

## **COST TO DEVELOP AN AVOCADO ORCHARD IN SAN DIEGO COUNTY—1976**

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Continuing interest in the planting of new avocado orchards in San Diego County has necessitated the updating of development costs and the procedure to follow in developing an avocado orchard. In this article the authors present 1976 sample costs to develop a 10-acre orchard in San Diego County. The Fuerte variety, planted 20 by 20 feet (or 100 trees per acre) on a relatively frost-free hillside site, has been used. For a Hass planting, a 15 foot by 20 foot distance could be used. With all plantings, a permanent plastic irrigation system is installed with a riser to each tree.

The study shows figures for the first through the fifth years. Included are labor and field power necessary, materials, cash overhead, fruit credits, and allocation of monies for land, trees, irrigation system, building, and equipment.

(1) The labor and field power includes land preparation, orchard layout, planting (holes and protectors), irrigation, fertilization, weed control (hoe and spray), mulching (wood chips), tree care and pruning, pest control (gophers, rabbits, squirrels, etc.), and miscellaneous (propping, erosion control). The first year's cost is \$1,345. The big item in this first year is the land preparation, consisting of subsoiling to a depth of two to three feet, disking, land movement where necessary, and floating of the land. In the second and third years land preparation and orchard layout expenditures were not needed so the totals were \$490 and \$438 an acre respectively. The fourth year, \$410 an acre was the cost, and the fifth year, \$385 an acre. The total labor and equipment for the five years is \$3,068 per acre.

(2) Total materials cost for the first year is \$950 and includes trees at \$6 plus tax per tree, water, mulching materials, fertilizer, pest control, baits, poison and traps, tree wraps, weed oil, and miscellaneous parts and supplies. The largest item, of course, is the purchase of tree.

In the second year, the materials total \$325 per acre, the third year, \$310 per acre; the fourth year, \$335 per acre, and the fifth year, \$440 per acre, for a total of \$2,360 per acre.

(3) The total cash cultural cost, including labor, equipment and materials for the first year was \$2,295; for the second year, \$815; for the third year, \$748; for the fourth year, \$745; and for the fifth year, \$825, a total of \$5,428.

(4) The cash overhead includes general items (postage, telephone, insurance, magazines, etc.), management charge (a fee paid to a farm manager supervising the development of an orchard for a grower), taxes, and maintenance and repair. The total overhead cash cost for the first year is \$445; second year, \$341; third, \$336; fourth, \$436; and fifth, \$442, for a total of \$2,000.

(5) The pre-harvest cash cost per acre the first year totals \$2,740; the second year, \$1,156; the third year, \$1,084; the fourth year, \$1,181; and the fifth year, \$1,267.

(6) Fruit credits may be obtained in the fourth and fifth years for the Fuerte variety, and in rare cases, the third year. For the Hass variety, fruit credits may be obtained the second and third year. Fruit credit varies, depending upon tree yields and market prices. Harvesting costs are between 3 ½ cents. to 6 cents. per pound. Marketing assessment for advertising, promotion, and production research of the avocado is 4.7% of crop value at roadside.

(7) The net cash costs, which include labor and equipment, materials and cash overhead, total \$2,740 the first year; \$1,156 the second year; \$1,084 the third year; \$681 the fourth year; and \$517 for the fifth year.

(8) Accumulated net cash costs total \$2,740 the first year; \$3,896 the second year; \$4,980 the third year; \$5,661 the fourth year; and \$6,178 in the fifth year.

(9) Depreciation based on trees, irrigation system, pick-up truck, buildings and weed sprayer, mower, hand tools, etc., is \$183 per acre per year.

(10) Interest on investment for the first year equals 9% of first-year total pre-harvest cash cost per acre (5) plus 9% of land value and undepreciated balance of irrigation system, equipment and building. Interest for remaining years equals 9% of prior-year total investment costs (17). Interest on investment the first year is \$834; second year, \$926; third year, \$1,113; fourth year, \$1,311; fifth year, \$1,490.

(11) Total non-cash costs are: first year, \$1,017; second year, \$1,109; third year, \$1,296; fourth year, \$1,494; and fifth year, \$1,673.

(12) Total net all costs total \$3,757 the first year; second year, \$2,265; third year, \$2,380; fourth year, \$2,175; and fifth year, \$2,190.

(13) Accumulated total net costs total \$3,757 the first year; \$6,022 the second year; \$8,402 for the third year; \$10,577 for the fourth year; and \$12,767 for the fifth year.

(17) The total investment costs at the end of the first year are \$10,284; the second year, \$12,366; \$14,563 at the end of the third year; \$16,555 at the end of the fourth year, and at the end of the fifth year, a total of \$18,562.

The following cost study table is a breakdown of costs by item and by year.

SAMPLE COSTS TO DEVELOP AN AVOCADO ORCHARD IN  
SAN DIEGO COUNTY—1976

	DOLLARS PER ACRE				
	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
Labor & Equipment					
Land preparation (variable)	\$ 500	\$ —	\$ —	\$ —	\$ —
Orchard layout	75	—	—	—	—
Plant (dig, plant, mulch & wrap)	200	10	8	—	—
Irrigation (sprinkler)	150	150	150	150	150
Fertilization	35	35	35	35	35
Weed control (hoe, oil & herbicide)	180	180	120	75	50
Pest control (rodents, ants, deer, squirrels, predators)	75	50	40	40	40
Tree care (pruning, topping)	30	30	50	75	75
Miscellaneous (propping, erosion control, cover crop, straw)	100	35	35	35	35
(1) Total labor & equipment	\$1,345	\$ 490	\$ 438	\$ 410	\$ 385
<i>Materials</i>					
Trees (100/acre @ \$6 + tax)	\$ 600	\$ 30	\$ —	\$ —	\$ —
Mulch	50	35	20	—	—
Tree protectors & stakes	80	—	—	—	—
Water	50	85	150	200	300
Fertilizer	20	25	30	35	50
Weed oil & herbicides	85	85	60	50	40
Pest control	30	30	30	30	30
Miscellaneous (supplies)	35	35	20	20	20
(2) Total materials	\$ 950	\$ 325	\$ 310	\$ 335	\$ 440
(3) Total cash cultural (#1 + #2)	\$2,295	\$ 815	\$ 748	\$ 745	\$ 825

<i>Cash Overhead</i>					
General expense @ 7% of #3	\$ 161	\$ 57	\$ 52	\$ 52	\$ 58
Management charge, variable (\$7/ac./mon.)	84	84	84	84	84
Taxes	100	100	100	200	200
Maintenance & repair (road, fences)	100	100	100	100	100
(4) Total cash overhead	\$ 445	\$ 341	\$ 336	\$ 436	\$ 442
(5) Total pre-harvest cash costs (#3 + #4)	\$2,740	\$1,156	\$1,084	\$1,181	\$1,267
(6) Less fruit credits				(\$500)	(\$750)
(7) Net cash costs	\$2,740	\$1,156	\$1,084	\$ 681	\$ 517
(8) Accumulated net cash costs	\$2,740	\$3,896	\$4,980	\$5,661	\$6,178
<i>Investment Costs</i>					
(9) Depreciation	\$ 183	\$ 183	\$ 183	\$ 183	\$ 183
(10) Interest on investment @ 9%	\$ 834	\$ 926	\$1,113	\$1,311	\$1,490
(11) Total non-cash costs	\$1,017	\$1,109	\$1,296	\$1,494	\$1,673
(12) Total net all costs	\$3,757	\$2,265	\$2,380	\$2,175	\$2,190
(13) Accumulated total net costs	\$3,757	\$6,022	\$8,402	\$10,577	\$12,767
(14) Land @ \$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
(15) Tree value (from #13)	\$3,757	\$6,022	\$8,402	\$10,577	\$12,767
(16) Irrigation system	\$1,000				
Equipment	650				
(Pickup, mowers, etc.)					
Buildings	60				
	\$1,710	\$1,527	\$1,344	\$ 978	\$ 795
(17) Total investment costs	\$10,284	\$12,366	\$14,563	\$16,555	\$18,562

Depreciation and interest per acre are calculated from the following investment schedule:

<i>Item</i>	<i>Expected life</i>	<i>Investment per acre</i>	<i>Depreciation per acre</i>
Land \$5,000 (assumed value)		\$ 5,000	
Trees (100/acre)	20 years	12,767	\$638
Irrigation system	10 years	1,000	100
Pickup	5 years	150	30
Buildings	20 years	60	3
Weed sprayer, mower, hand tools	10 years	500	50
Total investment schedule		\$19,477	\$821

Note: We acknowledge the fine cooperation and assistance of the growers and San Diego County farm managers who participated in accumulation of cost data.