Progress Report 2009: Unusual Fruit Crops

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Introduction

Beginning in 1997, WSU Mount Vernon NWREC responded to nursery growers, researchers and hobbyists to investigate fruit kinds that are not commonly grown in western Washington. Some of these fruits were not considered viable in our maritime climate conditions. Other kinds were little known because they originated in eastern Europe, Asia, or Oceania, or were uncultivated native North American plants. Evaluating new and unusual fruits has included potential high-return alternative crops for commercial growers. A screening trial of 24 unusual fruit crop species, some as specimen plants and others including several cultivars, was established in1997, with some new plants being added up until 2003.

Methods

In 2009, the final year of this study, field plots included (cultivar number) aronia (1), cornelian cherry (6), hardy kiwi (9), quince (3), sea buckthorn (2), and fig (15). Species and cultivars were screened for their suitability for either home orchards or commercial production in a cool maritime climate. The plots were non-replicated; some species were represented by several cultivars, others by a single specimen. Plots were drip irrigated 2 times per week for 2-4 hours, beginning in late May, and based on soil moisture readings. No insecticides or fungicides were applied to plots. Weed control was a soil residual herbicide application targeted to problematic weeds. Shrubs such as currant and aronia, and small trees with a spreading growth habit such as fig and pawpaw, were generally pruned to an open center; upright-growing trees such as shipova were pruned to a central leader. Kiwis were pruned according to standard pruning methods for its trellis system. Data collected in 2009 were crop ratings and brix on promising fruit kinds. Because we had a cold winter during the 2008-09, winter damage was collected on figs.

Results and Discussion

A summary of crop observations and ratings are presented in Table 1. Not all crops that are well adapted horticulturally in our region are suitable for commercial production in this area. In some instances (aronia) market factors are unfavorable, with cheaper product available from other regions. In other cases there are problems of harvest (sea buckthorn) and processing for which technology or infrastructure are not readily available. Several crops such as hardy kiwi, and fig have good potential, and future studies could work toward a complete evaluation of productivity and quality of specific cultivars. In previous years currant cultivars were evaluated and several cultivars were found to be promising; see previous reports for results. For example, a study of differences in currant cultivars with respect to powdery mildew (*Podosphaera mors-uvae*) susceptibility and foliar damage from insects, primarily the currant saw fly (*Nematus ventricocus*) was completed in 2008.

On December 19 and 20, 2008 temperatures dipped to 9^{o} F at WSU Mount Vernon NWREC and as a result we saw a variation in top damage on the fig varieties (Table 2). Desert King and Lattarula both produced a small crop of breba figs. Most varieties did not produce breba figs and some varieties were completely killed to the ground and resprouted from root suckers.

Acknowledgements
Financial support for this study has been provided by the Western Washington Fruit Research Foundation. Local nurseries have donated trees and materials; their contributions are gratefully acknowledged.

Table 1. Crop observations and crop rating recorded at WSU Mount Vernon NWREC in 2009**.**

Crop	Notes	Crop[1] Rating
Aronia	Produced consistently heavy yields on 2 plants, but plants were not netted so most of the fruit was taken by birds before the end of October.	1
Cornelian cherry	**Red Star, Pioneer** and **Elegant** produced good crops. **Olga**, **Sevetok**, and **Yevgenii** (planted 2003) produced good crops relative to their size.	1
Hardy kiwi	**Ananasnaja** brix 23. **Hardy Red** brix 19. **Ken's Red** brix19.	1 2 2
Quince	**Aromataya** and **Van Deman** produced good crops.	1
Sea buckthorn	All sea buckthorn plants produced good crops of berries.	1

[1] Crop rating: 1.) crop potential favorable based on horticultural evaluation; 2.) crop potential appears suitable for limited uses; 3.) crop potential appears unfavorable

Table 2. Winter damage rating of figs at WSU Mount Vernon NWREC, 2008-2009.

Cultivar	Rating[1]	Cultivar	Rating[1]
Brown Turkey	3.7	Neveralla	3.0
Brunswick	2.0	Norland	2.5
Contessina	3.5	Pastillere	2.0
De Dalmatie	2.5	Peter's Honey	2.0
Desert King	2.3	Petite Negri	1.8
Goutte D'or	2.3	Sultane	2.2
Lattarula	3.0	Tashkent Uzbekistan	2.3
Madeleine	2.0		

[1] 1=plant dead, 2=top dead, new growth from root, 3=top leaves on less than 50% of branches, 4=top leaves on 50-75% of branches, 5=no observable damage.