

# News from the Potato Lab

Fall 2016



**Plans Set for 51<sup>st</sup> Seed Seminar November 1-3 in Missoula.** The Montana Seed Potato Seminar will be at the Holiday Inn – Downtown Missoula. Montana growers will gather for the annual growers meeting on November 1 at 4PM. On November 2, the program will start with updates from our industry and potato organizations. The second half of the morning a workshop on economics of potato diseases and managing risk will be held by Ag Economists Dr. Kate Fuller, MSU, and Dr. Chris McIntosh, University of Idaho (see more on page 2). In the afternoon, the Trade Show will be open and we will have sponsored presentations by agribusinesses. The program on November 3 will have invited speakers covering a range of topics including drought forecasting, phosphorous fertility, bed planting vs. conventional rows, new genetic methods for potato, and choosing fungicides. The keynote address will be delivered by the Honorable Russ McElyea, Chief Water Judge for Montana.

## Setting International Standards for Seed Potatoes

In December of 2015 I was nominated by my fellow United States Seed Potato Certification officials to represent the US at the UNECE (United Nations Economic Council for Europe) Specialized Section on the Standardization of Seed Potatoes. US participation is sponsored by Potatoes USA. August 31-September 2, 2016 I attended my first meeting of the section at the United Nations in



Geneva, Switzerland. While the name implies that this is a European committee, all UN member

countries are offered a seat at the table with equal standing. The previous US representative was Willem Schrage from North Dakota who provided unique representation with his Dutch heritage and experience in seed certification in the US, Canada and connections throughout the world. Todd Mattos, USDA Northwestern Regional Manager for Federal/State Inspections also attends the meetings. While my Montana heritage hasn't given me extensive international experience, I find we speak one common language and that is "Potato".

The group is responsible for finding common language and principles in setting uniform standards that facilitate



Todd Mattos (USDA), Willem Schrage (North Dakota) and Nina Zidack

trade of seed potatoes throughout the world. In the United States, our seed potato exports represent a tiny fraction of our total seed production and increases in exports could diversify markets for our growers. We have made progress in facilitating new exports in the US by adopting a State National Harmonization Program which sets programmatic requirements for producing certified seed across the US and base tolerances for virus diseases, varietal mix and a zero tolerance for bacterial ring rot. The UNECE has developed a dynamic set of standards that are continually revisited and refined by the committee and can provide a valuable reference point for examining how US seed potato producers and certification agencies define the standards of their seed potatoes to enhance access to world seed potato

markets. In addition to setting standards for seed potatoes, the committee has produced outstanding free-access publications including “Guide to Seed Potato Field Inspection” and “Potato Diseases and Pests”. These publications can be found under the tab “Brochures and Publications” at

<http://www.unece.org/trade/agr/standard/potatoes.html>.

In the US, as part of a workshop sponsored by the Specialty Crop Research Initiative project on necrotic virus diseases, we reprinted these resources for distribution to US seed potato field inspectors and agronomists. Additional publications are in various stages of development including “Guide to Seed Potato Tuber Inspection”, “Guide to Operating a Seed Potato Certification Service”, and “Guide on Tissue Culture and Minituber Production”.

The UNECE specialized section on seed potatoes meets yearly at the United Nations in Geneva, and one additional time in another member nation. We



US Delegation on our way to meetings

will meet in Geneva in March 2017 and in the Netherlands in September of 2017. For 2018, France, Germany and New

Zealand are on the list of possible hosts. I plan on getting Montana on the list for a meeting location so don't be surprised if we get invaded by a herd of international potato heads in the future!

### **Workshop on Economics of Potato Diseases**

Agricultural Economists Dr. Kate Binzen Fuller (MSU) and Dr. Chris McIntosh (University of Idaho) will be holding a workshop on the economics of potato diseases at the Montana Seed Potato Seminar at 10:30 on November 2. Dr. Fuller will present analysis of data collected by the Montana Seed Certification Program. She will discuss differences in summer and winter PVY test results, and how these vary by variety and generation. Dr. McIntosh is a Co-PI on the Specialty Crops Research Initiative project on necrotic viruses. He will discuss PVY in commercial potato production and present analysis of the spread of PVY during the growing season in commercial potatoes. He will summarize the impacts this could have on seed potato prices. He is also

developing risk models for seed potato producers. This session will not only be informative to growers, but will provide you an opportunity to help these researchers enhance their knowledge base to provide better tools for decision making. Because grower participation is so important, a number of Montana growers will receive a reimbursement for their seed seminar registration. Each Montana workshop participant will place their name in a drawing and names will be chosen at the end of the session. The funds for the registration reimbursement are provided by a Specialty Crop Block Grant headed by Kate Fuller.

### **Late Blight testing for Colorado.**

Colorado requires a late blight tuber test for any seed shipped to the San Luis Valley for certification. If you plan on sending any seed to this area, please send 400 tuber/lot samples to us as soon as possible. The late blight test requires a 3-week incubation, so we need to have the tubers a minimum of 3-4 weeks before your shipping date.

### **Planting for Postharvest Test**

Pick-up for postharvest test is October 19 for Kalispell, Ronan, Deer Lodge, Dillon and Three Forks, and pick-up in Belgrade on October 20. Our postharvest test plot is scheduled to be planted November 18 at Twin Bridge Farms on Oahu. Anna Jespersen, Nina and Walt Zidack, and Clark Johnson will be planting this year. With steady progress on harvest, I am very optimistic that we will be able to meet this early date. Nina will travel to Oahu on December 27 to get picking started on December 28. Eileen and Nina will begin postharvest readings on December 29. If you would like to visit the plots give me a call and we will plan on seeing you there!

### **BRR Sampling**

As a reminder, if you contract with ConAgra/Lamb Weston you need to sample 10 tubers/acre of each lot you plan to ship to them. The minimum sample size is 200. For Idaho recertification lots, you are required to test 400 tubers/seed lot. All samples should be divided into subunits of 200 cores and placed in plastic bags that are clearly marked with grower name, variety, field number and acreage. If you need coring tools please call the lab at 994-3150.

**Disinfecting after harvest, by Jessica Rupp,  
Extension Plant Pathologist**

Harvest is in full swing, and that means clean-up is right around the corner for potato handling equipment! Effective sanitation requires a thorough cleaning of all surfaces prior to using a disinfectant. Wash all equipment with hot, soapy water and a high-pressure washer. Then, rinse with water only. Any leftover soil particles could neutralize the biocide potential of your disinfectant product! Many products can have some level of inactivation with soil or severely hard water. Affective products include quaternary ammonium compounds, hypochlorites, iodines, phenolics, formaldehydes or copper products. Disinfectants must be in contact with the surface for at least ten minutes to kill bacteria. A foaming agent can be added to help chemicals stay in place. (See chart on back of this page for more information on disinfectants)

**Dates to Remember:**

**October 3 – Seed Directory Proofs returned to  
Potato Lab**

**October 19 – Post Harvest Test Pickup  
Kalispell, Ronan, Deer Lodge,  
Dillon, Twin Bridges and Three Forks**

**October 20 – Post Harvest Test Pick-up  
Manhattan area in Belgrade**

**November 1 – Meetings at Holiday Inn,  
Downtown Missoula,  
10AM - Research Committee  
11AM - MT Potato Advisory Committee  
2PM - MPIA Board  
4PM - Montana Seed Potato Growers**

**November 2  
8AM – Seed Industry Session  
10:30AM – Workshop – Economics of Potato  
Diseases  
1PM – Trade Show and Sponsored Talks  
4:30 PM - Reception**

**November 3  
8AM – General Session**

## 2016 Disinfectants for Potato Handling and Storage Equipment

Type	Active ingredient	Products	Comments
<b>Chlorine generating products</b>			
Note: Chlorine has significant human inhalation problems-follow safety precautions!			
<b>Bleach</b>	Sodium hypochlorite	Many products available. Rate will depend on product. Concentrations will vary from 3.25- 12%	Strong oxidizer (corrosive), rapidly inactivated by soil or organic matter, no residual activity. Water pH must be 4-8.
<b>Calcium hypochlorite</b>	Calcium hypochlorite	Many products available. Rate will depend on product label.	Strong oxidizer (corrosive), rapidly inactivated by soil or organic matter, no residual activity. Water pH must be 4-8. Can be applied directly to potatoes.
<b>Chlorine dioxide</b>	Chlorine dioxide	Oxine Sanitizer, SNiPER, EnviroCON, Clorodisys, CDG Solution 3000, and Purogene	Less corrosive than bleach, no residual activity, water pH not as critical.
<b>Non-chlorine generating products</b>			
<b>Quaternary Ammonium products</b>	Quaternary Ammonium, benzalkonium chloride, n-alkyl dimethyl benzyl ammonium chloride, N,N,-didecyl-N,N-dimethyl ammonium chloride, etc.	De-Bac, Virex, Roccal-D, AFBC, Breakthru, Micro Q64, Micro Q128, Pro-San, and many others.	Only slightly corrosive, relatively safe for humans when diluted, some residual activity, much less affected by organic matter or soil. Water pH not critical.
<b>Hydrogen peroxide/ Peroxyacetic acid products</b>	Hydrogen dioxide (hydrogen peroxide)	StorOx, Oxidate, Jet Oxide, Jet Ag, SaniDate 12.0	Can be applied directly to potatoes, no residual. Low corrosiveness. With use of heat JetAg can be used as fumigant in air system.
<b>Iodine, Iodophores</b>	Iodine, povidone iodine	Code Blue Iodine disinfectant and many others. Look for iodine in label name	Corrosive, will stain treated areas, some residual activity. Less affected by organic matter or water pH than bleach.
<b>Phenol-glutaraldehyde</b>	Phenol- glutaraldehyde	Sporocidin, Hospiseptic Disinfectant Wex-cide, Birex, etc- look for Phenol in name	Warning: oral poison!
<b>Formaldehyde</b>	Formaldehyde	Many products available.	Potential human carcinogen! Follow OSHA directions regarding exposure
<b>Copper quinolinolate</b>	Copper 8 quinolinolate	Many products available. Purchase as generic chemical. ISK Biotech PQ-57, PQ-80	Good residual activity. May cause some staining.
<p>The first step in disinfecting surfaces contaminated with potato residues and potential pathogens is to remove soil and potato residues by washing with soapy water and scrubbing to remove heavy deposits of potato residue. This is an important step since many disinfectants are inactivated by soil or organic matter and bacteria can live in the heavier residues and are protected from disinfectants. The second step is to disinfect with a labeled disinfectant. It is important to keep all surfaces wet with the disinfectant solution for 10-15 minutes and to use the highest labeled rate of the disinfectant chemical.</p>			