

Citrus Variety Evaluation for Trueness-to-Type and Commercial Potential

Project Leader:

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High quality citrus varieties which are adapted to California climates and meet market needs are crucial to the industry to maintain competitiveness in the global and domestic fresh citrus markets. To be responsive to market changes such as the increasing market desire for seedless tangerines, our project continues to provide the industry with preliminary information on the characteristics of citrus varieties in California, to evaluate trueness-to-type of varieties distributed by the Citrus Clonal Protection Program, and to maintain the citrus evaluation blocks to serve as demonstration material for tours, fruit displays and periodic field days for California growers.

In 2004-2005 we evaluated 54 selected mandarin, blood orange, late season navel orange, lemon and specialty varieties three or four times per season from multiple locations. All except the lemon varieties were evaluated for twenty different characteristics such as tree vigor, health, and fruit quality traits including rind color, texture and thickness, seediness, juice color, soluble solids, and titratable acidity.

Two seasons ago we initiated evaluations of Satsuma selections Aoshima, Miho and Armstrong in comparison with Okitsu Wase, Kuno Wase and Frost Owari. Last year we added Silverhill, China S-2 and China S-9 to our evaluations. Armstrong, China S9, and Miho Wase had solids-to-acids ratios higher than 6.5 by 9-20-04 in Riverside. All others were not above the legal maturity standard by that date but all met the legal maturity standard by the 10-25-04 sample date.

Evaluations of the Clementine selections initiated two years ago included Corsica #1, Corsica #2, SRA 63, SRA 92, Nour and Carte Noir (Figures 1-4) in comparison with Marisol, Fina Sodea and Clemenules or Nules or Clementina de Nules (Figures 5-7), the most highly planted of the Clementine selections. All had fruit which were well above legal maturity when sampled 10-25-04. At the December sample date at three locations, all had similar and acceptable average percentage acid levels (Table 1). Fruit of all selections were seedy in three mixed variety blocks with seed numbers ranging from 6 to 22 seeds per fruit (Table 1). None of the Clementine selections sampled at Riverside exhibited granulation, but Carte Noir fruit were granulated at two locations and Marisol, Arrufatina, Corsica #1 and Clemenules at a single location. Fina Sodea, Corsica #2, Hernandina, Nour and SRA 63 fruit showed no signs of granulation at multiple locations (Table 1).

Two tangors from Japan, Iyomikan and Miyauchi Iyo, produce fruit that are similar in rind color and size (super colossal size designation), but Miyauchi Iyo fruit are earlier in maturity and less seedy with an average of 6.3 per fruit than Iyomikan fruit with an average of 12 per fruit in a mixed variety block. Evaluations of W. Murcott Afourer, Gold Nugget, Pixie, TDE1, Shasta Gold TM, Tahoe Gold TM and Yosemite Gold TM TDE mandarin hybrids from mid-December until mid-February last year demonstrated that the percentage acid of Gold Nugget and W. Murcott Afourer fruit in Riverside does not drop to the same degree as these other mandarins.

Last season, continued evaluations of Washington Sanguine, Sanguine Doble Fina, Smith's Red Valencia and Burris blood Valencia from the Riverside location during early February through mid March demonstrated that Smith's Red Valencia and Bream Tarocco have the most consistent and deepest internal

red pigmentation and darker red rind blush on average than the other blood oranges. Sanguine Doble Fina has the least internal coloration of ones evaluated and even less internal coloration when grown in the coastal Irvine location.

Results of our evaluation studies were presented at two growers meetings and informally at fruit displays at the National Citrus Institute, the World Ag Expo, the Sunkist Annual Meeting and the Riverside Orange Blossom Festival. Handouts are available to growers upon request by phone (951-827-7360) or by email (tracy.kahn@ucr.edu). Descriptions of new and commercially important varieties are posted on our web site: <http://www.citrusvariety.ucr.edu/>.

Contact Citrus Research Board for table.



