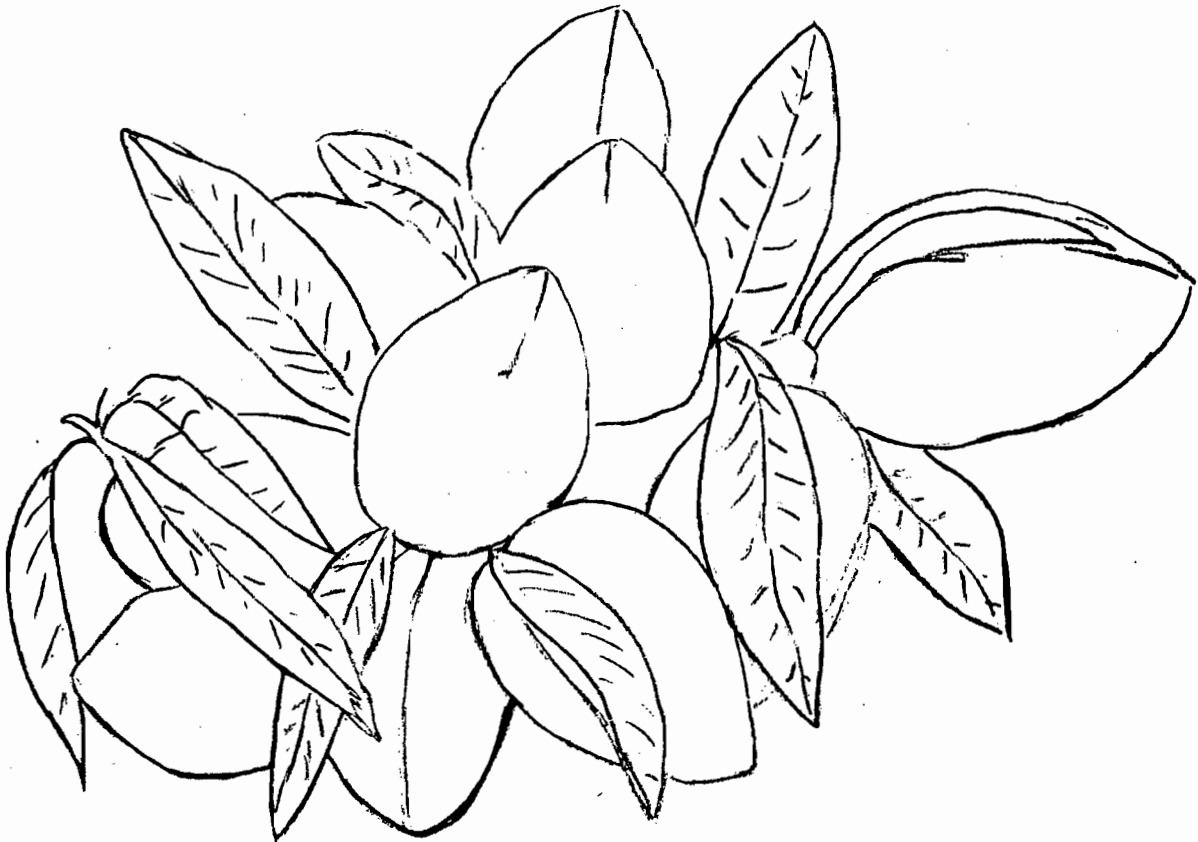


ALMOND PRODUCTION COSTS

MERCED COUNTY

1986



INTRODUCTION

This cost study is designed to provide almond orchardists or prospective growers the estimated costs to establish a new orchard and costs to produce almonds in a mature orchard. This study is based on actual cash costs in better-than-average orchards with good management. The costs may be somewhat above average. The production estimates are definitely above average, but typical of very good orchards.

This study assumes that the operation has excellent soil, good water, very good equipment, and top management. Used equipment is often purchased for orchard use. This will reduce capital investment, depreciation and interest, but will likely increase repair costs, operating costs, and down time. This study uses costs based on 60% of new cost.

In this cost study, harvest costs are based on current custom harvest charges. Therefore, interest and depreciation charges for harvesting and hulling are not included in the production cost studies. A typical operation in this area will deliver nuts to cooperative or custom hullers for processing.

A major cost of farming is interest charges. This is especially true in establishing an orchard where there are interest charges on accumulated costs during the nonbearing years.

You, as a grower or prospective grower, should compare your actual cash costs, depreciation and interest costs to these projected costs.

Lonnie C. Hendricks
Farm Advisor
Merced County

Wesley K. Asai
Farm Advisor
Stanislaus County

Karen Klonsky
Area Specialist-Farm Mgmt.
UC Davis

ALMOND ORCHARD ESTABLISHMENT COSTS
Strip Weed Control - Native Cover in Centers
San Joaquin Valley - 1986

Costs are for a 40 acre block planted 24' x 24', with 75 trees per acre.
A solid set sprinkler system is used.

Skilled Labor (Equipment operator) \$7.50/hr.
Field Labor ----- 5.75/hr.

	1st Year	2nd Year	3rd Year	4th Year	5th Year
YIELD: Lbs. nut meats/acre	---	---	---	300	750
<u>CULTURAL COSTS: \$/acre</u>					
Land Preparation: backhoe contract	300				
Disk & float: 3 hrs. labor and tractor	57				
Fumigate - methyl bromide	112				
Trees: 75 @ \$3 ea. (+2 2nd Yr. and 1 3rd Yr.)	225	6	3		
Survey and Plant: 75 @ \$1	75				
Replant trees @ \$3/tree		6	3		
Prune and Train - skilled		15	30		
Prune and Train - unskilled				29	29
Brush Disposal	5	9	19	19	19
Mow middles 8X - 4 acres/hr.	35	35	35	35	35
Contact strip weed control	9	9	9	9	9
Pre-emergence strip control	39	39	25	25	25
Irrigation labor-.5 hr/acre	3	3	3	3	3
Water - 40"	75	75	75	75	75
Fertilize - labor & material	22	31	34	41	41
Spray: pest control material	4	11	24	48	100
Custom application	7	7	20	30	40
Pollination - 1 hive/acre				25	25
Misc. expenses	20	20	20	20	20
Interest on operating costs	69	19	21	25	29
TOTAL CULTURAL COSTS	1057	285	320	384	450
TOTAL HARVESTING COSTS-custom				145	168
<u>OVERHEAD COSTS:</u>					
County Taxes	60	60	60	60	60
Office and Business Costs	20	20	20	20	20
TOTAL OVERHEAD COSTS	80	80	80	80	80
TOTAL CASH COSTS	1137	365	400	609	698
ACCUMULATED CASH COSTS	1137	1502	1903	2512	3210

DEPRECIATION:

Building, equipment, and irrigation system	109	109	109	109	109
---	-----	-----	-----	-----	-----

INTEREST ON INVESTMENT @ 13%:

Building, equipment, and irrigation system	90	90	90	90	90
Land \$6000	780	780	780	780	780
Interest in accum. cash cost	148	195	247	327	417

TOTAL INTEREST ON INVESTMENT	1018	1065	1117	1197	1287
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TOTAL COST FOR THE YEAR	2264	1539	1627	1706	2094
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CREDIT FOR PRODUCTION:

\$1 per pound				300	750
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NET COST FOR THE YEAR	2264	1539	1627	1406	1344
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ACCUMULATED NET COST	2264	3803	5430	6836	8181
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Prepared by:

Wesley K. Asai, Farm Advisor - Stanislaus County
Lonnie C. Hendricks, Farm Advisor - Merced County
Karen Klonsky, Area Specialist-Farm Management - UC Davis

ALMOND ORCHARD ESTABLISHMENT COSTS
Strip Weed Control - Cultivate Centers
San Joaquin Valley - 1986

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Field Labor ----- 5.75/hr.

	1st Year	2nd Year	3rd Year	4th Year	5th Year
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<u>CULTURAL COSTS: \$/acre</u>					
Land Preparation: backhoe contract	300				
Disk & float: 3 hrs labor and tractor	57				
Fumigate - methyl bromide	112				
Trees: 75 @ \$3 (+2 2nd Yr. and 1 3rd Yr.)	225	6	3		
Survey and Plant: 75 @ \$1.00	75				
Replant @ \$3 per tree		6	3		
Prune and train - skilled		15	30		
Prune and train - unskilled				29	29
Brush disposal	5	9	19	19	19
Disk 2X - 3 acres/hr.	13	13	13	13	13
Springtooth 3X - 4 acres/hr.	14	14	14	14	14
Contact strip weed control	9	9	9	9	9
Pre-emergence strip control	39	39	25	25	25
Roll 1X - 3 acres/hr.				5	5
Pre-harvest herbicide				10	10
Irrigation labor - .5 hr/acre	3	3	3	3	3
Water - 40"	75	75	75	75	75
Fertilize - labor & material	22	31	34	41	41
Spray: pest control material	4	11	24	48	100
Custom application	7	7	20	30	40
Pollination - 1 hive/ac				25	25
Misc. expenses	20	20	20	20	20
Interest on operating costs	69	18	20	26	30
<u>TOTAL CULTURAL COSTS</u>	1049	276	312	392	458
<u>TOTAL HARVESTING COSTS - Custom</u>				145	168
<u>OVERHEAD COSTS:</u>					
County taxes	60	60	60	60	60
Office and business costs	20	20	20	20	20
<u>TOTAL OVERHEAD COSTS</u>	80	80	80	80	80
<u>TOTAL CASH COSTS</u>	1129	356	392	617	706
<u>ACCUMULATED CASH COSTS</u>	1129	1485	1877	2494	3200

DEPRECIATION:

Building, equipment, and irrigation system	106	106	106	106	106
---	-----	-----	-----	-----	-----

INTEREST ON INVESTMENT @ 13%:

Building, equipment, and irrigation system	88	88	88	88	88
Land \$6000	780	780	780	780	780
Interest in accum. cash cost	147	193	244	324	416

TOTAL INTEREST ON INVESTMENT 1015 1061 1112 1192 1284

TOTAL COST FOR THE YEAR 2250 1524 1610 1690 2096

CREDIT FOR PRODUCTION

\$1 per pound				300	750
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NET COST FOR THE YEAR 2250 1524 1610 1390 1346

ACCUMULATED NET COST 2250 3773 5383 6774 8120

Prepared by:

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ALMOND ORCHARD PRODUCTION COSTS
Strip Weed Control - Native Cover in Centers
San Joaquin Valley - 1986

Costs are for an 80 acre block planted 24' x 24', with 75 trees per acre.
A solid set sprinkler system is used.

Skilled Labor (Equipment operator) \$7.50/hr.
Field Labor ----- 5.75/hr.

YIELD: Lbs. nut meats/acre			1500
<hr/>			
<u>CULTURAL COSTS: \$/acre</u>			
Prune and train			58
Brush disposal			24
Contact strip weed control			10
Pre-emergence strip control			23
Irrigation labor - .5 hr/acre			3
Water - 40"			75
Fertilize - labor & materials			66
Pest control			111
Pollination - 2 hives/acre			50
Mow middles 8X - 4 acres/hour			35
Misc. expenses			20
Interest on operating costs			33
<hr/>			
<u>TOTAL CULTURAL COSTS</u>			507
<hr/>			
<u>TOTAL HARVESTING COSTS - Custom</u>			223
<hr/>			
<u>OVERHEAD COSTS:</u>			
County taxes			60
Office and business costs			20
<hr/>			
<u>TOTAL OVERHEAD COSTS</u>			80
<hr/>			
<u>TOTAL CASH COSTS</u>			810
<hr/>			
<u>INVESTMENT COSTS:</u>			
	<u>Depreciation</u>	<u>Interest @13%</u>	
Land - \$6000/acre		468	468
Trees	55	142	197
Building, equipment, and irrigation system	107	90	197
<hr/>			
<u>TOTAL DEPRECIATION AND INTEREST</u>			862
<hr/>			
<u>TOTAL COST PER ACRE</u>			1672
<hr/>			

ALMOND ORCHARD PRODUCTION COSTS
Strip Weed Control - Cultivate Centers
San Joaquin Valley - 1986

Costs are for an 80 acre block planted 24' x 24', with 75 trees per acre.
A solid set sprinkler system is used.

Skilled Labor (Equipment Operator) \$7.50/hr.
Field Labor ----- 5.75/hr.

YIELD: Lbs. nut meats/acre 1500

CULTURAL COSTS: \$/acre

Prune and train	58
Brush disposal	24
Contact strip weed control	10
Pre-emergence strip control	23
Irrigation labor - .5 hr/acre	3
Water - 40"	75
Fertilize - labor & materials	66
Pest control	111
Pollination - 2 hives/acre	50
Disk 2X - 3 acres per hour	13
Springtooth 3X - 4 acres per hour	14
Roll 1X - 3 acres per hour	5
Pre-harvest herbicide	10
Misc. expenses	20
Interest on operating costs	34

TOTAL CULTURAL COSTS 515

TOTAL HARVESTING COSTS - Custom 223

OVERHEAD COSTS:

County taxes	60
Office and business costs	20

TOTAL OVERHEAD COSTS 80

TOTAL CASH COSTS 818

INVESTMENT COSTS:

	<u>Depreciation</u>	<u>Interest @ 13%</u>	
Land - \$6000/acre		468	468
Trees	55	142	197
Building, equipment, and irrigation system	107	90	197

TOTAL DEPRECIATION AND INTEREST 862

TOTAL COST PER ACRE 1680

ALMONDS TEHAMA COUNTY

COST OF PRODUCTION-1986 ESTIMATES

35 TREES PER ACRE

1 TON PER ACRE

2/13/86

OPERATION	HOURS PER ACRE	CASH AND LABOR COSTS PER ACRE			TOTAL
		LABOR	FUEL & REPAIRS	MATERIALS KIND & COST	
CULTURAL COSTS					
PRUNING	10.00	67.50	30.00		97.50
BRUSH REM	4.00	27.00	12.00		39.00
FERTILIZE	.30	2.03	.90	AMT 175.00	2.93
				COST .30	52.50
SPRAY				CONTRACT 88.00	150.00
MOW	3.20	16.80	12.00		28.80
IRRIGATIO	2.00	10.50		WATER 60.00	150.00
WEED SPRA	.50	2.63		HERBICIDE 15.00	17.63
MISC. LAB	2.00	13.50			13.50
REPLANTS	1.00	5.25		TREES 5.00	10.25
BEEES				HIVES 40 25.00	100.00
MANAGEMENT					50.00
INTEREST ON OPERATING CAPITAL-13.2% FOR 6 MOS.					47.00
TOTAL CULTURAL COSTS	HOURS	145.20	54.90	559.00	759.10
HARVEST COSTS					
SHAKE	1.50	10.13			10.13
SWEEP	2.00	13.50			13.50
PICKUP & DRY	1.50	10.50			10.50
		CUSTOM @	.05	90.00	90.00
TOTAL HARVEST COSTS					124.13
CASH OVERHEAD					
MISC OFFICE ETC				73.56	73.56
TAXES				143.33	143.33
TOTAL CASH OVERHEAD					216.89
TOTAL CASH COSTS					1100.11
INVESTMENT					
	PER ACRE	ANNUAL COST			
		DEPRECIATION	INTEREST		
LAND	2500.00		337.50		
TREES	2500.00	125.00	337.50		
IRRIG SYS	600.00	40.00	81.00		
BUILDINGS	178.00	17.80	24.03		
EQUIPMENT	323.00	32.30	43.61		
TOTALS	5000.00	215.10	823.64		1038.74
TOTAL COST PER ACRE					2138.85
TOTAL COST PER TON					2138.85
COST PER POUND					1.07

ALMOND ORCHARD PRODUCTION COSTS
 Total Herbicide
 San Joaquin Valley - 1986

Costs are for an 80 acre block planted 24' x 24', with 75 trees per acre.
 A solid set sprinkler system is used.

Skilled Labor (Equipment operator) \$7.50/hr.
 Field Labor----- 5.75/hr.

YIELD: Lbs. nut meats/acre 1500

CULTURAL COSTS: \$/acre

Prune and train	58
Brush Disposal	24
Contact strip weed control	25
Pre-emergence strip control	65
Irrigation labor - .5 hr/acre	3
Water - 40"	75
Fertilize - labor & materials	66
Pest control	111
Pollination - 2 hives/acre	50
Pre-harvest herbicide	10
Misc. expenses	20
Interest on operating costs	35

TOTAL CULTURAL COSTS 542

TOTAL HARVESTING COSTS - Custom 223

OVERHEAD COSTS:

County taxes	60
Office and business costs	20

TOTAL OVERHEAD COSTS 80

TOTAL CASH COSTS 844

INVESTMENT COSTS:

	<u>Depreciation</u>	<u>Interest @13%</u>	
Land - \$6000/acre		468	468
Trees	59	155	214
Building, equipment, and irrigation system	104	88	192

TOTAL DEPRECIATION AND INTEREST 874

TOTAL COST PER ACRE 1718

ALMOND COVER CROP STUDY SUMMARY TABLE
Production Costs Per Acre

	Clover Cover	Blando Brome	Native Cover	Mow & Cultivate	Cultivate Centers	Total Herbicide	Chemical Mow
Cultural costs	407	407	407	407	407	407	407
Pre-emergence herbicide	23	23	23	23	23	65	23
Contact herbicide	10	10	10	10	10	25	10
Mow middles	26	26	35	13			47*
Disk				6	13		
Springtooth				10	14		
Fertilize cover crop	16	6					
Pre-harvest herbicide				10	10	10	
Roll				5	5		
Interest - operating loan	34	33	33	34	34	35	34
<u>TOTAL CULTURAL COSTS</u>	516	505	508	518	516	542	521
HARVEST COSTS	223	223	223	223	223	223	223
OVERHEAD COSTS	80	80	80	80	80	80	80
TOTAL CASH COSTS	819	808	811	821	819	845	824
DEPRECIATION & INTEREST	869	866	862	862	861	874	862
TOTAL COST FOR THE YEAR	1688	1674	1673	1683	1680	1719	1686

*Chemical mowing

ALMOND ORCHARD WITH COVER CROP
EQUIPMENT AND BUILDING LIST
San Joaquin Valley - 1986

ITEM	ORIGINAL COST	ANNUAL USE (ACRES)	COST PER ACRE	LIFE (YEARS)	OVERHEAD		COST PER HOUR
					DEPREC- IATION	INTEREST AT 13%	
Tractors:							
40 HP wheel diesel	17000	80	212.50	10	21.25	13.81	3.80
60 HP wheel diesel	31000	80	387.50	10	38.75	25.19	8.00
Flail mower, 12'	4000	80	50.00	10	5.00	3.25	2.00
Disk, tandem 14'	7500	80	93.75	10	9.38	6.09	3.60
Springtooth harrow	7800	80	97.50	10	9.75	6.34	3.70
Roller	1000	80	12.50	15	.83	.81	.05
Brush Rake	1000	80	12.50	15	.83	.81	1.00
Speed sprayer, PTO	12000	80	150.00	15	10.00	9.75	5.00
Weedsprayer	1200	80	15.00	10	1.50	.98	.50
Handgun	50	80	.63	5	.13	.04	.01
3-Wheel Motorcycle	1500	80	18.75	5	3.75	1.22	1.50
Pickup	8000	80	100.00	5	20.00	6.50	6.00
Misc. Tools	1000	80	12.50	10	1.25	.81	6.00
Pump and Well	10000	80	125.00	20	6.25	8.13	
Irrigation System	72000	80	900.00	20	45.00	58.50	
Buildings	10000	80	125.00	30	4.17	8.13	
TOTAL COST	185050		2313.13		177.83	150.35	
60% OF NEW COSTS	111030		1387.88		106.70	90.21	

ALMOND ORCHARD WITHOUT COVER CROP
EQUIPMENT AND BUILDING LIST
San Joaquin Valley - 1986

ITEM	ORIGINAL COST	ANNUAL USE (ACRES)	COST PER ACRE	LIFE (YEARS)	OVERHEAD DEPREC-IATION	INTEREST AT 13%	COST PER HOUR
Tractors:							
40 HP wheel diesel	17000	80	212.50	10	21.25	13.81	3.80
60 HP wheel diesel	31000	80	387.50	10	38.75	25.19	8.00
Disk, tandem 14'	7500	80	93.75	10	9.38	6.09	3.60
Springtooth harrow	7800	80	97.50	10	9.75	6.34	3.70
Roller	1000	80	12.50	15	.83	.81	.05
Brush Rake	1000	80	12.50	15	.83	.81	1.00
Speed sprayer, PTO	12000	80	150.00	15	10.00	9.75	5.00
Weedsprayer	1200	80	15.00	10	1.50	.98	.50
Handgun	50	80	.63	5	.13	.04	.01
3-Wheel Motorcycle	1500	80	18.75	5	3.75	1.22	1.50
Pickup	8000	80	100.00	5	20.00	6.50	6.00
Misc. Tools	1000	80	12.50	10	1.25	.81	6.00
Pump and Well	10000	80	125.00	20	6.25	8.13	
Irrigation System	72000	80	900.00	20	45.00	58.50	
Buildings	10000	80	125.00	30	4.17	8.13	
TOTAL COST	181050.		2263.13		172.83	147.10	
60% OF NEW COSTS	108630		1357.88		103.70	88.26	

ALMOND PRODUCTION COSTS - 1986
Strip Weed Control - Cultivated Centers
Monthly Cash Costs

OPERATION	TOTAL	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
<u>Cultural Costs</u>													
Pruning	\$ 58	20	20	18									
Brush disposal	24	8	8	8									
Contact weed control	10		10										
Pre-emergence weed control	23		23										
Irrigation labor	3							1	1	1			
Water - 40"	75				3	12	12	12	12	12		12	
Fertilizer	66					33				33			
Pest control	111			25	40	24				22			
Pollination	50					50							
Disk	13			2		2	2	2	2	2	1		
Springtooth	14			2		2	2	2	2	2	2		
Roll	5										5		
Preharvest herbicide	10										10		
Miscellaneous expenses	20	5									5	5	5
Interest on operating capitol	34												34
County taxes	60		30				30						
Office and business expenses	20	2	2	2	2	2	2	2			2	2	2
Harvest Costs	223										50	150	23
<u>TOTAL CASH COSTS</u>	819	35	83	57	45	125	48	19	17	82	75	169	64
<u>ACCUMULATED CASH COSTS</u>		35	118	175	220	345	393	412	429	511	586	755	819