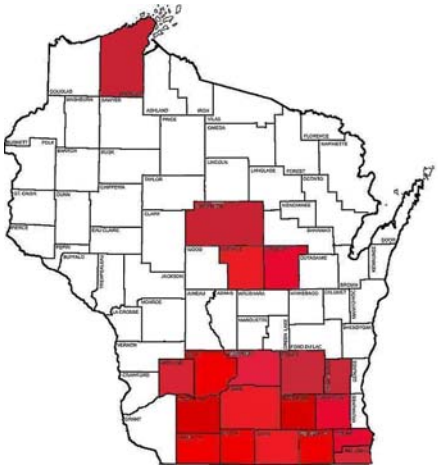
Vegetable Crop Update

September 16, 2009

Vegetable Disease Update – A.J. Gevens, Department of Plant Pathology, UW-Madison, Tel. No. 608-890-3072, Email: gevens@wisc.edu

Tomatoes

Tomato late blight has now been confirmed in 19 WI counties. Reports have come from home gardens, small farms, and larger farms (both organic and conventional). In all cases, symptoms have included large water-soaked, dark brown lesions with sporulation on foliage. Lesions quickly expanded to blight entire leaflets, stems, and fruits. Late blight inoculum has been widely dispersed aerially in WI. This past week we have had very warm, dry weather conditions that have greatly reduced the activity of the late blight pathogen. In some tomato fields that were greatly impacted by late blight, we are now seeing some new, green, healthy upper canopy growth. Although it looks like the plant has overcome the disease, the pathogen is likely still present in the plant tissue and, under ideal weather conditions (cool, wet), the disease could again flare up. The new growth should continue to be protected with fungicides if you are trying to get several more weeks out of the plants. Please contact your county agent, the plant disease diagnostic clinic, or myself with concerns or suspicious samples.



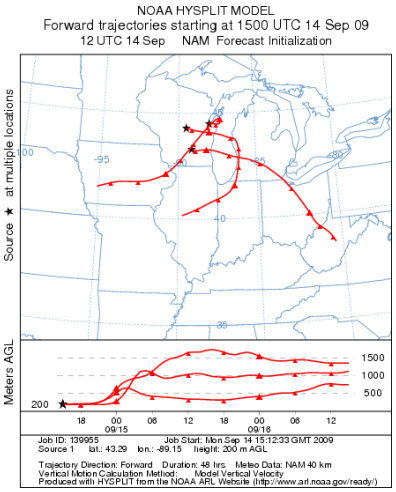
Will the late blight pathogen overwinter?

Phytophthora infestans US#14 is an A2 mating type. Currently, WI does not have the mating pair (A1) that is needed in order for persistent, cold-tolerant, overwintering spores, or oospores to be formed. In this scenario, the late blight pathogen needs to have living plant material available to it to remain viable. By destroying infected plants and plant parts (tomato fruit), we are eliminating the pathogen. The hearty winter frost will also serve to kill infected plants and the late blight pathogen. So, based on our current WI disease scenario, it is unlikely that late blight will overwinter in our soil.

Cucurbits
Downy mildew has been confirmed in five WI counties, Columbia, Dane, Portage, Waushara, and Brown. To date, cucumbers have been most severely impacted with downy mildew. It is important to keep cucurbit foliage protected with effective fungicides. Effective fungicides have been listed in previous newsletters and additional information on fungicide labeling and use can be found in the Wisconsin Vegetable Production Guide A3422.

Early detection and management of this disease is critical. The website for further information on symptoms and spread is provided below along with an image of the current disease forecast. If you suspect Downy mildew, please contact your county agent, me, or submit a sample to the diagnostic clinic in Madison for confirmation.

http://www.ces.ncsu.edu/depts/pp/cucurbit/forecasts/c090914.php



Potatoes
To date, we have four confirmed reports of late blight on potatoes (Dane, Columbia, Portage, and Marathon). This late blight strain has been identified as US#14 which is an A2 mating type, resistant to metalaxyl, and can be highly virulent on potato.

At this time most commercial potato fields have received at least one application of defoliant toward vine kill, and in some areas harvest is well underway. When preparing to harvest a field in which late blight has been identified or within the vicinity of an infected field, it is important to be certain that vines are completely killed prior to digging. This will ensure that there is not an active late blight infection occurring on any green foliage. This active late blight can continue to produce spores which put tubers at more immediate risk for contamination at harvest. It may also be helpful to make an additional fungicide application for late blight after vine kill, if you have a high risk field.

After harvest, tubers should be dry when placed into storage and conditions should be managed so as to maintain dry tubers. Any moisture on tubers in storage can cause the late blight pathogen to spread in the pile, if the pathogen is present.

The use of post-harvest fungicide applications can be of benefit if late blight has been confirmed in a field. Studies with 'Russet Burbank' potatoes have shown that phosphite provided consistent disease control of late blight and pink rot when applied several hours after inoculation.

Do not produce cull piles of late blight infected tubers. Such piles are a significant source of spores and centers of large piles may not experience freezing/killing winter temperatures which serve to kill tuber tissue and the pathogen. Culls should be spread on fields not intended for potato production the following year in time that they will freeze completely and be destroyed during the winter. Potato culls can also be destroyed in some other way such as chopping, burial, burning or feeding to livestock.

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

	Planted:	50% EMERGENCE	P-Days	Severity Values	Calculation Date
Antigo area	Early - May 3	May 30	709	80	Sep 14
	Mid - May 15	June 8	699	69	Sep 14
	Late – May 30	June 20	614	62	Sep 14
Grand Marsh area	Early - Apr 15	May 18	883	104	Sep 14
	Late – Apr 22	May 25	833	104	Sep 14
Hancock area	Early - Apr 17	May 16	879	61	Sep 14
	Mid - Apr 23	May 21	856	61	Sep 14
	Late - May 8	May 28	807	54	Sep 14
Plover area	Early - Apr 18	May 22	856	98	Sep 14
	Mid – May 5	May 31	792	91	Sep 14
	Late - May 30	June 14	706	83	Sep 14

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. Additionally, this website has a link to an updated information and fungicide page for Late blight on potatoes and tomatoes. Over the next week or two we will be removing the weather stations from fields and will end our P-Day and Severity Value accumulation reports from the newsletter and website. Many thank to our grower cooperators for hosting the weather equipment in their fields.