



Walnut  
Production  
Costs  
*in*  
California

1977

Division of Agricultural Sciences  
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Compiled by

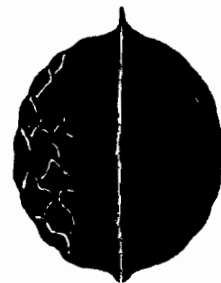
A. D. Reed  
Extension Economist

and

L. A. Horel  
Research Associate

# WALNUT PRODUCTION COSTS

## *in California*



There are over 200,000 acres of walnuts in California producing over \$90,000,000 of income each year. The bearing acreage has increased from 113,000 acres in 1954 to 169,700 acres in 1976. All but fifteen of the 57 counties in California report some walnut acreage. However, five counties account for over 50 percent of the bearing acreage. Acreage is found in quantity in all areas of the state except the northern and mountain counties. Yields have averaged .81 tons per acre over the 1964-1976 period but varied from .54 to 1.19 tons.

The costs presented in this publication are not averages for the counties but represent commercial orchards with good management. Estimated yields are above the county averages. The studies use a wage rate which includes social security, compensation insurance, and other labor costs. Fuel and repairs are based on standard rates of performance for the equipment used. Material costs are for material delivered to the orchard. Investment is based on present replacement costs except land which is market value for agricultural purposes. Depreciation is figured at acceptable lengths of life and interest is charged at 8 percent.

WALNUT ACREAGE IN CALIFORNIA BY COUNTY FOR 1976

County	WALNUTS - ENGLISH		
	Bearing	Non-bearing	Total
		- Acres -	
Del Norte	--	--	--
Humboldt	--	--	--
Mendocino	586	14	600
Shasta	852	30	882
Siskiyou	--	--	--
Trinity	--	--	--
Lassen	--	--	--
Modoc	--	--	--
Plumas	--	--	--
Alameda	756	1	757
Contra Costa	5,750	323	6,073
Lake	9,401	292	9,693
Marin	39	1	40
Monterey	350	--	350
Napa	998	1	999
San Benito	4,302	652	4,954
San Luis Obispo	2,623	277	2,900
San Mateo	82	--	82
Santa Clara	2,453	90	2,543
Santa Cruz	23	--	23
Sonoma	872	65	937
Butte	9,411	2,824	12,235
Colusa	4,088	850	4,938
Glenn	4,349	1,608	5,957
Sacramento	425	10	435
Solano	1,945	679	2,624
Sutter	11,506	2,037	13,543
Tehama	7,901	4,364	12,265
Yolo	5,404	266	5,670
Yuba	3,405	1,384	4,789
Fresno	4,300	908	5,208
Kern	590	417	1,007
Kings	4,435	1,212	5,647
Madera	1,179	476	1,655
Merced	7,607	1,516	9,123
San Joaquin	23,389	3,314	26,703
Stanislaus	22,371	4,633	27,004
Tulare	22,090	7,341	29,431
Alpine	--	--	--
Amador	587	58	645
Calaveras	762	41	803
El Dorado	411	15	426
Inyo	--	--	--
Mariposa	--	--	--
Mono	--	--	--
Nevada	11	2	13
Placer	603	101	704
Sierra	--	--	--
Tuolumne	11	--	11
Imperial	--	--	--
Los Angeles	337	--	337
Orange	--	--	--
Riverside	557	1	558
San Bernardino	80	--	80
San Diego	238	--	238
Santa Barbara	1,323	101	1,424
Ventura	1,303	--	1,303
State total	169,705	35,904	205,609

Source: California Crop and Livestock Reporting Service, U.S. Department of Agriculture, California Fruit and Nut Acreage, 1975-76.

CALIFORNIA ACREAGE, YIELD, PRODUCTION, AND SEASON AVERAGE PRICE  
OF WALNUTS, 1940-1977

Year	Bearing acres	Non- bearing	Yield		Pro- duction tons	Season average price per ton
			tons	pounds		
1940	126,224	22,744	.37	740	46,400	\$233
1941	124,303	22,364	.51	1,020	63,000	253
1942	124,458	22,093	.46	920	57,600	308
1943	125,768	21,162	.47	940	58,500	483
1944	125,679	21,561	.52	1,040	65,000	446
1945	126,941	22,464	.50	1,000	64,000	514
1946	126,039	25,356	.50	1,000	63,000	570
1947	126,299	27,509	.47	940	59,000	388
1948	121,451	29,018	.51	1,020	62,000	442
1949	115,772	29,575	.69	1,380	80,200	363
1950	115,527	30,051	.50	1,000	58,000	392
1951	114,212	28,687	.60	1,200	68,300	440
1952	114,228	27,421	.66	1,320	75,600	400
1953	114,972	24,958	.48	960	54,800	415
1954	113,263	22,823	.59	1,180	67,000	360
1955	114,215	24,235	.63	1,260	72,000	555
1956	113,922	27,523	.61	1,220	69,000	442
1957	118,746	30,911	.52	1,032	61,300	427
1958	120,721	32,804	.68	1,362	82,200	377
1959	121,796	36,954	.48	940	58,500	483
1960	123,525	36,512	.57	1,137	70,300	535
1961	122,775	41,373	.50	1,000	61,200	473
1962	123,335	39,215	.62	1,240	77,000	469
1963	124,460	38,861	.64	1,280	74,000	460
1964	128,245	36,028	.67	1,260	86,100	458
1965	129,382	34,285	.61	1,220	79,000	432
1966	135,980	33,020	.68	1,360	92,000	460
1967	137,550	40,440	.54	1,080	74,000	560
1968	139,290	36,920	.66	1,320	92,000	650
1969	143,000	41,630	.70	1,400	100,000	420
1970	146,520	47,360	.74	1,480	108,000	407
1971	150,430	47,784	.88	1,760	132,000	420
1972	157,630	48,955	.74	1,480	116,000	564
1973	158,066	50,448	1.10	2,200	174,000	605
1974	162,844	48,398	.96	1,920	155,000	419
1975	165,838	42,954	1.19	2,380	198,000	470
1976	169,705	35,904	1.09	2,180	185,000	660
1977	174,010					

Source: U.S. Department of Agriculture and California Crop and Livestock Reporting Service. Fruit and Nut Statistics, annual.

SUMMARY OF WALNUT COST STUDIES IN CALIFORNIA

1977

County	Yield lbs.	Cost per acre								Cost per lb.	Total investment per acre
		Cultural cash and labor	Harvest	Misc. over- head	Taxes	Manage- ment	Depre- ciation	Interest	Total		
		Dollars									
Amador -dryland	1,200	85	226	18	11	21	74	142	578	.48	2,810
Calaveras -dryland	1,200	70	143	13	55	20	74	148	523	.44	2,690
-irrigated	2,500	209	278	29	80	41	118	188	943	.38	3,690
Central Coast	3,000	336	224	36	105	52	153	423	1,330	.44	6,835
Merced	3,500	292	271	38	75	52	146	312	1,186	.34	5,894
Sacramento Valley	4,000	265	181	26	70	60	399	444	1,445	.36	9,355
San Joaquin Valley	2,500	332	187	31	60	36	148	324	1,118	.45	6,195
Stanislaus	3,500	315	306	38	85	49	167	358	1,318	.38	6,760
Tehama	4,000	295	280	35	100	62	142	302	1,216	.30	5,555

SAMPLE COSTS TO PRODUCE WALNUTS  
(Dryland)  
Amador County - 1977

Based on 80 acres yielding 1,200 pounds per acre, 17 trees per acre. Labor at \$4.50 and \$3.90

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials		
		Kind & quantity			Cost	
Dollars						
<u>Cultural costs</u>						
Pruning	5.0	19.50		Paint	.65	20.15
Brush disposal 2X	2.5	11.25	2.80			14.05
Cultivation	1.0	4.50	4.00			8.50
Cultivation 2X	1.6	7.20	3.90			11.10
Fertilize	.4	1.80	1.25	60# N @ \$.25	15.00	18.05
Boron	.7	3.15	2.20	Borax 14#	3.35	8.70
Interest on operating capital					4.05	4.05
<b>TOTAL CULTURAL COSTS</b>		<b>47.40</b>	<b>14.15</b>		<b>23.05</b>	<b>84.60</b>
<u>Harvest costs</u>						
Land preparation	.5	2.25	1.40			3.65
Shaking	2.0	9.00	8.75			17.75
Picking	33.0	128.70				128.70
Haul to dryer	3.8	17.10	11.90			29.00
Hulling & drying	3.6	16.20	18.75			34.95
Load & haul to market	1.6	7.20	5.00			12.20
<b>TOTAL HARVEST COSTS</b>		<b>180.45</b>	<b>45.80</b>			<b>226.25</b>
<u>Cash overhead</u>						
Misc., office, etc.					18.25	
Taxes					11.00	
<b>TOTAL CASH OVERHEAD</b>						<b>29.25</b>
<b>TOTAL CASH COST</b>		<b>227.85</b>	<b>59.95</b>		<b>52.30</b>	<b>340.10</b>
Management 5% of .60 tons @ \$600						21.60
<u>Annual cost</u>						
<u>Investment</u>	<u>Per acre</u>	<u>Depreciation</u>		<u>Interest</u>		
Land	\$ 750			\$ 60.00		
Trees	1,500	\$37.50		60.00		
Buildings & huller	235	9.40		9.40		
Equipment	325	27.00		13.00		
<b>Total</b>	<b>\$2,810</b>	<b>\$73.90</b>		<b>\$142.40</b>		<b>216.30</b>
<b>TOTAL COST PER ACRE</b>						<b>578.00</b>
<b>Cost per ton @ .6 ton yield</b>						<b>963.33</b>

Source: Plaister, Robert E. and Philip S. Parsons. Sample Costs to Produce Walnuts (Dryland), Amador County - 1975. Jackson: University of California Cooperative Extension. 1975.

SAMPLE COSTS TO PRODUCE WALNUTS

Calaveras County - 1977

Based on 80 acres, 30' X 30' spacing (permanent alternate rows), 48 trees per acre, yielding 2,500 lbs. per acre. Labor: skilled \$4.50, unskilled \$3.90.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind and quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
Prune	10.0	39.00				39.00
Brush disposal	1.5	5.85	2.20			8.05
Fertilize				100# N applied, contract	20.00	20.00
Spray (husk fly)	.5	2.25	1.55	Insecticide	12.00	15.80
Sod culture 3X	1.0	3.90	1.75			5.65
Strip weed control	.3	1.15	2.80	Herbicide	5.00	8.95
Irrigate 4X	2.4	9.35		Power cost 3.3 ac. ft. @ \$6.70	22.00	
				Water cost @ \$18	59.40	90.75
Misc. pest, etc.	2.0	8.40	2.50			10.90
Interest on operating capital					9.95	9.95
<b>TOTAL CULTURAL COSTS</b>		<b>69.90</b>	<b>10.80</b>		<b>128.35</b>	<b>209.05</b>
<u>Harvest Costs</u>						
Pre-harvest weed chop	.3	1.15	.55			1.70
Shake	2.0	9.00	5.20			14.20
Picking-hand	37.5	146.25				146.25
Haul to dryer	3.0	11.70	5.65			17.35
Hull and dry	7.5	33.75	37.50			71.25
Load and haul to market	3.2	14.40	12.80			27.20
<b>TOTAL HARVEST COSTS</b>		<b>216.25</b>	<b>61.70</b>			<b>277.95</b>
<u>Cash Overhead</u>						
Misc., office, etc.					29.40	
Taxes					80.00	
<b>TOTAL CASH OVERHEAD</b>						<b>109.40</b>
<b>TOTAL CASH COST</b>		<b>286.15</b>	<b>72.50</b>		<b>237.75</b>	<b>596.40</b>
Management 5% of 1-1/4 tons @ \$660						41.25
<u>Investment</u>						
		<u>Per acre</u>		<u>Annual cost</u>		
Land		\$1,000		Depreciation	\$ 80.00	
Trees		1,500		\$ 37.50	60.00	
Irrigation system		375		25.00	15.00	
Buildings		25		1.25	1.00	
Equipment		415		41.50	16.60	
Irrigation (supply line)		375		12.50	15.00	
Total		<u>\$3,690</u>		<u>117.75</u>	<u>187.60</u>	305.35
<b>TOTAL COST PER ACRE</b>						<b>\$943.00</b>
Cost per ton @ 1-1/4 ton yield						<b>\$754.40</b>

Source: Irving, Daniel, P. S. Parsons, Warren Micke, Walnut Production in Calaveras County, University of California Cooperative Extension, San Andreas. 1975.



SAMPLE COSTS TO PRODUCE WALNUTS  
(Dryland)  
Calaveras County - 1977

Based on 80 acre orchard, 50' x 50' spacing, 17 trees per acre, yielding 1,200 lbs. per acre.  
Labor: skilled \$4.50; unskilled \$3.90.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Kind and quantity	Materials Cost	
Dollars						
<u>Cultural costs</u>						
Prune	4.0	15.60				15.60
Brush disposal	1.0	3.90	1.40			5.30
Fertilize (contract)				50# N applied	10.00	10.00
Spray (husk fly)	.5	2.25	1.55	Insecticide	12.00	15.80
Sod culture (IX)	.5	1.95	.90			2.85
Strip weed control	.3	1.15	.55	Herbicide	5.00	6.70
Misc. pest, etc.	2.0	8.40	2.50			10.90
Interest on operating capital					3.35	3.35
<b>TOTAL CULTURAL COSTS</b>		<b>33.25</b>	<b>6.90</b>		<b>30.35</b>	<b>70.50</b>
<u>Harvest Costs</u>						
Pre-harvest weed chop	.3	1.15	.55			1.70
Shake	2.0	9.00	5.20			14.20
Picking-hand	18.0	70.20				70.20
Haul to Dryer	1.5	5.85	2.80			8.65
Hull and dry	3.6	16.20	18.75			34.95
Load & haul to market	1.6	7.20	6.40			13.60
<b>TOTAL HARVEST COSTS</b>		<b>109.60</b>	<b>33.70</b>			<b>143.30</b>
<u>Cash overhead</u>						
Misc., office, etc.					12.80	
Taxes					55.00	
<b>TOTAL CASH OVERHEAD</b>						<b>67.80</b>
<b>TOTAL CASH COST</b>		<b>142.85</b>	<b>40.60</b>		<b>98.15</b>	<b>281.60</b>
Management 5% of .6 ton @ \$660						19.80
<u>Investment</u>						
		<u>Per acre</u>		<u>Annual Cost</u>		
Land		\$1,000		<u>Depreciation</u>	<u>Interest</u>	
Trees		1,250		\$ 31.25	\$ 80.00	
Buildings		25		1.25	1.00	
Equipment		415		41.50	16.60	
Total		\$2,690		\$ 74.00	\$ 147.60	221.60
<b>TOTAL COST PER ACRE</b>						<b>\$523.00</b>
Cost per ton @ .6 ton yield						\$871.67

Source: Irving, Daniel, P. S. Parsons, Warren Micke, Walnut Production in Calaveras County. San Andreas: University of California Cooperative Extension. 1975

SAMPLE COSTS TO PRODUCE WALNUTS

Central Coast Counties - 1977

Based on 80 acre orchard, yielding 1.5 tons per acre, trees 31' x 31', 45 trees per acre. Labor: \$3.90 unskilled; \$4.50 skilled; includes Social Security and Workman's Compensation.

Operation	Hours per Acre	Cash and labor cost per acre				Total
		Labor	Fuel & Repairs	Materials Kind and Quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
Prune	10.0	39.50	.65			40.15
Brush disposal	1.0	4.50	3.40			7.90
Cultivate	4.0	18.00	17.25			35.25
Fertilize	.5	2.25	2.05	200# @ 15¢	30.00	34.30
Irrigate 4X	4.0	15.60	2.50	24" water	45.00	63.10
Spray 4X	2.0	9.00	26.90	materials	75.00	110.90
Misc. (replants, graft, tie)	4.0	15.60	3.20	materials	10.00	28.80
Interest on operating capital					16.00	16.00
<b>TOTAL CULTURAL COSTS</b>		<b>104.45</b>	<b>55.95</b>		<b>176.00</b>	<b>336.40</b>
<u>Harvest Costs</u>						
Cultivate & float	1.0	4.50	4.30			8.80
Shake (custom)	2.0			\$25 per hour	50.00	50.00
Sweep and pick (custom)				\$50 per ton	75.00	75.00
Hull (custom)				\$30 per ton	45.00	45.00
Dehydrate (custom)				\$30 per ton	45.00	45.00
<b>TOTAL HARVEST COSTS</b>		<b>4.50</b>	<b>4.30</b>		<b>215.00</b>	<b>223.80</b>
<u>Cash overhead</u>						
Misc., office, etc.					35.73	
Taxes					105.00	
<b>TOTAL CASH OVERHEAD</b>						<b>140.73</b>
<b>TOTAL CASH COST</b>		<b>108.95</b>	<b>60.25</b>		<b>531.73</b>	<b>700.93</b>
Management 5% of 1.5 tons @ \$700						52.50
<u>Investment</u>						
		<u>Per Acre</u>		<u>Annual Cost</u>		
Land		\$3,750		Depreciation	Interest	
Trees		2,000		\$ 66.67	80.00	
Irrigation system		315		15.75	12.60	
Buildings		125		6.25	5.00	
Equipment		645		64.50	25.80	
<b>Total</b>		<b>\$6,835</b>		<b>\$153.17</b>	<b>\$423.40</b>	<b>576.57</b>
<b>TOTAL COST PER ACRE</b>						<b>\$1,330.00</b>
Cost per ton @ 1.5 ton yield						886.67

Source: Carnill, Gregory, Sample Costs to Produce Walnuts, Central Coast Counties - 1975, University of California Cooperative Extension, Hollister, 1975.

SAMPLE COSTS TO PRODUCE WALNUTS - NON-TILLAGE  
Merced County - 1977

Based on 80 acres, 48 trees per acre, yielding 3,500 pounds dry nuts. Labor \$4.10 and \$3.50 including fringe benefits.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind & Quantity	Cost	
Dollars						
<u>Cultural Costs</u>						
Pruning: 10 hrs. labor	10.0	35.00				35.00
Brush disposal	3.0	12.30	2.60			14.90
Fertilizer				210# N @ 22¢, applied	46.20	46.20
Spray materials					50.00	
Spray application 2X		28.00				78.00
Mow centers	2.5	10.25	6.50			16.75
Herbicide				custom water	7.50	7.50
Irrigate 5X	1.5	5.25			19.65	24.90
Misc. labor		21.60	2.60			24.20
Misc. materials					19.00	19.00
Repairs except tractor					11.00	11.00
Interest on operating capital					14.55	14.55
<b>TOTAL CULTURAL COSTS</b>		<b>112.40</b>	<b>11.70</b>		<b>167.90</b>	<b>292.00</b>
<u>Harvest Costs</u>						
Shake, pick, hull, dehydrate & haul				Per ton @ \$155	271.25	
<b>TOTAL HARVEST COSTS</b>						<b>271.25</b>
<u>Cash overhead</u>						
Misc., office, etc.					37.50	
Taxes					75.00	
<b>TOTAL CASH OVERHEAD</b>						<b>112.50</b>
<b>TOTAL CASH COST</b>		<b>112.40</b>	<b>11.70</b>		<b>551.65</b>	<b>675.75</b>
Management 5% of 1.75 tons @ \$600						52.50
<u>Annual Cost</u>						
<u>Investment</u>	<u>Per acre</u>	<u>Depreciation</u>	<u>Interest</u>			
Land	\$1,900		\$152.00			
Trees	3,200	\$ 80.00	128.00			
Irrigation system	600	50.00	24.00			
Buildings & Equipment	194	16.00	7.75			
<b>TOTAL</b>	<b>\$5,894</b>	<b>\$146.00</b>	<b>\$311.75</b>			
<b>TOTAL COST PER ACRE</b>				<b>1,186.00</b>		
Cost per ton @ 1.75 ton yield				<b>677.71</b>		

Source: Hendricks, L. C. and E. A. Yearly. The Economics of Walnut Production in Merced County, University of California Cooperative Extension, Merced, 1977.

SAMPLE COSTS TO PRODUCE LATERAL BEARING ENGLISH WALNUTS

Sacramento Valley - 1977

Based on 100 acres, 30' x 30' spacing, 48 trees per acre, yielding 2 tons per acre.  
 Labor @ \$4.50 per hour including fringe benefits.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind & quantity	Cost	
Dollars						
<u>Cultural costs</u>						
Pruning	6.0	27.00	9.75			36.75
Brush disposal	1.5	6.75	2.75			9.50
Fertilize	.3	1.35	.75	150# N @ \$.15	22.50	24.60
Spray 6X*				Application & materials	100.00	100.00
Cultivate & ridge 5X	2.2	9.90	9.20			19.10
Irrigation	6.0	27.00		3 ac.ft. water @ \$5.50	16.50	43.50
Misc. labor	2.0	9.00				9.00
Replant	1.0	4.50		1 tree per acre	5.00	9.50
Interest on operating capital					12.60	12.60
<b>TOTAL CULTURAL COSTS</b>		<b>85.50</b>	<b>22.45</b>		<b>156.60</b>	<b>264.55</b>
<u>Harvest costs</u>						
Landplane	.5	2.25	2.00			4.25
Shake	1.7	7.65	7.95			15.60
Sweep	2.8	12.60	5.60			18.20
Pick up	1.25	5.65	9.55			15.20
Haul to shed	1.25	5.65	2.40			8.05
Hull & dry				@ \$.03/lb.	120.00	120.00
<b>TOTAL HARVEST COSTS</b>		<b>33.80</b>	<b>27.50</b>		<b>120.00</b>	<b>181.30</b>
<u>Cash overhead</u>						
Misc., office, etc.					26.25	
Taxes					70.00	
<b>TOTAL CASH OVERHEAD</b>						<b>96.25</b>
<b>TOTAL CASH COST</b>		<b>119.30</b>	<b>49.95</b>		<b>372.85</b>	<b>542.10</b>
Management 5% of 2 tons @ \$600						60.00
<u>Investment</u>						
		<u>Per acre</u>	<u>Annual cost</u>			
Land		\$1,800	<u>Depreciation</u>	<u>Interest</u>		
Trees		5,500	\$220.00	220.00		
Irrigation system		375	18.75	13.20		
Buildings		165	8.25	6.60		
Equipment		1,515	151.50	60.60		
<b>Total</b>		<b>9,355</b>	<b>398.50</b>	<b>444.40</b>		<b>842.90</b>
<b>TOTAL COST PER ACRE</b>						<b>1445.00</b>
<b>Cost per ton @ 2 ton yield</b>						<b>722.50</b>

\*This includes three walnut blight sprays which generally will not be necessary on late maturing varieties and in areas of little spring rainfall.

Source: Olson, W. H., et al. Lateral Bearing English Walnuts, Cost of Production, Cost to Establish, Lower Sacramento Valley 1975, University of California Cooperative Extension, Special Publication No. 3031, September 1975.

SAMPLE COSTS TO PRODUCE ENGLISH WALNUTS  
Southern San Joaquin Valley - 1977

Based on a 10-year-old orchard with 35 trees per acre yielding 2500 pounds. Labor at \$4.50 and \$3.90 per hour.

Operation	Hours per acre	Cash and labor cost per acre			Total
		Labor	Fuel & repairs	Materials	
Kind & Quantity				Cost	
Dollars					
<b>Cultural Costs</b>					
Pruning	6.0	27.00	18.00		45.00
Brush disposal	4.0	15.60	3.00		18.60
Fertilizer				150# N @ \$.20/lb., applied	30.00
Spray application 2X				800 gal. @ 3¢	24.00
Spray material					30.00
Tillage & harvest preparation	7.0	31.50	21.00		52.50
Irrigation 7X	6.0	23.40		3.5 ac. ft. @ @ \$6.50 + \$6 district tax	28.75
Misc. labor & materials	6.0	24.60	3.00		20.00
Repairs, except tractor					17.00
Interest on operating capital					15.35
<b>TOTAL CULTURAL COSTS</b>		<b>122.10</b>	<b>45.00</b>		<b>165.10</b>
<b>Harvest Costs</b>					
Shake, pick, hull, dehydrate & haul				contract @ \$150 per ton	187.50
<b>TOTAL HARVEST COSTS</b>					<b>187.50</b>
<b>Cash Overhead</b>					
Misc., office, etc.					31.20
Taxes					60.00
<b>TOTAL CASH OVERHEAD</b>					<b>91.20</b>
<b>TOTAL CASH COST</b>		<b>122.10</b>	<b>45.00</b>		<b>443.80</b>
Management 5% of 1.25 tons @ \$570					35.65
<b>Annual Cost</b>					
<u>Investment</u>	<u>Per Acre</u>	<u>Depreciation</u>	<u>Interest</u>		
Land	\$1,700		\$144.00		
Trees	3,890	\$ 97.25	155.60		
Irrigation system	285	23.75	11.40		
Buildings & Equipment	320	26.65	12.80		
<b>Total</b>	<b>\$6,195</b>	<b>\$147.65</b>	<b>\$323.80</b>		<b>471.45</b>
<b>TOTAL COST PER ACRE</b>					<b>1,118.00</b>
Cost per ton @ 1.25 ton yield					894.40

Source: Sample Costs to Produce English Walnuts in Southern San Joaquin Valley, 1976. University of California Cooperative Extension.

SAMPLE COSTS TO PRODUCE WALNUTS  
Stanislaus County - 1977

Based on an 80 acre orchard, 48 trees per acre, yielding 3,500 lbs. of dry nuts.  
Labor at \$4.50 and \$4.00.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind & quantity	Cost	
<u>Cultural Costs</u>						
Pruning	10.0	39.00				39.00
Brush disposal	3.0	12.50	3.00			
Fertilizer				210# N @ 20¢, applied	42.00	42.00
Spray materials					57.00	57.00
Spray application 2X				800 gal. @ 4¢	32.00	32.00
Mow centers	2.5	11.25	7.50			18.75
Herbicide				custom	8.55	8.55
Irrigate 5X	1.5	5.85		water 4 after district tax & pumping cost	19.65	25.50
Misc. labor	6.0	24.00	3.00			27.00
Misc. materials					22.00	22.00
Repairs except tractor					12.50	12.50
Interest on operating capital					15.15	15.15
<b>TOTAL CULTURAL COSTS</b>		<b>92.60</b>	<b>13.50</b>		<b>208.85</b>	<b>314.95</b>
<u>Harvest Costs</u>						
Shake, pick, hull dehydrate & haul				contract @ \$175 per ton	306.25	
<b>TOTAL HARVEST COSTS</b>						<b>306.25</b>
<u>Cash overhead</u>						
Misc., office, etc.					37.30	
Taxes					85.00	
<b>TOTAL CASH OVERHEAD</b>						<b>122.30</b>
<b>TOTAL CASH COST</b>		<b>92.60</b>	<b>13.50</b>		<b>637.40</b>	<b>743.50</b>
Management 5% of 1.75 tons @ \$560						49.00
<u>Investment</u>						
		<u>Per Acre</u>		<u>Annual Cost</u>		
Land		\$2,200		Depreciation	Interest	
Trees		3,650		\$ 91.25	146.00	
Irrigation system		685		57.10	27.40	
Buildings & Equipment		225		18.75	9.00	
Total		<u>\$6,760</u>		<u>\$167.10</u>	<u>\$358.40</u>	525.50
<b>TOTAL COST PER ACRE</b>						<b>1,318.00</b>
Cost per ton @ 1.75 ton yield						753.14

Source: Hendricks, Lonnie, Walnut Production Costs in Stanislaus County, University of California Cooperative Extension, 1976.

SAMPLE COSTS TO PRODUCE WALNUTS  
Tehama County - 1977

Based on 70 trees per acre, yield 4,000 lbs. Labor \$4.50 and \$3.90 including fringe benefits.

Operation	Hours per acre	Cash and labor cost per acre				Total
		Labor	Fuel & repairs	Materials Kind & quantity	Cost	
Dollars						
<b>Cultural Costs</b>						
Pruning	6.0	23.40	18.25			41.65
Brush removal	4.0	15.60	1.60			17.20
Fertilizer				200# N @ 20¢ plus \$2 application	40.00	40.00
Spray application 2X				contract 600 gal. @ 3¢	18.00	18.00
Spray material					23.00	23.00
Mow, harvest preparation	7.0	31.50	11.15			42.65
Irrigation 7X	6.0	23.40		3½ ac. ft. water @ \$4.00	14.00	37.40
Misc. labor	6.0	23.40	1.60			25.00
Misc. material					24.00	24.00
Repairs except tractor			13.70			13.70
Interest on operating capital					12.45	12.45
<b>TOTAL CULTURAL COSTS</b>		<b>117.30</b>	<b>46.30</b>		<b>131.45</b>	<b>295.05</b>
<b>Harvest Costs</b>						
Shake, pickup, hull, dehydrate, & haul				contract @ \$140 per ton	280.00	
<b>TOTAL HARVEST COSTS</b>						<b>280.00</b>
<b>Cash overhead</b>						
Misc., office, etc.					34.60	
Taxes					100.00	
<b>TOTAL CASH OVERHEAD</b>						<b>134.60</b>
<b>TOTAL CASH COST</b>		<b>117.30</b>	<b>46.30</b>		<b>546.05</b>	<b>709.65</b>
Management 5% of 2 tons @ \$620						62.00
<b>Annual Cost</b>						
<u>Investment</u>	<u>Per acre</u>	<u>Depreciation</u>	<u>Interest</u>			
Land	\$2,000		\$160.00			
Trees	2,760	\$ 69.00	110.40			
Irrigation system	275	22.90	11.00			
Buildings	35	1.75	1.40			
Equipment	485	48.50	19.40			
<b>Total</b>	<b>\$5,555</b>	<b>\$142.15</b>	<b>\$302.20</b>			<b>444.35</b>
<b>TOTAL COST PER ACRE</b>						<b>1,216.00</b>
Cost per ton @ 2 tons yield						608.00

Source: Osgood, Joseph, English Walnut Orchard Production Costs in Tehama County, University of California Cooperative Extension. Red Bluff. 1976.

INVESTMENT FOR 80-ACRE WALNUT ORCHARD  
Merced County 1977

ITEM	COST		LIFE	DEPRECIATION PER YEAR	OPERATING COST PER HOUR
	PER ACRE	TOTAL			
Land: 80 acres	\$2,200	\$176,000			
Trees: 80 acres	3,660	292,800	40	\$ 7,320	
Irrigation system	200	16,000	12	1,333	
Buildings	120	9,600	12	800	
Huller & building	438	35,000	15	2,333	
<b>TOTAL, Land, Trees, Buildings</b>	<b>\$6,618</b>	<b>\$529,400</b>		<b>\$11,786</b>	
<b>Equipment:</b>					
Pickup	\$ 63	\$ 5,000	5	\$ 1,000	7.1¢/mile
Tractor W. D. 60	175	14,000	10	1,400	\$2.60
Pruning equipment	19	1,500	10	150	.15
Trailer	10	800	16	50	.20
Disc 12'	30	2,400	10	240	1.10
Furrower	10	800	10	80	.40
Orchard roller	38	3,000	20	150	.40
Shaker	250	20,000	5	4,000	3.75
Rake	36	2,900	5	580	1.60
Pickup machine	250	20,000	5	4,000	6.10
Carts (2)	18	1,400	10	140	.06
Misc.	31	2,500	10	250	
<b>TOTAL EQUIPMENT</b>	<b>\$ 930</b>	<b>\$ 74,300</b>		<b>\$12,040</b>	
<b>TOTAL INVESTMENT &amp; DEPR.</b>	<b>\$7,548</b>	<b>\$603,700</b>		<b>\$23,826</b>	
<b>Depreciation per acre</b>				<b>\$ 298</b>	
<b>Interest per acre @ 8%</b>	<b>\$ 604</b>				

Source: Hendricks, L. C. and E. A. Yeary. The Economics of Walnut Production in Merced County, University of California Cooperative Extension, Merced. 1977.



WALNUTS 1977

Monthly Cash Costs  
Merced County

OPERATION	TOTAL	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
<u>Cultural Costs</u>													
Prune	\$ 35.00			17.50	17.50								
Brush disposal	13.70				13.70								
Fertilize	46.20			46.20									
Spray: 4X	78.00							40.00		38.00			
Cultivate & harvest preparation	33.50						3.37	3.37	3.37	3.37	20.00		
Irrigate: 5X	29.65						5.93	5.93	5.93	5.93	5.93		
Misc. including weed control	43.20	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	10.20	3.00
<u>Harvest Costs</u>	271.25											150.00	121.25
<u>Cash Overhead</u>													
Off., operating cap.	38.37	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
Taxes	75.00		37.50				37.50						
Repairs	14.00	3.50	3.50	3.50	3.50								
<b>TOTAL CASH COSTS</b>	<b>677.87</b>	<b>9.70</b>	<b>47.20</b>	<b>73.40</b>	<b>40.90</b>	<b>6.20</b>	<b>53.00</b>	<b>55.50</b>	<b>15.50</b>	<b>53.50</b>	<b>32.13</b>	<b>163.40</b>	<b>127.45</b>
<b>ACCUMULATED COST COSTS</b>			<b>56.90</b>	<b>130.30</b>	<b>171.20</b>	<b>177.40</b>	<b>230.40</b>	<b>285.90</b>	<b>301.40</b>	<b>354.90</b>	<b>387.03</b>	<b>550.43</b>	<b>677.87</b>

Source: Hendricks, L. C. and E. A. Yeary, The Economies of Walnut Production in Merced County, University of California Cooperative Extension, Merced, 1977.

SAMPLE COSTS TO DEVELOP WALNUT ORCHARDS

Merced County - 1977

Based on 48 tree per acre. Labor @ \$4.10 and \$3.50 per hour.

	YEAR					
	1	2	3	4	5	6
Yield - pounds per acre					500	1,000
Income @ \$.22 per lb.					\$110	\$220
	DOLLARS					
<u>Planting Costs</u>						
Land preparation						
-subsoil	80					
-tillage	27					
Trees	216	9				
Survey and plant	24	4				
Stakes	36					
<b>Total Planting Cost</b>	<b>383</b>	<b>13</b>				
<u>Cultural Costs</u>						
Prune and tie	21	21	24	26	28	35
Brush disposal				10	14	14
Fertilizer applied			3	5	11	21
Sunburn protection	11					
Spray materials			15	15	25	25
Spray application			11	11	21	21
Cultivate	20	20	20	20	20	20
Irrigate	18	18	18	18	18	18
Water	8	8	10	10	10	10
Misc. labor power materials	36	25	25	25	25	25
Interest on operating capital	25	5	6	7	9	9
<b>Total Cultural Costs</b>	<b>139</b>	<b>97</b>	<b>132</b>	<b>147</b>	<b>181</b>	<b>198</b>
<u>Harvest Costs</u>						
Land preparation					16	16
Shake, pick, hull, dry & haul					39	78
<b>Total Harvest Costs</b>					<b>55</b>	<b>94</b>
<u>Overhead Costs</u>						
Miscellaneous	53	23	25	26	31	38
Taxes	38	38	38	65	65	65
Management	40	40	40	40	40	40
Depreciation	52	52	52	52	52	52
Interest - on investment	201	201	201	201	201	201
- on accumulated cost		72	115	164	219	278
<b>Total Overhead Cost</b>	<b>384</b>	<b>426</b>	<b>471</b>	<b>548</b>	<b>608</b>	<b>674</b>
<b>TOTAL COST PER ACRE</b>	<b>906</b>	<b>536</b>	<b>603</b>	<b>695</b>	<b>844</b>	<b>966</b>
<b>Net Cost Per Acre</b>					<b>734</b>	<b>746</b>
<b>Accumulated Net Cost</b>	<b>906</b>	<b>1,442</b>	<b>2,045</b>	<b>2,740</b>	<b>3,479</b>	<b>4,220</b>
<u>Investment</u>						
Land	2,200					
Irrigation system	200					
Buildings and equipment	425					
<b>Total Investment</b>	<b>2,825</b>					

Total cost to develop a walnut orchard through 6th year = \$4,220.

Adapted from: Hendricks, L. C. and E. A. Yeary. The Economics of Walnut Production in Merced County. University of California Cooperative Extension, Merced, 1977.

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