

COOPERATIVE EXTENSION UNIVERSITY OF CALIFORNIA

COUNTY OF FRESNO
FARM AND HOME ADVISORS OFFICE

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SAMPLE COSTS FOR ESTABLISHING AND PRODUCING OLIVES SOUTHERN SAN JOAQUIN VALLEY - 1985

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1. Yield: This study assumes a Manzanillo olive grove that produces a year in year out average of 2.5 tons per acre. Olives are alternate bearing and wide production swings may occur to develop this average.
2. Acreage: This is a 40 acre grove of which 2.5 acres are devoted to roads and burn areas.
3. Labor: Labor rates are assumed to be \$7.50 per hour for skilled and \$5.75 per hour for unskilled labor including fringe benefits. Irrigation labor is for monitoring drippers.
4. Spacing: Trees are double planted and then half are removed in the 8th or 9th year. The initial spacing is 15 x 15 for 96 trees per acre. After tree removal, remaining trees are spaced 30' x 30', for a total of 48 trees per acre.
5. Variety: Manzanillo olive is the variety selected for this study.
6. Irrigation: This grove is irrigated using a drip system. The cost of water is \$25 per acre foot.

<u>Year</u>	<u>Acre Feet/Year</u>
1	1.0
2	1.4
3	2.0
4	3.0
5+	3.3

7. Fertilization: Nitrogen is the only element applied. Application is made through the drip system. Nitrogen is assumed to cost 33¢ per pound. The rate of nitrogen applied is as follows:

<u>Year</u>	<u>Lbs/Acre</u>
1	13
2	26
3	26
4-8	53
9+	48

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8. Pesticides: An insecticide treatment is applied every other year. Fungicides are applied annually.
9. Pruning: Done annually.
10. Harvest: The crop is hand picked. Harvest costs can be expected to vary with crop size.
11. Interest: An interest rate of 13% was assumed. Operating capital is assumed to be borrowed for six months of each establishment and producing year. Interest is also charged on accumulated cash costs in establishment years to reflect interest charged on a long-term establishment loan. Interest is also charged on investment capital to account for the income foregone by keeping money tied up in capital equipment.
12. Overhead Costs: County taxes represent a set fee while office and business costs are estimated at about 8% of the total cultural costs. They include such costs as preparing roadways, general weed control, office, bookkeeping, etc.
13. Fuel and Repair: Included are the cost of fuel, maintenance, replacement parts, tires, etc.
14. Investment Cost: In allocating the equipment cost per acre, the following calculations were made:
 - a. "Original Cost" of equipment is the estimated new cost and includes 6% sales tax.
 - b. "Cost Per Acre" is the new cost divided by the number of acres the equipment will be used on.
 - c. "Depreciation" is based on the "Per Acre Cost" divided by the expected life of the equipment.
 - d. "Interest" on investment is figured on one half of the new cost per acre multiplied by 13%.
 - e. The investment cost per acre is calculated as 60% of the cost of all new equipment to reflect a mix of new and used equipment.
15. Land: Land is valued at \$5,000 an acre. Interest on land is calculated at 13%.

Olive Orchard Establishment Costs
Southern San Joaquin Valley - 1965
Cost Analysis Work Sheet

Trees are double planted and then removed in the 8th or 9th year.
There are 96 trees per acre during the establishment years.

Skilled Labor \$ 7.50
Field Labor \$ 5.75

YEAR	Costs Per Acre				
	1st	2nd	3rd	4th	5th
YIELD: lbs./acre	—	—	1000	2000	4000

CULTURAL COSTS:

Land Preparation: subsoil contract	100				
Disk: 4 hours labor and tractor	73				
Trees: 96 @ \$3.00	288	3			
Survey and Plant: \$.70/tree	67	3			
Suckering and Training	10	19	19	48	96
Irrigation					
Labor 2hrs.	12	12	12	12	12
Water \$25 ac. ft.	25	35	50	75	96
Nitrogen	4	9	9	17	17
Herbicide Materials	14	14	17	17	17
Herbicide Application	15	15	11	11	11
Insecticide Materials					27
Insecticide Application					14
Fungicide					31
Fungicide Application					28
Misc. Expenses	25	25	25	25	25
TOTAL CULTURAL COSTS	633	134	142	205	374

HARVESTING COSTS:*

Shake, pick & haul (\$275/acre minimum)	0	0	275	275	450
TOTAL HARVESTING COSTS	0	0	275	275	450

* Harvest cost per ton decreases as tonnage per acre increases.

YEAR	1st	2nd	3rd	4th	5th
OVERHEAD COSTS:					
County taxes	50	50	50	50	50
Office and Business Costs	51	11	11	16	30
TOTAL OVERHEAD COSTS	101	61	61	66	80
TOTAL CASH COSTS	733	195	479	547	903
ACCUMULATED CASH COSTS	733	928	1407	1953	2857
DEPRECIATION:					
Building, equipment, and irrigation system	117	117	117	117	117
INTEREST ON INVESTMENT @ 13%:					
Building, equipment, and irrigation system	79	79	79	79	79
Land \$5000	650	650	650	650	650
Interest in accum. cash cost	95	121	183	254	371
TOTAL INTEREST ON INVESTMENT	824	849	911	982	1100
TOTAL COST FOR THE YEAR	1674	1161	1507	1578	2121
CREDIT FOR PRODUCTION					
\$550/Ton			275	550	1100
NET COST FOR THE YEAR	1674	1161	1232	1028	1021
ACCUMULATED NET COST	1674	2835	4067	5096	6116

SAMPLE COSTS TO PRODUCE OLIVES
Southern San Joaquin Valley - 1985

Labor rate \$ 7.50 /hr. skilled labor
5.75 /hr. field labor
Yield: 2.5 tons per acre

Cash and Labor Costs per Acre						
Operation	Labor Hours per Acre	Labor	Fuel & Repairs	Materials		Total Cost
				Kind and Quantity	Cost	
Cultural costs:						
Pruning-contract				48 trees @ \$2.00/tree	96.00	96.00
Brush Disposal-contract				\$17.00/acre	17.00	17.00
Fertilizer				48 lbs. @ \$.33/lb.	15.84	15.84
Irrigation	2	11.50		3.3 ac. ft. @ \$25.00/ac.f	82.50	94.00
Herbicide	.6	4.50	6.78	Pre-emergence 3lbs. @ \$3.30/lb		
				2 contact sprays @ \$3.50	16.50	28.18
Insecticide-contract				\$81.00 every other year	40.50	40.50
Fungicide-contract				800 gallons	59.00	59.00
Spray Thinning-contract				\$16 materials, \$14 appl.	30.00	30.00
Misc. Supplies					20.00	20.00
Interest on operating capital @ 13% for 6 months						26.03
TOTAL CULTURAL COSTS	2.6	16.00	6.78		377.74	426.55
Harvest costs:						
Shake, pick haul				2.5 tons @ \$225/ton	562.50	562.50
TOTAL HARVEST COSTS						562.50
Cash overhead:						
Office and business costs						79.12
County Taxes						50.00
TOTAL CASH OVERHEAD COSTS						129.12
TOTAL CASH COSTS						1118.18
TOTAL CASH COST PER TON						447.27
Annual Cost						
Investment	Per Acre			Depreciation	Interest @ 13%	
Equipment & buildings	1200.00			117.12	78.52	195.64
Trees 40 yr. depreciation	6116.00			152.90	397.54	550.44
Land	5000.00				650.00	650.00
TOTAL INVESTMENT COSTS	12324.00			270.02	1126.06	1396.08
TOTAL COSTS PER ACRE						2514.26
Cost per ton @	2.5 ton yield					1005.70

OLIVE ORCHARD
Southern San Joaquin Valley - 1985

EQUIPMENT AND BUILDING LIST

ITEM	ORIGINAL COST	ANNUAL USE (ACRES)	COST PER ACRE	LIFE (YEARS)	OVERHEAD		COST PER HOUR
					DEPREC- IATION	INTEREST AT 13%	
Tractors:							
50 HP wheel diesel	20000	37.5	533.33	10	53.33	34.67	7.68
Disk 8'	5000	37.5	133.33	10	13.33	8.67	3.10
Pickup	10000	37.5	266.67	5	53.33	17.33	6.90
SP Weed Rig	9000	37.5	240.00	10	24.00	15.60	11.30
3-Wheel Motorcycle	1000	37.5	26.67	10	2.67	1.73	3.75
Drip Irrigation System	22500	37.5	600.00	15	40.00	39.00	
Buildings	8000	37.5	213.33	25	8.53	13.87	
TOTAL COST	75500		2013.33		195.20	130.87	
60% OF NEW COSTS	45300		1208.00		117.12	78.52	

Cost of Producing Olives at Varying Yields

	TONS PER ACRE					
	1	2	3	4	5	6
Cultural costs	426.55	426.55	426.55	426.55	426.55	426.55
Harvest cost	275.00	450.00	600.00	700.00	875.00	1050.00
Cash overhead	106.12	120.12	132.12	140.12	154.12	168.12
Total cash cost	807.67	996.67	1158.67	1266.67	1455.67	1644.67
Investment cost	1396.08	1396.08	1396.08	1396.08	1396.08	1396.08
Total cost	2203.75	2392.75	2554.75	2662.75	2851.75	3040.75

Income Above Cash Costs at Varying Yields & Prices

DOLLARS PER TON	TONS PER ACRE					
	1	2	3	4	5	6
300	-507.67	-396.67	-258.67	-56.67	44.33	155.33
350	-457.67	-296.67	-108.67	133.33	294.33	455.33
400	-407.67	-196.67	41.33	333.33	544.33	755.33
450	-357.67	-96.67	191.33	533.33	294.33	1055.33
500	-307.67	3.33	341.33	733.33	1044.33	1355.33
550	-257.67	103.33	491.33	933.33	1294.33	1655.33
600	-207.67	203.33	641.33	1133.33	1544.33	1955.33
650	-157.67	303.33	791.33	1333.33	1794.33	2255.33
700	-107.67	403.33	941.33	1533.33	2044.33	2555.33

Income Above Total Costs at Varying Yields & Prices

DOLLARS PER TON	TONS PER ACRE					
	1	2	3	4	5	6
300	-1903.75	-1792.75	-1654.75	-1462.75	-1351.75	-1240.75
350	-1853.75	-1692.75	-1504.75	-1262.75	-1101.75	-940.75
400	-1803.75	-1592.75	-1354.75	-1062.75	-851.75	-640.75
450	-1753.75	-1492.75	-1204.75	-862.75	-601.75	-340.75
500	-1703.75	-1392.75	-1054.75	-662.75	-351.75	-40.75
550	-1653.75	-1292.75	-904.75	-462.75	-101.75	259.25
600	-1603.75	-1192.75	-754.75	-262.75	140.25	559.25
650	-1553.75	-1092.75	-604.75	-62.75	390.25	859.25
700	-1503.75	-992.75	-454.75	137.25	640.25	1159.25