PLANT GERMPLASM QUARANTINE PROGRAM
Annual Report For The WERA-20 Annual Meeting
June 14-18, 2009, Richland, MI
Progress Report 2008-09

RELEASES

Released Germplasm Accessions of Fruits

Apples	7 Final Releases
	4 Provisional Releases
Pears	6 Final Releases
	4 Provisional Releases
Prunus	17 Final Releases
	12 Provisional
	4 Conditional Releases

Prunus seedlings 70 Final Releases

PRESENT WORK

Apple Accessions Received- Total: 26

- Czech Republic-4
- Israel- 3
- The United Kingdom- 18
- France-1

Post-entry Received- Total:15

- Received plant material from Belgium, France and The Netherlands

Prunus Accessions received

- Azerbaijan-26
- Hungary-5
- Russia-2
- China-2
- The United Kingdom-3

Prunus seed lots received

- 3 (126, 40, 185 of seeds each)
- Origin: Georgia

Molecular tests added

One step RT-PCR from the standard tests used by the Canadian Food Inspection Agency Program, Canada, adapted, modified with Invitrogen products.

- *Cherry Virus A*
- *Little cherry virus 1*
- *Little cherry virus 2*
- *Cherry leafroll virus*
- *Xylella fastidiosa*

Molecular tests added to the fruits program adapted from the Canadian Food inspection agency program but already these are tests that are currently done by the MDL.

- *Apple stem pitting virus ASPV*
- *Apple stem grooving virus ASGV*
- *Apple chlorotic leafspot virus ACLSV*

- *Apple mosaic virus APMV*
- *Pear b;ister canker viroid PBCVd*
- *Peach latent mosaic viroid PLMVd*

COLLABORATION 2009

ARS- Beltsville, MD

- Tests of latent viruses in Pomes from budwood
- Tests of viruses from leaf tissues for *Prunus*
- Development of polyprobe for the detection of viroids
- Positive controls

CPHST- Bldg 580, Beltsville, MD

- Development of *Black currant reversion virus* RT-PCR tests (conventional and Real Time PCR Assays) for the Fruit Program using positive controls provided by the Canadian Food inspection Agency.
- Working on the development of a Nepovirus RT-PCR group test

Canadian Food Inspection Agency

- Shared with our Program their standard testing protocols, positive controls as well as advice

NRSP-5- Prosser, WA

- Continues to provide the Pomes program with field tests for Pomes, positive controls, information

Simon Scott- Clemson, SC

- Positive controls for *Xylella fastidiosa*

NEW ITEMS 2009

Heat therapy chambers built

- Started using them in Spring
- Apical meristem culture
- Propagation
- Ongoing tissue culture of
  - Pome
  - Prunus
  - Ribes

Integrated Pest Management

Establishment of IPM practices to suit the needs of the Fruit Program Quarantine.

- Scouting
- Student training
- Improved Greenhouse and Screenhouse management

New Equipment

- Addition of two Qiacube extraction machines
  - Standarization/optimization of RNA/DNA extraction
- New Stereoscope/Autoclave
  - Tissue culture
- Heat Therapy Chambers
  - Heat therapy for pathogen elimination

FUTURE ENDEAVORS

- Continue optimization of Qiacube RNA/DNA extraction for Fruit Program
- Add new molecular tests
- Add new ELISA tests
- Test new BCRV on material received
- Continue IPM approach in screenhouses
- Continue collaboration

PROGRAM SPECIFICS

POLICY FOR IMPORTING BUDWOOD

The program capacity for fruit imports has remained at the same level for the past several years, 50 introductions per year. A quota or capacity system is in place for each quarantined crop in the PGQP and reflects the total number of accessions of that crop that can be received for entry into the testing program in a year.

APPLICATION DEADLINE

The application deadline for entry of accessions into the indexing program is September 30th. A request list should be forwarded to Dr. Licha at the PGQP by this date, complete with the specific varieties or germplasm requested and the donor's name, address and phone number. Requests will be held until September 30th.

PATHOGEN DETECTION PROCEDURES

The testing protocol for pear and quince clones remains the same as when ARS managed the program. If one round of grafting tests and hybridization tests as well as two replicates of the phytoplasma test are negative, the fruit introduction may be provisionally released. Importers can receive provisionally released introductions after they obtain permission from their state department of agriculture and a Departmental Permit from APHIS. If all tests are negative for presence of pathogens after completion of all tests and plants show no symptoms of infection, accessions are released from quarantine and ready for distribution.

COMMENTS

We extend an open invitation to visit us at PGQP anytime your travels bring you to the Beltsville area. You are welcome to tour the facility, meet with our staff, and see your plants and any testing in progress. Please don't hesitate to contact me with any questions or comments.

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