn rootworm activity.

Looking Ahead

European corn borer - Higher numbers are being caught in black light traps and egg laying continues in susceptible crops. Scout for egg masses and tiny second generation larvae in the week ahead.

Soybean aphid - Numbers are still high in many areas, but reproduction appears to be slowing as soybean plants are reaching later reproductive stages of growth. Late planted fields may still encounter heavy aphid pressure, but the worst may be over for a majority of the state's soybean acreage.

Corn rootworm - Beetles are active, and counts are mostly moderate in the south central and central districts. Continue to scout for corn rootworm in the week ahead to determine if fields to be planted back to corn in 2004 could benefit from a soil insecticide treatment next spring.

Bean leaf beetle - Although levels of soybean defoliation are moderate and in some cases severe in scattered fields throughout the state, very little of it is actually being caused by bean leaf beetles. Surveys have been conducted in 256 soybean fields in the last three weeks and in no case was more than 12% defoliation attributed to bean leaf beetles observed. Nevertheless, keep looking for signs bean leaf beetle activity, especially pod injury.

Corn earworm - Corn earworm watchers should note that the degree day accumulation above base 55°F is nearing 1550 in the southern and west central districts. Expect black light and pheromone trap catches to increase soon.

Armyworm - Some weedy fields are still subject to attack. Continue scouting.

Forages

Potato leafhopper - Many alfalfa fields are badly injured, likely resulting from the combination of potato leafhopper feeding and lack of substantial rainfall in the last week or two. Central alfalfa looks particularly poor, and nymph production is still going strong. Some northern fields also have fairly high populations, up to nine per sweep, but fields don't appear to be quite as stressed as in the central districts. Nymph reproduction in the north also shows no signs of the slowing just yet. A cold front expected in the week ahead may bring some cooler evening temperatures and will hopefully help to slow potato leafhopper reproduction; however, populations frequently persist into fall.

Corn

Corn earworm - The number of moths caught in black light and pheromone traps is expected to rise in the next week as we approach 1550 DD (base 55°F). Moths have been reported from a few scattered sites such as Coon



Valley, Madison and Marshfield, but counts are still relatively low. No significant infestations of new larvae have been reported in the south central sweet corn fields surveyed this week.

Corn rootworm - Numbers in northern field corn are moderate, seldom exceeding three per plant. Expect the number of beetles in late sweet corn to increase as fewer corn fields with fresh silks are available.

European corn borer - Higher counts of moths were registered at several black light trapping sites this week. Egg laying in the last week has also picked up, with moderate and high counts being observed in central and south central fields. Sweet corn fields in Dane Co. had egg masses on about 24%-46% of the plants; approximately 20%-25% of the egg masses were in the blackhead stage, and nearly ready to hatch.

Small larvae should become more numerous in the week ahead. The treatment window is still open across the state, but it will draw to a close in the west central and southern districts in another week. Growers in the central, east central and northern districts still have another week or two, but don't wait too long. Now's the



Corn leaf aphids



time to scout for second generation larvae.

Corn leaf aphid - Infestations affect a large percentage of plants in many central and northern fields, where infestations of 20% of the plants with 500 or more aphids were commonly encountered. Corn leaf aphids are one of the principle vectors of **maize dwarf mosaic virus** that could soon develop in late sweet corn fields.

Soybeans

Grasshopper - Foliar feeding has reached threshold levels in some central soybean fields. Survey staff observed 20%-35% defoliation in a number of Marquette, Portage, Waushara and Wood Co. soybean fields where nymphs are nearly mature or fully mature. Control may become necessary on the margins of fields with levels of defoliation exceeding 30%.

Soybean aphid - Numbers are still high in many regions of the state, but are not expected to increase much during the remainder of the season. This week, surveys were conducted in the central, east central, northeast and northwest districts. In Waushara, Wood, Adams, Green Lake and Marquette Co. fields, 100% infestations were detected and aphid counts ranged from 147-2590 aphids per infested plant.

Counts in Shawano, Oconto, Marinette and Langlade Cos. were much lower on average, ranging from 66-369 aphids/infested plant; most fields had aphid counts in the lower part of this range. The situation was not as promising in the northwest district where averages in Dunn, Barron, Burnett, Polk, St. Croix, Pierce, Rusk, and Washburn Cos. ranged from 38-2030 aphids/infested plant, averaging 847/infested plant. Some later planted fields may still be at risk for developing heavy aphid populations, but for the most part, it's likely that aphid numbers have reached peak levels by now and should begin to decline soon.

Vegetables

Tomatoes - Tomato plants are starting to show symptoms of **early blight** and **septoria** but at this point the plants

are still looking good. IPM practices can help manage the leaf spot diseases - crop rotation, mulching, increased plant spacing, removal of first symptoms of septoria in particular, destruction of the infected leaves to slow the spread, and morning irrigation if overhead systems are used so plants have time to dry before nightfall.

Reports are arriving about tomatoes with **bacterial spot** and **speck**. It's important not to plant tomatoes or peppers in the same field year after year and not to save seed from infected plants as this bacterial disease is seed-borne if the fruit is infected.

Finally, **abiotic disorders** are appearing in tomato and pepper fruit. The cold nights we had a couple weeks ago are now showing up in deformation of pepper fruit and catfacing on tomatoes. The irregular rainfall around the state is evident in the prevalence of blossom end rot. Sunscald on peppers and tomatoes is likely to get worse as the septoria and early blight start to defoliate tomato plants.

Vine crops - On vine crops, there are reports of **squash bug** eggs and nymphs in Dane and Rock counties this week. Squash bugs can transmit a toxin while they feed which results in a sudden wilt of the plant. They are difficult to control and growers should use the threshold of more than one egg mass per plant on flowering plants. Synthetic pyrethroids are the best products to control this pest. Growers should get the nymphs while still small.

Reports of **squash vine borer** are widespread. Most growers are unfamiliar with what's causing their squash and pumpkins to wilt mid-day and revive in the evening. See the UWEX garden fact sheet (<http://www.uwex.edu/ces/wihort/gardenfacts/X1024.pdf>) for more information. (UWEX)

Forest, Shade Trees, Ornamentals and Turf

Fall Webworm - This late summer insect was found in moderate to heavy amounts during nursery grower inspections in Kenosha, Jackson and Washington Cos. The fall webworm has many hosts, including chokeberry, weigela, plum, white ash, crabapples, redbud, hydrangea,



oak and birch. The active larvae observed during this week's inspections averaged about ¾ of an inch long. They can be found inside the web, and are yellow in color and very hairy. There is another variant that is darker in color and has a black head rather than a red one. We generally find the red-headed race in our inspections. This pest generally only does aesthetic damage to its hosts. More severe damage associated with fall webworm results from cutting out the webs or burning the nests out of the trees. Both of these measures, along with chemical control, are not recommended for control of this pest. Two generations of fall webworm occur in the southern states, but in Wisconsin we usually see only one.

Viburnum Crown Borer - This aggressive borer was found to be inflicting heavy damage on European viburnum at a Kenosha Co. nursery. The adult stage, a moth, is black in color with clear bands or patches on the wings. When scouting for this pest, look for plants that are turning an early fall color and generally have thinned foliage. Also look for frass exuding out of the side of the plant at the base, near the soil line. The affected section should break off at that point if you push on the tops. The viburnum crown borer is aggressive and attacks healthy plants as well as stressed ones. The viburnum species most often affected include *V. lantana*, *V. lentago*, *V. opulus* and *V. prunifolium*. Viburnum crown borer moths are in flight only from mid-July to early October, while larvae are present during the entire growing season. This pest overwinters in the larval stage. Control should be made when the adults are in flight with a chemical that has a long residual. Also, removing plants in the late fall which are infected will help to reduce populations.

Japanese Beetle - Adults are still present throughout the state and they continue to feed on a wide selection of nursery plants including serviceberry, viburnum, plum, alpine current, oaks, elm, cotoneaster and linden. Nursery stock growers should remove all weeds and grasses in the root ball zone when adults are present to prevent egg laying in the root ball zone. Clean cultivated growers should keep the soil tilled and weed free from



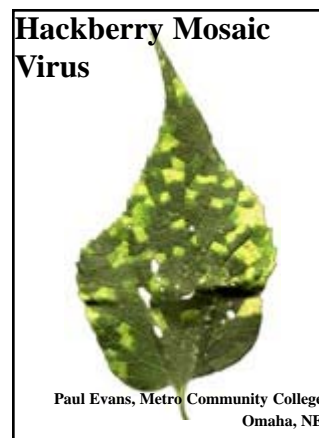
the beginning of July to mid-September, usually. In a nursery setting, adult control is frequently done to limit damage to nursery stock.

Birch catkin bug-Waukesha, Racine Cos (UW)

Post Oak Locust - Feeding on oak leaves (saplings) in Monroe County. (DNR)

Asteroma Leaf Spot - This fungal leaf spot/ blotch of linden is commonly found this time of year during nursery grower inspections. We have detected this pathogen during Jackson and Kenosha Cos. inspections in moderate amounts on American linden, generally the preferred host. This leaf spot/ blotch forms black fruiting bodies on the upper surface of leaves and will sometimes have a yellow colored halo around the spot. The back side of the leaf is usually tan colored. This fungal leaf problem can be confused with a phyllosticta leaf spot species found in linden, but those spots have a purple halo and are generally smaller in size. Control measures can be taken but often this problem shows up so late in the growing season that control is not needed. If you have had problems with this pathogen in past years you could treat and clean up the leaves after they drop to reduce the overwintering spores in the area.

Hackberry Mosaic Virus - This still unknown virus-like disease is being found on hackberry around the state. It causes yellow block patterned spots on the leaves that are generally square in shape because they are bordered by veins. It is thought that leafhoppers are the vector of



this virus and fields that have high leafhopper populations many times have widespread infections. There is no treatment for this virus other than keeping leafhopper populations down. Currently there is very little information available concerning this disorder.

Quince Rust - This rust is being found in Kenosha Co. on thornless cockspur

hawthorn in light amounts. Currently we are seeing fruiting bodies for the rust on the fruit of the hawthorns. These spores will infect junipers/cedars this fall and overwinter on the junipers. Then in spring, the galls which form on the junipers will form telia horns that are orange in color and will disseminate the spores back to the hawthorns to repeat the cycle. Control of quince rust can be achieved with protective sprays, which would be applied in the spring when bud break occurs, then a second time ten days later. In some cases removal of one of the two hosts from the cycle or pruning out galls would also help control this disease. There are some

varieties of hawthorn, that are resistant to this disease.

Tar Spot - We are starting to find this fungal pathogen on maple in Jackson and Kenosha Cos. in trace to light amounts. This pathogen can become problematic when proper sanitation is not taken with the infected leaves. If



you have tar spot, cleanup and burning leaves is an effective way of controlling this pathogen. Sometimes fungicides will have to be used as well. Treatments should be applied in the spring when bud break occurs and then very two weeks until July. Host plants include silver, amur and Norway maple.

Botryosphaeria Canker and Kermes Scale - These two organisms are causing scattered leaf mortality throughout the crowns of red and white oaks. The leaves die in clumps at the ends of the branches, so you wind up with brown leaves throughout the crown of the tree. (DNR)

State/Federal Programs

GYPSY MOTH TRAPPING PROGRAM - Trappers are finishing up with the mid-season check for male gypsy moths. As of 8/13/03, trappers have checked 20,476 traps (78%) and have caught 112,293 moths. Trap checking will be complete this week. Counties with the highest totals so far are: Brown (1,063), Calumet (1,134), Dane, (1,810), Dodge (1,325), Door (1,819), Florence (2,313), Fond du Lac (2,211), Forest (1,553), Langlade (2,4965), Marinette (8,894), Oconto (18,090), Outagamie (4,929), Ozaukee (1,034), Portage (31,130), Shawano (1,527), Walworth (1,933), Washington (2,232), Waukesha (2,9,67), Waupaca (10,085), Waushara (4,495), and Wood (1,117).

Trap takedown will probably start south of State Highway 10 on August 18. Areas north of Highway 10 will start 1-2 weeks later. Takedown lasts 4-5 weeks and most traps are down by September 30.

For more information on the GYPSY MOTH PROGRAM, please our hotline at 1-800-642-MOTH.

Focus

FLAT-HEADED APPLE TREE BORER

Description: The adult is a flattened bullet-shaped beetle, dark coppery brown or gray, which is about ½ inch long. The larva is creamy-white and about 1 inch long, without legs and has a club shaped appearance.

Hosts: The flat-headed apple tree borer feeds on many kinds of deciduous shrubs, fruits and shade trees. Some of them are crabapple, maple, oak, hickory, tuliptree, willow, rose and cotoneaster. New liners and transplants are particularly susceptible, especially if under stress.

Flat-headed apple borer larvae



Damage: Larvae mine beneath the bark, usually in the lower trunk; a single larva may kill smaller trees if other stresses are present.

Larger trees may show lower vitality and branch dieback or structural weakness.

Life cycle: This species overwinters as a mature larva in the sapwood of its host. Pupation occurs in the early spring and the adults begin emerging in Mid-Spring, leaving an oval shaped hole. The female lays her eggs singly in the bark crevices and produces more than 100 eggs during her reproductive period. Newly hatched larvae immediately begin tunneling into the bark where they excavate feeding galleries. Because this species doesn't eject its frass or maintain a distinct entrance hole, infestations are very difficult to detect in the early stages. Attacks are usually made at the base of the trunk, especially if there is a graft or cultivation wound. Look for areas on the sunny side where the bark appears to be raised.

Galleries can be detected by pressing the raised bark to see if it is soft underneath. The bark can be easily peeled away to expose the galleries.

Flat-headed apple borer adult



Control: Chemical control of any woodborer is difficult and relies on preventive rather than curative treatments. Spray the trunk and main branches before egg hatch begins with a labeled insecticide which should be applied when Van Houtte spirea finishes blooming at about 400-

500 GGD and then again in about 2-3 weeks. Cultural control is easier and less expensive and usually more effective for this pest. You should water transplants and liners during periods of drought and fertilize to reduce stress on the transplants.

Odds -n- Ends

Strawberry root weevil--The UW Insect Diagnostic Lab is getting reports of invasions in homes of the strawberry root weevil- Dane, Sauk, Sheboygan, Iowa, Manitowoc Co. (UW)

Golden Digger wasp - From Monroe, Columbia, Winnebago Cos. (UW)

Calendar of Events

Aug 27, 2003

Fall Garden Twilight Tour

Ashland Ag Research Station, Ashland, WI. Begins at 6:30 p.m. For more information contact the Ashland Agricultural Research Station, 68760 State Farm Road, Ashland, WI 54806-9338 at (715) 682-7268 or fax (715) 682-7269.

Aug 28, 2003

Twilight Garden Tour

Spooner Ag Research Station, Spooner, WI. Begins at 6:30 p.m. For more information contact the Spooner Agricultural Research Station, W6646 Highway 70, Spooner, WI 54801 at (715) 635-3735 or Fax (715) 635-6741.

September 21 - 28, 2003

XII World Forestry Congress: A Focus on Forests

Quebec City, Canada

<http://www.wfc2003.org>

22-26 September 2003

Invasive Alien Species and the International Plant Protection Convention Conference

Braunschweig, Germany

<http://www.ippc.int/IPP/En/Archive/IAS2003/IAS-WORKSHOP-Home.htm>

Have an item you'd like included in our calendar? Send items to bulletin@datcp.state.wi.us

Apple Insect Trapping Results

County City	Date	STLM	RBLR	CM	OBLR	AM red ball	AM sticky
Richland Co.							
Hill Point	8/6-8/13	90	0	2	0	2	0
Dane Co.							
Deerfield	8/1-8/12	264	22	4	0	1.5	0
Pierce Co.							
Beldenville (*)	8/6-8/13	40	6	4	0	1	0
Spring Valley	8/8-8/15	170	6	0	0	0	0
Washburn Co.							
Bayfield	8/4-/11	60	0	0	0	0	0
	7/25-8/4	0		0	0		
Fond du Lac Co.							
Rosendale	8/4-8/12	41	9	2	0	0	0
Marquette Co							
Montello	8/3-8/10	20	0	14	5	0	0
Brown Co.							
Oneida	8/4-8/11	50	6	2	0	6	1
Marinette Co.							
Wausaukee	8/7-8/14	48	16	0	0	0	0
Ozaukee Co.							
Mequon	8/6-8/14	500	0	0.8	0	4.4	
Racine Co.							
Rochester	8/8-8/14	230	0	5	4	1.17	0

STLM--Spotted tentiform leaf miner; RBLR--Redbanded leaf roller;CM--Codling moth;OBLR--Oblique banded leaf roller
AM--Apple maggot

(*) Comment: Very dry, Harvest will be delayed for at least a week. Currently -3 inches from a normal 5 inches of rain this month

Blacklight Trapping Results

through August 14

Trap Site	European corn borer	Armyworm	Black Cutworm	Variegated Cutworm	Spotted Cutworm	Celery Looper	Corn Earworm	Forage Looper	Corn Earwom Pheromone
South Central									
Arlington	127								
(through Aug 8)	50	2	1						
Madison	119								
(through Aug 8)	154	5	4						
Mazomanie	144	16	7	0	13	4	19	0	
Reedsburg	62								
West Central									
Coon Valley									2
(through Aug 7)									1
Central									
Marshfield	22	5	1	11	7	3	3		
Northwest									
Chippewa Falls	97		1						



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

Web Site of the Week

The European Corn Borer Home Page

<http://www.ent.iastate.edu/pest/cornborer/>

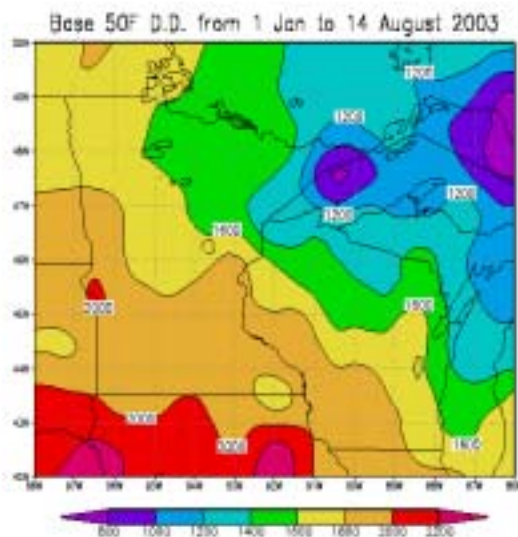
This site is intended to serve as a central reference point for information about the European corn borer in the midwestern United States. It provides excellent images of all life stages, a pictorial key for identifying some common late-instar caterpillars found on corn, and corn borer information, by state.

Quote of the Week

The ant has made himself illustrious
Through constant industry industrious.
So what?

Would you be calm and placid
If you were full of formic acid?

(Ogden Nash, American poet, 1902-1971)



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