



Pruning Systems for High Density Orchards

Nickels Soil Lab Project

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Objectives

To evaluate tree pruning methods for maximum production while maintaining long-term yield in 16'x22'spaced almonds.

Methods

- 17th season evaluating minimum pruning methods (planted in 1997)
- 16'x22' spacing, north and south on Lovell
- Microsprinklers, irrigated 2x per week to meet Etc
- Sandy loam with clay at 26-60"
- Orchard design is 1:1, Nonpareil alternates with Monterey, Carmel, Aldrich
- Replicates: 4 Nonpareil, 3 Monterey, 2 Aldrich, 2 Carmel

Nonpareil



Pruned



Unpruned

Pruning treatments

- **Standard** - 3 primary limbs selected at 1st dormant, secondaries selected 2nd dormant. Balanced canopy with opened centers. Yearly pruning.
- **Unpruned** - 3 primary limbs selected, tipped and left long at 1st dormant pruning, then no additional pruning unless required for operations, wind etc.
- **Mechanically Topped** - Same as unpruned plus machine topping, cut 1/2 previous yr growth in winter after 2nd year, then spring 4th leaf. Hedged in spring, 2013.
- **Temporary Scaffolds** –Train limbs at 1st dormant to favor 3 primary scaffolds. Keep temporary branches lower on trunk, removing only ones competing with permanent scaffold. Temp limbs removed yr 4-8 after cropping.

Average Yields of All Varieties

No statistical difference between treatments

Pruning Method	2000	2001	2002	2003	2004	2006	2007	2008	2009	2010	2011	2012	2013	Accumulative yield (yrs 3-15)
Standard	1,185	1,414	2,613	2,033	1,928	2,140	2,843	3,503	2,483	2,542	2,439	2,659	2,849	34,778
Temp Scaffolds	1,406	1,461	2,677	1,764	1,945	2,045	2,698	3,322	2,441	2,373	2,583	2,691	3,099	31,615
Mech Topped	1,060	1,366	2,660	2,244	1,890	2,060	2,788	3,374	2,423	2,409	2,385	2,866	2,772	34,264
Unpruned	1,374	1,422	2,801	2,260	2,042	2,009	2,698	3,427	2,445	2,379	2,577	2,912	2,930	36,764

Yields in this report are calculated from small lots. They do not include deduction from huller/cracker loss and assume solid orchards with no missing trees. Therefore, the numbers are approximately 5-10% higher than expected commercial block yields.

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