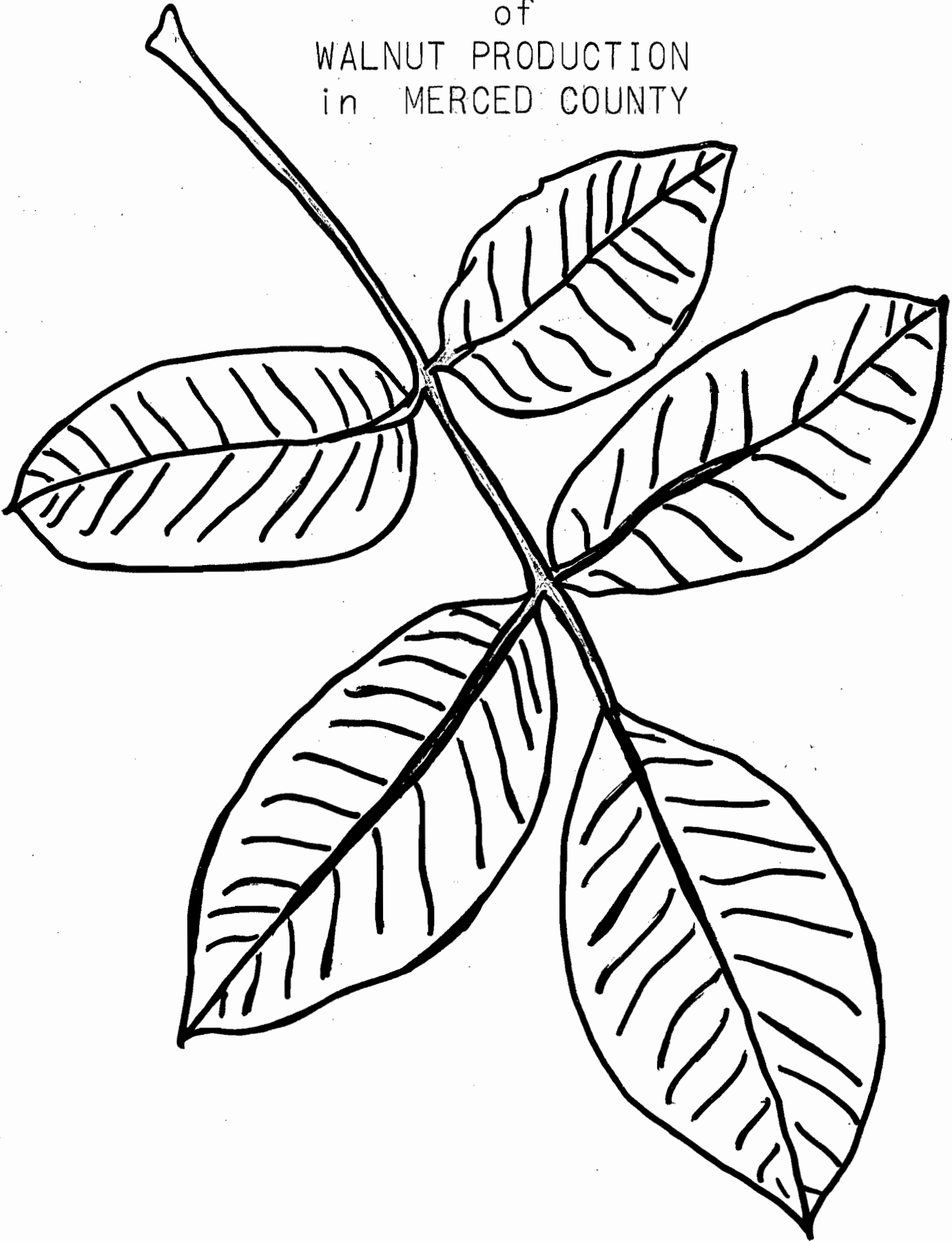


THE ECONOMICS
of
WALNUT PRODUCTION
in MERCED COUNTY



1977

INTRODUCTION

This cost study is designed to provide walnut orchardists or prospective growers the estimated costs involved in establishing a new orchard and producing walnuts in a mature orchard. This study is based on actual costs of better-than-average orchards with top management. The costs may be somewhat above average, and the production estimates are definitely above average.

The costs are based upon excellent soil, good water, new equipment and top management. Used equipment is often purchased for orchard use. This will reduce capitol investment, depreciation and interest, but will likely increase repair costs, operating costs and down time.

Land cost used in the Cost of Production section is somewhat lower then current value. The assumption is that the land cost was lower when the current mature orchard was first planted.

To evaluate your costs, enter estimated cost figures adjacent to those provided in this study.

L. C. Hendricks
Farm Advisor Merced County

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ENGLISH WALNUT ORCHARD ESTABLISHMENT COSTS

COST ANALYSIS WORKSHEET - 1977

Sample costs to establish a walnut orchard, planted 48 trees per acre.

	COSTS PER ACRE					
	1st Year	2nd Year	3rd Year	4th Year	5th Year 500	6th Year 1,000
Yield: Lbs per acre						
PRE-HARVEST CASH COSTS:						
Land Preparation:						
Subsoil - contract	80.00					
Tillage - 4 hrs.	26.80					
Trees: 48 @ \$4.50 plus 2 in second year	216.00	9.00				
Survey & plant: 50¢/tree. \$2.00 ea. second year	24.00	4.00				
Stakes: 75¢	36.00					
Prune and tie	21.00	21.00	24.00	26.00	28.00	35.00
Brush disposal				10.20	13.70	13.70
Fertilizer applied			2.64	5.28	10.56	21.12
Sunburn protection	10.50					
Spray materials			15.00	15.00	25.00	25.00
Spray application			10.50	10.50	21.00	21.00
Cultivate: 3 hrs.	20.10	20.10	20.10	20.10	20.10	20.10
Irrigate: labor, 5 hrs.	17.50	17.50	17.50	17.50	17.50	17.50
Water	7.50	7.50	10.00	10.00	10.00	10.00
Misc. labor power, materials	36.00	25.00	25.00	25.00	25.00	25.00
Taxes	38.00	38.00	38.00	38.00	50.00	65.00
Repairs	20.00	14.00	14.00	14.00	14.00	14.00
Office & business costs	33.20	9.36	10.60	11.50	17.38	21.65
TOTAL PRE-HARVEST CASH COSTS	586.60	165.46	187.34	203.08	252.24	289.07
HARVEST COSTS:						
Land Preparation					15.90	15.90
Shake, pick, hull, dry and haul, \$155/ton					38.75	77.50
TOTAL HARVEST COSTS					54.65	93.40
TOTAL CASH COSTS					306.89	382.47
DEPRECIATION:						
Irrigation system: \$200 cost, 12 years	16.67	16.67	16.67	16.67	16.67	16.67
Building & equipment: \$120 cost, 12 years	10.00	10.00	10.00	10.00	10.00	10.00
Tractor: \$1.65 per hour	16.50	9.90	9.90	9.90	16.50	16.50
TOTAL DEPRECIATION	43.17	36.57	36.57	36.57	43.17	43.17
INTEREST ON INVESTMENT 8%:						
Irrigation System: ½ cost, \$100	8.00	8.00	8.00	8.00	8.00	8.00
Building & equipment: ½ cost, \$60	4.80	4.80	4.80	4.80	4.80	4.80
Tractor: 82¢ per hour	8.20	4.92	4.92	4.92	8.20	8.20
Land: \$2200	176.00	176.00	176.00	176.00	176.00	176.00
Interest on accumulated costs		66.14	103.09	144.75	191.00	241.24
TOTAL INTEREST ON INVESTMENT	197.00	259.86	296.81	338.47	388.00	438.24
TOTAL COST FOR THE YEAR	826.77	461.89	520.72	578.12	738.06	863.88
CREDIT FOR CROP: 22¢/lb.					110.00	220.00
NET COST FOR THE YEAR	826.77	461.89	520.72	578.12	628.06	643.88
ACCUMULATED COST PER ACRE	826.77	1288.66	1809.38	2387.50	3015.56	3659.44

ENGLISH WALNUT PRODUCTION COSTS IN MERCED COUNTY

COST ANALYSIS WORKSHEET-1977
NON-TILLAGE PRACTICES IN SOIL MANAGEMENT

Costs are based on production from an 80 acre orchard with 10 year old trees, planted 48 per acre, producing 3500 lbs. of dry nuts. Skilled labor, \$4.10 per hour, cost to the grower, and other labor, \$3.50 per hour. Medium wheel tractor per hour cash costs, \$2.60; depreciation, \$1.65 and interest, \$.82.

	SAMPLE COSTS		MY COSTS	
	Per Acre	Per Cwt	Per Acre	Per Cwt
PRE-HARVEST CASH COSTS:				
Pruning: 10 hours labor	\$ 35.00			
Brush Disposal: 3 hrs. labor and 1 tractor hour	13.70			
Fertilizer: 210 lbs N wt., 22¢ applied	46.20			
Spray materials	50.00			
Spray application 2X: 800 Gal. @ 3½¢	28.00			
Mow Centers: 2½ hrs. labor and tractor	16.75			
Herbicide: Custom	7.50			
Irrigate 5X: 1½ hrs. labor	5.25			
Water: 4 ac. ft. @ \$2.50 ac. ft., plus \$2.15 ac. district tax, plus \$7.50 per acre pumping cost	19.65			
Misc. labor: 6 hrs., 1 hr. tractor	24.20			
Misc. materials	19.00			
County Taxes	75.00			
Repairs, except tractor	11.00			
Office and business costs	37.35			
TOTAL PRE-HARVEST CASH COSTS	\$ 388.60	\$ 11.10		
HARVEST COSTS:				
Shake, pick, hull, dehydrate and haul: \$155 per ton	271.25			
TOTAL HARVEST COSTS	\$ 271.25	\$ 7.75		
TOTAL CASH COSTS	\$ 659.85	\$ 18.85		
DEPRECIATION:				
Irrigation System: \$600, 12 years	50.00			
Buildings and Equipment: \$120, 12 years	10.00			
Tractor: 4½ hrs. at \$1.65	7.43			
Trees: \$3200 cost, 40 years	80.00			
TOTAL DEPRECIATION	\$ 147.43	\$ 4.21		
INTEREST ON INVESTMENT @ 8%:				
Irrigation System: ½ cost, \$300	24.00			
Building and Equipment: ½ cost, \$60	4.80			
Tractor: 4½ hrs. @ \$.82	3.69			
Trees: ½ cost, \$1600	128.00			
Land: \$1900	152.00			
TOTAL INTEREST ON INVESTMENT	\$ 312.49	\$ 8.93		
TOTAL COST OF PRODUCTION	\$1119.77	\$ 31.99		

SAMPLE COSTS PER 100 LBS. DRY NUTS AT VARYING YIELDS

Yield: lbs. dry nuts per acre	2500	3000	3500	4000	4500
Cash Costs Per Cwt.	\$23.29	\$20.70	\$18.85	\$17.46	\$16.39
TOTAL COSTS PER CWT.	\$41.69	\$36.03	\$31.99	\$28.96	\$26.61

ENGLISH WALNUT PRODUCTION COSTS IN MERCED COUNTY

COST ANALYSIS WORKSHEET-1977
TILLAGE PRACTICES IN SOIL MANAGEMENT

Costs are based on production from an 80 acre orchard with 10 year old trees, planted 48 per acre, producing 3500 lbs. of dry nuts. Skilled labor, \$4.10 per hour cost to the grower, and other labor, \$3.50 per hour. Medium wheel tractor per hour cash costs, \$2.60; depreciation, \$1.65 and interest, \$.82.

	SAMPLE COSTS		MY COSTS	
	Per Acre	Per CWT.	Per Acre	Per CWT.
PRE-HARVEST CASH COSTS:				
Pruning: 10 hours labor	\$ 35.00			
Brush disposal: 3 hrs. labor and 1 tractor hour	13.70			
Fertilizer: 210 lbs. N, 22¢ applied	46.20			
Spray materials	50.00			
Spray application 2X: 800 gal. at 3½¢	28.00			
Tillage and harvest preparation: 5 hrs. Labor and tractor	33.50			
Irrigation 5X: 5 hrs. labor	17.50			
Water: 4 ac. ft. @ \$2.50 ac. ft., plus \$2.15 per ac. district tax	12.15			
Misc. labor: 6 hrs. labor, 1 hr. tractor	24.20			
Misc. materials	19.00			
County taxes	75.00			
Repairs, except tractor	14.00			
Office and business costs	38.37			
TOTAL PRE-HARVEST CASH COSTS	\$ 406.62	\$ 11.62		
HARVEST COSTS:				
Shake, pick, hull, dehydrate and haul: \$155 per ton	271.25			
TOTAL HARVEST COSTS	\$ 271.25	\$ 7.75		
TOTAL CASH COSTS	\$ 677.87	\$ 19.37		
DEPRECIATION:				
Irrigation System: \$200 cost, 12 years	16.67			
Buildings and Equipment: \$120 cost, 12 yrs.	10.00			
Tractor: 7 hrs. @ \$1.65	11.55			
Trees: \$3200 cost, 40 years	80.00			
TOTAL DEPRECIATION	\$ 118.22	\$ 3.38		
INTEREST ON INVESTMENT @ 8%:				
Irrigation System: ½ cost, \$100	8.00			
Building and Equipment: ½ cost, \$60	4.80			
Tractor: 7 hours @ \$.82	5.74			
Trees: ½ cost, \$1600	128.00			
Land: \$1900	152.00			
TOTAL INTEREST ON INVESTMENT	\$ 298.54	\$ 8.53		
TOTAL COST OF PRODUCTION	\$1094.63	\$ 31.28		

SAMPLE COSTS PER 100 LBS. DRY NUTS AT VARYING YIELDS

Yield: lbs dry nuts per acre	2500	3000	3500	4000	4500
Cash Costs Per CWT.	\$24.01	\$21.30	\$19.37	\$17.92	\$16.79
TOTAL COSTS PER CWT.	\$40.68	\$35.20	\$31.28	\$28.33	\$26.05

WALNUTS 1977

Monthly Cash Costs

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 and 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								
TOTAL CASH COSTS	677.87	9.70	47.20	73.40	40.90	6.20	53.00	55.50	15.50	53.50	32.13	163.40	127.45
ACCUMULATED COST COSTS			56.90	130.30	171.20	177.40	230.40	285.90	301.40	354.90	387.03	550.43	677.87

UNIVERSITY OF CALIFORNIA
COOPERATIVE EXTENSION

Lonnie C. Hendricks, Farm Advisor

Edward Yeary, Statewide Farm Advisor

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	
TOTAL, Land, Trees, Buildings	6,618	\$529,400		\$11,786	
Equipment:					
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	
TOTAL EQUIPMENT	\$ 930	\$ 74,300		\$12,040	
TOTAL INVESTMENT & DEFR.	\$7,548	\$603,700		\$23,826	
Depreciation per acre				\$ 298	
Interest per acre @8%	\$ 604				