

WALNUT ORCHARD DEVELOPMENT COSTS

TEHAMA COUNTY - 1965

UNIVERSITY OF CALIFORNIA
AGRICULTURAL EXTENSION SERVICE
TEHAMA COUNTY

WALNUT ORCHARD DEVELOPMENT COSTS - TEHAMA COUNTY, 1965

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This cost study was designed to give you an idea of expected costs per acre involved in establishing a walnut orchard. The costs shown are not averages of the district but merely represent typical costs under assumed conditions. These conditions are 80 acres of sprinkler irrigated land planted to at least two different varieties 25 feet apart in a square system.

One variety, 25% of the trees, is considered a commercially tested standard such as Hartley. The others are any of a number of new early maturing high yielding varieties like Ashley, 58 - 11, or 53 - 113. The long term objective of such plantings is to systematically thin the orchard, leaving the best commercial variety 50 feet apart in a square.

Equipment included is shown in the Capital Inventory. It should be noted that the pruning tower and tools are not purchased until the fourth year and the sod chopper and shaker in the fifth year.

The cultural system is considered clean cultivation until the fifth year at which time the system is shifted to strip sprayed modified sod culture.

All labor is computed at \$1.50 an hour including compensation insurance and social security.

Expected yields for the new varieties are: fourth year, 10 pounds per tree; fifth year, 15 pounds per tree. The Hartley or other comparable trees will not be expected to produce until the sixth or seventh year. By the sixth year the productivity of the new varieties is expected to provide an income greater than total costs and the orchard will be considered in the productive phase.

SUMMARY OF COSTS BY YEAR

Year	Labor	Equip- ment	Mate- rials	Total Cash Costs	Depreci- ation	Interest	Total Fixed Costs	Total All Costs	Credits	Total Accumulated Costs
First	\$66.00	\$12.00	\$291.40	\$369.40	\$22.12	\$ 70.14	\$ 92.26	\$461.66	---	\$ 461.66
Second	40.00	8.00	42.00	90.00	22.12	83.99	106.11	196.11	---	660.77
Third	38.00	7.00	42.00	87.00	22.12	89.99	112.08	199.08	---	859.85
Fourth	56.70	12.50	37.00	106.20	24.75	96.73	121.48	227.68	\$104.00	983.53
Fifth	44.97	35.73	43.00	123.70	31.00	102.31	133.31	257.01	156.00	1084.54

CAPITAL INVENTORY AND FIXED COSTS PER ACRE

Inventory	Capital Investment	Investment Per Acre	Expected Life	Fixed Costs Per Acre		
				Interest	Depreciation	Total
Land, 80 acres	\$ 80,000.00	\$ 1,000.00	---	\$ 60.00	---	\$ 60.00
Irrigation System	10,000.00	125.00	20 years	3.75	\$ 6.25	10.00
1 - 40 hp Diesel Wheel Tractor	5,400.00	67.50	10 years	2.03	6.75	8.78
PTO Sprayer, 400 gallon	2,800.00	35.00	15 years	1.05	2.33	3.38
Disc, 12 foot	1,500.00	18.75	15 years	.56	1.75	2.31
Pickup Truck	2,300.00	28.75	10 years	.87	2.87	3.74
Chopper	450.00	5.62	10 years	.17	.56	.73
Pruning tower and tools	2,100.00	26.25	10 years	.79	2.63	3.42
Shed and Shop	5,200.00	65.00	30 years	1.88	2.17	4.05
Shaker	5,000.00	62.50	10 years	1.88	6.25	8.13
TOTAL	\$114,750.00	\$ 1,434.37	---	\$ 72.98	\$ 31.56	\$104.54

SAMPLE COSTS TO ESTABLISH A WALNUT ORCHARD

FIRST YEAR

Operation	Dates	Hours Per Acre	Cash and Labor Costs			Total	Your Cost Per Acre
			Labor	Equipment	Materials		
Disc twice	Nov. - Jan.	.8	\$ 1.20	\$ 1.00		\$ 2.20	
Layout & Mark	Jan. - March	2.0	3.00	.50	Markers \$ 7.50	11.00	
Dig holes	Jan. - March	2.0	3.00	2.55		5.55	
Plant & Prune	Jan. - March	5.0	7.50		70 trees 218.40	225.90	
Whitewash	Jan. - March	2.0	3.00		Whitewash .50	3.50	
Stake	Jan. - March	6.0	9.00		70 stakes 42.00	51.00	
Tank Water	Jan. - March	1.5	2.25	1.50		3.75	
Tie & Sucker	May - Sept.	10.0	15.00		Rope 4.00	19.00	
Sprinkle 6 times	May - August	3.6	5.40		2 acre-feet water 10.00	15.40	
Disc 6 times	May - Sept.	2.4	3.60	3.00		6.60	
Hoe twice	May - July	4.0	6.00			6.00	
Spray	June - Sept.	.7	1.05	2.34	Miticide 1.00	4.39	
Taxes					8.00	8.00	
Miscellaneous			6.00	1.11		7.11	
Total Cash Costs			\$66.00	\$12.00	\$291.40	\$369.40	
ANNUAL FIXED COSTS							
Investment	Per Acre	Depreciation	Interest				
Land	\$ 1,000.00	---	\$ 60.00				
Shed and Shop	65.00	\$ 2.17	1.88				
Irrigation	125.00	6.25	3.75				
Equipment	150.00	13.70	4.51				
Total	\$ 1,340.00	\$ 22.12	\$ 70.14			\$ 92.26	
Total Cost Per Acre						\$461.66	

SAMPLE COSTS TO ESTABLISH A WALNUT ORCHARD

SECOND YEAR

Operation	Dates	Hours Per Acre	Cash and Labor Costs			Total	Your Cost Per Acre
			Labor	Equipment	Materials		
Fertilize	Dec. - Feb.	1.0	\$ 1.50	\$ 1.00	35# nitrogen \$ 3.50	\$ 6.00	
Replant 5%	Jan. - March	2.0	3.00		4 trees 12.48	15.48	
Prune & Train	March	3.5	5.25			5.25	
Disc Covercrop	March - April	.8	1.20	1.15		2.35	
Hoe Twice	April - August	4.0	6.00			6.00	
Sprinkle 5 times	May - August	3.0	4.50		2 acre-feet water 10.00	14.50	
Train & Tie	June - Sept.	7.0	10.50		Rope 4.00	14.50	
Disc 5 times	May - Sept.	2.0	3.00	2.30		5.30	
Spray	June - Sept.	.7	1.05	2.34	Miticide 1.00	4.39	
Taxes					8.00	8.00	
Miscellaneous			4.00	1.21	3.02	8.23	
Total Cash Costs			\$ 40.00	\$ 8.00	\$ 42.00	\$ 90.00	
ANNUAL FIXED COSTS							
Investment	Per Acre	Depreciation	Interest				
Land	\$ 1,000.00	---	\$ 60.00				
Trees	461.66	---	13.85				
Shed and Shop	65.00	\$ 2.17	1.88				
Irrigation	125.00	6.25	3.75				
Equipment	150.00	13.70	4.51				
Total	\$ 1,801.66	\$ 22.12	\$ 83.99			\$106.11	
Total Cost Per Acre						\$196.11	

SAMPLE COSTS TO ESTABLISH A WALNUT ORCHARD

THIRD YEAR

Operation	Dates	Hours Per Acre	Cash and Labor Costs			Total	Your Cost Per Acre
			Labor	Equipment	Materials		
Fertilize	Dec. - Feb.	1.0	\$ 1.50	\$ 1.00	35# nitrogen \$ 3.50	\$ 6.00	
Replant 5%	Jan. - March	2.0	3.00		4 trees 12.48	15.48	
Prune & Train	March	8.0	12.00			12.00	
Disc Covercrop	March - April	.8	1.20	1.15		2.35	
Hoe Twice	April - August	4.0	6.00			6.00	
Sprinkle 3 times	May - August	1.8	2.70		Water 12.50	15.20	
Summer Pinch	June - August	3.5	5.25			5.25	
Disc 3 times	May - Sept.	1.2	1.80	1.75		3.55	
Spray	June - Sept.	.7	1.05	2.34	Miticide 2.00	5.39	
Taxes					8.00	8.00	
Miscellaneous			3.50	.76	3.52	7.78	
Total Cash Costs			\$38.00	\$ 7.00	\$42.00	\$ 87.00	
ANNUAL FIXED COSTS							
Investment	Per Acre		Depreciation		Interest		
Land	\$ 1,000.00		---		\$ 60.00		
Trees	660.77		---		19.82		
Shed and Shop	65.00		\$ 2.17		1.88		
Irrigation	125.00		6.25		3.75		
Equipment	150.00		13.70		4.51		
Total	\$ 2,000.77		\$ 22.12		\$ 89.96		\$112.08
Total Cost Per Acre						\$199.08	

SAMPLE COSTS TO ESTABLISH A WALNUT ORCHARD

FOURTH YEAR

Operation	Dates	Hours Per Acre	Cash and Labor Costs			Total	Your Cost Per Acre
			Labor	Equipment	Materials		
CULTURAL							
Fertilize	Dec. - Feb.	1.0	\$ 1.50	\$ 1.00	70# nitrogen \$ 7.00	\$ 9.50	
Prune & Train	Jan. - March	6.0	9.00	2.00		11.00	
Disc Covercrop	April - May	.8	1.20	1.15		2.35	
Hoe Twice	April - Sept.	5.0	7.50			7.50	
Sprinkle 3 times	May - August	1.8	2.70		Water 12.50	15.20	
Summer Pinch	June - August	1.5	8.25			8.25	
Disc 3 times	May - August	1.2	1.80	1.75		3.55	
Spray	June - Sept.	.7	1.05	2.34	Miticide 3.00	6.39	
Taxes					8.00	8.00	
Miscellaneous			3.00	.76	2.50	6.26	
Total Cultural Cash Cost			\$36.00	\$ 9.00	\$ 25.00	\$ 70.00	
HARVEST							
Landplane 3 times	Aug. - Sept.	1.8	2.70	3.50		6.20	
Hand knock & pick		12.0	18.00			18.00	
Haul, Hull & Dry (contract)					12.00	12.00	
Total Harvest Cost			\$20.70	\$ 3.50	\$ 12.00	\$ 36.20	
Total Cash Costs			\$56.70	\$12.50	\$ 37.00	\$106.20	

ANNUAL FIXED COSTS

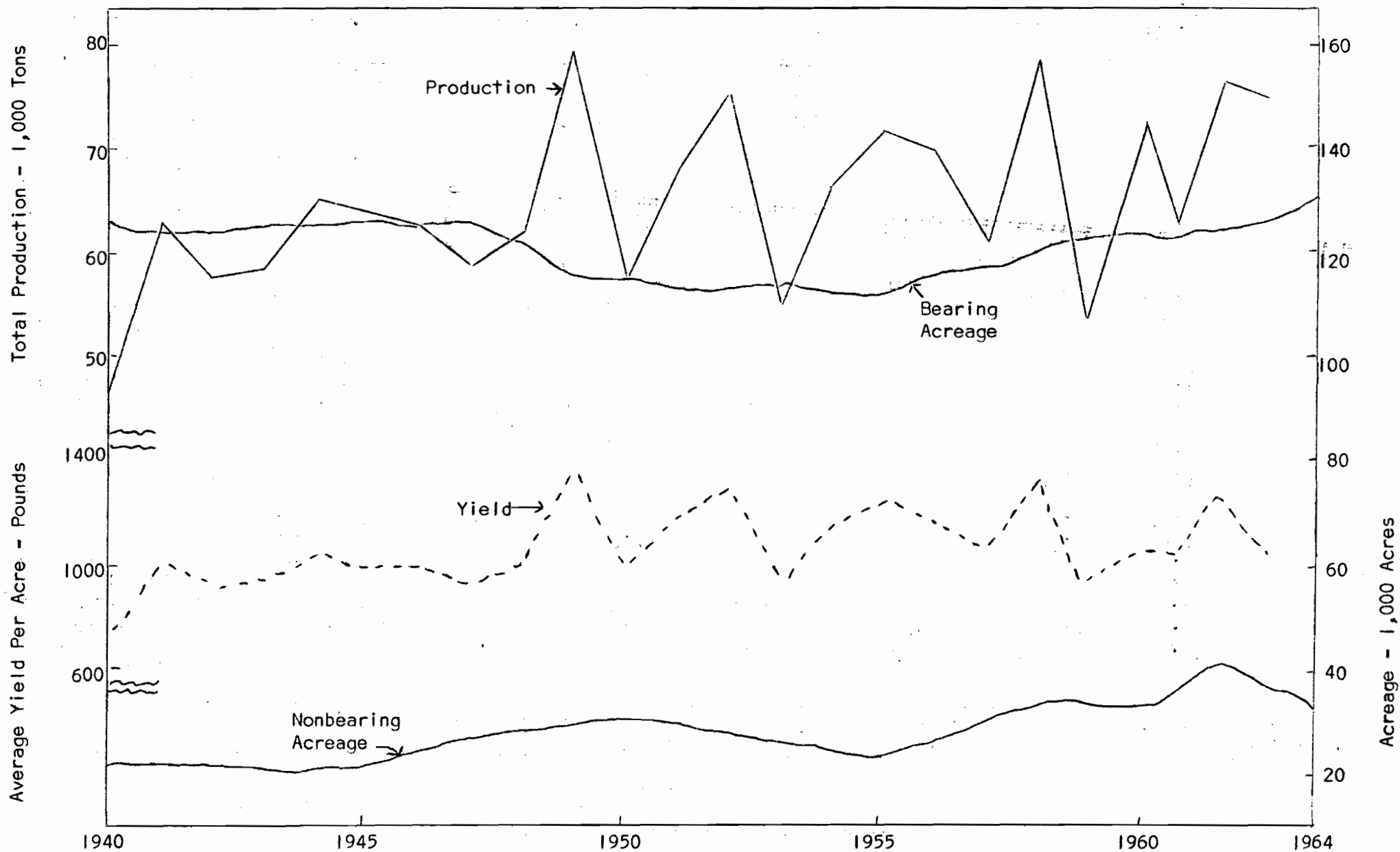
Investment	Per Acre	Depreciation	Interest	
Land	\$ 1,000.00	---	\$ 60.00	
Trees	859.85	---	25.80	
Shed and Shop	65.00	\$ 2.17	1.88	
Irrigation	125.00	6.25	3.75	
Equipment	176.25	16.33	5.30	
Total	\$ 2,226.10	\$ 24.75	\$ 96.73	
				Total Cost Per Acre \$227.68
				Credit 520 @ .20 -104.00
				Net Cost Per Acre \$123.68

SAMPLE COSTS TO ESTABLISH A WALNUT ORCHARD

FIFTH YEAR

Operation	Dates	Hours Per Acre	Cash and Labor Costs			Total	Your Cost Per Acre
			Labor	Equipment	Materials		
CULTURAL							
Strip Spray		.3	\$.45	\$.48	Weed Killer \$ 3.00	\$ 3.93	
Fertilize	Dec. - Feb.	.5	.75	1.00	70# Nitrogen 7.00	8.75	
Prune & Train	Jan. - March	6.0	9.00	2.00		11.00	
Haul Brush	Jan. - March	2.0	3.00	2.00		5.00	
Chop 6 times	April - Aug.	1.0	1.50	2.15		3.65	
Sprinkle 3 times	May - August	1.8	2.70		Water 12.50	15.20	
Spray 3 times	April - August	2.1	3.15	7.02	Chemicals 9.00	19.17	
Taxes and Miscellaneous			2.45	.35	11.50	14.30	
Total Cultural Cash Cost			\$ 23.00	\$ 15.00	\$ 43.00	\$ 81.00	
HARVEST							
Chop	Sept.	.15	.22	.36		.58	
Shake	Sept. - Oct.	2.5	3.75	4.37		8.12	
Handpick	Sept. - Oct.	12.0	18.00			18.00	
Haul, Hull & Dry	Sept. - Oct.			16.00		16.00	
Total Harvest Cost			\$ 21.97	\$ 20.73		\$ 42.70	
Total Cash Costs			\$ 44.97	\$ 35.73	\$ 43.00	\$ 123.70	
ANNUAL FIXED COSTS							
Investment	Per Acre		Depreciation		Interest		
Land	\$ 1,000.00		----		\$ 60.00		
Trees	983.53		----		29.50		
Shed and Shop	65.00		\$ 2.17		1.88		
Irrigation	125.00		6.25		3.75		
Equipment	238.75		22.58		7.18		
Total	\$ 2,412.28		\$ 31.00		\$ 102.31		\$ 133.31
Total Cost Per Acre						\$ 257.01	
Credit 780# @ .20						-156.00	
Net Cost Per Acre						\$ 101.01	

WALNUTS: Acreage, Yield, and Production, California



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