

Costs for Establishing and Producing Olives

Lower San Joaquin Valley

Prepared by: Karen Klonsky, Farm Management Specialist, U.S. Davis;
G. Steven Sibbett, Farm Advisor, Tulare County; Joseph Maranto,
Farm Advisor, Kern County; Mark Freeman, Fresno County.

1. Acreage - The cost studies are based on a 40 acre orchard. 2.5 acres are devoted to roads and burn areas leaving 37.5 producing acres.
2. Planting - Spacing is 30' x 30' or 48 trees per bearing acre in production years. The trees are double planted at first (96 trees per acre) and then removed in the 8th or 9th year. Consequently, the cost of establishment study is based on 96 trees per acre and the cost of production study is based on 48 trees per acre.
3. Fertilizer - The rate of Nitrogen per acre drops after the 9th year because the number of trees has been reduced. Nitrogen rates per acre are as follows:

<u>Year</u>	<u>lbs/acre</u>
1	13
2	26
3	26
4	53
5	53
9+	48

4. Irrigation - A drip irrigation system is used. Nitrogen is applied through the drip system.

Water application rates are as follows:

<u>Year</u>	<u>acre inches/acre</u>
1	6
2	8.4
3	12
4	18
5	23
9+	30

The cost of the drip irrigation system is assumed to be \$600 per producing acre. Older olive orchards are under furrow or flood systems. The interest and depreciation costs for these systems are considerably lower than for drip. However, the water required for a mature orchard is 3.3 acre feet at a cost of \$82.50 per acre.

5. Herbicide application - The following spray schedule is assumed:

1st and 2nd years 4 contact sprays

3rd and subsequent years - 1 pre-emergence spray
2 contact sprays

6. Tree removal - The cost of tree removal is not included in the cost study because the value of the wood as firewood offsets the cost of removal.

SAMPLE COSTS TO ESTABLISH OLIVES
Southern San Joaquin Valley 1983

40 acres total of which 2.5 acres are devoted to roads and burn areas.
Spacing is 30X30 or 48 trees per bearing acre in production years.
Trees are double planted and then removed in the 8th or 9th year.
There are 96 trees per acre during the establishment years.
Drip irrigation. Nitrogen is applied with the irrigation water.
Land is valued at \$5000 per acre.

Operation	1st Year	2nd Year	3rd Year	4th Year	5th Year
Cultural costs:					
land preparation	100.00				
disc- 4hrs.	73.12				
trees-96 @ \$3.00 ea.	288.00	3.00			
layout and plant-\$.70/tree	67.20	2.50			
irrigation water	12.50	17.50	25.00	37.50	47.92
irrigation labor- 6 hrs.	27.00	27.00	27.00	27.00	27.00
nitrogen- \$.22/lb	2.86	5.72	5.72	11.66	11.66
herbicide materials	14.00	14.00	17.00	17.00	17.00
herbicide application	15.04	15.04	11.28	11.28	11.28
insecticide materials					26.50
insecticide application					14.00
fungicide					31.00
fungicide application					28.00
supporting and training	9.60	19.20	19.20	48.00	96.00
misc. expenses	25.00	25.00	25.00	25.00	25.00
interest for 6 mo. at 12%	38.06	7.74	7.81	10.65	20.12
TOTAL CULTURAL COSTS	672.38	136.70	138.01	188.09	355.48
HARVEST COST-\$200/TON			40.00	200.00	400.00
Overhead:					
real property taxes	50.00	50.00	50.00	50.00	50.00
office and bookkeeping	16.81	3.42	3.45	4.70	8.89
TOTAL OVERHEAD COSTS	66.81	53.42	53.45	54.70	58.89
TOTAL CASH COSTS	739.19	190.12	231.46	442.79	814.37
TOTAL ACCUMULATED COSTS	739.19	929.30	1160.77	1603.55	2417.92
Investment costs:					
depreciation	195.20	195.20	195.20	195.20	195.20
interest on capital	120.80	120.80	120.80	120.80	120.80
interest on land	600.00	600.00	600.00	600.00	600.00
interest on acc. costs	88.70	111.52	139.29	192.43	290.15
TOTAL INVESTMENT COSTS	1004.70	1027.52	1055.29	1108.43	1206.15
Credit for production @ \$400/ton			80.00	400.00	800.00
NET ANNUAL COSTS	1743.89	1217.63	1206.75	1151.22	1220.52
ACCUMULATED NET COSTS	1743.89	2961.52	4168.28	5319.49	6540.01

OLIVE PRODUCTION INVESTMENT COSTS

Equipment name	cost	acres used	years of life	-----COST PER ACRE-----			COST/HR. fuel, lube & repairs
				deprecia- tion	interest 12%	total	
pickpup	10000.00	37.50	5.00	53.33	16.00	69.33	6.90
self-propelled weed rig	9000.00	37.50	10.00	24.00	14.40	38.40	11.30
tractor- 50HP	20000.00	37.50	10.00	53.33	32.00	85.33	7.68
disc- 8'	5000.00	37.50	10.00	13.33	8.00	21.33	3.10
3-wheel motorcycle	1000.00	37.50	10.00	2.67	1.60	4.27	3.75
drip irrigation	22500.00	37.50	15.00	40.00	36.00	76.00	
buildings	8000.00	37.50	25.00	8.53	12.80	21.33	
TOTAL	75500.00			195.20	120.80	316.00	

Costs to Produce Oliv. at Varying Yields

	-----Tons per Acre-----						
	1	2	3	4	5	6	7
Pre-harvest costs	395.10	395.10	395.10	395.10	395.10	395.10	395.10
Harvest costs	200.00	400.00	600.00	800.00	1000.00	1200.00	1400.00
Overhead costs	72.38	72.38	72.38	72.38	72.38	72.38	72.38
Total cash costs	667.48	867.48	1067.48	1267.48	1467.48	1667.48	1867.48
Investment costs	1330.20	1330.20	1330.20	1330.20	1330.20	1330.20	1330.20
Total Costs	1997.68	2197.68	2397.68	2597.68	2797.68	2997.68	3197.68

Income Above Cash Costs at Varying Yields and Prices

\$ per ton	-----Tons per Acre-----						
	1	2	3	4	5	6	7
300	-367.48	-267.48	-167.48	-67.48	32.52	132.52	232.52
350	-317.48	-167.48	-17.48	132.52	282.52	432.52	532.52
400	-267.48	-67.48	132.52	332.52	532.52	732.52	932.52
450	-217.48	32.52	282.52	532.52	782.52	1032.52	1232.52
500	-167.48	132.52	432.52	732.52	1032.52	1332.52	1632.52
550	-117.48	232.52	582.52	932.52	1282.52	1632.52	1982.52
600	-67.48	332.52	732.52	1132.52	1532.52	1932.52	2332.52

Income Above Total Costs at Varying Yields and Prices

\$ per ton	-----Tons per Acre-----						
	1	2	3	4	5	6	7
300	-1697.68	-1597.68	-1497.68	-1397.68	-1297.68	-1197.68	-1097.68
350	-1647.68	-1497.68	-1347.68	-1197.68	-1047.68	-897.68	-747.68
400	-1597.68	-1397.68	-1197.68	-997.68	-797.68	-597.68	-397.68
450	-1547.68	-1297.68	-1047.68	-797.68	-547.68	-297.68	-47.68
500	-1497.68	-1197.68	-897.68	-597.68	-297.68	2.32	302.32
550	-1447.68	-1097.68	-747.68	-397.68	-47.68	302.32	652.32
600	-1397.68	-997.68	-597.68	-197.68	202.32	602.32	1002.32