

**U.C. COOPERATIVE EXTENSION**

**SAMPLE COSTS TO ESTABLISH AND PRODUCE**

***AVOCADOS***

**IN THE SOUTHERN COAST REGION - 1992**

by

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The detailed costs for avocado production in the Southern Coast region of California are presented in this study. The hypothetical farm used in this report consists of 11 acres of which 10 acres are in avocado production.

Practices described in this study are based on those production procedures considered typical for this crop and area. Sample costs given for labor, materials, equipment and contract services are based on current figures. Some costs and practices detailed in this study may not be applicable to your situation. This study is only intended as a guide and can be used in making production decisions, determining potential returns, preparing budgets and evaluating production loans. A blank *Your Cost* column is provided to enter your actual costs on **Tables 2 and 3, Costs Per Acre to Produce Avocados and Details Of Costs Per Acre to Produce Avocados**, respectively.

This study consists of General Assumptions for Establishing and Producing Avocados and eight tables and two charts.

<b>Table 1.</b>	<b>Costs Per Acre To Establish An Avocado Orchard</b>
<b>Table 2.</b>	<b>Costs Per Acre To Produce Avocados</b>
<b>Table 3.</b>	<b>Details Of Cost Per Acre To Produce Avocados</b>
<b>Table 4.</b>	<b>Monthly Cash Costs Per Acre To Produce Avocados</b>
<b>Table 5.</b>	<b>Annual Equipment, Investment And Business Overhead</b>
<b>Table 6.</b>	<b>Hourly Equipment Costs</b>
<b>Table 7.</b>	<b>Ranging Analysis</b>
<b>Table 8.</b>	<b>Cost And Returns / Breakeven Analysis</b>

For an explanation of calculations used for the study refer to the attached General Assumptions or call the Department of Agricultural Economics, Cooperative Extension, University of California, Davis, California, (916) 752-3589 or call the farm advisor in the county of interest.

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**GENERAL ASSUMPTIONS FOR ESTABLISHING AND PRODUCING AVOCADOS**  
**Southern Coast - 1992**  
**U.C. Cooperative Extension**

The following is a description of some general assumptions pertaining to sample costs of avocado establishment and production in the Southern Coast region of California. The costs are based on typical cultural practices used by growers in this region, some of which may not be used during every production year. These costs are represented on an annual, per acre basis. *The use of trade names in this report does not constitute an endorsement or recommendation by the University of California nor is any criticism implied by omission of other similar products.*

**1. LAND:**

The site for the avocado farm in this study is located on sloped, virgin land. The land in this study is valued at \$15,000 per acre. The farm consists of 11 acres of land. There are 10 acres in the actual avocado orchard with another 1 acre of roads and farmstead on which avocados are not grown. This increases the cost of land to \$16,500 per producing acre. No other crops are grown.

**2. TREES:**

Trees are of the Hass variety planted at 20' X 15' spacings, with 145 trees per acre. The orchard will have to be thinned due to crowding in the orchard as the trees grow. This occurs after 8 to 12 years. 72 trees per acre will be removed from the orchard over a 10 year period. The thinning is done by custom operators under contract. The life of the orchard is estimated to be 40 years.

**3. IRRIGATION:**

Water for irrigation is supplied by a water district. Price per acre foot for district water varies from district to district in this region. In this study a water cost of \$300 per acre foot is used. A total of 36 acre inches of water is applied during a typical production year, though this amount will vary depending upon location. The rates of water applied during the establishment years of the orchard increase as the trees mature until the sixth year when they require the same amount of water as the production year. **Table A** shows the applied water requirement for the establishment years through to maturity.

Year	Acre Inches/Acre
1	6.0
2	10.8
3	15.6
4	20.4
5	24.0
6+	36.0

The orchard is irrigated using a drip irrigation system that is installed before planting. When the trees reach their third year the irrigation system is switched from drip emitters to micro sprinklers. One micro sprinkler, emitting 12 to 15 gallons per hour, is used per tree. Water is delivered to the orchard from the district under pressure so that no additional wells and pumps are required. The life of the system is estimated at 40 years.

#### **4. ORCHARD ESTABLISHMENT:**

In this study, the avocado orchard is established on ground that was previously virgin, brush covered hillside. Many of the planting operations are done under contract by custom operators or orchard management services. The hillside brush is first crushed into the slope by a crawler tractor in order to leave organic residue on the surface to help with erosion control. Roads are then roughly cut into the hillsides between what will be the tree rows. Initial erosion control can include paving the roads, installing drainage systems or seeding the areas of exposed slope. In many Southern California counties, if the amount of soil removed is over a certain level, then permits and erosion control plans need to be obtained and submitted to the appropriate agencies before any development can begin. Inquire at your local planning department and the US Soil Conservation Service office for further information.

Once the orchard is laid out, digging the tree holes begins and trees are planted on a 20' X 15' spacing. Two stakes are placed on either side of each tree for support. Mulch is then added around the base of the tree so that moisture loss is decreased, weeds are contained and to help control erosion. During the second year 7 trees per acre or approximately 5%, die and are replanted.

Establishment cost is used to determine the non-cash overhead expenses, depreciation, and interest on investment during the mature production years. It is the sum of the cash costs for land preparation, planting, trees, cash overhead and production and harvest expenses for growing the trees through the first year that fruit is harvested. The Total Accumulated Net Cash Costs shown on **Table 1**, in the third year represents the establishment cost for the orchard. For this study, this cost is \$10,064 per acre or \$100,640 for the 10 acre orchard. The cost of establishment is spread over the remaining 37 years of the 40 years that the orchard is production.

#### **5. ESTABLISHMENT CULTURAL PRACTICES:**

Trees are irrigated by the drip irrigation system, which is installed before the trees are planted. Extra labor is for walking drip lines to inspect for clogged emitters, breaks or rodent damage in the lines. Rodents can cause serious damage to the irrigation lines, so rodent control is required. Baits are available for sale at the County Agricultural Commissioner's office.

Nitrogen fertilizer is applied each year in increasing amounts. Nitrogen is injected through the irrigation line during the course of the year.

The annual rates for the actual pounds of nitrogen per tree are shown in **Table B**.

Additionally, a zinc fertilizer is applied every year during the establishment years. Five pounds per acre are spread by hand.

Table B.

Year	Lbs/Tree
1	.50
2	.66
3	.83
4	1.00
5	1.20
7+	2.00

Contracting bee hives for pollination begins in the third year with 1.5 hive per acre and remains at this level through the life of the orchard.

Pest and weed control are achieved by a variety of management techniques. Insect pest management makes use of beneficial insects. These beneficials are released by a pest control advisor who monitors pest population levels. Target pests include omnivorous looper and Amorbia moth. Other pests could be present in an orchard, but are not considered in this study.

A pre-emergent weed control spray is applied starting in the second year and is used in the orchard until the sixth year when it is discontinued due to canopy closure. A spot spray is used in the orchard twice during the year, once in the summer and once in the fall, to control various weeds.

## **6. PRODUCTION CULTURAL PRACTICES:**

The cultural, pesticide and fertilizer inputs for the production of avocados vary considerably from grower to grower and orchard to orchard. As the orchard matures, the trees start to grow closer together, requiring the removal of trees over a period of time. A total of 72 trees per acre will be pulled out during a ten year interval.

Applied water requirements for a mature avocado orchard, in this study, is 36 acre inches. Though drip irrigation improves the application efficiency of irrigation water, labor is still required to walk the irrigation lines to look for any problems such as leaks or emitter clogging. Water costs for the Southern Coast Region span a wide range from a variety of sources. A cost of \$300 per acre foot is used to account for the highs and lows of water prices in this region, but will not accurately reflect the cost for all growers. **Charts 1 and 2**, show how changes in water cost affect the profitability of avocado growers at 7,000 and 10,000 pound yields and varying return prices for their fruit.

Nitrogen is injected through the drip system at a rate of 2 pounds of actual N per tree. Zinc sulfate is applied as a granular fertilizer at a rate of 5 pounds per acre every three years by hand. The cost for zinc fertilization is represented on a prorate basis so that one third of the actual cost is shown in the production year.

Weed control for the orchard amounts to 2 spot sprays in the summer and fall. As trees grow larger they will shade out most weeds that might grow close to the tree and available moisture. Insect pest management consists of monitoring and release of beneficials to control omnivorous looper and Amorbia moth. A charge for a pest control advisor service is used to reflect this.

Erosion control occurs in 1 out of every 5 years and the cost is prorated to reflect an annual cost.

Cultural practices for the production of avocados vary from grower to grower and region to region. The practices and inputs used in this cost study serve only as a sample or guide. Variations can be significant. Contact your local farm advisor for advice on production practices.

## **7. HARVEST:**

Harvesting starts in the third year. As the yield increases the cost to harvest also increases until orchard maturity is reached. In this cost study the grower contracts to have the avocado crop hand harvested. Avocados are picked for \$.06 per pound. For hauling the avocados from the orchard to the packing shed, the grower is charged \$.005 per pound.

Marketing order and inspection fees are assessed on packed fruit by the California Avocado Commission (CAC) and California Department of Food and Agriculture (CDFA). Assessment fees collected by the CAC are based on pounds of avocados sold. The CAC marketing assessment is \$0.025 per pound. Avocados are required to be inspected for maturity and quality standards. CDFA is responsible for these inspections and assess packers a fee for administering the inspection program. CDFA charges \$0.12 per hundredweight (cwt).

## **8. YIELDS & RETURNS:**

Avocados begin bearing an economic crop in the third year after planting. The annual yields are measured in pounds as shown in **Table C**. These yields are from the third year of orchard establishment to maturity.

Table C.

Year	Yield (lbs/acre)
3	725
4	1,450
5	2,900
6	5,800
7+	10,000

An estimated price of a \$0.65 per pound of avocados is used to calculate returns in this study. Returns, as shown in **Table 7**, Ranging Analysis, will vary and the yields and prices used in this cost study are an estimate taking into consideration current situations.

## **9. RISK:**

The risks associated with producing and marketing fruit should not be minimized. While this study makes every effort to model a production system based on typical, real world practices, it cannot fully represent financial, agronomic and market risks which affect the profitability and economic viability of avocado production.

The market for fruit is very volatile for both price and quantity. Growers do not have control over either of these market components. Because of this, avocado production is a high risk enterprise. Risk is caused by uncontrollable factors such as a decrease in the demand for avocados, an oversupply from other sources or theft. Because of the risk involved, access to a market is crucial. A market channel should be determined before any avocado production begins.

## **10. LABOR:**

Hourly wages for workers are \$5.90 per hour for skilled and field workers respectively. Adding 34% for Workers Compensation, FICA, insurance and other benefits gives the labor rates shown of \$8.00 per hour for skilled labor and field labor. The labor for operations involving machinery are 20% higher than the machine hours to account for the extra labor involved in equipment set-up, moving, maintenance and repair. Wages for managers are not included as a cash cost. Any return above total costs are considered a return to management and risk.

## **11. INVESTMENT:**

The investments shown in **Table 5** are those that are completely allocated to the avocado operation. All of the investment costs such as orchard establishment, buildings, irrigation system, etc., are for the entire 10 acres. If there were any other crop enterprises on this farm then many of the investments including land, shop buildings and irrigation systems could be used by the whole farm so a portion of the costs would be assigned to the avocado orchard and the rest of the costs would be distributed to the other farm enterprises. Annual investments shown in **Table 1** and **2** represent depreciation and opportunity cost for each investment on an annual per acre basis.

## **12. OVERHEAD:**

County taxes are calculated as 1% of the land value plus 1% of the average value of the trees, equipment, buildings and improvements. Comprehensive insurance is charged at 0.5% of the average value of the equipment over its useful life. Liability insurance covers accidents on the farm and costs \$275 for the entire farm or \$27.50 per acre. Office expenses are estimated at \$180 per acre and includes office supplies, phone, bookkeeping, accounting, legal fees, etc.

Sanitation services provide portable field toilets for the orchard workers and cost the farm \$904 annually.

### **13. INTEREST:**

Interest on operating capital is based on cash costs and is calculated monthly for eleven months until harvest at a nominal rate of 9.00% per year. Interest is also charged on investment at 4% per year to account for income foregone that could be received from an alternative investment (opportunity cost) and is based on the average value of the land, orchard, buildings and equipment. Real interest rates are used on investments, so no adjustment for inflation have been included. Nominal interest rates would contain a factor for inflation which might run 1% to 4% higher than real interest rates, to account for inflation.

### **14. EQUIPMENT COSTS:**

In allocating the equipment costs per acre, the following calculations were made and shown in **Table 5**: (a) **Original Cost** of equipment is the cost of the new equipment plus sales tax. (b) **Depreciation** is straight line with a 10% salvage value. (c) **Interest** on investment is calculated as the average value per acre of the equipment during its useful life, multiplied by an interest rate of 4%. Average value equals new cost plus salvage value divided by 2 on a per acre basis. (d) The total investment costs are calculated as 60% of the depreciation and the interest reflect a mix of new and used equipment. These values are also used in **Table 2**. Hourly equipment costs are shown in **Table 6**.

### **15. FUEL & REPAIR:**

The fuel and repair cost per acre for each operation in **Table 2**, is determined by multiplying the total hourly operating cost for each piece of equipment in **Table 5**, by the number of hours per acre for that operation. Prices for on-farm delivery of diesel and gasoline are \$0.71 and \$0.98 per gallon respectively.

Table 2.

U. C. COOPERATIVE EXTENSION  
COSTS PER ACRE TO PRODUCE AVOCADO  
SOUTHERN COAST - 1992

Labor Rate: \$8.00/hr. machine labor      Interest Rate: 9.00%  
\$8.00/hr. non-machine labor      Yield per Acre: 10,000 lb

Operation	Operation	Cash and Labor			Costs per Acre		Total Cost	Your Cost	
	Time (Hrs/A)	Labor Cost	Fuel, Lube & Repairs	Material Cost	Cust om/ Rent				
<b>Cultural:</b>									
Irrigate & Walk Drip Lines	20.00	160	0	900	0	1060			
Fertilize	2.04	16	0	73	0	89			
Rodent Control	8.97	72	0	22	0	93			
Thin Orchard - 72 Trees In 10 Years	0.00	0	0	0	180	180			
Weed Control - Spot Spray	8.00	77	19	11	0	107			
Pollination	0.00	0	0	0	23	23			
Erosion Control - 1 in 5 Years	0.56	4	0	14	0	19			
Biological Control	1.00	8	0	20	0	28			
<b>TOTAL CULTURAL COSTS</b>	<b>40.57</b>	<b>337</b>	<b>19</b>	<b>1040</b>	<b>203</b>	<b>1599</b>			
<b>Harvest:</b>									
Pick Fruit @ \$6.00/ Cwt	0.00	0	0	0	600	600			
Haul Fruit @ \$0.50/ Cwt	0.00	0	0	0	50	50			
Assessment Fees	0.00	0	0	262	0	262			
<b>TOTAL HARVEST COSTS</b>	<b>0.00</b>	<b>0</b>	<b>0</b>	<b>262</b>	<b>650</b>	<b>912</b>			
Interest on operating capital @ 9.00%							77		
<b>TOTAL OPERATING COSTS/ ACRE</b>		<b>337</b>	<b>19</b>	<b>1302</b>	<b>852</b>	<b>2588</b>			
<b>TOTAL OPERATING COSTS/ LB</b>						<b>0.26</b>			
<b>CASH OVERHEAD:</b>									
Leaf Analysis						5			
Soil Analysis						2			
Root Rot Analysis						2			
Office Expense						180			
Liability Insurance						27			
Sanitation Fees						90			
Property Taxes						236			
Property Insurance						118			
Investment Repairs						25			
<b>TOTAL CASH OVERHEAD COSTS</b>						<b>685</b>			
<b>TOTAL CASH COSTS/ ACRE</b>						<b>3273</b>			
<b>TOTAL CASH COSTS/ LB</b>						<b>0.33</b>			
<b>NON-CASH OVERHEAD:</b>									
Investment	Per producing Acre	Annual Depreciation	Annual Cost	Interest @ 4.00%					
Land	16500		660		660				
Drip Irrigation System	2040	46	45		91				
Avocado Establishment	10064	252	201		453				
Buildings	1000	45	22		67				
Hand Tools	400	24	9		33				
Equipment	270	24	6		30				
<b>TOTAL NON-CASH OVERHEAD COSTS</b>	<b>30274</b>	<b>391</b>	<b>943</b>		<b>1334</b>				
<b>TOTAL COSTS/ ACRE</b>						<b>4607</b>			
<b>TOTAL COSTS/ LB</b>						<b>0.46</b>			

U. C. COOPERATIVE EXTENSION  
 TABLE 3. DETAILS OF COSTS PER ACRE TO PRODUCE AVOCADO  
 SOUTHERN COAST - 1992

Labor Rate: \$8.00/hr. machine labor                      Interest Rate: 9.00%  
 \$8.00/hr. non-machine labor

	Quantity/Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
<b>OPERATING COSTS</b>					
Water:					
Water	36.00	acres	25.00	900	
Fertilizer:					
UN 32	81.60	gal	0.88	72	
Zinc Sulfate 36%	1.67	lb	0.44	1	
Rodenticide:					
Bait	13.00	acres	1.67	22	
Contract:					
Tree Thinning	7.20	tree	25.00	180	
Picking	100.00	cwt	6.00	600	
Hauling	100.00	cwt	0.50	50	
Herbicide:					
Roundup	2.00	pi nt	5.48	11	
Rent:					
Bee Hives	1.50	each	15.00	23	
Miscellaneous:					
Erosion Material	1.00	acre	14.40	14	
Biological	1.00	acre	20.00	20	
Assessment:					
CAC Assessment Fee	100.00	cwt	2.50	250	
CDFA Assessment Fee	100.00	cwt	0.12	12	
Labor (machine)	9.60	hrs	8.00	77	
Labor (non-machine)	32.57	hrs	8.00	261	
Fuel - Gas	8.80	gal	0.98	9	
Lube				1	
Machinery repair				10	
Interest on operating capital @ 9.00%				77	
TOTAL OPERATING COSTS/ ACRE				2588	
TOTAL OPERATING COSTS/ LB				0.26	
<b>CASH OVERHEAD COSTS:</b>					
Leaf Analysis				5	
Soil Analysis				2	
Root Rot Analysis				2	
Office Expense				180	
Liability Insurance				27	
Sanitation Fees				90	
Property Taxes				236	
Property Insurance				118	
Investment Repairs				25	
TOTAL CASH OVERHEAD COSTS/ ACRE				685	
TOTAL CASH COSTS/ ACRE				3273	
TOTAL CASH COSTS/ LB				0.33	
<b>NON-CASH OVERHEAD COSTS (DEPRECIATION &amp; INTEREST):</b>					
Land				660	
Drip Irrigation System				91	
Avocado Establishment				453	
Buildings				67	
Hand Tools				33	
Equipment				30	
TOTAL NON-CASH OVERHEAD COSTS/ ACRE				1334	
TOTAL COSTS/ ACRE				4607	
TOTAL COSTS/ LB				0.46	



Table 4.

U. C. COOPERATIVE EXTENSION  
MONTHLY CASH COSTS PER ACRE TO PRODUCE AVOCADO  
SOUTHERN COAST - 1992

Beginning JUL 92 Ending JUN 93	JUL 92	AUG 92	SEP 92	OCT 92	NOV 92	DEC 92	JAN 93	FEB 93	MAR 93	APR 93	MAY 93	JUN 93	TOTAL
<b>Cultural:</b>													
Irrigate & Walk Drip Line	133	133	133	133					133	133	133	133	1060
Fertilize	10	10	10	10					19	10	10	10	89
Rodent Control	7	7	7	7	7	7	7	7	7	7	14	7	93
Thin Orchard								180					180
Weed Control - Spot Spray									54		54		107
Pollination										23			23
Erosion Control										9	9		19
Biological Control												28	28
<b>TOTAL CULTURAL COSTS</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>187</b>	<b>212</b>	<b>182</b>	<b>220</b>	<b>178</b>	<b>1599</b>
<b>Harvest:</b>													
Pick Fruit @ \$6.00/Owt												600	600
Haul Fruit @ \$0.50/Owt												50	50
Assessment Fees												262	262
<b>TOTAL HARVEST COSTS</b>												<b>912</b>	<b>912</b>
Interest on oper. capital	1	2	3	4	5	5	5	6	8	9	11	19	77
<b>TOTAL OPERATING COSTS/ ACRE</b>	<b>151</b>	<b>152</b>	<b>153</b>	<b>154</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>193</b>	<b>220</b>	<b>191</b>	<b>231</b>	<b>1109</b>	<b>2588</b>
<b>TOTAL OPERATING COSTS/ LB</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.11</b>	<b>0.26</b>
<b>OVERHEAD:</b>													
Leaf Analysis								5					5
Soil Analysis								2					2
Root Rot Analysis								2					2
Office Expense	15	15	15	15	15	15	15	15	15	15	15	15	180
Liability Insurance								27					27
Sanitation Fees	8	8	8	8	8	8	8	8	8	8	8	8	90
Property Taxes							118						118
Property Insurance							59						59
Investment Repairs	2	2	2	2	2	2	2	2	2	2	2	2	25
<b>TOTAL CASH OVERHEAD COSTS</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>230</b>	<b>33</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>202</b>	<b>687</b>
<b>TOTAL CASH COSTS/ ACRE</b>	<b>175</b>	<b>177</b>	<b>178</b>	<b>179</b>	<b>36</b>	<b>36</b>	<b>241</b>	<b>227</b>	<b>244</b>	<b>215</b>	<b>255</b>	<b>1311</b>	<b>3275</b>
<b>TOTAL CASH COSTS/ LB</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.03</b>	<b>0.13</b>	<b>0.33</b>

Table 5.

U. C. COOPERATIVE EXTENSION  
WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS COSTS  
SOUTHERN COAST - 1992

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	- Non-Cash Over- Depre- ciation	Interest	- Cash Overhead - Insur- ance	Taxes	Total
92	ATV With Sprayer	4500	10	405	99	12	25	541
<b>TOTAL</b>		4500		405	99	12	25	541
60% of New Cost *		2700		243	59	7	15	325

\* Used to reflect a mix of new and used equipment.

ANNUAL INVESTMENT COSTS

Yr	Description	Price	Yrs Life	- Non-Cash Over- Depre- ciation	Interest	- Cash Overhead - Insur- ance	Taxes	Repairs	Total
<b>INVESTMENT</b>									
	Avocado Establishment	100640	40	2516	2013	252	503	0	5284
	Buildings	10000	20	450	220	28	55	100	852
	Hand Tools	4000	15	240	88	11	22	50	411
	Drip Irrigation System	20400	40	459	449	56	112	100	1176
	Land	165000			6600	825	1650	0	9075
<b>TOTAL INVESTMENT</b>		300040		3665	9370	1171	2342	250	16798

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Leaf Analysis	10.00	acre	4.50	45
Liability Insurance	10.00	acre	27.50	275
Office Expense	10.00	acre	180.00	1800
Root Rot Analysis	10.00	acre	2.40	24
Sanitation Fees	10.00	acre	90.40	904
Soil Analysis	10.00	acre	1.80	18

Table 6.

U. C. COOPERATIVE EXTENSION  
HOURLY EQUIPMENT COSTS  
SOUTHERN COAST - 1992

Yr	Description	Actual Hours Used	COSTS PER HOUR							Total Costs/ Hr.
			- Non-Cash Over- Depre- ciation	Interest	- Cash Overhead - Insur- ance	Taxes	Repairs	Operating Fuel & Lube	Total Oper.	
92	ATV With Sprayer	88.0	2.76	0.68	0.08	0.17	1.08	1.13	2.21	5.90

U. C. COOPERATIVE EXTENSION  
RANGING ANALYSIS  
SOUTHERN COAST - 1992

*COSTS PER ACRE AT VARYING YIELDS TO PRODUCE AVOCADO*

YIELD ( LB/ ACRE)	7000	8000	9000	10000	11000	12000	14000
<i>OPERATING COSTS/ ACRE:</i>							
Cultural Cost	1599	1599	1599	1599	1599	1599	1599
Harvest Cost	638	730	821	912	1003	1094	1277
Interest on operating capital	75	76	77	77	78	79	80
TOTAL OPERATING COSTS/ ACRE	2312	2404	2496	2588	2680	2772	2956
TOTAL OPERATING COSTS/ LB	0.33	0.30	0.28	0.26	0.24	0.23	0.21
CASH OVERHEAD COSTS/ ACRE	685	685	685	685	685	685	685
TOTAL CASH COSTS/ ACRE	2998	3090	3181	3273	3365	3457	3641
TOTAL CASH COSTS/ LB	0.43	0.39	0.35	0.33	0.31	0.29	0.26
NON-CASH OVERHEAD COSTS/ ACRE	1334	1334	1334	1334	1334	1334	1334
TOTAL COSTS/ ACRE	4331	4423	4515	4607	4699	4791	4975
TOTAL COSTS/ LB	0.62	0.55	0.50	0.46	0.43	0.40	0.36

*NET RETURNS PER ACRE ABOVE OPERATING COSTS FOR AVOCADO*

PRICE ( DOLLARS PER LB)	YIELD ( LB/ ACRE)						
	7000	8000	9000	10000	11000	12000	14000
0.50	1188	1596	2004	2412	2820	3228	4044
0.55	1538	1996	2454	2912	3370	3828	4744
0.60	1888	2396	2904	3412	3920	4428	5444
0.65	2238	2796	3354	3912	4470	5028	6144
0.70	2588	3196	3804	4412	5020	5628	6844
0.75	2938	3596	4254	4912	5570	6228	7544
0.80	3288	3996	4704	5412	6120	6828	8244

*NET RETURNS PER ACRE ABOVE CASH COSTS FOR AVOCADO*

PRICE ( DOLLARS PER LB)	YIELD ( LB/ ACRE)						
	7000	8000	9000	10000	11000	12000	14000
0.50	502	910	1319	1727	2135	2543	3359
0.55	852	1310	1769	2227	2685	3143	4059
0.60	1202	1710	2219	2727	3235	3743	4759
0.65	1552	2110	2669	3227	3785	4343	5459
0.70	1902	2510	3119	3727	4335	4943	6159
0.75	2252	2910	3569	4227	4885	5543	6859
0.80	2602	3310	4019	4727	5435	6143	7559

*NET RETURNS PER ACRE ABOVE TOTAL COSTS FOR AVOCADO*

PRICE ( DOLLARS PER LB)	YIELD ( LB/ ACRE)						
	7000	8000	9000	10000	11000	12000	14000
0.50	- 831	- 423	- 15	393	801	1209	2025
0.55	- 481	- 23	435	893	1351	1809	2725
0.60	- 131	377	885	1393	1901	2409	3425
0.65	219	777	1335	1893	2451	3009	4125
0.70	569	1177	1785	2393	3001	3609	4825
0.75	919	1577	2235	2893	3551	4209	5525
0.80	1269	1977	2685	3393	4101	4809	6225

Table 8.

U. C. COOPERATIVE EXTENSION  
 COSTS AND RETURNS / BREAKEVEN ANALYSIS  
 SOUTHERN COAST - 1992

COSTS AND RETURNS - PER ACRE BASIS

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
Avocado	6500	2588	3912	3273	3227	4607	1893

COSTS AND RETURNS - TOTAL ACREAGE

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
Avocado	65000	25882	39118	32733	32267	46070	18930
TOTAL	65000	25882	39118	32733	32267	46070	18930

BREAKEVEN PRICES PER YIELD UNIT

CROP	Base Yield (Units/Acre)	Yield Units	Breakeven Price To Cover		
			Operating Costs	Cash Costs	Total Costs
Avocado	10000.0	lb	0.26	0.33	0.46

BREAKEVEN YIELDS PER ACRE

CROP	Yield Units	Base Price (\$/Unit)	Breakeven Yield To Cover		
			Operating Costs	Cash Costs	Total Costs
Avocado	lb	0.65	3981.8	5035.9	7087.8