

# NRSP-6 TAC Meeting 2016

## Interim report

Summary of FY 2015 Annual Report and activities since October  
(snapshots of new and continuing activities at the genebank)

# Germplasm orders are up

+26% so far this year!



# Ornamental from artificial tetraploid *commersonii*

- self seed propagating
- will try for 8x with even bigger flowers



4x cmm about 3x size  
of normal wild species  
flowers

Normal wild species

Henry DeJong's  
diploid breeding  
stocks imported



# Continue Colombian *Criolla* work

*“Egg Yolk” Style Potatoes available and adapted in the USA*

*--taste tests in 2015 and creating inbred lines--*



## POTATO TASTE TEST RESULTS 11/29/2015

Place	Potato Type	Total Rank Points
1	Skagit Valley	15
2	Criolla #8R+	16
3	Criolla #5	18
3	Criolla #12	18
5	Criolla #9	24
6	Yukon Gold	35
7	Criolla #9	40
8	Skagit - Curzio Caravati	45

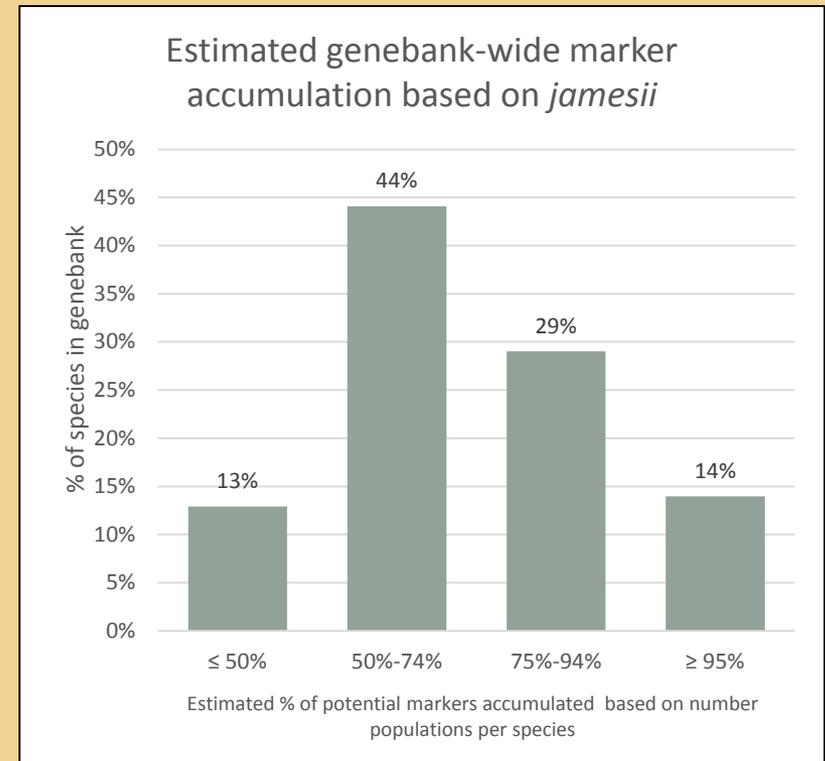
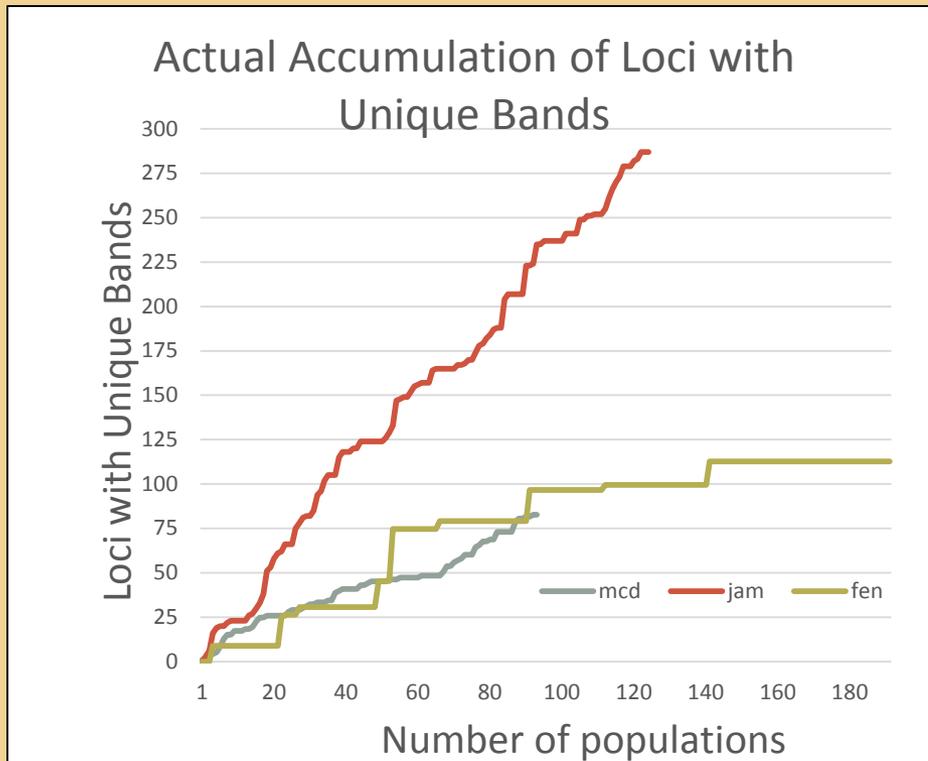


SB selection: #5



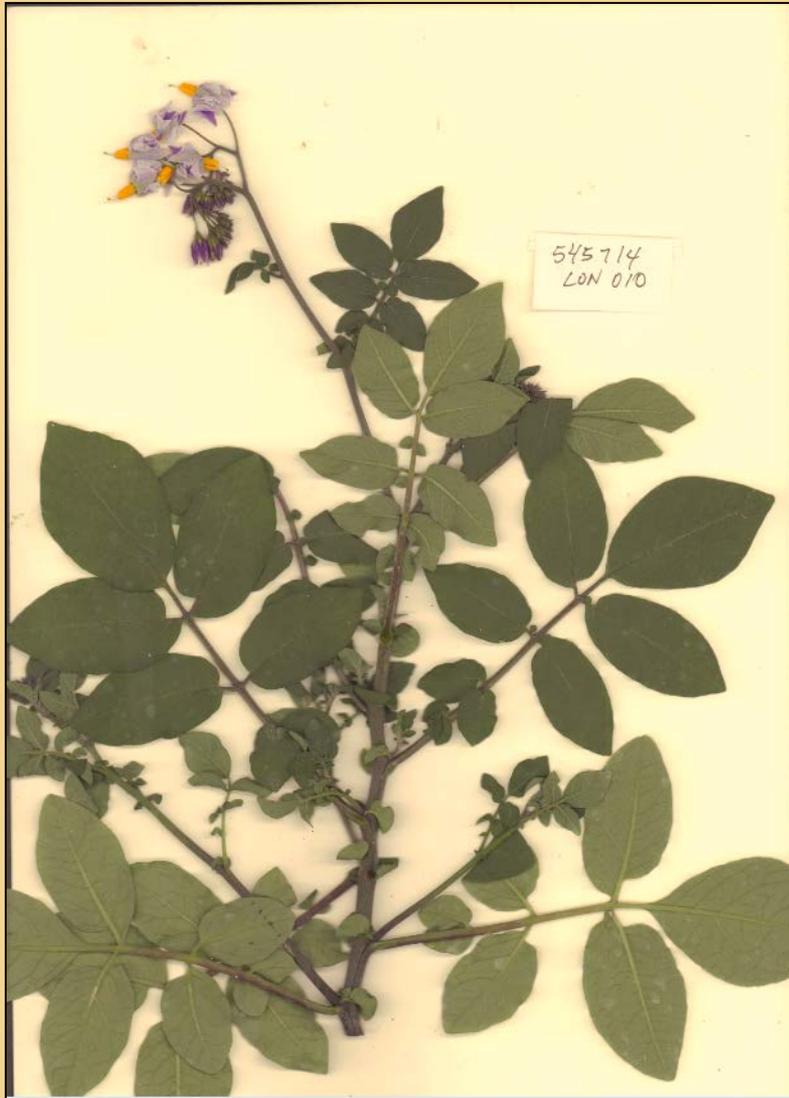
# Accumulation of diversity

*how much is enough?*



# SCAN project

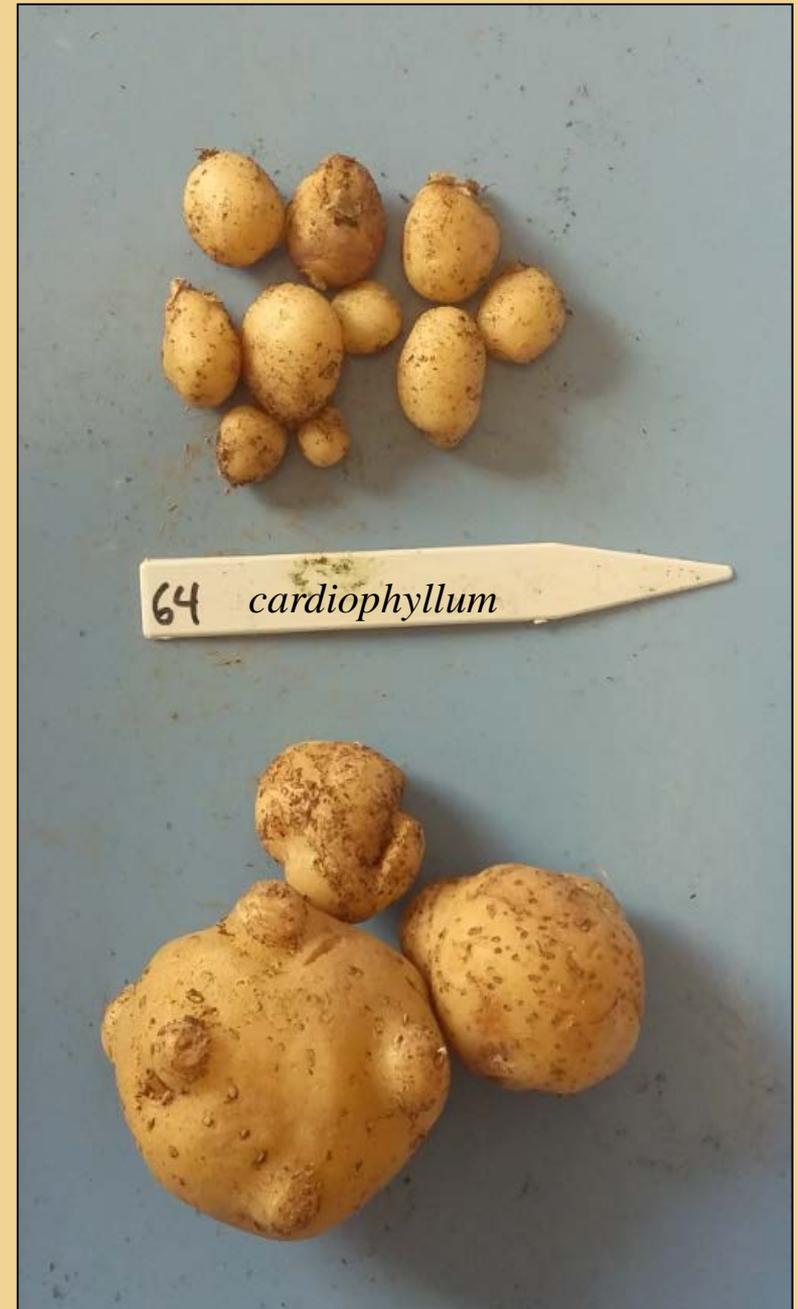
we got a large scanner  
(as big as an herbarium sheet)



- Relatively easy to make beautiful scans instead of herbarium specs
- Can be observed without any grow-outs or physical shuffling
- Can be attached to accession records in GRIN
- Can be used to facilitate impartial COG trials (visual core) by anyone in the world with a computer

# Big Tuber Wild species

- We would like big field tubers for evaluation
- *tuberosum* nobilizing parents are hard to develop
- *tuberosum* hybrids are often sterile dead ends
- We have early, big tuber crossing mates for 1EBN and LON species
- Could be use to find markers for tuberization



# Zebra Chip psyllid resistance discovered...

*With Rodney Cooper, ARS-Wapato*

*Making breeding stocks and segregating marker pops*

**STRONG** resistance in the wild potato species

*Solanum verrucosum*



*insect vector*



*unmarketable chips*

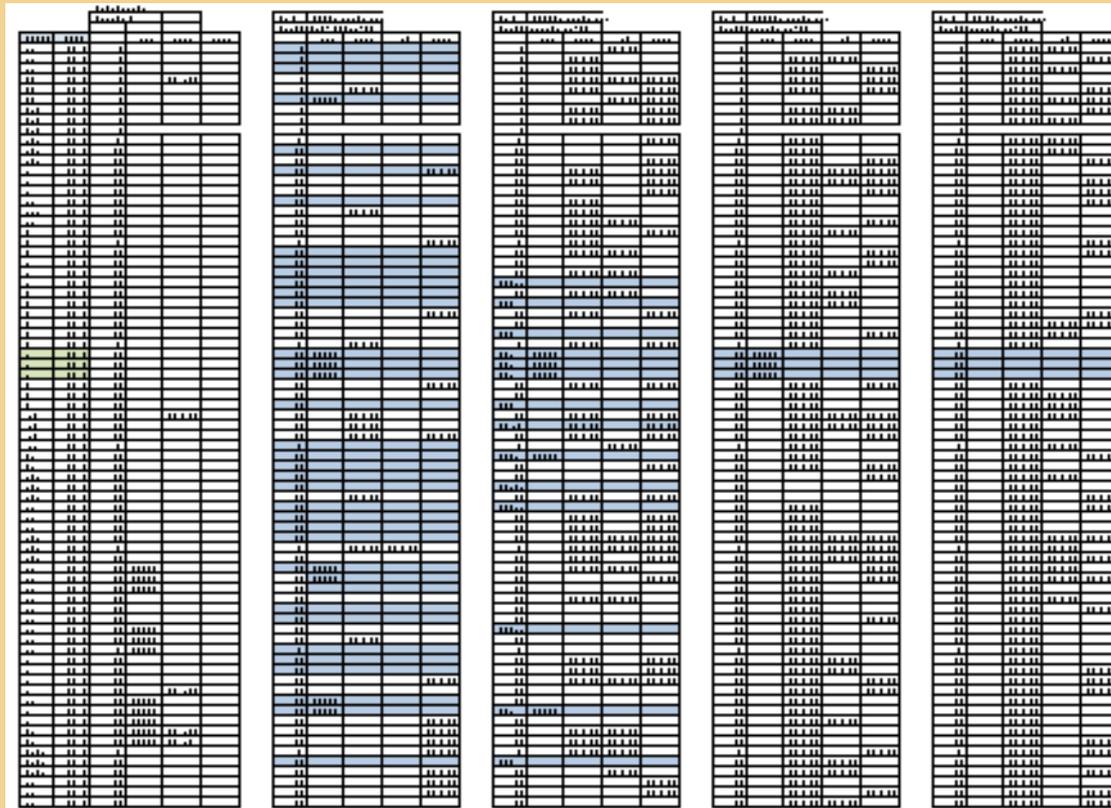
# Fatty acid profiles on seeds

- Free cooperation with Bob Jarret from S9 in Georgia
- Ultimate ease of evaluation-- without having to even sprout the seeds
- Preliminary: more 18:2 in some species seeds is due to freeze tolerance needed in the wild?



# Freezing tolerance in *S. jamesii* tubers!

The only survivor to -4C of 75 pops of 25 species



Control

-1 C

-2 C

-3 C

-4 C

... along with high late blight, insect and nematode resistance, probably drought resistance, very high antioxidants and dry matter, extreme tuber dormancy, and low pH tubers with anticancer properties in this species

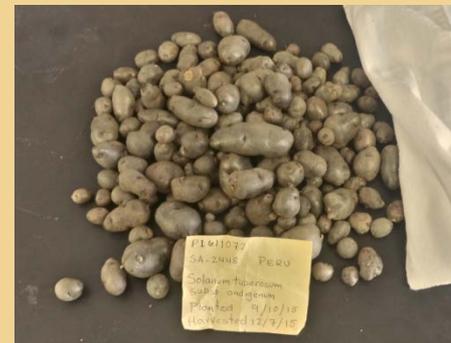
# Germplasm benefits shared in Peru...



## Frost, drought, wart, and calcium breeding in Puno\*

--with Jiwan Palta, Alfonso del Rio, and CETS and Peruvian cooperators

CETS machines work well for Peruvian native cultivars



\*and beer!

