

FY08 Application for Nursery Research Funding
Washington State Department of Agriculture - Nursery License Surcharge
(Please use one application packet including the Progress Report page for each proposal.
You must use our form - failure to do so may result in not funding your project.)

Project Title: Genetic Disease Resistance in Ornamental Tree Fruit

Project Leader: Gary A. Moulton, Senior Scientific Assistant

Institution (if any): Washington State University - Northwest Washington Research & Extension Center

Mailing Address: 16650 State Rt. 536, Mount Vernon, WA 98273

Project Phone Number: 360) 848-6131 FAX Number:( 360 ) 848-6159 Cellular/Pager Number: ( )

Note: Project leader or his/her designee must be available at above project phone number on March 2, 2007 between the hours of 10:00-12:00 and 1:00-3:00.

Amount Requested for (FY08) July 1, 2007 to June 30, 2008: \$ 9,715

Start Date: July 1, 2003 Completion Date: June 30, 2008

(Check One) New Project Continuing X

If this is a multiple year project, please estimate and list the following information for each future July 1 - June 30 period listed below through project completion:

Table with 6 columns: Fiscal Years (FY), July 1, 2008 to June 30, 2009, July 1, 2009 to June 30, 2010, July 1, 2010 to June 30, 2011, July 1, 2011 to June 30, 2012, July 1, 2012 to June 30, 2013. Row 1: \$ Amount Needed

If you are increasing the above amounts since your last application, please explain why:

Not increasing

\*Please list all other sources and amounts of funding for this project for the current year only. (Please notify us by February 15 if other funding has been approved and from where.)

Table with 4 columns: Source, \$ Amount Applied For, Approved, Pending Date of Notification

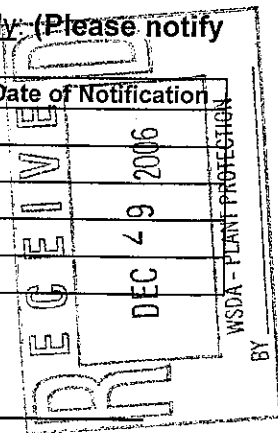
Total Amount Needed to Fund Project (Include all sources) \$ 9,715

If total amount from all sources is not granted, will you be able to complete the project? no

Explain:

2007-2008 is the final year for completion of the ornamental stone fruit trial. Funding to 2008 would allow us to complete the evaluation of all ornamentals planted in 2003-05, including some of the ornamental stone fruit. We would then be able to prepare more accurate recommendations in a new bulletin on ornamental fruit trees. The additional time for evaluation results in greater confidence in our results.

Submit 15 copies of this proposal to: Tom Wessels, Plant Services Program Manager, P.O. Box 42560, Olympia, WA 98504-2560. All applications must be postmarked by December 31, 2006.



**Please summarize the purpose of this research: (you may attach additional sheets if necessary or submit this summary in your own format)**

The purpose of this research is to evaluate new ornamental varieties of tree fruit for disease resistance, aesthetic value and adaptability to the cool maritime climate of western Washington. Testing of ornamental fruit trees with genetic resistance to disease is necessary to advise the industry on a range of healthy, attractive low-maintenance landscape trees available for specific markets. In addition, disease resistant plant material is a more economical solution to disease control than chemical sprays. This is particularly relevant in the urban environment where pesticides are increasingly unacceptable. Customers want "bullet-proof" plants that require little or no sprays to maintain good tree health.

The current series of trials is due to be completed in 2008. This consists of evaluation of the ornamental stone fruits (cherry, plum and Japanese apricot varieties) planted in 2003-2005 as well as ornamental pear and crabapple selections. The previous bulletin on ornamental tree fruit in western Washington needs to be brought up to date by including data on the ornamental stone fruit and newer crabapple selections. The funds requested would be to complete the current trial and publish the results in an updated bulletin.

**Methods of research:**

A planting of disease resistant crabapple varieties has been established at the WSU - Mount Vernon research station since 1984. New crabapple introductions were added in 1990-1992, 1997-98 and 1999-2000, at the same time as the poorly rated cultivars were removed. The trial now includes ornamental stone fruit of various kinds. Initial plantings made in 2003-05 will be evaluated in 2006-2008 for resistance to diseases, and for seasonal appearance (bloom time, flower color and abundance, tree size and growth habit, and ornamental quality of trees in fall and winter.) The results of the trial will be published annually, and a final report will be issued at the conclusion of the trial. An update to EB 1809 will be published covering ornamental tree fruit for western Washington landscapes.

**Expenditure Breakdown:**

(Please include salaries, supplies, travel, etc.)

	<u>2007-08</u>
00 Salaries	4,252
01 Time-Slip	1,300
03 Operations	1,049
04 Travel	200
07 Benefits <sup>1</sup>	2,914
<b>TOTAL</b>	<b>\$9,715</b>

<sup>1</sup> Benefits: Technical Farm Laborer @ 0.65, Time-Slip @ 0.115

The information requested on this page will have a direct bearing on whether your research request is approved or denied. Letters of support by the industry are also encouraged.

**Note: Funding is not available for general overhead cost.**

**Progress Report on Funded Nursery Projects  
Washington State Department of Agriculture**

**Date:** December 20, 2006

**Project Title:** Genetic Disease Resistance in Ornamental Tree Fruit

**Project Leader:** Gary A. Moulton

**Progress:** To be submitted for all projects funded in FY07 (July 1, 2006 to June 30, 2007); and FY 08 (July 1, 2007 to June 30, 2008).

In 2006 observations were made of trees in the ornamental tree fruit plot established at WSU-NWREC Mount Vernon, including bloom dates in spring (April-May) and a rating in late fall (November) of disease factors if present, general tree health and ornamental quality. Photographs were taken to document the appearance and qualities of promising varieties for use in publications. A number of the new varieties show very good potential as high quality landscape trees.

- **'Royal Burgundy'** ornamental cherry produces large clusters of light pink carnation-like flowers and reddish purple leaves that retain their color until late fall. The dark reddish purple leaves make it a good specimen tree even after bloom time is over. Very promising.
- **'Amanogawa'** ornamental cherry appears to have a narrowly upright habit that would recommend it for street plantings and areas where space is limited. It has attractive clusters of white flowers and green leaves.
- **'Yoshino'** ornamental cherry was notable for very profuse bloom on young trees. Pale pink buds open to brilliant white flowers. Foliage is green.
- **'Krauter Vesuvius'** plum is ornamental throughout the growing season. Covered with pink flowers in spring, it has dark reddish purple leaves that remain on the tree well into late fall. Tree habit is upright spreading –more upright than **'Newport.'**
- **'Beverly'** crabapple is distinctive with a strongly weeping habit, magenta pink flowers, and dark reddish purple leaves. Small dark red fruit add fall color. So far its disease resistance is very good, and it is the only purple-leaf crab in our trial with a weeping habit. Good specimen tree.
- **'Firebird'** crabapple has profuse white flowers in spring, and was loaded with bright red fruit in the fall which persisted until late in the season, adding ornamental color.
- **'Orange Crush'** crabapple has very profuse bright reddish pink flowers, with color as good as **'Prairifire.'** So far it seems to have good resistance to scab as well, and we will observe its 2007 performance with great interest.
- **'Scarlet Brandywine'** crabapple is very ornamental from early bloom, when the tree is covered with large, round dark pink buds that open into magenta-pink fully double flowers like miniature roses. Young foliage is purple-bronze in color, mature leaves are dark green. It appears to set little or no fruit, a recommendation for street-side planting. Very promising.
- **'Royal Raindrops'** crabapple is a purple-leaf sport of **'Golden Raindrops'** with deep magenta pink flowers, dark reddish purple leaves, and small dark red fruit. If it proves to be as resistant to disease as its progenitor, this could be a fine ornamental for many purposes.

The NWREC Mount Vernon web site at [http://mtvernon.wsu.edu/frt\\_hort/fruit\\_horticulture.htm](http://mtvernon.wsu.edu/frt_hort/fruit_horticulture.htm) includes previous crabapple evaluations, links to *EB1809 Crabapples for Western Washington Landscapes*, the International Ornamental Crabapple Society and other pages of interest.