

Harvest and Evaluation of Strain Trials at Lindcove Research and Extension Center

Project Leader:

Mary Lu Arpaia

***Botany and Plant Sciences, UC/Riverside and
Kearney Ag Center, Parlier***

Our progress on the two portions of this study is outlined below, plus a near-final summary of the Valencia strain portion of the project which was terminated in 2003.

Navel Strain Trial: We had several early season samplings to examine the differences between the strains with respect to rind color, SSC, TA and SSC/TA. The early strains were harvested in November 2004 from all replicates, the mid-season strains were harvested in March 2005, and the late season strains were harvested in May 2005. (See below for categorization of strains.) The average yield per tree for each strain is presented in Table 1. All fruit were run over the packline at UC Lindcove REC for size and grade. We collected fruit quality data for each strain at the time of harvest.

Delta, Midnight and Olinda Valencia Orange Trial: This was to be the sixth year of differential harvesting. One tree of the 2-tree plot was harvested in March 2005. The remaining tree in each plot was harvested the 3rd week of July 2005. Unfortunately, at the time of harvest, fruit were unintentionally mixed and thus yield data for the second harvest was not obtained. Fruit from the March harvest were run over the packline at UC Lindcove REC. A 10-fruit subsample of the peak size fruit was pulled from each replication at the time of the March harvest. This fruit was used to evaluate a number of quantitative fruit traits.

Valencia Strain Trial: The attached figures summarize the data collected over the course of the project. Figure 1 presents the cumulative yield data through 2002 (2003 data not included since the Campbell trees were removed as part of R. Krueger's project). Note that with few exceptions, the Pehrson selections are higher yielding than the traditional Valencia strains.

Figure 2 presents the average packout data (2000 – 2003) for each strain, with notable differences between strains in terms of size distribution. Figure 3 presents the color sorting done by the Lindcove line based on packout year. Even though the fruit were harvested the same calendar week each year, significant differences were detected in color categorization each year. Figure 4 presents the average color sorting for each strain from 2000 – 2003. Note that the Pehrson #3 had substantially higher levels of orange and yellow/green fruit as compared to the other strains. Figures 5 and 6 are the average SSC/TA ratios for the fruit over the 2000 – 2003 period with Figure 5 presenting the June harvest data and Figure 6 presenting the late July harvest data. Note that the Pehrson #3 has lower SSC/TA ratios at both dates, suggesting that overall it is a later season Valencia strain.

Contact Citrus Research Board for figures.