

UNIVERSITY OF CALIFORNIA • TULARE COUNTY • COOPERATIVE EXTENSION

Stone Fruit Orchard Establishment Costs
Southern San Joaquin Valley - 1986
Cost Analysis Work Sheet

Costs are for an orchard planted with 108 trees per acre. A furrow irrigation system is used.

Skilled Labor \$ 6.50
Field Labor \$ 5.50

YEAR	-----Costs Per Acre-----			
	1st	2nd	3rd	4th
YIELD: cartons of fruit per acre	---	---	---	267*
CULTURAL COSTS:				
Land Preparation: Land Level contract	125			
Chisel: contract	60			
Soil Fumigant	317			
Disk and Float: 4 hours	40			
Disk : 3 hrs		25	25	25
Trees: 108 @ \$3.50 (+2 2nd yr)	378	7		
Survey and Plant: 108 @ \$0.75	81	2		
Painting	11			
Prune and Train (skilled hand labor)		20	50	149
Brush Disposal			13	13
Furrowing	20	20	20	20
Spray: weed control	24	32	30	32
Irrigation: 9 hrs. labor	59	59	59	59
Water: District water @ \$15/acre	15	15	15	15
Well water @ \$17/ac ft	7	10	20	26
Fertilizer: Nitrogen \$.40/Lb.	5	22	32	43
Contract application	4	9	9	9
Spray: pest control materials	6	22	43	69
Custom application	7	12	12	24
Misc. labor and power, 1hr. labor and tractor	11	11	11	11
TOTAL CULTURAL COSTS	1170	264	338	493
HARVESTING COSTS:				
Pick, Haul, Pack, and Sell*				1150
TOTAL HARVESTING COSTS				1150

* The yield and harvesting cost represents fourth year figures for Laroda plums. Other stone fruit's figures may vary substantially.

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ESTABLISHMENT COST ASSUMPTIONS:

108 trees/acre

Furrow Irrigation: 50% district water, 50% well water

Land owner basis

1. Land Preparation In October:

Contract land leveling (laser) \$125.00/acre
Contract chiseling \$ 60.00/acre

2. Fumigate soil for nematodes In October:

Fumigation often done at the same time as chiseling.
Materials: soil fumigant 40 gal/ac @ \$7.50/gal = \$350/acre
Application - contract \$17.00/acre

3. Disc In October and November:

Year 1: Disc and float- .63 hours of labor and machinery
4 times per year = \$40.00/acre
Years 2-4: Disc only- .63 hours of labor and machinery
3 times per year = \$25.00/acre

4. Plant In February:

Year 1:

Trees, non-patented variety (1/2 inch) 108 trees/acre
@\$3.50/tree = \$378.00/acre
(Add approximately \$1.75/tree for royalty is patented
variety)
Contract labor, 108 trees/acre @ \$.75/tree = \$81.00/acre
hand done (not machine planting)
Painting: Materials- \$5.00/acre, Labor- 1 hr/acre @
\$5.50/hr = \$10.50/acre

Year 2:

Replant In February 2 trees/acre @ \$3.50/acre = \$7.00/acre

~~Contract labor, \$2.00/acre~~ ~~Contract labor, \$2.00/acre~~

5. Prune and Train:

Calculated for 108 trees/acre with a labor rate of \$5.50/hr

Year	Minutes/Tree	Hrs/Acre	Cost/Acre
2	2	3.6	\$19.80
3	5	9.0	\$49.50
4	15	27.0	\$148.50

6. Brush Disposal:

Years 3 and 4: Contract @ \$12.50/acre

7. Furrow In March, May, July:

3 times each year, for .57 hour each time = \$20/acre

8. Fertilize:

Calculated for 108 trees/acre, with N @ \$.40/lb and a contract application cost of \$4.25/acre per application.

Year	Lbs of N Per Tree	Material Cost/Acre	# Applications	Total Material Cost/Acre	Application Cost/acre
1	.125	\$5.40	May(1)	\$5.40	\$4.25
2	.250	\$10.80	May&Dec(2)	\$21.60	\$8.50
3	.375	\$16.20	May&Dec(2)	\$32.40	\$8.50
4	.340	\$14.69	May(1)	\$14.69	\$4.25
4	.660	\$28.51	Oct(1).	\$28.51	\$4.25

9. Irrigation:

Furrow irrigation system includes:

Pipeline \$300/acre x 40 acres	\$12,000
Well - 120 ft, 10" gauge casing	2,300
	\$14,300

Pump: 15 hp, 70 ft lift, 450 gal/min = 1.0 ac.in./hr,	\$7,900
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Irrigation labor - 1 hr/application/acre 9 x per year
District water cost: \$15.00/acre 100% rights

Year	Acre Inches
1	10
2	14
3	28
4	36

10. Pest Control:

Materials:

July: Miticide - @ \$25.00/lb

Jan.: dormant spray materials to control San Jose scale, peach twig borer, peach leaf curl, mealy plum aphid, zinc deficiency and over wintering mite eggs.

Basic Zinc: 3 lb/100 gal of water @ \$.70

Spray oil: 1 gal/100 gal of water @ \$2.70

Parathion (25wp): 2 lb/100 gal of water @ \$1.00/lb

Basic copper: 4 lb/100 gal of water @ \$1.35/lb

Year	Season	Materials	Amounts/Acre	Cost/acre	Applic. Cost/Ac
1	July	Miticide	.25 lbs	\$6.25	\$7.00
2	Dormant	Basic Zinc	3 lbs/100 gal water		
			x 1.25 (125 gal/ac)	\$2.63	
		Spray Oil	1 gal/100 gal water		
			x 1.25 (125 gal/ac)	\$3.38	
		Parathion	2 lbs/100 gal water		
			x 1.25 (125 gal/ac)	\$2.50	
		Basic Copper	4 lbs/100 gal water		
			x 1.25 (125 gal/ac)	\$6.75	
	July	Miticide	.25 lbs	<u>6.25</u>	
	TOTALS:			\$21.51	\$12.00
3	Dormant	Basic Zinc	3 lbs/100 gal water		
			x 2.50 (250 gal/ac)	\$5.25	
		Spray Oil	1 gal/100 gal water		
			x 2.50 (250 gal/ac)	\$6.75	
		Parathion	2 lbs/100 gal water		
			x 2.50 (250 gal/ac)	\$5.00	
		Basic Copper	4 lbs/100 gal water		
			x 2.50 (250 gal/ac)	\$13.50	
	July	Miticide	.5 lbs	<u>12.50</u>	
	TOTALS:			\$43.00	\$12.00
4	Dormant	Basic Zinc	3 lbs/100 gal water		
			x 4.0 (400 gal/ac)	\$8.40	
		Spray Oil	1 gal/100 gal water		
			x 4.0 (400 gal/ac)	\$10.80	
		Parathion	2 lbs/100 gal water		
			x 4.0 (400 gal/ac)	\$8.00	
		Basic Copper	4 lbs/100 gal water		
			x 4.0 (400 gal/ac)	\$21.60	
	July	Miticide	.8 lbs	<u>20.00</u>	
	TOTALS:			\$68.80	\$24.00

11. Weed Control

Labor: \$5.50/hr Materials: Roundup or Paraquat

Year	Season	Labor and Appli- Cation Costs/acre	Material Cost/acre	Total Cost/acre
1	May-Sep	3 hrs = \$16.50	\$7.50	\$24.00
2	May-Sep	1 hr = \$5.50	\$7.50	\$13.00
	Dec	contract = \$7.00	\$12.00	\$19.00
3	May-Sep	1 hr = \$5.50	5.00	\$10.50
	Dec	contract = \$7.00	\$12.00	\$19.00
4	May-Sep	1 hr = \$5.50	7.50	\$13.00
	Dec	contract - \$7.00	12.00	\$19.00

12. Labor Rates include benefits

Machinery Operators \$6.50/hr
 Irrigators \$6.50/hr
 Field Labor \$5.50/hr

13. Buildings and Equipment:

	40 Acres	Per Acre
Farm shop 1500 sq ft. @ \$12/sq ft. =	\$18,000	\$450.00
Tools and shop equipment	12,285	\$307.13

14. Land owned:

Land value \$5500/acre Land tax \$55/acre
 County taxes: \$71.34 (1% of land and equipment costs)

15. Bookkeeping and misc. office: \$100/acre

16. Machinery costs: ~~_____~~

YEAR	1st	2nd	3rd	4th
OVERHEAD COSTS:				
County taxes	71	71	71	71
Office and Business Costs	100	100	100	100
TOTAL OVERHEAD COSTS	171	171	171	171
TOTAL CASH COSTS				
	1341	435	509	1815
ACCUMULATED CASH COSTS	1341	1777	2286	4100
DEPRECIATION:				
Building, equipment, and Irrigation system	114	114	114	114
INTEREST ON INVESTMENT @ 13%:				
Building, equipment, and Irrigation system	106	106	106	106
Land \$5500	715	715	715	715
Interest in accum. cash cost	174	231	297	533
TOTAL INTEREST ON INVESTMENT	996	1052	1118	1354
TOTAL COST FOR THE YEAR	2451	1602	1741	3283
CREDIT FOR PRODUCTION				1936
NET COST FOR THE YEAR	2451	1602	1741	1347
ACCUMULATED NET COST	2451	4053	5794	7141

STONE FRUIT ORCHARD
Southern San Joaquin Valley - 1986

EQUIPMENT AND BUILDING LIST

ITEM	ORIGINAL COST	ANNUAL USE (ACRES)	COST PER ACRE	LIFE (YEARS)	OVERHEAD DEPREC- IATION	INTEREST AT 13%	FUEL AND REPAIRS*
Tractors:							
65 HP wheel diesel	20000	40	500.00	15	33.33	32.50	4.91
Disk, offset	4000	40	100.00	15	6.67	6.50	2.01
Float	9500	40	237.50	15	15.83	15.44	2.28
Pickup, 1/2 Ton	10000	40	250.00	7	35.71	16.25	6.33
Sprayer	12500	40	312.50	15	20.83	20.31	4.96
Furrower	450	40	11.25	15	.75	.73	.26
Irrigation Pump	7900	40	197.50	25	7.90	12.84	2.49
Furrow Irrigation System	14300	40	357.50	10	35.75	23.24	.15
Tools, Shop Equip.	12285	40	307.13	15	20.48	19.96	
Buildings	18000	40	450.00	35	12.86	29.25	
TOTAL COST	108935		2723.38		190.11	177.02	
60% OF NEW COSTS	65361		1634.03		114.07	106.21	

* Includes fuel, lube and repairs