

Project 43 Propagation & Evaluation of Irradiated Citrus Budwood & New Hybrids
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The objectives of this project are to identify seedless forms of cultivars that currently perform well in California, and to evaluate new seedless or low-seeded hybrids. The major emphasis is on mandarins, but some work on oranges and lemons is also conducted. Budwood is exposed to irradiation to induce mutations that block seed development, converting a seedy cultivar to a seedless one. Trees are propagated from the irradiated buds in the greenhouse at Lindcove, planted in the field, and evaluated for seediness and other traits. Only a few trees contain suitable mutations. Selected trees are then used as sources of budwood to propagate additional trees for testing at multiple locations (this phase is a separate project). Since the project was started in 1996, a total of 1248 trees from irradiation of 28 different varieties or selections were planted. Evaluation of these resulted in a total of 44 low-seeded selections, but evaluation of the more recent plantings is not yet complete. The selections have been repropagated for replicated trials at multiple locations. The first selections from similar irradiation experiments carried out and grown in Riverside have now fruited in replicated trials. Most appear quite stable and productive, so the general approach seems to be successful. We expect to release a low-seeded selection of W. Murcott in summer of 2006. Overall progress has been excellent. Additional trees require continued evaluation. Some additional varieties suitable for irradiation have been identified for future work.