

1972 COST TO DEVELOP AN AVOCADO ORCHARD IN SAN DIEGO COUNTY

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The tremendous interest in the planting of new avocado orchards in San Diego County has brought many requests for development costs and the procedure to follow in developing an avocado orchard. Sample costs in this study are on the basis of the following: a 10-acre avocado orchard, spring planted on relatively frost-free hillsides; permanent plastic conventional sprinkler irrigation system, PVC pipe, a riser to each tree with spitter head (costs for the new drip-irrigation system varies from \$300-\$750 per acre depending upon the make of system, the number of emitters per acre, size of pipe, cost of fertilizer tank and filter, etc.); varieties commonly planted are: Fuerte (20' x 20' = 108 trees/ acre); Hass (15' x 20' = 145 trees/acre); Zutano (15' x 15' = 190 trees/acre; Bacon (15' x 15' = 190 trees/acre); and Reed (15' x 20' = 145 trees/acre). *Study costs are for 100 trees/acre.*

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 \$457. 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 was \$143 an acre. In the third year, land preparation, orchard layout and planting of replacement trees were items eliminated, which gave a total of \$136 an acre. The fourth year, \$132 was the cost, and the fifth year ended up at \$147 an acre. The total labor and power for the five years was \$1,015 per acre.

Total materials for the first year cost \$517, and included trees at \$3.75 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, in the first year was the purchase of 100 trees.

In the second year, the materials cost \$124 an acre; and the third year, \$143 an acre; the fourth year, \$187 an acre; and the fifth year, \$220 an acre, for a total of \$1,191 per

acre.

The total cash cultural costs, including labor, field power and materials for the first year, was \$974; for the second year, \$267; for the third year, \$279; for the fourth year, \$319; and for the fifth year, \$367, a total of \$2,206.

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 \$208; second year, \$151; third, \$152; fourth, \$181; and fifth \$209; for a five-year total of \$901.

The total preharvest costs per acre the first year totaled \$1,182; the second year, \$418; the third year, \$431; the fourth year, \$500; and the fifth year, \$576. For the Fuerte variety, there should be some fruit credit obtained in the fourth and fifth years, and in some rare cases, the third year. For the Hass variety, fruit credits may be obtained the second and third years. Fruit credit varies, depending upon tree yields and market prices. Harvesting costs are between 2¢ to 3½¢ per pound. Marketing order assessment for advertising, promotion, and production research of the avocado is 4.9% of crop value at roadside.

The net cash costs which includes labor and field power materials and cash overhead, come to \$1,182 the first year; \$418 the second; \$431 for the third year; \$400 for the fourth year; and \$326 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). Investment in trees at end of year equals accumulated total net costs (11) of prior years. Investment value for items is original cost of \$1,135 less accumulated depreciation.

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 \$5,681; for the second year, \$6,497; \$7,383 at the end of the third year; \$8,300 at the end of the fourth year; and at the end of the fifth year, a total of \$9,207.

The cost figures given in this sample study are based on assumed conditions. The typical practices are listed, with sample costs given for labor materials and equipment required. These are not presented as "standard" costs, but are intended as guidelines. Individual orchards may vary considerably from these figures in their cost and return experience. Orchards on steep slopes with inadequate roadways and drives for fruit

hauling and grove work will cost more to operate. The type of irrigation system selected may have lower initial costs, but higher labor requirements and maintenance costs results in higher irrigation costs as the orchard matures. Poor or untimely farming and management practices commonly cause costs to be higher than necessary.

Weed control is an operation that can be costly if treatments are delayed or poorly done. If weed control has been neglected, or weed control adjacent to the planted area is included, costs will be much higher. Elimination of a weed problem is more costly than maintenance of a normal weed control program. Delayed weed control is often the cause of costs being higher than expected.

Water costs will vary depending upon the source, district assessments, etc. Range is from \$50-\$80/acre ft. and \$90-\$100/acre ft. if pumping charge is added. Trees are not assessed for taxes until the fourth or fifth year. There will be variations in tax charges, depending on the area where an orchard is located.

SAMPLE COSTS TO DEVELOP AN AVOCADO ORCHARD
IN SAN DIEGO COUNTY
1972

| | DOLLARS PER ACRE | | | | |
|--|------------------|----------------|----------------|----------------|----------------|
| | <i>1st Yr.</i> | <i>2nd Yr.</i> | <i>3rd Yr.</i> | <i>4th Yr.</i> | <i>5th Yr.</i> |
| <i>Labor and Field Power</i> | | | | | |
| Land preparation (rip, disk, float) | \$ 200 | \$ — | \$ — | \$ — | \$ — |
| Orchard layout | 20 | — | — | — | — |
| Plant (dig, plant, mulch & wrap) | 90 | 5 | 3 | — | — |
| Irrigation (sprinkler) | 80 | 80 | 80 | 80 | 80 |
| Fertilization | 2 | 3 | 3 | 7 | 7 |
| Weed control (hoe, oil & herbicide) | 35 | 25 | 20 | 15 | 15 |
| Pest control | 10 | 10 | 10 | 10 | 10 |
| Tree care & pruning | 5 | 5 | 5 | 5 | 10 |
| Misc. (propping, erosion control, cover crop) | 15 | 15 | 15 | 15 | 25 |
| (1) Total Labor and Power | \$ 457 | \$ 143 | \$ 136 | \$ 132 | \$ 147 |
| <i>Materials</i> | | | | | |
| Trees (100 trees/acre @ \$3.75 + tax) | \$ 400 | \$ 20 | \$ — | \$ — | \$ — |
| Mulch | 20 | 10 | 5 | — | — |
| Tree protectors | 10 | — | — | — | — |
| Water | 50 | 60 | 100 | 150 | 180 |
| Fertilizer | 3 | 5 | 8 | 10 | 15 |
| Weed oil & herbicides | 20 | 15 | 15 | 12 | 10 |
| Pest control | 4 | 4 | 5 | 5 | 5 |
| Misc. (supplies) | 10 | 10 | 10 | 10 | 10 |
| (2) Total Materials | \$ 517 | \$ 124 | \$ 143 | \$ 187 | \$ 220 |
| (3) Total Cash Cultural | \$ 974 | \$ 267 | \$ 279 | \$ 319 | \$ 367 |
| <i>Cash Overhead</i> | | | | | |
| General expense | \$ 78 | \$ 21 | \$ 22 | \$ 26 | \$ 29 |
| Management charge, Variable (\$5/acre/mo.) | 60 | 60 | 60 | 60 | 60 |
| Taxes | 50 | 50 | 50 | 75 | 100 |
| Maintenance & repair | 20 | 20 | 20 | 20 | 20 |
| (4) Total Cash Overhead | \$ 208 | \$ 151 | \$ 152 | \$ 181 | \$ 209 |
| (5) Total Pre-Harvest Cash Costs | \$1,182 | \$ 418 | \$ 431 | \$ 500 | \$ 576 |
| (6) Less Fruit Credits | | | | 100 | 250 |
| (7) Net Cash Costs | \$1,182 | \$ 418 | \$ 431 | \$ 400 | \$ 326 |
| <i>Investment Costs</i> | | | | | |
| Depreciation | \$ 124 | \$ 124 | \$ 124 | \$ 124 | \$ 124 |
| Interest on investment | 364 | 398 | 455 | 517 | 581 |
| (8) Total Non-Cash Costs | \$ 488 | \$ 522 | \$ 579 | \$ 641 | \$ 705 |
| (9) Total Net All Costs | \$1,670 | \$ 940 | \$1,010 | \$1,041 | \$1,031 |
| (10) Accumulated Total Net Costs | \$1,670 | \$2,610 | \$3,620 | \$4,661 | \$5,692 |
| (11) Accumulated Net Cash Costs | \$1,182 | \$1,600 | \$2,031 | \$2,431 | \$2,757 |
| INVESTMENT VALUE AT END OF YEAR | | | | | |
| Land @ \$3,000 | \$3,000 | \$3,000 | \$3,000 | \$3,000 | \$3,000 |
| Trees | 1,670 | 2,610 | 3,620 | 4,661 | 5,692 |
| Irrigation Sprinkler system \$650) Equipment & buildings 485) | = \$1,135 | | | | |
| | 1,011 | 887 | 763 | 639 | 515 |
| (12) Total Investment Value | \$5,681 | \$6,497 | \$7,383 | \$8,300 | \$9,207 |