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### **W. Murcott Mandarin May Need More Babying Than Navel Orange**

The mandarin variety 'W. Murcott' (also known as 'Afourer') is relatively new to San Joaquin Valley citriculture. In fact, other than a relatively long history of growing the Satsuma mandarin, most mandarin varieties are relatively new to the San Joaquin Valley. Unlike the expertise in growing navel and Valencia oranges and lemons, most citrus growers are still on a learning curve in producing mandarins commercially. The W. Murcott mandarin is relatively late maturing variety, with good color, good production, good appearance and good taste. If grown sufficiently far from other pollen-producing citrus, it is mostly seedless. So what's the problem?

Some of the oldest W. Murcott mandarin trees in the San Joaquin Valley are located in a randomized planting of numerous varieties of mandarins established in the mid-1990 at the UC Lindcove Research and Extension Center. In a visit to the trial in early December of 2007, most of the W. Murcott mandarin trees in this trial had an unthrifty appearance with very thin leaf canopies and branch dieback. These trees had either very low or very high fruit yields regardless of whether on C-35, Carrizo or Trifoliolate rootstock. The many other mandarin varieties in this trial on the same rootstocks appear to be growing well. Apparently there are older W. Murcott trees than these trees at Lindcove in the San Joaquin Valley that are not exhibiting the problems seen in this trial. Experts with far more experience in mandarin production than this author have stated that the reason for the poor appearance of the W. Murcott trees at Lindcove is that they have not been managed as intensively as this variety requires. W. Murcott has a strong, alternate bearing fruit-production pattern. As has been previously observed, especially in hot, dry environments such as the Coachella Valley, alternate bearing mandarins can exhaust carbohydrate resources in producing fruit in the high-yield year. High fruit production can seriously weaken the tree.

Although the reasons for the decline of these trees is not known for sure, W. Murcott growers in the San Joaquin Valley, and there are now thousands of acres of these trees, need to be aware that controlling alternate bearing appears to be advisable. Most growers, currently, manage alternate bearing by limiting the fruit-bearing area of the tree through annual pruning. Less fruit in the high-bearing year translates into more fruit in the off-year. As well, it has been suggested that fruit harvests in heavy bearing years should proceed in a timely fashion, so that fruit does not remain on the tree for excessive time periods. Irrigation and fertilization practices may also need to be more tightly controlled than in other citrus varieties so as not to encourage alternate bearing, yet ensure that water and nutrition is adequate to minimize stress when fruit load is higher. Knowledge of what to do and when to do it to W. Murcott mandarins is lacking. Not in doubt is the observation that California W. Murcott mandarin growers will likely be learning as they grow.

