

Gulf Coast Fruit Study Newsletter

Volume 24, Issue 1

Edited By: Ethan Natelson

January 16, 2010 Meeting

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The Orange and Other Revolutions

Those of us who attended the last Fruit Study Group meeting heard a very interesting lecture by Mani Skaria, who is a plant pathologist and master plant propagator at the Texas A&M Citrus Center in Welasco, Texas. He has championed the cause of high-density planting for citrus and combined it with his technique of microbudding, a combination which develops commercially marketable fruit from seed to harvest in a remarkably short time. In this process a seed of a vigorous citrus rootstock is placed in a small conical container which appears to be about 8 inches long and 2 inches in diameter. Shortly after the seedling germinates, it is grafted under a low-power microscope with bearing wood from a favored cultivar. Once the graft has taken and the scion begins to show a foot or so of growth, the tiny grafted seedling is directly planted out in the orchard, with drip irrigation, unlike the usual system of first allowing a small new tree to develop strong root structure in a pot, and then transferred into the new planting. Within a remarkably short time, the microbudded plantings, which look at a distance like a cornfield bearing citrus, become quite productive. Mature fruit may be available in as short a time as 2 years.

There are many advantages to such a planting system, which include lower initial costs, more efficient land management, easier disease control, early production and early harvest of a marketable crop. Moreover, if a diabolical new pathogen, such as citrus greening, devastates the orchard, it can be easily torn out for an alternate crop or replaced without many lost years of fruit production. There are questions about the long-term ideal size of the trees on a vigorous rootstock and loss of solar penetration in such a tight orchard system. In Florida, similar plantings are being studied with dwarfing rootstocks or **Flying Dragon** interstems to keep tree size down and not interfere with production. Mani indicates that microbudded citrus in these small containers may soon be available at gardening distributors in Houston, at a lower cost than the larger plants we are used to purchasing. Here in Houston, we favor the **Flying Dragon** variety of *trifoliata* dwarfing rootstock over seedling sour orange, the usual vigorous understock used in the Rio Grande Valley, so read the label carefully on these plants. In colder areas, this system can be combined with inexpensive hoop houses to allow citrus production further north.

Next Gulf Coast Fruit Study Meeting

Our upcoming meeting is our annual fruit tree sale and symposium on **Saturday, January 16, 2010**. Sign-in begins at 7:30 a.m., program begins at 8:00 a.m. and lasts until 2:00 p.m., with intermission for the fruit tree sale, which begins at 9:00 a.m.

Contact Us!

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The Orange and Other Revolutions (continued)

Such high-density systems have already been proven effective for olive and grape plantings in California, over the past few years, and have been used for some time in the modern design of apple orchards. Less distance between plant rows is often another potential feature of high density planting and this has stimulated development of unique mechanized equipment designed to fit between the rows of plants and to perform certain tasks formerly done by hand. The November issue of Good Fruit Grower Magazine features some of this unusual equipment design used in high density grape plantings. Items such as mechanical scuffer brushes to thin fruit and scrubber brushes to remove suckers from the trunk make you think of a car wash. Estimates of labor cost comparisons for grapes are \$100 and \$60 per acre respectively for fruit thinning and sucker removal by hand versus \$14 and \$5 per acre by the mechanical technique. In the case of both grapes and olives, this system lends itself to “over the row” spraying and mechanical harvesting by shaking or brushing the plants. The unscientific claim that we heard when visiting the beautiful Texas olive plantings in Wimberly, that mechanical harvesting somehow spoils the quality of the oil, has proven entirely false. The favored varieties when oil production is the goal appear to be the smaller olives such as **Arbequina**, **Arbosana**, and **Koroneiki**, the first two of which are also cold hardy. It seems less aesthetic and picturesque to see small olive trees grown like corn, and kept to about 9-10 feet in height, but cost reduction and ingenuity are the best ways to effectively compete with foreign markets that have labor costs as well as legal and government assistance advantages not available in the United States.

High-density plantings for pears are also discussed in the September issue of Good Fruit Grower Magazine. This has been more of a work in progress because some type of trellis system is necessary and, unlike apples, with a plethora of dwarfing rootstocks, there is not an effective universal dwarfing root system for pears. The article details some of these problems and describes training pears in a V system, using crossed bamboo poles to tie and angle two major limbs, much like we have seen used successfully for peaches in many of our orchard tours near Clanton, Alabama. The vigor of the OH x F 87 rootstock favored in the Northwest creates problems with suckering and a heavy canopy, shading out sunlight in these systems and requiring extensive pruning. Newer varieties of quince are under test along with varieties of *Amelanchier* (service berry). Some very unusual rootstocks have been evaluated for pears, over the years, and many of these are detailed in the excellent book, Rootstocks for Fruit Crops, by Rom and Carlson. High-density planting for pears may require re-investigation of some of these unusual rootstock scion pairings which do dwarf yet stimulate production of full-size fruit.

Future Programs:

For our March meeting we hope to have a program on blueberries. On November 9th, our speaker will be Richard Ashton, who organized the first annual symposium on Pomegranates for Texas, which was recently held in San Marcos. Richard has authored several books on fruit crops. He will bring with him some unusual pomegranates he has grown in Brownwood, Texas, for us to sample. Other examples of this fruit, which is well-suited for Texas growers, would be welcome.

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CHANGE SERVICE REQUESTED

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