

# Field Evaluation of Almond Varieties

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**Project No.:** 07-HORT2-Lampinen

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## **Objectives:**

The Almond Workgroup reached a consensus decision to discontinue yield data collection at the Butte, Delta and Kern Regional Almond Variety Trials (planted in 1993) effective with the 2007 season. Bloom and maturity data for these trials will be presented at a later date.

This report will concentrate on a replicated variety trial of eight varieties and eight Nonpareil clones that was planted in 2004 in Kern County near McFarland. Soils at the site consist of McFarland loam and Wasco sandy loam (both Class I soils). The irrigation system is double line drip. Tree spacing is 20 feet between tree rows and 18 feet between trees for a density of 121 trees per acre. Varieties planted included Chips, Kahl, Kochi, Marcona, Selection 2-19e, Solano, Sweetheart and Winters, Nonpareil clones planted include Nonpareil 3-8-2-70, Nonpareil 5, Nonpareil 6, Nonpareil 7, Nonpareil Dr., Nonpareil-J, Nonpareil-Newell and Nonpareil-Nico. There are six replications of each variety and Nonpareil clone with 34 trees per replication. Pollenizer and Nonpareil rows alternate in the orchard.

The objectives of the trial are to evaluate pollenizers and Nonpareil clones in a replicated trial where relative yield performance as well as bloom dates, maturity dates, disease/insect susceptibility, etc. can be assessed.

## **Interpretive Summary:**

Weather during bloom was generally good at the McFarland trial site. Bloom data for 2007 is shown in Table 1. Chips, Winters and Sweetheart were the varieties to reach full bloom the earliest and Kochi and Selection 2-19e were the latest. The earliest varieties to begin hullsplit were the Nonpareil clones which started about July 18<sup>th</sup> (Table 2). The latest varieties to begin hullsplit were Kahl, Winters and Marcona which began in the third week in August (Table 2).

Yield data for the 2006 and 2007 seasons are shown in Table 3. The sample processing for the Nonpareil clones from the 2007 harvest was not completed at the time the report was due so these data will be presented at a later date. Selection 2-19e and Winters had significantly higher yields compared to all the other varieties and Nonpareil clones at the McFarland trial in 2006 (Table 3). In 2007, Selection 2-19e and Winters had significantly higher yields than the other pollenizers (Table 2). The lowest yielding varieties in both 2006 and 2007 were Solano and Sweetheart. It should be noted that the Solano in the trial may have been part of a budwood mixup and may not be pure Solano. Marcona yields have been relatively high, particularly considering the low shelling percentage (around 30%). There were no significant differences in yields among the Nonpareil clones in 2006 (Table 3).

## Acknowledgements

The authors wish to thank the Almond Board of California for their continued support of this project. The following nurseries supplied trees at reduced cost for these trials: Bright's Nursery, Burchell Nursery, Dave Wilson Nursery, Fowler Nursery, Sierra Gold Nurseries and Spoto Nursery. We particularly want to express our appreciation and thanks to the staffs of California State University at Chico, San Joaquin Delta College, Paramount Farming Company and the Billings Ranches for excellent cooperation in managing and maintaining these trials. The assistance of Cooperative Extension field assistants in Kern, Butte and San Joaquin Counties and field personnel of the University of California Plant Sciences Department is gratefully acknowledged.



Table 3. Yield, number of nuts, average kernel weight, shelling percentage and yield for 2006 and 2007 seasons

**2006**

Variety	No. of nuts/tree	Average kernel wt (g)	Shelling percentage	Kernel pounds per	
				Tree	Acre
2-19e	6852 a	0.94 g	53.0 d	14.2 a	1718 a
Winters	6648 a	0.87 h	53.4 d	12.7 a	1540 a
Marcona	3611 bcd	1.31 a	30.7 f	10.4 b	1258 b
Nonpareil-Ni	4246 b	1.09 cde	67.2 a	10.2 b	1232 bc
Nonpareil-5	3713 bcd	1.12 bcd	67.9 a	9.1 bcd	1110 bcd
Nonpareil-D	3867 bc	1.07 def	63.4 abc	9.1 bcd	1103 bcd
Nonpareil-3-8-2-70	3848 bc	1.07 cde	64.6 ab	9.1 bcd	1101 bcd
Nonpareil-Ne	3815 bc	1.07 cde	67.7 a	9.0 bcd	1086 bcd
Nonpareil-6	3886 bcd	1.12 bc	67.0 a	8.9 bcd	1075 bcd
Nonpareil-J	3717 bcd	1.08 cde	64.0 abc	8.8 bcd	1066 bcd
Chips	3623 bcd	1.02 f	53.8 d	8.1 bcde	985 bcde
Kochi	3134 cd	1.16 b	59.9 c	8.0 cdef	965 cdef
Nonpareil-7	3288 bcd	1.08 cde	65.1 a	7.8 def	940 def
Kahl	3139 cd	1.06 ef	47.8 e	7.3 def	889 def
Solano	2999 cd	0.97 g	60.8 bc	6.4 ef	771 ef
Sweetheart	2777 d	0.95 g	67.8 a	5.8 f	588 f

**2007**

Variety	No. of nuts/tree	Average kernel wt (g)	Shelling percentage	Kernel pounds per	
				Tree	Acre
2-19e	13149 a	0.78 d	54.3 c	22.8 a	2756 a
Winters	11972 ab	0.83 cd	60.2 b	21.8 a	2634 a
Kahl	9594 bc	0.91 b	47.6 d	19.3 b	2332 b
Marcona	6938 cde	1.08 a	29.8 e	16.5 c	1995 c
Chips	7681 cde	0.87 b	54.4 c	14.7 cd	1780 cd
Kochi	6006 e	1.08 a	59.4 b	14.3 cd	1729 cd
Solano	7253 cde	0.90 b	56.0 bc	13.9 d	1684 d
Sweetheart	6767 de	0.89 b	66.6 a	13.1 d	1588 d

Nonpareil data was not ready at reporting time