

Supporting the University of Arizona Citrus Variety Collection 2017¹

Glenn C. Wright²

²School of Plant Sciences, University of Arizona, Yuma Agriculture Center, Yuma, AZ

Introduction

The 8-acre citrus variety collection at the Yuma Agriculture Center is the most comprehensive collection of citrus within Arizona, containing about 110 selections. The collection was propagated in 1993 and is found in Block 17.

The collection has value because it serves as a resource for research, teaching and extension. From 1993 until 2008, data was taken from the lemon selections within the collection. We use fruit, leaves and flowers from the collection to teach students of the Citrus and Date palm production course that I teach through UA-Yuma. A part of one laboratory session takes place within the collection. We also use the collection to teach Master Gardeners, and we lead tours through the collection for Master Gardeners and other interested parties. We use fruit from the collection for displays and tasting for community events.

Now, the trees are aging, and we are in the process of re-propagating the collection into a 3-acre parcel in Block 18 at the Center, but the task is not yet finished. Some of those new trees are planted in the new blocks while others are growing in a field nursery and others have yet to be budded. About one acre of the new collection is in the ground. Few of the new trees have fruit.

The University has borne the cost of maintaining the collection for the past 23 years, but those costs can no longer be absorbed. While the old collection is being irrigated, the pruning, fertilization and orchard floor management operations have been reduced or eliminated. There had been discussion of removing the old collection, before the new collection is bearing fruit, if no revenue can be found. If the old trees were to be removed, there would be no fruit for research, teaching and extension for some of the selections for a few years. Also, if some of the old trees are removed before they are successfully re-propagated, there is a risk that we will lose that variety altogether, and we will have to acquire budwood from the California Citrus Protection Program (CCPP).

We asked the ACRC to support 50% of the cost of maintaining 9 total acres of citrus for 2017 (8 acres of the old collection, plus one acre of the new). Because the ACRC was able to provide funding, the University of Arizona agreed to provide the additional 50%. As a result, the ACRC helped to ensure a reliable supply of fruit for research, teaching and extension during 2017 while the new collection was propagated, growing and bearing fruit.

Materials and Methods

With the funding, The University of Arizona maintained the two collections during 2017. Fruit from both collections was used for demonstration and tasting for Master Gardener and community events in Yuma, Maricopa, Pinal, Pima and Mohave counties. The fruit was also used for tasting and demonstration in PLS403 “Citrus and Date Palm Production” – a class taught during the Spring Semester 2017/18 at UA-Yuma.

A map of the new variety collection, comprising 71 varieties, in Block 18 can be found in Figure 1.

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Results and Plans for the Future

Currently, we expect to keep Block 17 (the old collection) through the middle of 2018. There are 50 additional varieties at the Yuma Agriculture Center, some of which are in Block 17, which must be propagated in anticipation of planting in Block 18. Budding will occur in late Spring 2018. Once we are assured that those new trees have survived, then the trees in Block 17 will be destroyed.