



Vegetable Crop Update

A newsletter for commercial potato and vegetable growers prepared by the University of Wisconsin-Madison vegetable research and extension specialists

No. 4 – April 16, 2012

In This Issue

Vegetable crop update
Early season soilborne diseases of vegetables
Updates from WI Seed Certification
Dual Magnum herbicide update

Calendar of Events

May 17 – UW-Hancock Storage Research Updates, 10AM-3:30PM
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.

Mild conditions have continued over the past 2 weeks. While we have had some minor frosts, soil temperatures continue to remain at temperatures conducive for planting spring crops such as onion, potato, carrot, peas, and others. Planting should be based on soil temperatures and tolerance of the crop to survive frost events. Realize frost free date is still 4 to 6 weeks away depending on what part of Wisconsin you farm. With that said, the value in early vegetative growth could be substantial. We also know conditions can change making field work difficult if it starts to rain so taking advantage of good planting conditions is also avoiding risk.

Potatoes: Most of the potatoes in Central Wisconsin have been planted, while planting in Northern regions is underway. This is quite a reversal from 2011 where planting had barely started by April 16th. Some fields have been planted for over 2 weeks with a handful planted for nearly 4 weeks already. Earliest planted fields have begun to emerge requiring initial side-dress fertilizer applications and hilling.

The value of early planted potatoes is increased vegetative growth prior to stolon formation and tuber initiation. Stolon and tuber development are dependent on day length and typically will not initiate until May at Wisconsin latitudes. With continuation of current growing conditions, crops could emerge and be near 50% canopy closure as compared to 15 to 20% canopy closure under even best growing seasons. The early emerged crops are also vulnerable to damage from frost. While there is minimum risk in the immediate future, temperatures below 28°F are still possible. These temperatures can cause damage to emerged leaves and stems.

Fresh Market: Root crops should be planted at this time. Onions planted from seed and transplants should be in the ground as they can tolerate the cold temperatures that are still possible this time of year. The value to planting onions early is increased time period for vegetative growth prior to daylengths that trigger bulbing. Onions grown in Wisconsin typically begin bulbing when daylengths begin to shorten. This is typically June 22 to July 1. Once bulbing begins, leaf production ceases, limiting the potential size of the onion. Onions 4” in

diameter generate higher price, but requires 14 to 15 leaves. Onions seed must be planted by April 10 with warm spring temperatures to grow to 4" in diameter. Onion transplants must be planted by April 25 to reach 4" diameter.

Other root crops such as carrot, radish, turnip, etc... can also be planted at this time. While growing season length is not as critical for reaching key market classes, there may be potential for early harvest. This would also be true for spinach, leafy greens, and cole crops.

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/>

Early season soilborne diseases of vegetables: Over this past week, I have received several vegetable disease samples and calls on damping-off. Early season damping-off and seedling failures are often caused by one or more soilborne pathogens that are promoted by cool, moist soils. Slow or delayed growth of early planted seeds or transplants contributes to damping-off and seedling failures. Fungi and fungus-like pathogens that may be involved in disease include *Pythium* species (fungus-like 'water mold'), *Rhizoctonia* (fungus), and *Fusarium* (fungus). Each of these pathogens can overwinter in the soil or in infected plant debris and are typically 'weaker' pathogens that require a stressed plant to thrive. This group of pathogens can continue to be problematic even as plants mature; typical symptoms are root and crown rots.

Symptoms of damping off include soft, brown roots, collapse of lower stem or stem below soil line, and eventually plant wilting and death. The seeds themselves can be infected as soon as moisture enters the seed coat or as radicle emerges, resulting in pre-emergence damping-off which may be mistaken as poor germination or seed viability. Damping-off can be mistaken for plant injury caused by insect feeding, over-fertilization, high levels of soluble salts, extreme temperatures, excessive or insufficient soil moisture, or chemical toxicity in air or soil.

Management of damping-off requires several approaches including: 1) purchase of disease free plants and seeds, 2) fungicide seed treatments, 3) plant into well-drained soil, 4) avoid setting transplants too deeply in the soil (avoid crowns below soil line), 5) avoid overcrowding plants to promote good airflow, 6) practice good crop rotation (rotate by plant families on a 2-3 year schedule), and 7) fungicides at-plant or in banded application. Once soil temperatures warm up above approximately 50°F, incidence of pre- and post-emergence damping off is drastically reduced.



Snap beans showing damping off symptoms due to presence of *Pythium*, *Rhizoctonia*, and *Fusarium* at roots. Note variability in symptom expression. Photo taken at Hancock Ag Research Station in 2011 (Gevens disease plot).

Wisconsin fungicide information can be found in the University of Wisconsin Extension Publication entitled “Commercial Vegetable Production in Wisconsin,” publication number A3422 (<http://learningstore.uwex.edu/assets/pdfs/A3422.PDF>) and additional information is provided in weekly newsletters during the growing season (provided at the vegetable pathology website: <http://www.plantpath.wisc.edu/wivegdis/>).

Potato Crop Update from the Wisconsin Seed Potato Certification Program – Amy Charkowski, Administrative Director of Certification Program, Department of Plant Pathology, UW-Madison, Tel. No. 608-262-9711, email: amyc@plantpath.wisc.edu

Submitted by Amy Charkowski. Conditions are good on the State Farm. Although we struggled with warm weather in March, after a week of slow cooling, the stored potatoes are back down to 44 degrees. The last week was spent planting tissue culture plantlets into pots in the greenhouses for the State Farm minituber crop. The hydroponic system was planted in February and is now producing minitubers, which will be planted into the field in 2013. Potato farmers who wish to visit the greenhouses to observe how these systems work are encouraged to contact us to arrange a tour.

The State Farm staff also spent last week preparing for seed potato farmers to pick up bulk seed orders. The potatoes are in good condition, with no breakdown and few sprout peepers. The staff looks forward to completing shipments so that they can focus on planting. The soil conditions are very dry, so we are hoping for rain in the coming weeks. We anticipate planting on or shortly after May 4.

The UW-Madison Biotron, which houses the seed potato program tissue culture laboratory will be undergoing renovations in 2012. Despite the disruption this will cause, the staff is looking forward to working in an upgraded facility.

After several months of review, UW-Madison has given us permission to hire a new director/seed potato inspector for the seed potato program. I anticipate that interviews will occur in mid-May and hope that we will be able to make a hiring decision by June. All interested and qualified people are encouraged to apply. The deadline for acceptance of applications has been extended until the end of April and details on the job description can be found here: http://www.ohr.wisc.edu/pvl/pv_072621.html

From Ruth Genger's work: We have acquired a large collection of virus-free tissue culture plantlets of specialty varieties, including round and oblong reds, yellows, blues/purples, and fingerlings that are yellow, pink, or red. If seed or commercial potato farmers would like to trial small amounts of these varieties in 2013, please contact us by June 1 so that we can grow minitubers for trials in Fall 2012.

Jed Colquhoun, Associate Professor of Weed Science, UW-Madison, Department of Horticulture, 333 Horticulture, Phone: 608-890-0980, E-mail: colquhoun@wisc.edu.

Wisconsin Dual Magnum Special Local Needs registration approved for 2012 growing season: The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP)

has approved a Special Local Needs (24c) registration for Dual Magnum herbicide. The label is valid in Wisconsin only through December 31, 2012. Twenty vegetable crops are included on the label, such as carrot, garden beet, dry bulb onion, and transplanted cabbage. The label can be accessed in two ways: on the DATCP special registrations website (http://datcp.wi.gov/Plants/Pesticides/Special_Registrations/index.aspx) or on Syngenta's site (farmassist.com) under "Products" and then "Indemnified labels."