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Rhizoctonia in potato
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Calendar of Events

July 13 – UW-Rhineland Ag Research Station, Potato Tour, 10AM-2PM
July 24 – UW-Hancock Ag Research Station, Field Day, 12:30-4:00PM
August 2 – UW-Langlade County Ag Res Station Field Day Antigo, 1:00PM

Vegetable Crop Update – A.J. Bussan, Department of Horticulture, UW-Madison, Tel. No. 608-225-6842, email: ajbussan@wisc.edu

Heavy rains over a week ago in some vegetable growing regions posed management challenges early last week. However, sunshine and dry conditions should have allowed for improved field working conditions.

Potatoes. In talking with multiple farmers, it sounds like nearly all of the potatoes in Central and Southern Wisconsin have been planted outside of those targeted for production on muck soils. Planting is underway in Northern parts of Wisconsin as well.

Standing water in fields can cause real challenge for newly planted potatoes. The standing water can limit soil oxygen and promote plant pathogenic bacteria or fungi. This can lead to seed piece decay. Inspect wet areas of fields in emerged and newly planted fields to make sure the seed pieces are still in good shape and have not begun to break down.

Crop has emerged in many regions. This should have triggered first application of side dress fertilizer and hilling of potatoes. Some of the heavy rains from last week did cause erosion of hills on slopes. One case was reported where the erosion resulted in movement of seed pieces out of the hills. Any hills washed or eroded by rain should be repaired.

Fresh Market. Southern Wisconsin will pass the frost free date on Tuesday this week, with Northern Wisconsin moving beyond the threat of frost in two weeks. Tomato, pepper, melon and other warm season crops can be transplanted at this point in Southern parts of the state. Transplants should be cold treated prior to transplanting to allow for acclimation to variable temperatures and intense sunlight as plants are moved from the greenhouse to the field.

Soil temperatures are also warm enough to plant warm season crops such as squash, cucumber, and pumpkin. Early planting of cucumber and summer squash could promote earlier harvest for these crops. Winter squash and pumpkin should be planted by June 1 to promote harvest of 90-100 day crops by early September.

Vegetable Disease Update – Amanda J. Gevens, Vegetable Plant Pathologist, UW-Madison, Dept. of Plant Pathology, 608-890-3072 (office), Email: gevens@wisc.edu.

Vegetable Pathology Webpage: <http://www.plantpath.wisc.edu/wivegdis/>

Potatoes: Rhizoctonia stem canker: Rhizoctonia stem canker has been noted in some fields. This disease is caused by the fungus *Rhizoctonia solani*, also responsible for tuber (black scurf) and stolon disease when soils are cool (<45°F) and wet. Symptoms include dry, sunken, red-brown lesions on stolons, roots, and stems. As lesions mature, they usually darken in color and are rough in texture. Typically, the period of greatest threat of Rhizoctonia is right after planting when sporadic spring weather is cold and wet. When and where cold soils persist, the risk of Rhizoctonia is prolonged and may result in poor emergence or stand, reduced yield, and misshaped tubers (as a result of late season problems with starch movement in the plant). While Rhizoctonia can affect sprouts and stolons, it does not cause seed decay. Rhizoctonia can be seed or soilborne.

In furrow treatments which are effective in controlling Rhizoctonia on potato include Quadris (azoxystrobin), and Moncut (flutolanil). Effective seed treatments include MonCoat MZ (flutolanil + mancozeb), Maxim 4FS (fludioxonil), Maxim Potato Seed Protectant (fludioxonil), Maxim MZ (fludioxonil + mancozeb), Nubark Maxim (fludioxonil), and Tops MZ (thiophanate methyl + mancozeb). Prolonged periods of cold and wet conditions in fields with high Rhizoctonia pressure may see reduced control by fungicides listed above. More information fungicides for seed and in-furrow treatment is in the table below.

Registered fungicides for potato seed in Wisconsin (based on labels on April 1, 2012)

Fungicide	Active ingredient	Seed treatment	In-furrow treatment	Diseases listed on label
Blocker	PCNB	No	Yes	black scurf, stem canker
Curzate 60DF	cymoxanil	Yes	No	late blight
Dithane F45, M45, DF	mancozeb	Yes	No	late blight, rhizoctonia, silver scurf, fusarium, common scab
Dynasty	axoystrobin	Yes	No	rhizoctonia, silver scurf, black dot
Evolve Potato Seed Piece Trt	thiophanate methyl, mancozeb, cymoxanil	Yes	No	late blight, fusarium, rhizoctonia
Fungi-Phite	potassium phosphite	Yes	No	late blight, silver scurf
Headline SC	pyraclostrobin	No	Yes	rhizoctonia
Koverall	mancozeb	Yes	No	fusarium, silver scurf, rhizoctonia, common scab, late blight

Mancozeb 6% Firbark	mancozeb	Yes	No	late blight, rhizoctonia, fusarium
Manzate Pro-Stick	mancozeb	Yes	No	fusarium, common scab
Maxim 4FS/Maxim Potato Seed Trt	fludioxonil	Yes	No	rhizoctonia, fusarium, silver scurf, common scab
Maxim PSP	fludioxonil	Yes	No	rhizoctonia, fusarium, silver scurf
Maxim MZ	fludioxonil+mancozeb	Yes	No	rhizoctonia, fusarium, silver scurf
Metastar 2E AG	metalaxyl	No	Yes	pythium, pink rot
Moncoat MZ	flutolanil+mancozeb	Yes	No	late blight, rhizoctonia, fusarium, silver scurf
Moncut 70DF	flutolanil	No	Yes	black scurf, rhizoctonia
Omega 500F	fluazinam	No	Yes	powdery scab
Oxidate	hydrogen dioxide	Yes	No	fusarium
Penncozeb 80WP/75DF/4FL	mancozeb	Yes	No	late blight, rhizoctonia, fusarium, common scab
Phostrol	phosphorous acid	No	Yes	pythium, pink rot
Polyram 80DF	metiram	Yes	No	late blight
Presidio	fluopicolide	No	Yes	late blight, pink rot
Quadris	azoxystrobin	No	Yes	black dot, black scurf, silver scurf, rhizoctonia
Quadris Ridomil Gold	azoxystrobin, mefenoxam	No	Yes	co-pack for rhizoctonia, pythium, black dot, pink rot, leak
Ridomil Gold SL	mefenoxam	No	Yes	pink rot, pythium
Ranman	cyazofamid	No	Yes	pink rot
Serenade Soil	<i>Bacillus subtilis</i> strain QST713	No	Yes	pythium, rhizoctonia, fusarium, phytophthora
Tops MZ	mancozeb, thiophanate methyl	Yes	No	fusarium, rhizoctonia, silver scurf, late blight
Tops MZ Gaucho	mancozeb, thiophanate methyl, imidacloprid (insecticide)	Yes	No	fusarium, rhizoctonia, silver scurf, late blight
Ultra Flourish	mefenoxam	No	Yes	pythium, pink rot

Typically, seed treatments are applied right after cutting with a powder/dust or liquid formulation. Be careful to avoid clumping or thick coating of treatment as you can limit oxygen to seed piece and promote poor suberization or soft rot. Good suberization is a critical component in managing disease.

For further information on any fungicides that may be mentioned in this newsletter or that you are interested in for 2012, please see the updated 2012 Commercial Vegetable Production in Wisconsin Guide A3422. An online pdf can be found at the link below or a hard copy can be ordered through the UWEX Learning Store.

<http://learningstore.uwex.edu/assets/pdfs/A3422.PDF>

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Your assistance is needed in diagnosing potato growth issue

A few growers reported sporadic poor potato emergence and growth in the 2011 season, and we would like to investigate this situation further should it happen again in 2012. This unusual growth pattern, as characterized in the photos below, was reported on red, white, yellow, purple and Russet type potatoes over a geographic range of at least 100 miles. There were few common denominators among affected fields in terms of nutrient management, herbicide program (symptoms were observed even in large sprayer skips and organic production), other pesticide use, past field history, or seed source.

Symptoms started right at the seed piece, which often remained firm, but with abnormal initial stem growth in a twisted or even circular pattern. Stems were very brittle and thickened, and often cracked about 1 inch below the soil surface. Some stems appeared “burned off” just below the soil surface, with new stems initiated at this point that appeared healthy. In some cases, few stolons existed and those that did were short and deformed, with irregular hooks and tubers.

Irregular patterns in the field were observed, where a healthy plant was growing within a foot of a dramatically affected plant. Some rows seemed much worse than others, but there was no regular pattern of affected rows (for example, it wasn't always the seventh row of an eight row planter).

Given the complexity of this situation, we would like to sample soil and conduct a bioassay from a broad range of locations and production scenarios should this happen again in 2012.

Therefore, we would like to collect a bucket of soil from areas with the symptomology described above. **If you observe such symptoms this spring and are willing to allow us to collect a soil sample, please contact Rich Rittmeyer with the weed science program at rarittme@wisc.edu or 608-635-2026.** Your cooperation will be greatly appreciated.

