

1974 COSTS TO PRODUCE AVOCADOS IN SAN DIEGO COUNTY

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In San Diego County, the cost of producing avocados varies with the grower and the orchard. The most recent study shows that the total pre-harvest operating cost, which includes the cultural, non-cash and overhead costs, was \$2,155 per acre to produce avocados. This study was developed through the cooperative efforts of farm managers, growers, a University of California farm management specialist, and the University of California farm advisor.

The study was based on a typical commercial Fuerte avocado orchard, ten acres, 10- to 12-year old trees, 100 trees per acre, and utilizing a permanent, plastic irrigation system. The total preharvest cost figure includes irrigation, fertilization, weed control, pest control, pruning, orchard thinning, maintenance and operation of equipment, taxes, insurance, management fee, general expense, interest on investment, and depreciation. Investment per acre includes the sprinkler system, trees, building and equipment, and pick-up truck. Depreciation per acre was on the sprinkler system, trees (after 5 years), pick-up truck, and equipment and building.

Irrigation constitutes the largest single expense of the agricultural operation, totaling \$408. Water use averages 3 ½ acre feet per acre at a cost of \$85 per acre foot. Labor required to irrigate approximately 36 times during the year cost \$110. Not only is irrigation the largest single expense, but the most important operation the grower must do in the orchard.

Fertilization with nitrogen totals \$63 per acre. Nitrogen material applied in the chemical form costs \$45. Approximately 150 pounds of actual nitrogen per acre is used. Labor for applying the material is \$18, giving a total for material and labor of \$63. The cost of leaf analysis once a year is included in the fertilizer cost.

Zinc may be needed from time to time. This is applied to the leaves by aerial spraying or ground spraying, or applied on the ground. Zinc is applied once every five years to the soil. Soil application requires a larger dosage than a foliage spray in order to supply the tree with an adequate amount of this material. A large dosage, therefore, lasts for the period up to five years. The foliage spray will probably have to be done once every year or two. Phosphate and potassium may be applied periodically but not regularly like nitrogen.

Other operational costs are: weed control at \$34, using oil and monuron or simazine on a spot-spraying basis, and the use of tractor-mower for mowing the weeds; pest control totals \$21 per acre, which is the cost of controlling ants, gophers, snails, and rodents;

pruning costs, \$64 per acre, consist of removing deadwood and lifting the skirts of the trees to permit better water distribution; orchard thinning (between the 10th and 15th year); and miscellaneous operations of repairs, supplies, erosion control, etc., totaled \$60 per acre. Breakdown of the total cultural costs are: materials and equipment \$397, labor \$243, giving a total of \$650 per acre.

Harvest costs were not included in this year's study. The charge for picking fruit ranges from 2 ½ c to 4 ½ c per pound and over, depending on the volume of crop, age of the trees, steepness of the orchard, and the labor used.

Overhead costs include: maintenance and repair, \$40 per acre; taxes, \$130 per acre; general expenses (insurance, office supplies, telephones) and management fee, \$60 per acre each. The management charge is placed in the study since many growers are now using grove managers, marketing organizations, and grove management service to perform the management function.

The total cash overhead cost is \$290 per acre. Operating costs (cultural and overhead) add up to a total cash preharvest cost of \$940 per acre. The non-cash cost, including depreciation at \$557 an acre and interest on investment of \$658, adds to \$1,215, giving a total preharvest cost of \$2,155. Growers who do not want to consider interest on investment as a cost against the orchard may subtract the interest charge, resulting in a preharvest cost of \$1,497 per acre.

Significant variations that occur in yield per acre are due to different varieties, orchard location, cultural practices, type of tree, and climatic conditions. A good commercial yield per acre for Fuertes and Bacon over a period of years should average between 5,000 pounds to 10,000 pounds, and for Hass and Zutanos, 7,000 pounds to 12,000 pounds. A few exceptional orchards produce above these yield levels and many orchards produce less.

The accompanying table shows the breakdown of costs which should be given consideration in figuring the cost of producing an acre of avocados.

YIELDS AND RETURNS

Yield varies considerably among orchards, and from year to year. Commercial production may range from 3,000 to 12,000 pounds per acre. Excellent orchards under favorable conditions produce more. The following chart illustrates variability in gross on-tree returns due to yield and price changes for all varieties.

*On-Tree Price Cents/lb	Yield Per Acre Pounds/Acre						
	3,000	5,000	6,000	7,000	8,000	10,000	12,000
\$0.10	\$ 300	\$ 500	\$ 600	\$ 700	\$ 800	\$1,000	\$1,200
0.15	450	750	900	1,050	1,200	1,500	1,800
0.20	600	1,000	1,200	1,400	1,600	2,000	2,400
0.25	750	1,250	1,500	1,750	2,000	2,500	3,000
0.30	900	1,500	1,800	2,100	2,400	3,000	3,600
0.35	1,050	1,750	2,100	2,450	2,800	3,500	4,200
0.40	1,200	2,000	2,400	2,800	3,200	4,000	4,800

*Deduct cost of harvesting—2½¢ to 4½¢ lb.

COST ANALYSIS			
	Labor cost	Mat'ls and equip. cost	Total cost per acre
<i>Cultural Operations</i>			
Fertilizer—2 times (Actual N-150 lbs/acre)	\$ 18	\$ 45	\$ 63
Irrigation—36 times (Water— 3½ acre ft. per acre @ \$85)	110	298	408
Pest Control—ants, gophers, snails, (baits, poisons & predators)	9	12	21
Weed control—spot spraying & mowing (oil)	14	20	34
Pruning (skirt, deadwood) and orchard thinning (tree removal 10-15th year @ \$10/ tree) (Chain saw & brush disposal)	50	14	64
Misc.—tree care, erosion control supplies, tree stakes (supplies & tools)	42	18	60
Total cultural costs	<u>\$243</u>	<u>\$397</u>	<u>\$650</u>
<i>Overhead Costs</i>			
Taxes			130
Maintenance and repairs			40
General expenses			60
Management charge, variable (\$5/acre/month)			60
Total Cash Overhead Costs			<u>\$ 290</u>
Total Preharvest Cash costs			<u>\$ 940</u>
<i>Investment Overhead</i>			
Depreciation			557
Total Cash Costs Plus Depreciation			<u>\$1,497</u>
Interest on investment			658
TOTAL PREHARVEST COSTS			<u>\$2,155</u>

NOTE: We acknowledge the fine cooperation and assistance of the growers and farm managers who participated in accumulation of cost data.

Footnotes

(a)

Investment	Per Acre Investment	Per Acre Depreciation
Trees (20 years)	\$7,980	\$399
Irrigation systems (10 years)	900	90
Pick-up (5 years)	150	30
Equipment & Building (10-20 years) (Years vary with item)	350	38

(b) Interest on investment charged at rate of 8% of assumed land value of \$3,500 per acre plus half life value of trees, equipment, and building.

(c) Harvest costs, assessments and yield. A 4.9% assessment is made on the value of crop at roadside after harvesting. This money is used for industry advertising and sales promotion. Yield per acre varies by different varieties, locations, cultural practices, type of tree and climatic conditions from year to year.