

Dual Variety Rows

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Our strategy is simply to increase cross pollination by alternating two compatible varieties down the same row and comparing yields of the same two varieties planted in solid rows. Solid rows of Padre are compared to solid rows of Mission versus rows alternating with Padre and Mission (M•P•M) down the row. Solid rows of Butte serve as border rows between each treatment. All trees are drip irrigated and planted to Lovell peach rootstock at 15' x 20' spacing for 145 trees per acre on Class II soil.

Yield results for 2001 show no advantage to alternating two varieties down the same row. The bloom was strong with good overlap between all three varieties. Weather during bloom was quite conducive to bee flight. Such optimal conditions in past years has neutralized the alternating advantage.

The effect of Butte pollen on the set of Padre and Mission is significant in this block. In past years we have determined by paternity testing that Butte pollen sets Padre flowers in solid rows of Padre which significantly "masks" the real potential advantage of alternating Mission in the row. We again tested Padre and Mission nuts for the pollen parent with the help UCD Pomology Department. Results of the 2001

analysis are not yet available. Nuts will be germinated spring 2002 and leaf tissue DNA tested to determine pollen parentage. This more advanced paternity testing method replaces the isozyme method used previously .

Even with the equalizing effect of Butte pollen in this test we find that in many years alternating varieties shows about a 10% yield advantage. Rows planted with alternating M•P•M or P•B•P would likely show a greater yield advantage verses solid rows of 2 varieties than in our test where a third variety (Butte) is planted. Further, the true value of alternating varieties should be evaluated by calculating the income received from higher yields. Grower returns for almonds during years of poor set conditions generally exceed normal year prices and so the economic advantage to alternating is greater than simply the percentage yield increase. Using the years 1993-1996 when we found a yield response the dollar value of alternating varieties was \$140 for 1993, \$230 for 1994, \$523 for 1995, and \$326 for 1996 or a total economic advantage in this planting of \$1221 per acre.

NICRAC dual rpt 01 minus data

<u>Plot</u>	<u>Kernel - Lbs/Acre Mean</u>	<u>Weight - gms/Kernel Mean</u>
Padre	2275	0.96
Padre M	2257	0.92
Mission	2310	1.07
Mission-P	2472	1.07