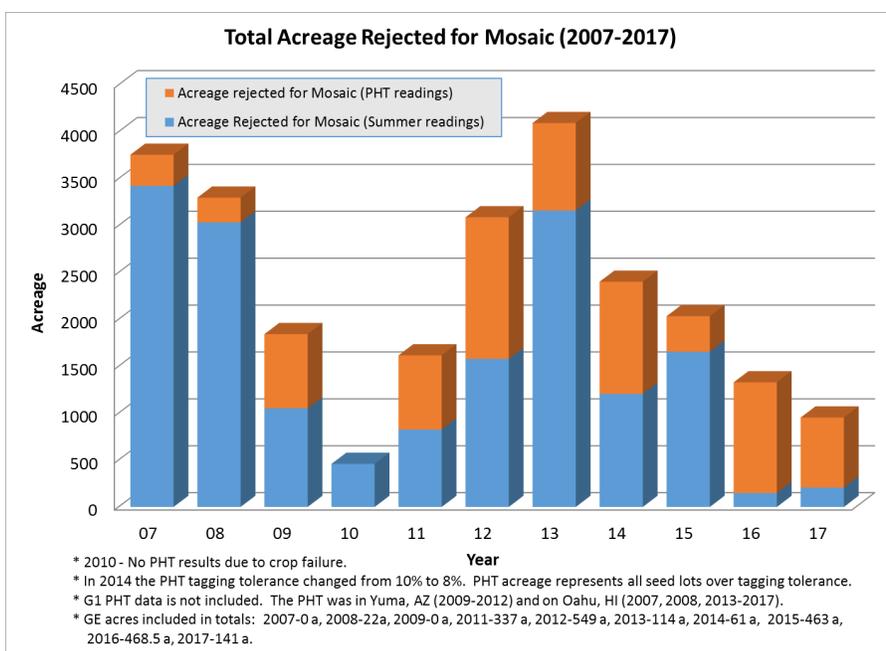




PCS NEWS

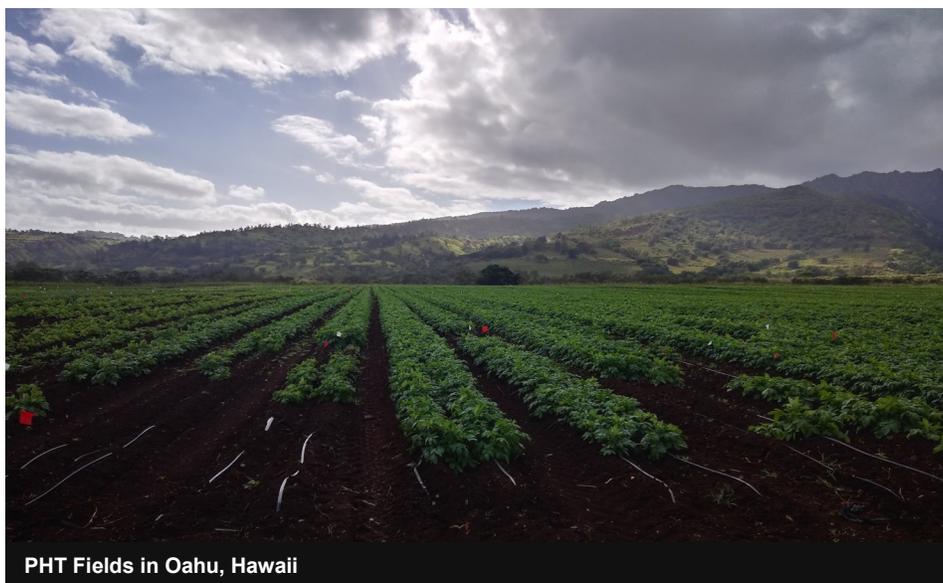
Post Harvest Test-2017

The 2017 post harvest test (PHT) went very well this year. Plant emergence was much better in 2017 than in 2016! The overall combined seed rejections (both summer and PHT rejections) due to mosaic were at their lowest level in 10+ years (2010 is not included because there was a crop failure that year). This is good news for both seed and commercial growers in the San Luis Valley!



“The 2017 PHT crop growth was excellent this year, among the best I’ve seen.”

- Rick Haslar, PCS Inspector



PHT Fields in Oahu, Hawaii

In This Issue

- PHT Update
- PCS Disease Testing Lab Update
- PCS Tissue Culture Update
- SCRI National Potato Virus Project
- PVY Strain Survey



Clockwise from top left: Lab in Hawaii, Coring Tubers for PCR, Pectobacterium Testing, Lab in Hawaii, ELISA plate washer, Tubers almost ready for Sprout Testing.

Other PCS Updates

Storage inspections went very well this year. They were all completed before Thanksgiving!

All growers had the required barriers separating their lots and did a great job providing us with the needed paperwork and maps for inspections.

Please remember that billing for bulk certificates will be arriving monthly, so make sure the sales have been completed within 30 days of shipment. If you are in need of assistance in how to make sure they are completed on Seed Hub, please give Michelle Leckler a call and she can help.

Disease Testing Lab Update

Teresa Almeida, Disease Testing Specialist for PCS, is very busy processing sprouts for PVY testing. Sprouts are tested using submitted B Samples when there is an emergence issue during the Post Harvest Test or for special grower requests. Routine leaf testing for greenhouse crops continues throughout the year.

She would also like to remind growers that in addition to all current required tests, we offer many other tests for diseases that a grower might be interested in. Please give her a call if there are other tests you would like. If you are shipping any seed to Idaho and need Bacterial Ring Rot testing, please let Teresa know so that she can get your lots tested.

Tissue Culture Update

Carolyn Keller, the Tissue Culture Specialist for PCS, is very busy this time of year. Annual grower requests for new, clean nuclear stock are starting to come in. She is currently processing orders for the Spring Nuclear Crop for the San Luis Valley Research Center. This crop will be planted in the greenhouse and minitubers will be harvested for the 2019 SLVRC Field Crop.

She is also working on initiating 9 new varieties from the SLVRC breeding program into tissue culture. They will be tested for disease, cleaned up if necessary, and maintained in the active clone bank.



Potato Plantlets in Vessels



Potatoes in Long Term Storage



Potato Plantlet in Tissue Culture

SCRI Potato Virus Project

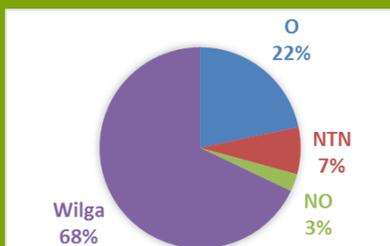
Colorado Potato Certification Service participated in a multi-state project, the SCRI Potato Virus Project, that aims to determine a relationship between direct tuber testing results from PCR, a molecular technique, and field grow out for post-harvest testing purposes. Our goal is to help enhance the ability of seed certification labs to perform tuber tests and evaluate when tests are appropriate. The other participating states were Idaho, Montana, and Wisconsin.

Sarah Noller and Sarah Shawcroft went to Montana in the October of 2017 to participate in a PCR workshop where the project participants came up with a standard protocol to be used on the dormant tubers. Each state chose a different variety to be tested and used three different lots containing low, medium, and high PVY infections based on summer field inspections. The growers then provided extra samples to be grown out in Hawaii (1600 tubers each and broken down into 4 reps). The tuber samples were cored and tested using PCR in our lab prior to dormancy break then sent on to Hawaii for post-harvest testing. In Hawaii, the leaves were tested for PVY using ELISA and the lots were looked at by our inspectors for visual readings.

As you can see, the results from our state aren't perfect. The PCR underestimates the high PVY percentages. We will be updated soon from the other participating states and will have a better overall picture from their results. We are confident that this project will provide some guidance on determining the appropriate testing needed. We are very thankful to our growers that were able to provide extra tubers making it possible for us to participate in the type of research that will not only help provide the best testing possible, but also help the seed potato industry overall.

Variety	Field Year	Sample #	Rep#	PHT Visual Mosaic%	PHT ELISA PVY%	PCR Tuber PVY%	Summer Visuals 1st Insp. PVY%	Summer Visuals 2nd Insp. PVY%
Rio Grande Russet	3	1 - Low	1	0.31	0.31	0.00	0.00	0.00
Rio Grande Russet	3	1	2	0.00	0.00	0.25		
Rio Grande Russet	3	1	3	0.00	0.00	0.00		
Rio Grande Russet	3	1	4	0.30	0.30	0.00		
Rio Grande Russet	4	2 - Medium	1	0.60	0.60	0.75	0.42	0.20
Rio Grande Russet	4	2	2	1.02	1.27	1.00		
Rio Grande Russet	4	2	3	1.90	2.17	0.50		
Rio Grande Russet	4	2	4	0.28	0.56	0.25		
Rio Grande Russet	6	3 - High	1	10.50	7.18	4.75	0.77	1.40
Rio Grande Russet	6	3	2	8.38	7.30	3.25		
Rio Grande Russet	6	3	3	9.23	7.95	4.00		
Rio Grande Russet	6	3	4	9.28	5.80	3.50		

Table 1. SCRI Potato Virus Project Results Comparing Testing Methods



Different PVY Strains Found

PVY Strain Survey

Another multi-state project that PCS participated in was a survey on PVY strains conducted during the 2017 Post Harvest Test in Oahu, Hawaii. Stewart Gray, a Research Plant Pathologist with the USDA, ARS, and BioIPM, performed molecular testing on a number of symptomatic plants to determine the particular strain of PVY. This information will help us to better determine virus infection of seed potato lots and develop new and better lab tests.

Results from our state include 24 different growers and 43 different varieties. The PVY strains detected were, O (the ordinary strain), N (a necrotic strain in tobacco, usually with milder symptoms in potato than the ordinary strain), NTN (a PVY^N that causes necrotic flecking and ringspot symptoms in the tubers of some potato varieties), NO (a recombinant strain having characteristics of both strains), and Wilga (a strain that causes mild mosaic and tuber disease in some varieties). As we try and get a handle on these new strains of PVY, we want you to know that we are working hard to find solutions and improve our lab tests to provide growers with the best certification service possible.

Important Dates to Remember

June 1st- Applications Due



Clockwise From Top Left: Andrew & Rick Inspecting, The Planting Crew, Teresa Picking Leaves, The Inspection/Testing Crew

Contact Us

Give us a call for more information about our services and products

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