

1970 COST 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. A recent study developed through the cooperative effort of growers, a University of California farm management specialist farm managers, and the University of California farm advisor showed that the total pre-harvest costs, which include the cultural, non-cash and overhead costs, were \$1,504 per acre to produce avocados.

The study was based on a typical commercial Fuerte avocado orchard, ten acres, 10 - 12-year-old trees, 100 trees per acre, and utilizing a permanent, plastic irrigation system. The operating 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 included the sprinkler system, trees, building and equipment, and miscellaneous items such as hand and shop tools. Depreciation per acre was on the sprinkler system, trees (after 5 years of growth) and the miscellaneous items.

Irrigation constitutes the largest single expense of the agricultural operation totaling \$300. Water use averages 3½ acre feet per acre at \$60 an acre foot for a cost of \$210. Labor required to irrigate approximately 36 times during the year cost \$90. Not only is irrigation the largest single expense, but the most important operation the grower must do in the orchard.

Fertilization with nitrogen totals \$32 per acre. Nitrogen applied in the chemical form costs \$20. Approximately 150 pounds of actual nitrogen per acre is used. Labor for applying the material is \$12, giving a total for material and labor of \$32. Zinc may be needed from time to time. This may be 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 \$16, using oil and monuron on a spot-spraying basis, and the use of a tractor mower for mowing the weeds or grass; pest control, totals \$11 per acre, which is the cost of controlling ants, gophers, snails, and rodents; pruning costs, \$47 per acre, which consists of removing dead wood, lifting the skirts of the trees to permit better water distribution, and brush removal; orchard

thinning, beginning between the 10th and 15th year, costs an average of \$8 per tree; maintenance and operation of equipment includes repairs, supplies, erosion control, etc. totaled \$40 per acre. Breakdown of the total cultural costs are as follows: materials and equipment \$258 and \$188 for labor, giving a total of \$446 per acre.

Harvest costs were not included in this study for a number of reasons. The main reason for not including them is that all orchards are different in production and in the ability to pick the trees from a physical standpoint. It is therefore difficult to put down a poundage figure that would be realistic. The charge for picking fruit ranges from \$.015 up to \$.03 per pound, depending on the volume of crop, the age of the trees, and the labor used. A 4½ assessment is made on the value of crop at roadside for industry advertising and sales promotion.

Operating overhead costs include: taxes at \$100 an acre, general expenses (insurance, office supplies, telephones, and management fee) of \$104 an acre; and maintenance and repairs of \$25. This gives a total of \$229 an acre overhead cost. The management fee is placed in the study since many growers are now using grove managers and/or a grove management service. Whenever a grower utilizes an orchard management service he is paying a fee of so much a month per acre for supervision. The total preharvest cost (cultural and overhead costs) comes to a total of \$675 per acre. The non-cash cost, including depreciation at \$392 an acre and interest on investment of \$437, adds \$829 to the preharvest cost of \$675, giving a total preharvest cost of \$1,504. For growers who do not want to charge interest on investment as a cost against the orchard, they may subtract the \$437 from the \$1,504 which will give a preharvest cost of \$1,067 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. An average good commercial yield per acre for Fuertes should range from 6,000 pounds to 10,000 pounds, and for Hass, 7,000 pounds to 12,000 pounds.

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

1970
SAMPLE COSTS TO PRODUCE AVOCADOS

San Diego County (a)

	<i>Labor Cost (c)</i>
CULTURAL OPERATIONS	
Fertilizer — 2 times (b)	\$ 12
Irrigation — 36 times	90
Pest control — ants, gophers, snails	6
Weed control — spot spraying and mowing	10
Pruning (skirt, deadwood) and orchard thinning (d)	40
Miscellaneous — tree care, erosion control, supplies	30
Total Cultural Costs	\$ 188

COSTS PER ACRE

<i>Labor Cost (c)</i>	<i>Materials and Equipment Item</i>	<i>Cost</i>	<i>Total Cost/Acre</i>
\$ 12	Actual N — 150 lbs./acre	\$ 20	\$ 32
90	Water — 3½ acre ft./acre @ \$60	210	300
6	Baits, poisons & predators	5	11
10	Oil	6	16
40	Chain saw and brush disposal	7	47
30	Supplies and tools	10	40
\$ 188		\$ 258	\$ 446

OVERHEAD COSTS

Taxes	\$ 100
Maintenance and repairs	25
General expenses	44
Management charge (\$5/acre/mo.)	60
Total Cash Overhead Costs	\$ 229
TOTAL PREHARVEST CASH COSTS	\$ 675

Depreciation	392
TOTAL CASH AND DEPRECIATION	\$1,067

Interest on Investment (e)	437
TOTAL PREHARVEST COSTS (f)	\$1,504

INVESTMENT SCHEDULE

<i>Item</i>	<i>Expected Life</i>	<i>Investment per acre</i>	<i>Depreciation per acre</i>
Trees (100/acre)	20 years	\$5,361	\$ 268
Irrigation system	10 years	650	65
Pickup	5 years	125	25
Buildings	20 years	50	3
Weed sprayer, mower, hand tools	10 years	310	31
TOTAL		\$6,496	\$ 392

FOOTNOTES

(a) Sample costs in this report are based on a typical commercial 10-acre avocado orchard, Fuerte variety, 10- to 12-year-old trees, 100 trees per acre, and permanent plastic irrigation system. Costs will vary from orchard to orchard and from district to

district. The purpose of these sample costs is to serve as a guide for cost estimation.

(b) Zinc may be needed. This may be applied to leaves by aerial or ground spraying, or applied on the ground. Phosphate and potassium may be applied periodically, but not regularly like nitrogen. Includes leaf analysis.

(c) Wage rate: \$2.25/hr. base wage plus 15% fringe benefits = \$2.59 (rounded to \$2.50).

(d) Tree removal between 10 to 15 years @ \$8 per tree.

(e) Interest on investment charged at rate of 7% on assumed land value of \$3,000 per acre plus half life value on trees, equipment, and building.

(f) Harvest costs, assessments, and yield.

Harvest costs vary from 1½ to 3¢ per pound depending on tree size, size of crop, terrain, etc. A 4½% 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. Average good commercial yields per acre should range from 6,000 pounds to 10,000 for Fuerte and 7,000 to 12,000 for Hass.