

## HISTORY OF SUMMER 2014 USPG CULTIVAR TUBER OFFERING

November 2014

One hundred and five cultivars were selected from the genebank's sterile *in vitro* tissue culture base collection (see GENE BANK HOLDINGS link at our website: <http://www.ars-grin.gov/nr6/>). Samples of all *in vitro* clones planted in this increase have been virus tested or have come through Plant Quarantine within the past ten years and reported a negative test for all of these pathogens: PLRV, PVA, PVM, PVS, PVX, PVY, PSTVd, and PCR for Cms-sp.

Transfers were made to Murashige and Skoog medium in test tubes in late June.

A polycarbonate-covered greenhouse room (GH6) at USPG was used. Plants previously grown in this house were all either from seedlings or from tubers produced one generation under glass. All vents and doors were fitted with 30 mesh screen. Signs were put on all access doors prohibiting the presence or transit of any other plants in GH6.

Four plantlets of each clone were transferred from test tubes to new commercial grow plugs (QPlugs produced by International Horticulture Technologies in Hollister, CA) in mid-July in GH6. In early August, they were transplanted into new soil-less commercial potting mix (Pro-mix BX Mycorrhizae) with Osmocote in 6" clay pots which had been sterilized by baking to 400 °F for four hours. GH6 plants were treated with pesticides via a PulsFog system for control of insects, mites and fungi under a standard IPM program (attached).

In addition to observations at daily watering, thorough weekly inspections were conducted and recorded by site personnel for evidence of disease, pests or stress (see attached log). Pesticide applications were primarily preventative, as no diseases or pests were noted.

On August 27, an on-site professional inspection of the plants (see attached letter) was conducted by Mr. Alex Crockford (Wisconsin Seed Potato Certification Program Director). Upon testing through AGDIA testing service, all three of these clones tested virus free.

All tubers were harvested November 10 - Nov 12. Tubers were rinsed with tap water, allowed to air dry, and stored in new paper bags in storage at 43 °F. No blemishes, rots or defects of any kind were noted on the tubers, except occasional greening of tuber skins that were near the soil surface and exposed to light. Tubers will again be inspected just before shipping.

One tuber from each clone was grown to about eight inches of foliage and was postharvest virus tested on January 27, 2015. All clones tested negative for PLRV, PVA, PVM, PVS, PVX, PVY, PSTVd, and PCR for Cms-sp.

This history is provided as evidence to support our assumption that receipt of this material in convenient tuber form presents minimal additional risk of transmitting pathogens compared to the default option of receiving this same germplasm as sterile *in vitro* plantlets. However, in light of the fact that this material has been propagated outside of sterile *in vitro* culture, we advise that the most appropriate use of these tubers is for destructive evaluation, and *not for propagation*. Further, these tubers were not grown with pesticide applications approved for an edible crop, so these tubers are *not for human consumption*.

---

## University of Wisconsin-Madison

### Wisconsin Seed Potato Certification Program

P.O. Box 328  
807 5<sup>th</sup> Avenue  
Antigo, WI 54409-0328  
715-623-4039  
FAX: 715-623-6970

College of Agricultural and Life Sciences  
Department of Plant Pathology

September 4, 2014

Dr. John Bamberg  
US Potato Genebank/NRSP-6  
UW Peninsular Agricultural Research Station  
Sturgeon Bay, WI

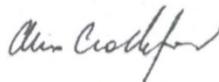
Dear Dr. Bamberg,

At the request of Max Martin, I conducted a visual inspection of the potato production at the USDA, Potato Introduction Station, in Sturgeon Bay, Wisconsin. Historically we have been asked to identify plants that express symptoms that are characteristic of viral disease, or other plant disease symptoms.

While present on August 27<sup>th</sup>, I found all of the plants in very good health and the protected environment they were growing in good order. Only a very small amount of leaf edema was observed. I did not see any plants that concern me with virus, and no other leaf diseases present.. Max spoke of the positive outcomes limiting PVX by wearing gloves and sanitation.

We encourage you to contact us with any questions and look forward to visiting again in the future.

Sincerely,



Alex Crockford  
Program Director

CC:  
Max Martin,  
Dr. Amy Charkowski  
Rick Hafner

## SPRAY PROGRAM for USPG Greenhouse 6 plants for tuber distribution

Pesticide	Amount	Rate	Application Date
Spintor 2SC (Spinosad)	5.1 mL	2.3 oz / 10,000 ft <sup>2</sup>	July 22, 2014 @ 8:30pm
ABBA 0.15 EC (Abamectin)	5.1 mL	3.7 oz /10,000ft <sup>2</sup>	July 22, 2014 @ 8:30pm
Mana Alias 4F (Imidacloprid)	1.2 mL	0.55 oz /10,000ft <sup>2</sup>	July 22, 2014 @ 8:30pm
Quadris (Azoxytrobin)	5.1 mL	2.75 oz/ 10,000 ft <sup>2</sup>	July 22, 2014 @ 8:30pm
NutriFog (Fog Carrier Solution)	11.3 mL	1,100mL/ Acre	July 22, 2014 @ 8:30pm
Spintor 2SC (Spinosad)	10.2 mL	2.3 oz / 10,000 ft <sup>2</sup>	August 6, 2014 @ 8:30pm
Asana XL (Esfenvalerate)	4 mL	1.8 oz/ 10,000ft <sup>2</sup>	August 6, 2014 @ 8:30pm
Mana Alias 4F (Imidacloprid)	1.2 mL	0.55 oz /10,000ft <sup>2</sup>	August 6, 2014 @ 8:30pm
Quadris (Azoxytrobin)	6.2 mL	2.75 oz/ 10,000 ft <sup>2</sup>	August 6, 2014 @ 8:30pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	August 6, 2014 @ 8:30pm
Pylon (Chlorfenapyr)	7.2 mL	3.2 oz/ 10,000 ft <sup>2</sup>	August 19, 2014 @ 7:15pm
Quadris (Azoxytrobin)	6.2 mL	2.75 oz/ 10,000 ft <sup>2</sup>	August 19, 2014 @ 7:15pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	August 19, 2014 @ 7:15pm
Aria (Flonicamid)	0.5 g	30 g/A	August 25, 2014 @ 8:30pm
Luna Tranquility (Fluopyram and Pyrimethanil)	5.8 mL	2.57 oz/ 10,000ft <sup>2</sup>	August 25, 2014 @ 8:30pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	August 25, 2014 @ 8:30pm
Menace (Bifenthrin)	22 mL	10 oz/ 10,000ft <sup>2</sup>	September 3, 2014 @ 8:15 pm
Luna Tranquility (Fluopyram and Pyrimethanil)	5.8 mL	2.57 oz/ 10,000ft <sup>2</sup>	September 3, 2014 @ 8:15 pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	September 3, 2014 @ 8:15 pm
ABBA 0.15 EC (Abamectin)	8.4 mL	3.7 oz /10,000ft <sup>2</sup>	September 10, 2014 @ 4:00 pm
Quadris (Azoxytrobin)	6.2 mL	2.75 oz/ 10,000 ft <sup>2</sup>	September 10, 2014 @ 4:00 pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	September 10, 2014 @ 4:00 pm
ABBA 0.15 EC (Abamectin)	8.4 mL	3.7 oz /10,000ft <sup>2</sup>	September 16, 2014 @ 7:30 pm
Quadris (Azoxytrobin)	6.2 mL	2.75 oz/ 10,000 ft <sup>2</sup>	September 16, 2014 @ 7:30 pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	September 16, 2014 @ 7:30 pm
Pylon (Chlorfenapyr)	7.2 mL	3.2 oz/ 10,000 ft <sup>2</sup>	September 23, 2014 @ 7:30 pm
Luna Tranquility (Fluopyram and Pyrimethanil)	5.8 mL	2.57 oz/ 10,000ft <sup>2</sup>	September 23, 2014 @ 7:30 pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	September 23, 2014 @ 7:30 pm
Pylon (Chlorfenapyr)	7.2 mL	3.2 oz/ 10,000 ft <sup>2</sup>	September 29, 2014 @ 6:30 pm
Luna Tranquility (Fluopyram and Pyrimethanil)	5.8 mL	2.57 oz/10,000ft <sup>2</sup>	September 29, 2014 @ 6:30 pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	September 29, 2014 @ 6:30 pm
Overture (Pyridalyl)	8.5 g	17.4 oz/A	October 7, 2014 @ 6:30 pm
Quadris (Azoxytrobin)	6.2 mL	2.75 oz/ 10,000 ft <sup>2</sup>	October 7, 2014 @ 6:30 pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	October 7, 2014 @ 6:30 pm
Overture (Pyridalyl)	8.5 g	17.4 oz/A	October 14, 2014 @ 5:15 pm
Luna Tranquility (Fluopyram and Pyrimethanil)	5.8 mL	2.57 oz/10,000ft <sup>2</sup>	October 14, 2014 @ 5:15 pm
NutriFog (Fog Carrier Solution)	45 mL	1,100mL/ Acre	October 14, 2014 @ 5:15 pm

**WEEKLY OBSERVATION LOG for USPG fall 2014 Greenhouse 6 plants for tuber distribution**  
(nothing of concern noted for dates not shown)

<b>Date</b>	<b>Observation</b>
09/08/2014	Extreme edema was observed on Elmer's Blue, Temp, Sangre, Rose Valley and Granola.