2006 Washington State Annual Report to the W-6 Technical Committee

Washington State Representative: Stephen S. Jones

June 27-28, 2006

In 2006, one-hundred sixty-four National Plant Germplasm orders were requested by various Washington State agencies, farmers, nurseries, seed companies, hobbyists and state and federal scientists in disciplines such as genetics, horticulture, botany, plant pathology and agronomy. The following is a summary of information regarding the performance of the genetic material Washington State groups have requested from the National Plant Germplasm System (NPGS).

Summary

A letter was sent out on March 10, 2007 to the 164 groups in Washington State that requested germplasm from the NPGS. The request asked for information regarding the performance of the germplasm received, i.e. germination success or percent germinated, grafting success, propagation success, etc. We received 13 responses to our request.

The majority of the responses were positive stating that those with requests for seed had average or good germination and those with rootstock requests had a 90% or greater success rate. Several groups stated that the material they requested arrived in excellent condition and appreciated the efforts of the NPGS to send them high quality material. There were, however, some specific issues with germination. Please reference the Narrative of Recipient Responses for details regarding germination problems with specific accessions.

The research material generated from the NPGS was used for the following research projects: 12 of the 13 responses gave details on the specific research, they are listed below:

Recipient Narratives/Reports Regarding Observations and Details of Germplasm Use

1. James Olmstead, PhD

Sweet Cherry Breeding and Genetics

WSU-Prosser

I ordered cherry pollen from the Davis Clonal Germplasm Repository for use in our breeding program. All of the material provided had near or better germination percentage than locally obtained pollen. The shipment arrived on time and was free of any foreign materials. The pollen was successfully implemented in our crossing program and we obtained viable seed for genetic study.

2. Sam Benowitz

Raintree Nursery

We have received quite a bit of germplasm from the OSU repository. The one you are asking about I think is named Jeanne and its a Gooseberry that they discovered and named at OSU. We are growing it on until we get enough cuttings to release it to the public from our nursery.

Sam Benowitz

Raintree Nursery

3. Wayne Crowder

Plant Materials Center

USDA NRCS

The following Caragana accessions were planted into 10 cubic inch containers on January 22, 2007 after germination began in petri dishes. They were grown under 1000 watt metal halide lights. Performance to date has been excellent. All accessions germinated and produced the minimum number of plants required. We plan on transferring the plants to 40 cubic inch pots then holding the plants to get more root mass developed and outplant in spring 2008.

<u>Accession number</u>

9080252 (Ames 17776)

PI 310390

PI 369217

PI 371524

PI 483449

PI 633648

PI 636378

PI 9080250 (Ames 13823)

PI 107663

4. Rupert Hollaus.

I received 25 seed of [PI 541007 - Pyrus betulifolia] which fared well, and over 25 seed of [PI 638018 - Pyrus betulifolia] which never germinated and rotted, I don't know why.

Out of the PI 541007 group about 75% germinated and I culled a few stragglers until there were 16 left. They will be well cared for and are looking fine. None of the P. betulifolia 541007 got psuedomonas, some of my own starts seedlings of P. communis 'devoe' were 30% stricken with the disease. All my starts will remain potted for another 18 months before moving on to different locations for cold hardiness testing.

Since 1995 I have also had a single tree of the same seed accession PI 541007 which as a scion was grafted to a 1987 hybrid cross of [nashi X communis] for graft compatibility purposes. As a single branch in a canopy full of hybrid pears the branch is already 12 feet long but has yet to flower.

5. Camille M. Steber
USDA-ARS, Research Molec. Geneticist
WSU, Asst. Professor (adjunct)

My order 184146 for wheat Zenkoji Komugi behaved well.

6. Greg Fredericksen

Outlook, WA 98938

It performed well and I have no complaints. Every stick of budwood was viable. I will obtain more next year. I highly value it as a source for new and interesting genetic material.

7. Vicki L. Bradley
Cool-season grass and safflower Curator
USDA, ARS, NPGS
Western Regional Plant Introduction Station

The 5 tef accessions were used for a direct-seeded planting date study. We found that we had best results planting between April 15th and May 30th at Central Ferry, WA. We harvested the plots for seed and are continuing to work on plant spacing and stand establishment. This work is being done in preparation for a replicated evaluation of the 367 accessions of tef in the collection. This year's plots planted on April 16th are gorgeous, I'm thrilled.

8. Weidong Chen

Research Plant Pathologist

This is to acknowledge that we received seeds of chickpeas from the National Plant Germplasm System, specifically from the USDA Western Regional plant Introduction Station, last year (2006). We used the seeds in our tests for Ascochyta blight resistance and Fusarium wilt. The seeds from the National Plant Germplasm System are valuable resources for our research program.

9. Scott McManus

My plant order for 2006 performed as before:

ACT. 49.001 PI 617109

73.001 PI 617128: Were so far advanced that all died after grafting.

84.001 PI 617135

85.001 CACT 85

Cyd 98.001 ccyd 98: This wood appeared to be dried out when I grafted…did not take; re-ordered for 2007.

All Pyrus accessions performed beautifully. Thank you!

10. Jack Feil

Feil Orchards

The Scion wood arrived in good condition and the grafting was successful. As of yet it is too early to evaluate the fruit and growth habit, I expect to see the first results in a minimum of three years. Any other inquiries are welcome.

11. Kevin McPhee

Grain Legume Genetics and Physiology Research

The seeds we requested and received from the WRPIS at Pullman, WA performed well and as expected for our purposes. Where possible and necessary we have submitted the data collected to the WRPIS for inclusion in the database.

12. Julie Dawson

Graduate Research Assistant

WSU Winter Wheat Breeding and Genetics

The material I used was for a greenhouse study and I had no problems except for the germination of some genotypes. I started the seed in peat pellets in the seedling start chamber and then transplanted them into pots in the greenhouse after about 10 days, but some lines had very bad germination. The plants were analyzed for biomass and %N at three growth stages, and the statistical analysis is still pending.

Name	Germination
Alpowa	33%
Arco	58%
Idaed	87%
Onos	70%
Pacific bluestem	58%
Surprize	91%
Wakanz	87%
Wawawai	41%