

## 1970 COST TO DEVELOP AN AVOCADO ORCHARD IN SAN DIEGO COUNTY

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The increased interest in the planting of new avocado orchards in San Diego County has brought a large number of requests for development costs and the procedure to follow in developing an avocado orchard. In this article the authors will present sample costs which have been estimated on the basis of a new 10-acre planting 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 the Bacon variety, a 15 foot by 15 foot spacing can be used, and for a Hass planting, a 15 foot by 20 foot distance could be used. Under all plantings a permanent plastic irrigation system is installed with a riser to each tree.

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

The labor and field power includes the following: 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 (repairs, erosion control). The first year's total labor and power cost is \$477. The big item in this first year was the land preparation, consisting of subsoiling to a depth of two to three feet, disking, land movement where necessary, and finally, floating of the land. In the second year, land preparation and orchard layout were not needed expenditures so the total for the second year was \$118 an acre. In the third year, land, preparation, orchard layout and planting of replacement trees were items eliminated, which gave a total of \$113 an acre. The fourth year, \$124 an acre was the cost, and the fifth year ended up at \$139 an acre. The total labor and power for the five years was \$971 per acre.

Total materials for the first year cost \$433, and included trees, at \$3.50 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, in the first year was the purchase of 100 trees.

In the second year, the materials cost \$89 an acre; and the third year, \$82 an acre; the fourth year, \$129 an acre; and the fifth year, \$152 an acre, for a total of \$885 per acre.

The total cash cultural costs, including labor, field power and materials for the first year, was \$910; for the second year, \$207; for the third year, \$195; for the fourth year, \$253;

and for the fifth year, \$291, a total of \$1,856.

The cash overhead includes general expense items (postage, telephone, insurance, magazines, etc.), management charge (a fee paid to a grove manager supervising the development of a grove for a grower), taxes, and maintenance and repair. The total cash overhead for the first year is \$194; second year, \$138; third, \$137; fourth, \$147; and fifth, \$171.

The total preharvest costs per acre the first year totaled \$1,104; the second year, \$345; the third year, \$332; the fourth year, \$400; and the fifth year, \$462. For the Fuerte variety, there should be some fruit credit obtained in the fourth and fifth year, and in some 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 1½¢ to 3¢ per pound. Marketing order assessment for advertising and promotion of the avocado is 4½% of crop value at roadside. The net cash costs which includes labor and field power, materials and cash overhead, come to \$1,104 the first year; \$1,345 the second; \$332 for the third year; \$350 for the fourth year; and \$362 for the fifth year.

Capital outlay is estimated to be \$4,135 per acre, based on an assumed land cost of \$3,000 per acre, and \$1,135 per acre for the irrigation system, buildings and equipment. The initial cost of the permanent plastic irrigation system with spitter heads is estimated at \$550 per acre installed. At the end of the fourth year, the spitter heads are converted to revolving sprinklers at an additional cost of \$100 per acre. To simplify calculations in the table, the initial capital outlay of \$1,135 per acre includes a charge for the complete irrigation system.

Interest on investment for the first year equals 7% of the first year's total cash cost per acre (5), plus 7% of land value and undepreciated balance of irrigation system, equipment and building. Interest for remaining years equals 7% of prior year's total investment. (12)

The total investment value at the end of the first year, (including labor and field power, materials, overhead cost, land at \$3,000 per acre, trees, irrigation system, buildings and equipment at \$1,135) is \$5,597; for the second year, \$6,334; \$7,109 at the end of the third year; \$7,957 at the end of the fourth year; and at the end of the fifth year, a total of \$8,876.

SAMPLE COSTS OF ESTABLISHING AN AVOCADO ORCHARD  
IN SAN DIEGO COUNTY 1970 (a)

	DOLLARS PER ACRE				
	1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.
<i>Labor and Field Power</i>					
Land preparation (rip, disk, float)	\$ 250	\$ ..	\$ ..	\$ ..	\$ ..
Orchard layout	20	..	..	..	..
plant (dig, plant, mulch & wrap)	85	5	3	..	..
Irrigation	70	70	70	80	80
Fertilization	2	3	3	7	7
Weed control (hoe, oil & herbicide)	25	15	12	12	12
Pest control	10	10	10	10	10
Tree care & pruning					
Misc. (propping, erosion control, cover crop)	5 10	5 10	5 10	5 10	10 20
(1) Total Labor and Power	\$ 477	\$ 118	\$ 113	\$ 124	\$ 139
<i>Materials</i>					
Trees (100 trees/acre @ \$3.50)	\$ 350	\$ 15	\$ ..	\$ ..	\$ ..
Mulch	15	10	5	..	..
Tree protectors	8	..	..	..	..
Water (b)	25	35	50	100	120
Fertilizer	3	5	8	8	12
Weed oil & herbicides	16	13	13	10	8
Pest control	6	6	5	5	5
Misc. (supplies)	10	5	6	6	7
(2) Total Materials	\$ 433	\$ 89	\$ 82	\$ 129	\$ 152
(3) Total Cash Cultural	\$ 910	\$ 207	\$ 195	\$ 253	\$ 291
<i>Cash Overhead</i>					
General expense	\$ 74	\$ 18	\$ 17	\$ 22	\$ 26
Management charge (\$5/acre/month)	60	60	60	60	60
Taxes (c)	45	45	45	50	70
Maintenance & repair	15	15	15	15	15
(4) Total Cash Overhead	\$ 194	\$ 138	\$ 137	\$ 147	\$ 171
(5) Total Pre-Harvest Cash Costs	\$1,104	\$ 345	\$ 332	\$ 400	\$ 462
(6) Less Fruit Credits (d)				50	100
(7) Net Cash Costs	\$1,104	\$ 345	\$ 332	\$ 350	\$ 362
<i>Investment Costs</i>					
Depreciation (e)	\$ 124	\$ 124	\$ 124	\$ 124	\$ 124
Interest on investment (f)	358	392	443	498	557
(8) Total Non-Cash Costs	\$ 482	\$ 516	\$ 567	\$ 622	\$ 681
(9) Total Net All Costs	\$1,586	\$ 861	\$ 899	\$ 972	\$1,043
(10) Accumulated Total Net Costs	\$1,586	\$2,447	\$3,346	\$4,318	\$5,361
(11) Accumulated Net Cash Costs	\$1,104	\$1,449	\$1,781	\$2,131	\$2,493

INVESTMENT VALUE AT END OF YEAR

Land @ 3,000						
Trees (g)		\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Irrigation system	\$650)	1,586	2,447	3,346	4,318	5,361
Equipment & bldgs.	485) —\$1,135 (h)	1,011	887	763	639	515
(12) Total Investment Value		\$5,597	\$6,334	\$7,109	\$7,957	\$8,876

## FOOTNOTES

(a) Sample costs in this data sheet have been estimated on the basis of the following new 10-acre planting in San Diego County: Fuerte variety, planted 20' x 20' or 100 trees per acre; trees spring planted on relatively frost-free hillside site; permanent plastic irrigation system.

(b) Water costs will vary depending upon the source, district, assessments, etc. Range is from \$40 to \$60 per acre foot, or \$90 to \$100 per acre foot if pumping charge is added.

(c) Trees are not assessed for taxes until they become productive, usually fourth or fifth year. There will be variations in tax charges, depending on the area where an orchard is located.

(d) Fruit credit varies depending on tree yields and market prices. (Harvest cost, 1½c to 3c, marketing order assessment, 4½% value at roadside.

(e) Capital outlay is estimated to be \$4,135 per acre based on an assumed land cost of \$3,000 per acre and \$1,135 per acre for the irrigation system and building and equipment. The initial cost of the permanent plastic irrigation system with spitter heads is estimated at \$550 per acre installed. At the end of the fourth year, the spitter heads are converted to revolving sprinklers at an additional cost of \$100 per acre. To simplify calculations in the table, the initial capital outlay of \$1,135 per acre includes a charge for the complete irrigation system.

(f) Interest on investment for the first year equals 7% of first-year total cash cost per acre (5) plus 7% of land value and undepreciated balance of irrigation system, equipment, and building. Interest for remaining years equals 7% of prior-year total investment value (12).

(g) Investment in trees at end of year equals accumulated total net costs (11) of prior years.

(h) Investment value for items is original cost, less accumulated depreciation.