

POTATO UPDATE

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Hermiston Agricultural Research and Extension Center

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Welcome to the 2015 Potato Update

Calendar of upcoming events

- June 8-10** Integrated Pest Management Training. Hermiston, OR. Few spots available.
June 24-26 Integrated Pest Management Training. Colfax, WA. Class full.
June 24 OSU-HAREC Potato Field Day. Field Day starts at 8:30 AM. Hermiston, OR.
June 25 WSU Potato Field Day. Othello, WA.

Publication of *the Potato Update* begins late April, with the usual increase of frequency to weekly issues beginning in May. Our traps in the lower Columbia Basin will be set the week of April 23. Watch for our faithful OSU-HAREC truck around.

News!!!

Welcome to our new Extension Plant Pathologist, Dr. Ken Frost. Ken comes from Wisconsin and he has an impressive background in ecology and epidemiology of plant disease, insect vectored plant pathogens, ecological modeling, disease diagnostics, and integrated pest management. Make sure to stop by at HAREC to say hi and connect with Ken. More information about Ken can be found at <http://bpp.oregonstate.edu/frost>. Phil Hamm, retired Plant Pathologist, will continue to direct the HAREC station.

Early Season Observations

With winter average temperature several degrees warmer than normal, several insects are “waking up” early than usual in the area. Keep an eye on Colorado potato beetles, aphids and caterpillars. Several insect species are directly affected by winter temperatures, as a result, a mild winter could mean an increased insect survival rate.

Also, due to the warmer winter, more volunteers and cull pile potatoes may have survived the winter. It is important to keep an eye on volunteer potatoes since they have the potential to act as primary sources of disease inoculum moving into the spring. Given the late season detection of late blight in the Columbia Basin in 2014, vigilance is especially important; plant disease-free seed, destroy cull potatoes prior to new crop emergence, and control volunteers since *Phytophthora infestans*, the causal agent of late blight, can overwinter in potatoes intended to be planted as seed, cull potatoes, or in late blight-infected volunteer potatoes from previous field seasons.

Request for Colorado potato beetle samples

Understanding the dispersal of Colorado potato beetles (CPBs), including how often populations exchange migrants and over what distance this occurs, can help inform pest managers, especially in regions with intense potato production, where **one grower's management decisions affect pest abundance across the region**. While one approach to learn more about CPB dispersal could be to track individual beetles and find out where they go throughout the season, another approach involves inferring general patterns of dispersal using genetics. **To accomplish this goal we need your help!!!!**



Using DNA from populations of CPBs from different potato fields, we intend to compare genetic similarities/differences. Once we get an idea of how much genetic variation exists within and among beetle populations from different potato fields, we will be able to infer how often beetles migrate to other fields. **Thus, we are requesting help from growers in obtaining samples of CPBs (20 beetles per farm) from throughout the Columbia River Valley in Oregon and Washington.**

Any growers and/or field men who are willing to sample beetles from their farm please contact me at 541-567-8321 or silvia.rondon@oregonstate.edu, and I will send you simple instructions for collecting and materials for shipping. This is an ongoing collaboration between Oregon State University and University of Wisconsin Michael Crossley, Sean Schoville. By the way, Michael and my crew will start our survey the week of April 20. Stay tuned.....*Silvia Rondon, Extension Entomologist Specialist*

Request for Lygus samples

In order to improve our understanding of the epidemiology of diseases in the region, the Irrigated Agricultural Entomology Program and Plant Pathology program at HAREC will examine the ability of



Lygus bugs to transmit pathogens to potato. Little is known about the ability of Lygus as a vector of diseases such as BLTVA or PVY in the area. In the summer 2014, Lygus bug, was found in high abundance in association with potato areas with high BLTVA incidence. It was noted by several growers that the population sizes of Lygus were high and beet leafhopper was not observed in the crop. Beet leafhopper is a known vector of BLTVA.

A preliminary transmission assay demonstrated that BLTVA was transmitted from a Lygus bug to a healthy potato plant but we are planning on expanding the project. Like with the Colorado potato beetle, any growers and/or field men who are willing to sample Lygus from their farm please contact Silvia

at 541-567-8321 or silvia.rondon@oregonstate.edu, and she will send you instructions*Ken Frost and Silvia Rondon, OSU Extension*

More requests

Request for Stubby Root Nematode samples

Any growers and/or field men who know of fields that have stubby root nematode and are willing to provide soil samples from those fields please contact me at 541-567-8321 or kenneth.frost@oregonstate.edu). I will arrange a time to sample soil in those fields or provide simple instructions for collecting soil. This sampling is being done as part of a collaborative effort with Guiping Yan of North Dakota State University, who is trying to develop molecular methodologies for rapid detection, accurate identification, and quantification of multiple nematode species from soil. A rapid accurate diagnostic tool that detects stubby root nematode, the vector of *Tobacco rattle virus* (TRV), will improve our ability to study the epidemiology of TRV and develop management strategies for its control. This project represents a small part of the larger specialty crops research initiative grant that is in place to study the impact and management of the increasingly important potato tuber necrotic viruses.....*Ken Frost, Extension Plant Pathologist*