

# **APRICOT ESTABLISHMENT AND PRODUCTION COSTS FOR THE NORTHERN SAN JOAQUIN VALLEY - 1991**

BY

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These detailed costs of establishment and production of apricots in the Northern San Joaquin Valley are average costs representing a hypothetical orchard. The farm consists of 100 acres of which 40 are Patterson variety apricots. The remainder of the farm is planted to another tree crop.

Practices described 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 1990 figures. Some costs or practices may not be applicable to every 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.

## **GENERAL ASSUMPTIONS**

### **1. LAND:**

Land is valued at \$5000/acre. There are 2.4 acres allocated to roads and farmstead. This increases the cost of land to \$5300/producing acre. Land is not depreciated.

### **2. TREES:**

Trees are planted 18' X 18' (134 trees per acre) square and trained to a standard vase. The variety is Patterson on Lovell rootstock.

### **3. IRRIGATION:**

Irrigation is by furrows with a water cost at \$30 per acre foot.

### **4. PEST MANAGEMENT:**

In year 1 there is only a spring Twig Borer spray. In year 2 there is a spring and a dormant spray. After trees come into bearing, bloom and preharvest fungicide sprays are added.

### **5. LABOR:**

Hourly wages for workers are \$5.97 and \$4.25 per hour for skilled and field workers respectively. Adding 34% for SDI, FICA, insurance and other benefits gives labor rates shown of \$8.00 per hour for skilled and \$5.70 per hour for field labor. The labor costs for operations involving machinery are 10% higher to reflect the extra labor involved in equipment moving, setup and maintenance.

UC COOPERATIVE EXTENSION

## 7. OVERHEAD:

County taxes are calculated as 1% of the land value plus 1% of the average value of the trees, equipment, buildings and improvements. Insurance is charged at 0.8% of the average value of the equipment over its useful life.

## 8. INTEREST:

Interest on operating capital is based on cash costs and is calculated monthly until harvest at the rate of 12% per year. Interest is also charged on investment at 12% per year to account for income forgone that could have been received from an alternative investment (opportunity cost), and is based on the value of the land plus the average value of the trees over the life of the orchard, buildings and equipment.

## 9. EQUIPMENT:

In allocating the equipment costs per acre, the following assumptions apply:

- (a) Original cost of equipment is the value of the new equipment plus sales tax.
- (b) Depreciation is straight line with a 10% salvage value.
- (c) Interest on investment is calculated as one-half of the new cost per acre (the average value of the equipment during its useful life) multiplied by an interest rate of 12%.
- (d) The total investment costs are also calculated as 60% of the depreciation and interest costs for all new equipment to reflect a mix of new and used equipment.

**SAMPLE COSTS TO ESTABLISH AN APRICOT ORCHARD  
NORTHERN SAN JOAQUIN VALLEY - 1991**

Labor costs (Total to the grower) Skilled labor = \$8.00 / Hr    Field labor = \$5.70 / Hr    Interest rate = 12 %

Costs are for a 40 acre Patterson variety apricot orchard on a 100 acre farm.  
Trees planted 18' x 18' square (134 Trees per acre)

YEAR	COSTS PER ACRE				
	1st	2nd	3rd	4th	5th
YIELDS IN TONS PER ACRE	0	0	3	6	10
<b>PLANTING COSTS</b>					
Land preparation: Rip & level (contract)	160.00				
Fumigate: (Methyl bromide)	500.00	2.00	1.00		
Disk and float: 4 hours - labor & tractor	65.92				
Tree cost	536.00	8.00	4.00		
Survey and plant (Contract @ \$1.00 / tree)	134.00	2.00	1.00		
<b>TOTAL PLANTING COSTS</b>	<b>1395.92</b>	<b>12.00</b>	<b>6.00</b>		
<b>CULTURAL COSTS:</b>					
Prune and train	0.00	33.75	67.50	112.50	168.75
Thinning cost	0.00	0.00	10.06	20.13	30.19
Furrow (4X) 2Hrs labor and wheel tractor	14.68	14.68	14.68	14.68	14.68
Cultivate (4X) and (6X)	34.16	34.16	51.24	51.24	51.24
Irrigate: (6X) Labor	34.50	34.50	34.50	34.50	34.50
Water cost	120.00	120.00	120.00	120.00	120.00
Fertilizer and application	7.13	11.88	23.75	35.63	47.50
Pest control program					
Materials	25.00	55.00	125.00	125.00	125.00
Application	11.96	23.92	59.80	59.80	59.80
Misc. labor and materials	20.00	20.00	20.00	20.00	20.00
Interest on operating capital - 12 %	99.80	21.59	31.95	35.61	40.30
Office and business costs - 4 % of cash costs	70.53	15.26	22.58	25.16	28.48
<b>TOTAL PREHARVEST CASH COSTS</b>	<b>1833.67</b>	<b>396.74</b>	<b>587.06</b>	<b>654.25</b>	<b>740.44</b>
<b>HARVEST COSTS</b>					
Pick and roadside (Contract @ \$75 per ton)	0.00	0.00	225.00	450.00	750.00
<b>TOTAL HARVEST COSTS</b>	<b>0.00</b>	<b>0.00</b>	<b>225.00</b>	<b>450.00</b>	<b>750.00</b>
<b>TOTAL CASH COSTS</b>	<b>1833.67</b>	<b>396.74</b>	<b>812.06</b>	<b>1104.25</b>	<b>1490.44</b>
<b>DEPRECIATION</b>					
Buildings and equipment	97.00	97.00	97.00	97.00	97.00
<b>TOTAL DEPRECIATION COSTS</b>	<b>97.00</b>	<b>97.00</b>	<b>97.00</b>	<b>97.00</b>	<b>97.00</b>
<b>INTEREST ON INVESTMENT AT 12 %</b>					
Buildings and equipment	166.80	166.80	166.80	166.80	166.80
Land (Bare)	600.00	600.00	600.00	600.00	600.00
Interest on accumulated costs		323.70	513.80	670.36	774.57
<b>TOTAL INTEREST ON INVESTMENT</b>		<b>1090.50</b>	<b>1280.60</b>	<b>1437.16</b>	<b>1541.37</b>
<b>TOTAL COST / ACRE FOR YEAR</b>	<b>2697.47</b>	<b>1584.23</b>	<b>2189.67</b>	<b>2638.41</b>	<b>3128.81</b>
<b>CREDIT FOR FRUIT @ \$295 / TON</b>			885.00	1770.00	2950.00
<b>NET COST FOR YEAR</b>	<b>2697.47</b>	<b>1584.23</b>	<b>1304.67</b>	<b>868.41</b>	<b>178.81</b>
<b>TOTAL ACCUMULATED COST</b>	<b>\$2,697.47</b>	<b>\$4,281.71</b>	<b>\$5,586.37</b>	<b>\$6,454.78</b>	<b>\$6,633.59</b>

EXAMPLE COSTS TO PRODUCE APRICOTS IN THE NORTHERN SAN JOAQUIN VALLEY 1991  
 ASSUMES GROWER OWNS ALL EXCEPT RENTED EQUIPMENT

COSTS ARE FOR A 40 ACRE PATTERSON APRICOT ORCHARD ON A 100 ACRE FARM  
 LABOR COSTS (TOTAL TO THE GROWER) SKILLED = \$8.00/Hr - FIELD = \$5.70/Hr  
 TREES 18' X 18' SQUARE (134 TPA) YIELD AT 12.5 TONS PER ACRE GROSS (12 TONS NET)

OPERATION	Tractor #	Equipment #	Hours	Labor Cost / A	Fuel & Repairs	Materials Cost	Custom Rent	Total Cost / A	When Cost Occurs
Pruning				\$225.00				\$225.00	DEC-JAN
Remove Large Limbs	1	11	4	\$32.00	\$33.76			\$65.76	DEC-JAN
Fork Brush			0.4	\$2.28				\$2.28	DEC-JAN
Shred Brush	1	9	1.5	\$12.00	\$12.90			\$24.90	DEC-JAN
Tree Replacement Cost (17/Acre)									
Remove Tree	2	10	1	\$5.70	\$2.91		\$14.25	\$22.86	FALL
New Tree						\$3.50		\$3.50	
Plant, Carton, Tank	2	7	0.3	\$1.71	\$0.87	\$0.25		\$2.83	WINTER
Sprays:									
Dormant	1	6	0.4	\$3.20	\$8.76	\$30.00		\$41.96	DEC-JAN
Redbud	1	6	0.4	\$3.20	\$8.76	\$25.00		\$36.96	FEB
Full Bloom	1	6	0.4	\$3.20	\$8.76	\$25.00		\$36.96	MAR
Worm	1	6	0.4	\$3.20	\$8.76	\$25.00		\$36.96	MAY
Preharvest Brown Rot	1	6	0.4	\$3.20	\$8.76	\$20.00		\$31.96	JUNE
Spot Weed Control	2	7	0.3	\$2.40	\$1.50	\$20.00		\$23.90	SPR/SUM
Fertilizer (Custom Spread):									
25 #N						\$7.50	\$5.00	\$12.50	SPRING
100 #N						\$30.00	\$5.00	\$35.00	SUM/FALL
Cultivate (9X)	1	3	4.5	\$36.00	\$40.86			\$76.86	SPR/SUM
Furrow (4X)	1	8	1	\$8.00	\$6.68			\$14.68	SUMMER
Irrigate (5X)		21	5	\$28.50		\$120.00		\$148.50	SUMMER
Thinning				\$40.25				\$40.25	APRIL
Miscellaneous			1	\$5.70		\$10.00		\$15.70	
Interest on Operating Capital								\$53.96	
<b>Total Preharvest Costs</b>								<b>\$953.28</b>	
Harvest Costs									JUNE/JULY
Bin Handling	2	13	1	\$8.00	\$2.91			\$10.91	
Rented Tractor (3 Week Minimum)		13	1	\$8.00	\$1.71		\$13.88	\$23.59	
Extra Labor			1	\$5.70				\$5.70	
Pick And Sort				\$875.00				\$875.00	
Rented Forklift (\$1500 / Month)							\$37.50	\$37.50	
Hauling				\$20.00				\$20.00	
Harvest Supervision			2	\$16.00				\$16.00	
<b>Total Harvest Costs</b>								<b>\$988.70</b>	
Office And Business Expenses								\$50.00	
County and Irrigation Tax								\$65.00	
Management Fee						\$55+10		\$60.00	
Equipment Insurance								\$10.00	
<b>Total Overhead Costs</b>								<b>\$185.00</b>	
<b>Total Cash Costs Per Acre</b>								<b>\$2,126.98</b>	
Investment			Per Production Acre	Annual Cost					
Land (Bare)			\$5,000.00	Depreciation		\$600.00			
Roads and Farmstead			\$3,000.00			\$36.00			
Equipment and Buildings *			\$1,390.00	\$97.00		\$166.80			
Trees (20 Year Depreciation)			\$6,633.59	\$331.68		\$398.02			
<b>Total Investment Costs</b>				<b>\$428.68</b>		<b>\$1,200.82</b>		<b>\$1,629.50</b>	
<b>Total Costs Per Acre</b>								<b>\$3,756.47</b>	

EQUIPMENT AND BUILDING LIST FOR ACREOTS  
NORTHERN SAN JOAQUIN VALLEY - 1990 FIGURES

INTEREST RATE AT 12 % FUEL COST PER GALLON \$0.85 DIESEL; \$1.00 GASOLINE

ITEM #	DESCRIPTION	NEW COST	ANNUAL USE (ACRES)	COST PER ACRE	LIFE (HRS)	YEARS TO TRADE	OVERHEAD* DEPREC.	INTEREST*	TAR*	HOURLY COSTS --- FUEL* REPAIRS*	TOTAL	
Tractors:												
1	65 hp wheel diesel	\$25,000	100	\$250	12,000	15	\$16.67	\$15.00	120%	\$3.70	\$2.50	\$6.20
2	30 hp wheel	12,000	100	120	12,000	15	8.00	7.20	120	1.71	1.20	2.91
3	Disc. offset 10'	6,000	100	60	2,500	10	6.00	3.60	120		2.88	2.88
4	Ringroller, 10'	1,500	100	15	2,500	10	1.50	0.90	120		0.72	0.72
5	Float, 14'	9,500	100	95	2,500	10	9.50	5.70	60		2.28	2.28
6	Orchard sprayer, PTO 500 gal.	12,500	100	125	2,000	10	12.50	7.50	80		5.00	5.00
7	Weed sprayer, 100 gal.	2,500	100	25	1,200	10	2.50	1.50	100		2.08	2.08
8	Furrower, 18'	1,000	100	10	2,500	10	1.00	0.60	120		0.48	0.48
9	Brush shredder, 8'	6,000	100	60	2,500	10	6.00	3.60	100		2.40	2.40
10	Buckrake/Front loader	5,600	100	56	2,500	10	5.60	3.36	100		2.24	2.24
11	Flatbed wagon (used)	1,000	100	10	5,000	20	0.50	0.60	100		0.20	0.20
12	3 point blade	1,000	100	10	2,500	10	1.00	0.60	100		0.40	0.40
13	5 - Bin trailers	4,100	40	103		20	5.13	6.15				
14	20 - ladders, 10'	2,500	40	63		10	6.25	3.75				
15	25 - buckets	125	40	3		5	0.63	0.19				
16	Irrigation pump, 40 hp	15,000	40	375		20	18.75	22.50				
17	Well, 150'	6,000	100	60		35	1.71	3.60				
18	Flood irrig. system	12,000	40	300		35	8.57	18.00				
19	Pickup, 3/4 ton	14,000	100	140		7	20.00	8.40				
20	Pickup, 1/2 ton (used)	2,500	100	25		4	6.25	1.50				
21	ATV	2,200	100	22		5	4.40	1.32				
22	Tractor trailer	5,000	100	50		20	2.50	3.00				
	Miscellaneous shop tools	5,000	100	50		10	5.00	3.00				
	2 - fuel storage tanks	10,000	100	10		35	2.86	6.00				
	Chemical storage shed	3,000	100	30		30	1.00	1.80				
	Shop building	25,000	100	250		30	8.33	15.00				
TOTAL COST		\$190,025		\$2,317			\$162.15	\$144.37				
60% OF NEW COSTS*		\$114,015		\$1,390			\$97	\$87				

\*DEFINITIONS:

- LIFE IN HOURS ----- Derived from the "American Society of Agricultural Engineers Yearbook of Standards."
- YEARS TO TRADE ----- The projected life of the machine in years adjusted for excessive annual use.
- OVERHEAD ----- Per acre per year.
- DEPRECIATION ----- COST PER ACRE divided by "YEARS TO TRADE"
- INTEREST ----- ("COST PER ACRE" x "INTEREST RATE") divided by 2 = average interest cost per acre per year.
- TAR ----- Total accumulated repairs. The total cost of repairs during the machine's life expressed as a percent of "NEW COST."
- HOURLY COST OF FUEL ----- Diesel fuel, oil and lube costs per hour = HP x cost of diesel fuel/gal x 0.0667.
- HOURLY COST OF REPAIRS ----- Gasoline fuel, oil and lube costs per hour = HP x cost of gasoline/gal x 0.0889.
- 60% OF NEW COSTS ----- ("NEW COST" x "TAR") divided by ("LIFE IN HOURS"). Used to reflect a mix of new and used equipment.