

Wisconsin Crop Manager

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Online copy available at <http://ipcm.wisc.edu>

any CCA's that attend and sign in. Registration is not required, but appreciated by calling David Fischer at 608-224-3716.

Directions to the plot tour from Madison are:

Take HWY 14 (Park Street) south to Second Oregon exit HWY 138 and CC, turn right onto CC, ¼ mile turn left onto HWY MM, 1 ½ miles turn right onto HWY A, 2 miles turn right onto Glenway Rd, almost ¾ mile turn left into Oregon Park. Parking will be available at Oregon town park and along drive to park. Plots are north of road.

Agronomy/Soils Field Day, August 29, 2007, Arlington

Carol J. Duffy, Department of Soil Science

Tours and Exhibits of Current Crops and Soils Research, Wednesday, August 29, 2007, Arlington Agricultural Research Station

Tours depart from the Public Events Facility at 8:30am, 10:30am, and 1:00pm. Lunch and refreshments available

Click to view the field day flyer >>> [AGRONOMY-FIELD-DAY1-07.pdf](#)

Another Perennial mustard found in Wisconsin

Mark Renz, UW-Madison Extension Weed Scientist

What if we could travel back in time to when the first invasions of Canada thistle occurred in Wisconsin? Could we have stopped it from spreading and becoming established and widespread? While we will never know the answer to this question, we have an opportunity to prevent the establishment of a new herbaceous perennial weed, perennial pepperweed (*Lepidium latifolium* L.). A small population of this plant was recently discovered along a roadside in Green Bay. This plant is very similar to Canada thistle as it can invade croplands and natural areas causing near monotypic stands. Perennial pepperweed has become a major problem in other states as it has invaded alfalfa fields, pastures, rights of ways, and natural areas causing significant economic and environmental damage.

Giant Ragweed Plot Tour

David W. Fischer, Dane County Crops and Soils Agent

Dane County UW-Extension will be hosting a giant ragweed plot tour at the Jerry Jensen farm in the town of Oregon Tuesday July 10th at 1 pm. Chris Boerboom, UW Extension Weed Scientist will be talking about the state of giant ragweed in Wisconsin as well as the current status of glyphosate resistant weeds in the Midwest. David Fischer, Dane County UWEX Crops and Soils Agent will be discussing current findings of giant ragweed control in both corn and soybeans. Plots will be available to view in both corn and soybeans to look at the current status of control options. One CEU in pest management has been requested for

Please view the link to download a factsheet that provides detailed information how to identify and manage this plant.

Click to view/print factsheet >>> [Perennial-pepperweed.pdf](#)

Remember we likely only have a few small infestations therefore it is important to rapidly respond to this pest and try to eradicate populations. Due to the perennial nature of this plant several years of monitoring will be required to claim victory, but this is feasible as long as populations are small. Fortunately The Brown County Invasive Species Team rapidly responded to this population, finding all nearby infestations and conducting management to eradicate populations.

If you think you have found an infestation of perennial pepperweed, please contact your local county extension agent and/or myself so that we can help coordinate management/eradication efforts.

Amended Ruling on Roundup Ready Alfalfa

Mark Renz, UW-Madison Extension Weed Scientist

The judge has amended several regulations from his final ruling on May 3rd 2007. While the amendments do not change the restrictions on planting Roundup Ready alfalfa, they clarify some restrictions to the harvesting of Roundup Ready alfalfa already planted before the injunction and cleaning of equipment. The amended rules are the following:

- The court will not require Roundup Ready hay to be stored in containers that are specifically labeled as long as the alfalfa remains on the farm of origin, but will still require that Roundup Ready alfalfa be properly labeled if it leaves the farm where it was grown.
- The initial ruling was to require farmers to submit protocols for cleaning equipment used to harvest Roundup Ready alfalfa. Due to the fact that the initial guidelines were written for planting alfalfa seed and not hay, APHIS convinced the judge to amend his decision and instead allow APHIS to disseminate a best practices guide on managing hay and seed to prevent contamination of the Roundup Ready gene. APHIS will mail these guides to Roundup Ready alfalfa growers by 7/13/07 in lieu of requiring the government's prior approval of each farmer's specific cleaning procedures.
- The judge extended the deadline for Monsanto and Forage Genetics to provide locations of Roundup Ready alfalfa fields as they are having difficulty in locating some fields, particularly in the Eastern United States.
- The last potential amendment to the ruling involves the public disclosure of the location of all Roundup Ready alfalfa seed and hay fields. Currently, involved parties are negotiating on exactly how this will occur. The

judge emphasized that process must be conducted by the government and provide specifics as to

- how farmers make inquiries
- what information the farmers have to provide
- what precise information the government disclose in return
- how quickly will the government provide the response

The details of the amendments can be found here:
Click for PDF >>> [RndReady-Court-June25.pdf](#)

WIN-PST Quick Guides, updated and expanded to more crops

Richard Proost, NPM Agronomist / Weed Specialist

Pest management plans written in compliance with the NRCS 595 Pest Management Standard are required to have an environmental risk analysis for all pesticides outlined in the plan. Currently, the NRCS Windows based Pesticide Screening Tool (WIN-PST) and the Wisconsin WIN-PST Quick Reference Guide are the only tools available for this purpose. Updated tables are now available on the IPCM website for conducting the risk analysis.

The previous reference guide was a popular tool for plan writers, but its focus was primarily on corn, soybean, alfalfa, and potatoes. The reference guide was of limited use to pest management plan writers serving clientele that grow specialty crops such as apples, cherries, cranberries and processing crops. This omission has been fixed with the development of three additional reference guides that cover apples, cherries and cranberries. The fourth table contains the hazard ratings for corn, soybean, alfalfa and potatoes; however it has been expanded to include the hazard ratings for commercial vegetable production.

Click each link to download the tables:

[595-WIN-PST-Pesticide07-fieldcrops.pdf](#)

[595-WIN-PST-Pesticide07-Apple.pdf](#)

[595-WIN-PST-Pesticide07-cherries.pdf](#)

[595-WIN-PST-Pesticide07-Cranberry.pdf](#)

Corn Blotch Leafminer Reports from Dane County

Sarah Schramm, Assoc. Research Specialist, UW-Madison Entomology Dept, Eileen Cullen, Extension Entomologist, UW-Madison Entomology Dept

An occurrence of Corn Blotch Leafminer (CBL) was reported June 26 in Christiana Township (Dane County) by David Fischer, UW-Extension Dane County Crops and Soils Agent. The feeding was found on V12-V15 corn on the older, lower leaves, while the youngest, uppermost three leaves of

each plant were found uninjured. Fischer also reported a large area of CBL feeding in the Black Earth area on June 28.



Corn with CBL feeding in field

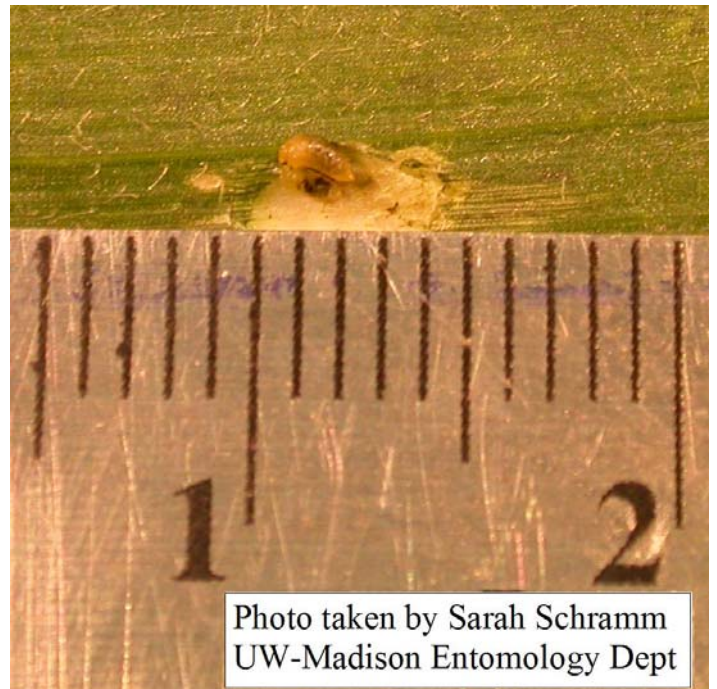
CBL is a tiny fly, about 1/4" long that lays its eggs on corn leaves. Similar to the Alfalfa Blotch Leafminer, the adults will make pinhole punctures in the leaves during feeding and oviposition. When the eggs hatch, the larvae tunnel (or "mine") into the corn leaves, eating out the mesophyll, or middle layer of cells in the leaves. This feeding creates a translucent "windowpane" in which the larvae can sometimes be seen.



**Adult CBL feeding and oviposition scars on corn leaf visible as pockmarks.
Larval feeding evidenced by "windowpane" strips.**



**Translucent window in corn leaf caused by CBL larval feeding in mesophyll layer.
Circled in red are two CBL larvae.**



CBL larvae exposed after leaf surface removed.

When mature, the larvae drop off the leaves and pupate in the soil. There are several generations in a year, each generation lasting from three to six weeks. CBL feeding is rarely known to cause economic levels of damage, and since damaging populations are rare, studies have not been conducted to evaluate insecticide efficacy against this insect feeding on corn. Even if leafminers are causing significant leaf feeding, it does not mean insecticides should be applied. Control efforts would need to be targeted to adult flies before they lay eggs, because the fly maggot is protected inside the leaf from insecticide contact. Targeting flies of overlapping

generations and expense of repeated application, coupled with absence of economic injury level data do not justify the expense of insecticide treatments. An outbreak of this pest occurred on corn in Nebraska in 1995. A hypothesis for that outbreak was that beneficial wasp numbers were reduced that year and CBL may have escaped biological control. At any rate, this article provides a diagnostic guide for leaf damage symptoms you may be seeing in the field at this time.

References:

Wright, Robert J. "Corn Blotch Leafminer." NebGuide. University of Nebraska-Lincoln Extension, Institute of Agriculture and Natural Resources. July 2006. <http://www.ianrpubs.unl.edu/epublic/live/q1635/build/q1635.pdf>

Ratcliffe, Susan; Gray, Michael; and Steffey, Kevin. "Corn Blotch Leaf Miner." University of Illinois Extension. 2004. http://ipm.uiuc.edu/fieldcrops/insects/corn_blotch_leaf_miner/index.html

Vegetable Crop Update - #6, July 5, 2007

Potato and Vegetable Crop Update

Alvin J. Bussan, UW-Madison, Department of Horticulture

Vegetable crops still look to be in good to great condition across much of the state. Most of Wisconsin's vegetable growing areas did receive some much need precipitation over the past 48 hours, but in a few locations the rain was torrential with 1 to 2" falling within 30 to 60 minutes. The last week provided some relief for the hot weather with a return of 70 to 80 degree weather and low temperatures into the 50's.

Potato. The potato crop remains in good to excellent shape across much of the state. Tubers continue to bulk as the crop appears to be 1 to 2 weeks ahead of normal. We have noticed some vines are beginning to lodge and we are losing canopy in some early maturing varieties. This has been particularly evident in Red Norland and standard Russet Norkotahs. In contrast, line selections of Russet Norkotah have healthy looking vines that have not lodged.

The big question is whether the decline in vine health is due to natural senescence of the crop, the onset of soil disease issues, or shortages in crop nutrient status. In the case of Red Norland, it appears to be the natural progression of the crop especially when inspecting the tubers. The decline in vine health of the standard Russet Norkotah is associated with initial symptoms of early dying potentially brought on by the heat and high ET rates from a week ago.

We have also sampled petioles in specific plots within our research area to get an idea of the current nutrient status of crop. Current petiole nitrate levels collected by Jeff Breuer at the Hancock Agricultural Research Station showed petiole nitrate levels of 1.84, 2.31, and 1.91 on a dry weight basis for Atlantic, Dark Red Norland, and Russet Burbank last week.

These levels are adequate for Norland and Russet Burbank, but a bit low for Atlantic and supplemental nitrogen fertilizer is warranted on this variety. Even though we have not had leaching rainfall events, the rapid growth and progression of the crop may have promoted rapid nutrient use. Maintaining tuber bulking until late August or early September in order to maximize crop yield and quality will require maintenance of petiole nitrates at adequate levels.

Hancock received 1" of rain on Tuesday which is not enough to leach nutrients, primarily nitrates from the soil. Rainfall was spotty and some areas may have received greater precipitation amounts which could have leached some nutrients. If you feel nitrogen was leached due to precipitation supplemental nitrogen should be applied soon after rain.

Cooler weather, especially cool night time conditions should have promoted good tuber bulking over the last week. Continue to track ET and monitor soil moisture conditions to ensure adequate soil moisture and promote good tuber bulking. As we move into late tuber bulking, drought stress can cause reductions in specific gravity or other quality attributes, but is less likely to limit yield.

Processing Vegetables. Pea harvest has been completed for the early crop and well under way for late maturing crops. Sweet corn has been planted across the state. Snap bean and cucumber planting continues and should be wrapping up within the next 15 to 25 days depending on location in the state and the crop.

Heavy rains in south central Wisconsin may cause some issues in processing vegetable fields. Well established fields should be fine, but newly planted snap bean, cucumber, and other summer annual crops may have been vulnerable washing and or soil crusting. Inspect fields to determine if areas were washed leading to lost stand or burial of plants by deposited soil. In addition, track stands of newly planted fields to determine if crop emergence is being inhibited by soil crusting.

Vegetable Insect Update

Russell L. Groves, Vegetable Entomologist, Applied Insect Ecologist, UW-Madison, Department of Entomology

Potatoes – Even with the passage of a recent cold front last week (which produced little precipitation in central and southern Wisconsin), the weather conditions continue to adversely influence pest populations in potato. Populations of adult potato leafhopper continue to advance in the state and, if left untreated, can cause significant damage in the plant canopy termed 'hopperburn'. In some fields, immature (nymphs) leafhopper populations are developing where earlier insecticide applications were used to target the adult stages. The immatures are often more difficult to control as they feed throughout the plant canopy on the undersurface of leaves. Established action thresholds for the control of immature leafhoppers occur when the population exceeds 2.5 individuals per 25 sweeps. Here again, effective control of these lifestages can be obtained with several registered synthetic pyrethroids at low application rates. Increased application volumes (e.g. 25 – 30 gpa) may be necessary to

effectively penetrate the closed canopy present in many potato fields and reach the areas on the plant where immature stages of the leafhopper are present.

Further influenced by the weather, populations of Colorado potato beetle (CPB) appear to be 10-14 days ahead of their 'normal' schedule. At both the Arlington and Hancock Agricultural Research Stations, we have recently observed the emergence of summer adult beetles. These beetles will begin to feed aggressively in the coming weeks and will initiate the 2nd generation of beetles once they initiate egg laying. It will be important for growers to plan for the control of damaging populations of the 2nd generation CPB in the context of insecticide resistance management. If neonicotinoid compounds have been used at-planting or as foliar sprays against the 1st generation of CPB, then effective CPB insecticide options need to be selected carefully for the control of the 2nd generation. A well-timed application of Indoxacarb (Avaunt[®]) targeting the emergence of summer adults may be a first step towards the control of the 2nd generation CPB population. To increase the effectiveness of this control option, a synergist (piperonyl butoxide) may be added to the tank mix at suggested rate of 0.25 lb a.i. / acre.

Cucurbits – Also resulting from our continued warm weather, a generation (3rd) of seed corn maggot has recently emerged and adult female flies will be looking for suitable hosts on which to lay eggs (oviposit). Seed corn maggot has a broad host range and will oviposit and feed on several economically important crop species including recently planted (or transplanted) cucumber, melon, or squash crops. In general, a healthy and vigorously growing plant will withstand some pressure by this insect and can out-grow most damage inflicted by the feeding maggots. In coarse soils, pressure from this insect is often less compared to heavier soils which contain a higher proportion of clay. Further, incorporation of organic matter or green manures at, or prior to the time of planting should be avoided as the volatile emissions from this amendment will attract the adult flies.

Increases in populations of cucumber beetles (striped and spotted) can also be expected with the initiation of flowering in several cucurbit crops. The floral structures in these plants emit a volatile compound known as cucurbitacin which is highly attractive to the adult beetle(s) as both a good food source and also as an oviposition site. Feeding damage by the immature cucumber beetle larvae can stunt or kill developing seedlings or transplants under high pest pressure. Adult beetles will feed on the foliage and the developing fruit, but are probably most damaging as a vector of the bacterium *Erwinia tracheiphila*, which causes bacterial wilt in several vine crop species. In less than a week after an infectious beetle has fed, a wound made by a bacterially-infected cucumber beetle will result in dull green patches on the damaged leaf. Leaves and petioles will then begin to wilt, and the disease progresses through lateral shoots and eventually affects the entire plant. Cucumbers and muskmelons are affected most severely. Controlling the disease appears to be most effective through direct control of the insect vector (carrier), in this case the cucumber beetles. Options for control can be found in Wisconsin's Commercial Vegetable Production Guide (UW Extension Bulletin

A3422). Synthetic pyrethroids (e.g. Capture[®] 2EC, Discipline[®] 2EC, Decis[®], Pounce[®], Ambush[®], and Asana XL[®]), carbamates (Sevin[®], Lannate[®] LV, and Vydate[®]), and a neonicotinoid (AdmirePro[®]) applied at-planting, generally constitute the range of registered products for the control of problematic beetles.

Vegetable Disease Update

W. R. Stevenson, Department of Plant Pathology, UW-Madison

Potato: The growing season is rolling along all too quickly. A few growers are already talking about vine killing and early harvest as tubers are bulking rapidly on some of the early season cultivars. Disease pressure is very light as dry weather has predominated in the state over the past few weeks. We are seeing the first early blight symptoms on the lowest (oldest) leaves in some fields and growers are now treating their crops with fungicide for control of early blight. We've reached the treatment threshold of 300 P-Days in most areas on the earliest emerging fields. We generally look at mid- to late- July as the critical time for control of early blight and therefore concentrate our most effective sprays during this time. Using a base program each week with one or more of the broad spectrum materials such as maneb, mancozeb, metiram or chlorothalonil is essential. Then adding a strobilurin on weeks 2 (about now) and 6 and adding boscalid on week 4 has provided excellent control of early blight in our trials at Hancock. This gets the most effective materials into the program in a timely manner when they are likely to have the most beneficial effect on control.

During the past week, we surpassed the late blight threshold of 18 severity values in the Plover area. Although we haven't seen late blight in our state since 2002, growers should refresh their memories of the key symptoms and make sure that their employees are able to identify symptoms of late blight. Many times it's the person driving the sprayer or cultivator who sees something that "isn't quite right" and this leads to the early detection and control of this troublesome disease. At this point in the growing season, I'm not aware of any late blight in our state or neighboring states. Let's hope that it stays that way. Stay tuned.

P-Day and Severity Value Accumulations are listed in the table next page (page 100). I've highlighted those P-Day and Severity Value totals that are above potato treatment thresholds.

Visit our web site at

<http://www.plantpath.wisc.edu/wivegdis/index.htm>

where you can find updated P-Day and Severity Value information throughout the growing season.

Peas and Snap Beans: Peas harvest is moving along rapidly with few disease problems to contend with. Lower temperatures as plants approach maturity help to reduce losses to root rot, but this year disease pressure remains low. Snap bean planting is continuing and it won't be long before the crop is in bloom and soon thereafter ready for harvest. Given the prevailing dry conditions, white mold is a minimal threat at this time. However, over-irrigation during the bloom stage may provide an opportunity for the white mold

Current P-Day (Early Blight) and Severity Value (Late Blight) Accumulations

	Planted:	50% EMERGENCE	P-Days	Severity Values	Calculation Date
Antigo area	Early - May 8	May 31	231	13	7/02/07
	Mid - May 21	June 10	156	6	7/02/07
	Late - June 1	June 18	98	6	7/02/07
Grand Marsh area	Early - Apr 16	May 12	361	14	7/02/07
	Mid - Apr 20	May 18	328	14	7/02/07
	Late - Apr 27	May 28	263	14	7/02/07
Hancock area	Early - Apr 16	May 8	375	13	7/02/07
	Mid - Apr 24	May 14	335	13	7/02/07
	Late - May 2	May 23	282	13	7/02/07
Plover area	Early - Apr 14	May 8	388	19	7/02/07
	Mid - Apr 20	May 15	340	19	7/02/07
	Late - May 2	May 22	295	19	7/02/07
Spooner	Mid - May 4	May 30	254	2	7/02/07

pathogen. Thus careful irrigation to meet the crop needs, but not in excess, can go a long way toward improving management of white mold. Later in the season as the risk for white mold increases, fungicide treatment during the bloom stage is very helpful in reducing losses to this disease. The biological control, Contans, provides an additional tool for white mold control when soil incorporated before the crop is planted.

We normally see intense storms moving through the state during the month of July and this often triggers outbreaks of bacterial brown spot and occasionally the appearance of Pythium blight (white cottony wads of fungal mycelium in the leaf axils leading to tissue decay) on plants splashed with mud containing Pythium inoculum. Copper sprays may be helpful for control of both diseases if applied immediately after a storm event.

Other Vegetable Crops:

Tomatoes – Symptoms of Septoria leaf spot continue to appear on older tomato foliage as circular lesions with gray centers and dark brown borders. This is particularly true in situations where there is minimal rotation and overhead irrigation. Rainfall and irrigation will spread the pathogen so protective fungicide sprays are needed now for control if first symptoms are present.

Cucumbers – There are now reports of downy mildew on cucumbers in eastern Michigan, Ontario and Ohio. Michigan State is now recommending fungicide sprays on cucurbits for downy mildew control. See their web site at <http://www.ipm.msu.edu/cat07veg/v06-27-07.htm#4> for the most current update. The threat of downy mildew is still hundreds of miles away, but it does serve as a warning to be vigilant and to scout fields for symptoms of downy mildew. Symptoms include diffuse somewhat angular yellow leaf

lesions with a purplish fuzzy growth on the undersides of leaf lesions. The disease moves quickly during cool and wet conditions so if you observe questionable symptoms, get a sample in to us for diagnosis.

