# Avocado Pruning Trials

*Gary Bender*
*U.C. Cooperative Extension,*
*Building 4, 5555 Overland Ave.,*
*San Diego, CA 92123*
*Ben Faber*
*U. C. Cooperative Extension,*
*669 County Square Dr. #100,*
*Ventura, CA 93003*

*Cooperating Personnel:  Greg Partida, Cal Poly Pomona, Eta Takela and Peggy Mauk, U.C.C.E. Riverside County, and Mary Lu Arpaia, Kearney Ag Center*

## Benefit to the Industry

Most of avocado groves in Southern California are crowded resulting in little light penetration into the lower canopy. This condition has led to poor fruit set in the lower canopy and a general reduction in fruit production overall. Thinning has usually been the method to overcome the crowding problem, but growers often balk at removing mature trees, and the remaining trees continue to grow upward making harvesting very difficult. These trials will evaluate various pruning methods compared to thinning, and compared to a treatment in which no pruning or thinning is done. The industry will benefit by knowing the proper method by which to correct a crowded tree canopy and maintain that canopy for best fruit production.

## Objectives

1. Locate and establish at least five sites for pruning trials with cooperating growers in San Diego and Ventura Counties.

2. Establish side by side pruning treatments at each test site. Each pruning treatment will consist of a block of 16trees. Pruning treatments will be 1) Non-pruned control, 2) Thinned block (every other tree removed on diagonal rows, 3) Stumped at three feet, no follow-up, 4) Stumped at three feet, followed up with inside pruning and topping at 12 feet, 5) Stumped at three feet, followed up by pruning to a single leader, 6) Two cut pruning, each year a center branch and a side branch are removed from each tree., 7) Israeli method of yearly branch removal starting from the southwest side, followed by removal of a main branch each year, 8) Stumped at 8feet, yearly topping at 12 feet.

3. Maintain records of time spent on each method. Collect data on yield and fruit size.

## Summary

### Establishment of Pruning Trial Sites

Two sites have the complete set of all pruning treatments, the Stehly Ranch in Valley Center, San Diego County, and the Lamb Ranch in Camarillo, Ventura County. Pruning was completed in late spring, 1998, at both sites. Two other sites in Ventura and Santa Barbara Counties also have some of the pruning treatments, and a site has been marked out for pruning in spring 1999 at a ranch in Pauma Valley, San Diego County.

### Pruning and Follow-up Care

Initial pruning, thinning and stumping was done by the farm advisors and the grower-cooperators. Follow-up pruning is being done by the farm advisors and by Greg Partida.

### Data Collection

The first yield data from the trials will be collected in March and April, 1999. Time spent on the various pruning treatments is presented in the table below:

### Time Spent on Various Pruning Methods

| | |
|---|---|
| Non-pruned Control | 0 hrs |
| Thinned Block, wood cut into logs | 6 hrs/8 trees |
| Stumped Block, No Follow-up | 4 hrs/16 trees (cutting) <br> 8 hrs/16 trees (chipping downed wood) <br> <u>2 hrs/16 trees (weed control)</u> <br><br> 14 total hrs |
| Stumped Block, Partida Method | 4 hrs/16 trees (cutting) <br> 8 hrs/16 trees (chipping downed wood) 2 hrs/16 trees (weed control) 0.3 hrs/16 trees (shaping in July) 0.3 hr/16 trees (shaping in October) <br> <u>1.1 hrs/16 trees (shaping in February)</u> <br><br> 15.7 total hrs |
| Stumped Block, Single Leader | 4 hrs/16 trees (cutting) <br> 8 hrs/16 trees (chipping downed wood) |

|  | 2 hrs/16 trees (weed control) |
|  | 0.5 hrs/16 trees (shaping in July) |
|  | 0.5 hrs/16 trees (shaping in October) |
|  | <u>0.5 hrs/16 trees (shaping in February')</u> |
|  | 15.5 total hrs |
| 2-cut Method | 4 hrs/16 trees (taking down branches) |
|  | <u>3 hrs/16 trees (chipping downed wood)</u> |
|  | 7 total hrs |
| Israeli Branch Removal | 2 hrs/16 trees (taking down branches) |
|  | <u>3 hrs/16 trees (chipping downed wood)</u> |
|  | 5 total hrs |
| Stumping at 8 feet | 16 hrs/16 trees (taking down branches and chipping) |
|  | <u>2 hrs/16 trees (weed control)</u> |
|  | 18 total hrs |