

AN ANALYSIS

OF ALMOND PRODUCTION COSTS

IN CALIFORNIA

University of California,
Agricultural Extension Service
Davis, California

[MISC]

MARCH 1970

TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
California Acreage, Production, and Farm Price of Almonds, 1940-69 . .	2
Almond Acreage by Counties, 1968	3
Summary of Almond Cost Studies in California, 1967-69	4
 Costs by Counties	
Butte - Nontillage - 1969	5
Merced, San Joaquin, Stanislaus east side - 1969	6
Merced, San Joaquin, Stanislaus west side - 1969	7
Fresno - 1968	8
San Luis Obispo Dryland - 1967.	9
Tulare - 1967	10
Sample Costs to Establish an Almond Orchard in Merced, Stanislaus and San Joaquin Counties - 1969	11
 Investment Required for Almond Orchards	
Merced, San Joaquin, Stanislaus - 1969	12
Butte - 1969	13

AN ANALYSIS OF ALMOND PRODUCTION COSTS IN CALIFORNIA

Compiled by

A. D. Reed
Extension Economist

AN ANALYSIS OF ALMOND PRODUCTION COSTS IN CALIFORNIA

There are over 200,000 acres of almond trees in California producing nearly \$50,000,000 in income each year. The bearing acreage has increased nearly 50 percent since 1960, and an increase of 2.7 times in nonbearing acreage since 1963 indicates further increases in production. Although 23 of the 57 counties in California have reportable numbers of almond trees, 8 counties account for over 75 percent of the total acreage. Production is concentrated in the Central Valley counties but there is a substantial acreage on the central coast in San Luis Obispo County. Although there is considerable variation in yields from year to year due to weather and other conditions, they have shown a definite increase over the years that is the result of better management and the planting of new orchards on better soils. Much of the present nonbearing acreage is in the counties with larger yields.

This report summarizes the cost of production studies on almonds that have been made in California from 1967 to 1969. Farm advisors in 7 of the major producing counties have prepared sample costs of production during this period. These costs are not presented as averages for the counties but are representative of commercial orchards with good management. Estimated yields are usually above the county average. The studies use a wage rate that includes social security, compensation insurance, and other miscellaneous labor costs. Fuel and repairs are based on standard performance rates of the equipment. Material costs include delivery to the orchard. Investment is based on present replacement costs excepting land, which is valued at market price for agricultural purposes. Depreciation is figured on acceptable lengths of life and interest is charged at 6 - 7 percent of the average value.

CALIFORNIA ACREAGE, PRODUCTION, AND FARM PRICE
OF ALMONDS, 1940-69

Year	Acreage		Yield per acre pounds of meats ^{a/}	Production (in shell) tons	California farm price (meats) ¢ per lb.
	Nonbearing	Bearing			
	acres				
1940	22,238	75,051	220	15,000	29.5
1941	22,612	77,186	135	9,500	64.0
1942	22,072	79,323	436	31,500	40.1
1943	21,034	81,981	275	20,500	66.5
1944	20,093	84,961	410	31,700	67.6
1945	18,575	88,398	398	32,000	65.5
1946	18,621	91,920	565	47,200	44.1
1947	18,409	93,780	419	35,700	50.7
1948	18,296	94,749	424	36,500	38.4
1949	18,554	95,377	500	43,300	30.0
1950	17,911	90,496	458	37,700	49.6
1951	16,272	90,694	519	42,700	42.9
1952	13,561	91,379	439	36,400	42.1
1953	10,928	92,206	460	38,600	43.3
1954	8,752	92,633	514	43,200	45.3
1955	9,256	89,391	471	38,300	78.4
1956	10,270	88,609	726	58,600	73.1
1957	16,293	88,212	473	37,500	45.9
1958	19,163	89,545	242	19,800	65.0
1959	22,807	89,155	1,023	82,800	42.4
1960	23,975	89,118	650	53,000	47.9
1961	31,674	89,259	814	66,400	50.9
1962	31,380	93,054	583	48,000	58.5
1963	29,795	97,838	681	60,300	54.5
1964	30,885	101,812	814	75,400	58.1
1965	43,190	104,980	760	72,900	54.0
1966	53,700	107,280	870	85,100	55.5
1967	74,630	117,400	715	76,600	53.0
1968	81,460	123,790	660	74,500	54.3
1969		132,000	1,020	122,000	

a/ Based on meats being 55 percent of the in-shell weight.

ALMOND ACREAGE BY COUNTIES - 1968

County	Bearing	Nonbearing	Total
	-Acres-	-Acres-	-Acres-
Contra Costa	5,150	270	5,420
Lake	260	--	260
San Luis Obispo	6,450	1,010	7,460
Butte	16,370	5,770	22,140
Colusa	11,420	3,160	14,580
Glenn	4,650	1,950	6,600
Sacramento	260	50	310
Solano	3,270	650	3,920
Sutter	5,900	600	6,500
Tehama	1,320	2,380	3,700
Yolo	10,710	660	11,370
Yuba	1,290	550	1,840
Fresno	4,690	7,580	12,270
Kern	760	10,330	11,090
Kings	80	410	490
Madera	2,890	6,560	9,450
Merced	17,170	15,440	32,610
San Joaquin	16,780	9,100	25,880
Stanislaus	12,060	13,870	25,930
Tulare	330	1,100	1,430
Calaveras	110	10	120
Los Angeles	1,390	--	1,390
Placer	240	10	250
Other Counties	240	--	240
STATE	123,790	81,460	205,250

Source: California Crop and Livestock Reporting Service, California Fruit and Nut Acreage, Bearing and Non-Bearing, as of 1968, Sacramento, June 1969.

SUMMARY OF ALMOND COST STUDIES IN CALIFORNIA, 1967 - 69

County	Year	Yield (meats) lbs.	Cost per acre							Cost per pound meats cents	Total investment per acre dollars
			Cultural Cash and Labor	Harvest	Cash over- head	Manage- ment	Depre- ciation	Interest	Total		
Butte	1969	1,100	213.94	40.94	47.66	31.00	96.00	116.03	545.57	49.6	2,867
Stanislaus, Merced San Joaquin-East	1969	1,500	218.48	113.40	58.70	41.25	126.19	177.59	735.61	49.0	3,723
-West	1969	1,200	190.45	103.00	60.96	33.00	128.33	205.45	721.19	60.1	4,070
Fresno	1968	963	207.25	119.55	57.80	26.50	71.70	128.60	611.40	63.5	2,675
San Luis Obispo - dryland	1967	240	26.60	66.25	15.00	6.00	13.90	45.85	173.00	72.0	760
Tulare	1967	963	193.75	119.35	52.50	25.00	62.00	102.00	554.60	57.6	2,400

SAMPLE COSTS TO PRODUCE ALMONDS
Butte County under Nontillage - 1969

Based on 160 acre orchard yielding 1,100 lb. meats (2,000 lb. in-shell), labor at \$1.75 to \$3.00 per hour.

Operation	Hours Per Acre	Cash and labor cost per acre				Total
		Labor	Fuel and Repairs	Materials Kind and Quantity	Cost	
Prune	8.0	\$18.00				\$18.00
Pile brush	3.0	5.25				5.25
Buck brush	0.3	.83	.47			1.30
Fertilize 2X				Nitrogen applied	\$21.25	21.25
Spray 3X	1.0	2.50	4.45	Various	40.00	46.95
Place & remove heaters and burn 3X	3.0	6.38	2.10	300 gal. oil	38.85	47.33
Lighting (5 call-outs)		5.66				5.66
Check thermometers	0.7	2.10	1.16			3.26
Fill heaters	1.5	3.75	2.10			5.85
Strip spray 2X	0.6	1.50	1.14	Herbicide	5.00	7.64
Mow 6X	1.5	3.75	3.65			7.40
Drag	0.3	.75	.42			1.17
Walk and clean	0.2	.35	.10			.45
Irrigate (sprinklers) 4X	4.0	7.00		Power for 24 in.	12.87	19.87
Flame 3X	1.5	3.75	3.10	Propane	5.55	12.40
Bees				2 hives @ \$2	4.00	4.00
Miscellaneous		6.16				6.16
TOTAL CULTURAL COSTS		67.73	\$18.69		\$127.52	\$213.94
Harvest Costs:						
Knock	2.0	6.00	3.70			9.70
Pole	4.0	7.00				7.00
Rake	0.5	.88				.88
Sweep	1.0	2.50	1.50			4.00
Pick up	1.0	3.00	3.50			6.50
Haul to huller	1.0	2.25	1.50			3.75
Hull	1.5	4.50	2.00			6.50
Miscellaneous		2.61				2.61
TOTAL HARVEST COSTS		28.74	12.20			40.94
Cash overhead:						
Misc., office, etc.					12.66	
Taxes					35.00	
TOTAL CASH OVERHEAD					47.66	47.66
TOTAL CASH COST		96.47	30.89		175.18	302.54
Management 5% of 2000 lb. @ 31¢ - \$620						31.00
INVESTMENT	Per Acre	Annual Cost				
Land	\$1000.00	<u>Depreciation</u>	<u>Interest</u>	6%		
Trees	1000.00	28.60	30.00			
Irrigation system	200.00	13.33	6.00			
Buildings	55.00	1.83	1.65			
Cultural Equipment	225.03	20.39	6.76			
Harvest Equipment	226.58	18.52	6.82			
Orchard heaters (20)	160.00	13.33	4.80			
Total	\$2866.61	96.00	116.03			212.03
TOTAL COST PER ACRE						\$545.57
Cost per pound @ 1,100 lb. yield						49.6¢

Source: Meith, Clem, et al. "Sample Costs to Produce Almonds in Butte County under Nontillage," UCAES. Mimeo, Oroville, February 1969.

SAMPLE COSTS TO PRODUCE ALMONDS

East Side of Merced, San Joaquin & Stanislaus Counties - 1969

Based on an 80-acre orchard producing 1,500 lbs. of meats per acre.
 Labor at \$1.90 and \$2.40 per hour, including Social Security,
 Compensation Insurance and all benefits furnished by the grower.

Operation	Hours Per Acre	Cash and labor cost per acre				Total																																					
		Labor	Fuel and Repairs	Materials Kind and Quantity	Cost																																						
Cultural Costs																																											
Prune	8.0	17.20	.80			\$18.00																																					
Remove brush	1.0	2.40	1.30			3.70																																					
Fertilize 2X custom				150 lbs. N	16.50																																						
				Manure - 5 yds.	11.00	27.50																																					
Spray 4X Custom				Materials	45.00																																						
				App. 2¢ Gal.	32.00	77.00																																					
Cultivate and/or mow 6X	2.5	6.00	5.28			11.28																																					
Ridge and knock 6X	1.0	2.40	1.60			4.00																																					
Irrigate 7X	3.0	7.20	1.00	Water cost variable; est.	8.00	16.20																																					
Hoe or spray; contract					5.00	5.00																																					
Re-plant 2 man; 1/2 hr. tree	2.0	4.30	.60	1 tree	.80	5.70																																					
Bees				3 hives at \$4.00	12.00	12.00																																					
Frost protection 3 man 1.5 tree hour	3.0	7.20	1.60	Fuel and Power	15.00	23.80																																					
Misc. labor & tree care	4.0	8.10	1.20	Materials	5.00	14.30																																					
TOTAL CULTURAL COSTS		54.80	13.38		150.30	218.48																																					
Harvest Costs																																											
Land preparation	1.0	2.40	2.20			4.60																																					
Knock	2.0	4.80	3.70			8.50																																					
Rake and sweep	2.0	4.80	3.90			8.70																																					
Pick up	1.0	2.40	5.10			7.50																																					
Haul to huller	1.0	2.40	1.30			3.70																																					
Hull				2,680 lbs. at 3¢	80.40	80.40																																					
TOTAL HARVEST COSTS		16.80	16.20		80.40	113.40																																					
Overhead Costs																																											
Misc. office, car, bus. expenses					23.70																																						
Taxes; county					35.00																																						
TOTAL OVERHEAD					58.70	58.70																																					
TOTAL CASH COST		71.60	29.58		289.40	390.58																																					
Management 5 % of 1500 lb @ 55¢ - \$825						41.25																																					
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">INVESTMENT</th> <th rowspan="2">Per Acre</th> <th colspan="2">Annual Cost</th> <th rowspan="2">7%</th> </tr> <tr> <th>Depreciation</th> <th>Interest</th> </tr> </thead> <tbody> <tr> <td>Land</td> <td>1,350</td> <td></td> <td>94.50</td> <td></td> </tr> <tr> <td>Trees</td> <td>1,576</td> <td>52.53</td> <td>55.20</td> <td></td> </tr> <tr> <td>Irrigation system</td> <td>150</td> <td>5.00</td> <td>5.25</td> <td></td> </tr> <tr> <td>Buildings</td> <td>120</td> <td>4.00</td> <td>4.20</td> <td></td> </tr> <tr> <td>Equipment</td> <td>527</td> <td>64.66</td> <td>18.44</td> <td></td> </tr> <tr> <td>Total</td> <td>3,723</td> <td>126.19</td> <td>177.59</td> <td>303.78</td> </tr> </tbody> </table>							INVESTMENT	Per Acre	Annual Cost		7%	Depreciation	Interest	Land	1,350		94.50		Trees	1,576	52.53	55.20		Irrigation system	150	5.00	5.25		Buildings	120	4.00	4.20		Equipment	527	64.66	18.44		Total	3,723	126.19	177.59	303.78
INVESTMENT	Per Acre	Annual Cost		7%																																							
		Depreciation	Interest																																								
Land	1,350		94.50																																								
Trees	1,576	52.53	55.20																																								
Irrigation system	150	5.00	5.25																																								
Buildings	120	4.00	4.20																																								
Equipment	527	64.66	18.44																																								
Total	3,723	126.19	177.59	303.78																																							
TOTAL COST PER ACRE						\$735.61																																					
Cost per pound @ 1,500 lb. yield						49.04																																					

Source: Ross, N. et al. "Sample Costs to Grow Almonds East of the San Joaquin River in Merced, San Joaquin, and Stanislaus Counties". UCAES Mimeo, Stockton, June 1969.

SAMPLE COSTS TO PRODUCE ALMONDS

West of the San Joaquin River in Merced, Stanislaus, and San Joaquin Counties - 1969

Based on an 80-acre orchard producing 1200 lbs. of meats per acre. Labor costs are \$1.70 per hour plus 20¢ in other benefits, and \$2.00 plus 40¢ in other benefits.

Operation	Hours Per Acre	Cash Costs Per Acre				Total Cost
		Labor	Fuel & Repairs	Materials Kind	Amount Cost	
<u>Cultural Costs</u>						
Prune	7.0	15.05	.70			\$15.75
Remove brush	1.5	3.60	2.40			6.00
Fertilize 2X	.3	.72	.45	225 lbs. N at 10¢	22.50	23.67
Rent spreader				\$20 per day	.25	.25
Spray 3X custom				Materials	35.00	35.00
				Applications	21.00	21.00
Cultivate 5X	1.5	3.60	3.78			7.38
Furrow 5X	1.0	2.40	1.80			4.20
Irrigate 5X	4.0	9.60	1.50	Water	25.00	36.10
Hoe or Spray Contract					5.00	5.00
Re-plant	3.0	7.20	1.50	1 tree	.80	9.50
Bees				3 hives at \$4	12.00	12.00
Misc. labor and tree care	4.0	8.10	1.50	Materials	5.00	14.60
TOTAL CULTURAL COSTS		50.27	13.63		126.55	190.45
<u>Harvest Costs</u>						
Land preparation	2.0	4.80	4.70			9.50
Knock	2.0	4.80	3.70			8.50
Rake and sweep	2.0	4.80	4.50			9.30
Pick up	1.0	2.40	5.10			7.50
Haul to huller	1.0	2.40	1.60			4.00
Hull				2140 lbs. at 3¢	64.20	64.20
TOTAL HARVEST COSTS		19.20	19.60		64.20	103.00
<u>Cash Overhead</u>						
Misc. office, car, business costs					20.96	
Taxes: county and district					40.00	
TOTAL CASH OVERHEAD					60.96	60.96
TOTAL CASH COST		69.47	33.23		251.71	354.41
Management 5% of 1,200 lb. @ .55 - \$660						33.00
<u>INVESTMENT</u>						
	<u>Per Acre</u>			<u>Annual cost</u>		
		<u>Depreciation</u>		<u>Interest</u>	7%	
Land	1,800	--		\$126.00		
Trees	1,576	\$62.42		55.16		
Irrigation system	200	8.00		7.00		
Buildings	120	4.80		4.20		
Equipment	374	53.11		13.09		
Total	4,070	\$128.33		\$205.45		333.78
TOTAL COST PER ACRE						721.19
Cost per pound @ 1,200 lb. yield						60.1¢

Source: Ross, N. et al. "Sample Costs to Grow Almonds West of the San Joaquin River in Merced, San Joaquin, and Stanislaus Counties". UCAES Mimeo, Stockton June 1969.

SAMPLE COSTS TO PRODUCE ALMONDS
Fresno County - 1968

Based on a mature orchard with 75 trees per acre, yield 963 lbs. of meats (1,750 lb. in-shell), labor @ \$1.90 and \$1.60 including social security, compensation insurance, etc.

Operation	Hours Per Acre	Cash and labor cost per acre				
		Labor	Fuel & Repairs	Materials Kind and Quantity	Cost	Total
Cultural Costs						
Prune	8.0	\$13.60				\$13.60
Brush disposal	2.0	3.40	1.40			4.80
Fertilize	.5	.85	.70	Nitrogen 150# @ 15¢	22.50	24.05
Spray 3X				Material & application	55.70	55.70
Furrow 3X	1.5	2.85	2.10			4.95
Irrigate 6X	11.0	18.70		Power for 3 1/2 ft. @ \$6	21.00	39.70
Disc 5X	7.5	14.25	10.50			24.75
Frost protection	2.0	3.80	1.40	Oil	3.50	8.70
Pollination				Bee hives 2 @ \$6	12.00	12.00
Miscellaneous	4.0	7.60	9.90		1.50	19.00
TOTAL CULTURAL COSTS		65.05	26.00		116.20	207.25
Harvest Costs						
Land preparation	1.0	1.90	1.40			3.30
Knock, pick, haul				1,750# @ 3 1/2¢	61.25	61.25
Hull				1,750# @ 3¢	52.50	52.50
Haul					2.50	2.50
TOTAL HARVEST COSTS		1.90	1.40		116.25	119.55
Cash Overhead						
Misc., office, etc.					21.80	
Taxes					36.00	
TOTAL CASH OVERHEAD					57.80	57.80
TOTAL CASH COST		66.95	27.40		290.25	384.60
Management 5% of 963# @ 55¢ - \$529.65						26.50
INVESTMENT						
	Per Acre	Annual Cost				
		Depreciation	Interest 7%			
Land	1,000	--	\$ 70.00			
Trees	1,190	\$39.67	41.65			
Irrigation system	140	7.00	4.90			
Pump & well	100	8.33	3.50			
Equipment	120	8.00	4.20			
Tractor	125	8.70	4.35			
Total	2,675	\$71.70	\$128.60			
TOTAL COST PER ACRE						200.30
Cost per pound @ 963# yield						611.40
						63.5¢

Source: Browne, Todd & E. A. Yeary, Almonds, Cost Analysis Work Sheet, UCAES Mimeo, Fresno, October 1968.

SAMPLE COSTS TO PRODUCE DRYLAND ALMONDS
San Luis Obispo County 1967

Based on a yield of 240 pounds of meat, labor at \$1.65 - \$2.00 per hour

Operation	Hours Per Acre	Cash and labor cost per acre				Total
		Labor	Fuel & Repairs	Materials Kind and Quantity	Cost	
Cultural Costs						
Prune	5.0	8.25				8.25
Remove brush	2.0	3.70	2.40			6.10
Cultivate 3X				Custom @ \$2.75	8.25	8.25
Miscellaneous		2.00	1.00		1.00	4.00
TOTAL CULTURAL COSTS		13.95	3.40		9.25	26.60
Harvest Costs						
Harvest and haul				35 sacks in hull @ 1.55	54.25	
Processing				240 pounds @ 5¢	12.00	
TOTAL HARVEST COSTS					66.25	66.25
Cash Overhead						
Misc., office, etc.					5.00	
Taxes					10.00	
TOTAL CASH OVERHEAD						15.00
TOTAL CASH COST						107.85
Management						6.00
INVESTMENT						
	<u>Per Acre</u>		<u>Annual Cost.</u>			
			<u>Depreciation</u>	<u>Interest</u>	7%	
Land	500		--	\$35.00		
Trees	250		\$10.00	8.75		
Equipment	40		2.00	1.40		
Tractor	20		1.90	.70		
Total	810		\$13.90	\$45.85		59.75
TOTAL COST PER ACRE						173.60
Cost per pound @ 240 lb. yield						72.4¢

Source: Foott, John H. and E. A. Yeary. "Sample Costs to Produce Dryland Almonds - 1967," San Luis Obispo County. UCAES Mimeo, San Luis Obispo 1967.

SAMPLE COSTS TO PRODUCE ALMONDS

Tulare County - 1967

Based on a mature orchard, 69 trees per acre, yielding 1,750 pounds in shell or 963 pounds of meats. Labor \$1.60 and \$1.80 per hour including social security and compensation insurance.

Operation	Hours per acre	Cash and labor costs per acre				Total
		Labor	Fuel & Repairs	Materials	Cost	
dollars						
<u>Cultural Costs</u>						
Prune	8.0	12.80				12.80
Brush disposal - 2 men	1.0	3.40	1.30			4.70
Fertilizer applied				100 lbs. N @ 11¢	11.00	11.00
Spray - 3 times				Material	39.60	
				Application @ 1.5¢ gal.	22.50	62.10
Furrow - 3 times	1.5	2.70	1.95			4.65
Irrigate - 6 times	11.0	17.60		Power for 3.5 ft	19.25	
				District tax	6.00	42.85
Disc - 5 times	7.5	13.50	9.75			23.25
Frost protection - 2 men	1.0	3.40	1.30	Material	3.50	8.20
Bees				2 hives @ \$2.50	5.00	5.00
Miscellaneous		10.60	8.60			19.20
TOTAL CULTURAL COSTS		64.00	22.90		106.85	193.75
<u>Harvest Costs</u>						
Land Preparation	1.0	1.80	1.30			3.10
Knock, pick, and haul				1,750 lbs. @ 3.5¢	61.25	61.25
Hull				1,750 lbs. @ 3¢	52.50	52.50
Haul to market					2.50	2.50
TOTAL HARVEST COSTS		1.80	1.30		116.25	119.35
<u>Cash Overhead</u>						
Miscellaneous					17.50	
Taxes					35.00	
TOTAL CASH OVERHEAD					52.50	52.50
TOTAL CASH COST		65.80	24.20		275.60	365.60
Management 5% of 963 pounds @ 52¢ (lb. meat)						25.00
<u>INVESTMENT</u>	<u>Per Acre</u>			<u>Annual Cost</u>		
				<u>Depreciation</u>	<u>Interest 6%</u>	
Land	\$1,000.00			--	\$ 60.00	
Trees	960.00			\$32.00	28.80	
Irrigation system	200.00			12.00	6.00	
Buildings & equipment	100.00			7.50	3.00	
Tractor	140.00			10.50	4.20	
Total	<u>\$2,400.00</u>			<u>\$62.00</u>	<u>\$102.00</u>	164.00
TOTAL COST PER ACRE						554.60
Cost per pound @ 963 pound yield (meats)						57.6¢

Source: Sibbett, G. Steven and Burt B. Burlingame, "Sample Costs to Produce Almonds in Tulare County - 1967," Visalia: University of California Agricultural Extension Service Mimeo, March 1967.

Sample Costs to Establish an Almond Orchard
West of the San Joaquin River in Merced, Stanislaus and
San Joaquin Counties - 1969

Based on 80 acres planted 75 trees per acre

	Costs Per Acre				
	1st Year	2nd Year	3rd Year	4th Year	5th Year
<u>Planting Costs</u>					
Land Preparation	45.00				
Layout & plant trees @ 25¢	18.75				
Trees: 75 @ 75¢	56.25				
<u>Total Planting Costs</u>	120.00				
<u>Cultural Costs:</u>					
<u>Cash & depreciation</u>					
Prune and remove brush	5.00	7.00	9.00	12.00	24.25
Fertilize	3.00	3.00	4.00	4.50	4.90
Fertilizer	3.50	7.00	12.00	17.00	24.00
Spray	3.00	4.00	5.00	7.00	14.00
Spray material	6.00	8.00	16.00	30.00	35.00
Cultivate	12.60	12.60	12.60	12.60	12.60
Furrow	5.60	5.60	5.60	5.60	5.60
Irrigate	7.20	7.20	7.20	9.60	9.60
Water	17.00	22.00	27.00	44.10	44.10
Hoe or spray weeds	5.00	5.00	5.00	5.00	5.00
Re-plant		3.25	2.50	1.20	1.20
Bees					8.00
Misc. labor and tree care	11.20	6.50	9.75	12.50	15.58
<u>Total Cultural Costs</u>	79.10	91.15	115.65	161.10	203.83
<u>Harvest Costs</u>					
Land prep., knock, pick, hull				84.86	128.72
<u>Overhead</u>					
Misc.	21.86	15.32	16.80	24.62	30.82
Taxes: County & district	23.00	23.00	23.00	40.00	40.00
Interest	159.25	181.58	207.27	226.38	234.08
Management	30.00	30.00	30.00	30.00	30.00
<u>Total Overhead</u>	234.11	249.90	277.07	321.00	334.90
<u>Total Cost</u>	433.21	341.05	392.72	566.96	667.45
<u>Income</u>					
Yield: pounds meats				500 lbs.	1000 lbs.
Income: 55¢ lb.				275.00	550.00
<u>Net Cost per Acre</u>	433.21	341.05	392.72	291.96	117.45
<u>Accumulated cost/acre</u>	433.21	774.26	1166.98	1458.94	1576.39
<u>Investment per acre</u>					
Land	1800.00	1800.00	1800.00	1800.00	1800.00
Trees		433.21	774.26	1166.98	1458.94
Irrigation System	200.00	200.00	200.00	200.00	200.00
Buildings	120.00	120.00	120.00	120.00	120.00
Equipment	374.25	374.25	374.25	374.25	374.25
<u>Total Investments</u>	2494.25	2927.46	3268.51	3661.23	3953.19

Total cost of developing an orchard to the end of the fifth year = \$1576.39

Source: Ross, N. et al. "Sample Costs to Grow Almonds West of the San Joaquin River in Merced, San Joaquin, and Stanislaus Counties. UCAES Mimeo Stockton, June 1969.

INVESTMENT FOR ALMOND PRODUCTION
East Side of Merced, San Joaquin, & Stanislaus Counties 1969

Item	Cost		Life	Depreciation Per Year
	Per Acre	Total		
Land 80 acres	1350	108000		
Trees 80 acres	1576	126080	30	4203
Irrigation System	150	12000	30	400
Buildings	120	9600	30	320
Equipment				
Tractor WD 45		5500	10	550
Pruning equipment		100	5	20
Buck rake		600	10	60
Ridger		600	10	60
Disc 9'		2200	10	220
Springtooth 12'		1200	12	100
Trailer		800	16	50
Orchard Landplane		1600	16	100
Heaters 900 @ \$4		3600	10	360
Wind machines (2)		9000	15	600
Oil Storage		1000	15	67
Knocker (1/2 equity)		2750	5	550
Rake (1/2 equity)		1000	5	200
Pickup machine (1/2 equity)		7000	5	1400
Carts (2)		1200	10	120
Misc.		840	10	84
Total Equipment	487	38990		
Pickup truck	40	3200	5	640
Total Investment		297870		10104
Per acre on 80 acres		3723		
Depreciation per acre				126
Interest per acre		178		

Source: Ross, N. et al. Sample Costs to Grow Almonds East of the San Joaquin River in Merced, San Joaquin, and Stanislaus Counties. UCAES Mimeo. Stockton, June 1969.

Cultural Equipment for a 160-Acre
Almond Orchard under Nontillage
Butte County - 1969

	<u>Total</u>	<u>Per Acre</u>
1 - Diesel Wheel tractor, 50 HP	\$ 7,500	
1 - Gasoline wheel tractor, used, 30 HP	2,000	
1 - 4 WD Jeep or equal	3,300	
1 - Truck, 1 1/2 ton, used	1,000	
1 - Orchard sprayer	6,500	
1 - Weed sprayer and boom, trailer mounted	750	
3 - Heater oil service trailers	2,250	
1 - 12-foot chopper	2,450	
1 - 7-foot flail mower	800	
1 - Flamer	1,300	
1 - Front-end loader with brush rake attachment	1,800	
2 - Sprinkler pipe trailers	400	
1 - Chain saw and miscellaneous pruning equipment	600	
2 - Heater oil storage tanks and pumps	2,000	
1 - Fuel storage tank and pump	500	
Thermometers and frost alarm	200	
Soil moisture meter and blocks	150	
Shop tools	2,000	
Orchard heater lighting equipment	<u>500</u>	
	\$36,000	\$225.00

Harvest Equipment

1 - Pick-up machine	\$ 8,500	
1 - Knocker	6,500	
1 - Sweeper	2,400	
3 - Carts	<u>1,200</u>	
	\$18,600	116.00

Hulling Plant

1 - Receiving pit	1,200	
1 - Pre-cleaner and stoner, used	1,800	
1 - Huller, used	6,000	
2 - Air separators	2,500	
Miscellaneous elevators, conveyors, bins, motors	3,500	
Dust collectors and blowers	650	
Electric service and wiring	<u>2,000</u>	
	\$17,650	110.00
1 - Metal building 40 x 60 x 15 side wall on 4" slab, including shop space	<u>8,800</u>	<u>55.00</u>
Total	\$81,050	\$506.00

Source: Meith, Clem, et al. Sample Costs to Produce Almonds in Butte County under Nontillage, UCAES Mimeo. Oroville, February 1969.