

1973

ENGLISH WALNUT

Orchard Development Costs in the Southern San Joaquin Valley

Cost Analysis Worksheet Showing Sample Costs

Prepared by: Lyndon C. Brown, Farm Advisor, Kings County; L. Todd Browne, Farm Advisor, Fresno County; Kenneth W. Hench, Farm Advisor, Kern County; G. Steven Sibbett, Farm Advisor, Tulare County; and Edward A. Yearly, Farm Advisor, Statewide, Parlier.

Agricultural Extension University of California

UC Cooperative Extension

AXT-385

9/73

COST ANALYSIS WORKSHEET: English Walnut Orchard Establishment Costs, 1973.

	COSTS PER ACRE					
	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Yield (pounds/acre)	-	-	-	-	500	1,000
PRE-HARVEST CASH COSTS						
Land preparation: subsoil, contract	\$ 30.00	\$	\$	\$	\$	\$
Disc and float: 4 hours labor + 4 tractor-hours	16.20					
Trees: 55 @ \$3.50 (+2, 2nd year; 1, 3rd year)	192.50	7.00	3.50			
Survey and plant: 55 @ 35¢ (+2, 2nd year; 1, 3rd year @ \$2.00 each)	19.25	4.00	2.00			
Stakes: 60 10-foot @ 50¢	30.00					
Stake trees: 7 hours labor + 1 tractor-hour	17.85					
Training, tying, pruning	22.50	15.00	18.00	22.50	30.00	30.00
Tillage and irrigation preparation: 7 hours labor + 7 tractor-hours each year	28.35	28.35	28.35	28.35	28.35	28.35
Irrigation: 4 hours labor 1st and 2nd years; then 6 hours labor per year	9.20	9.20	13.80	13.80	13.80	13.80
Water: @ \$5.50/acre-foot + district tax @ \$6.00	11.50	11.50	14.25	17.00	22.50	22.50
Sunburn protection (trunk)	10.50		10.50			
Fertilizer: nitrogen @ 11¢/pound applied	3.50	3.50	4.98	4.98	7.50	7.50
Spray materials			6.00	6.00	6.00	9.00
Spray application: contract			3.00	3.00	3.00	6.00
Misc. labor: 6 hours labor + 1 tractor-hour	15.55	15.55	15.55	15.55	15.55	15.55
Misc. materials	16.00	16.00	16.00	16.00	16.00	16.00
County taxes	20.00	20.00	20.00	20.00	20.00	32.00
Repairs, except tractor	10.00	10.00	10.00	10.00	10.00	10.00
Office and business costs	27.17	8.40	9.96	9.43	10.36	11.44
Total Pre-Harvest Cash Costs	\$ 480.07	\$ 148.50	\$ 175.89	\$ 166.61	\$ 183.06	\$ 202.14
HARVEST COSTS						
Shake, pick, hull, and dry: @ \$100/ton					\$ 25.00	\$ 50.00
Total Harvest Costs					\$ 25.00	\$ 50.00
Total Cash Costs	\$ 480.07	\$ 148.50	\$ 175.89	\$ 166.61	\$ 208.06	\$ 252.14
DEPRECIATION						
Irrigation system: \$252 cost, 12-year life	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00
Buildings and equipment: \$120 cost, 12-year life	10.00	10.00	10.00	10.00	10.00	10.00
Tractor: @ \$1.20/hour	15.60	9.60	9.60	9.60	9.60	9.60
Total Depreciation	\$ 46.60	\$ 40.60	\$ 40.60	\$ 40.60	\$ 40.60	\$ 40.60
INTEREST ON INVESTMENT @ 7%						
Irrigation system: 1/2 cost, \$126	\$ 8.82	\$ 8.82	\$ 8.82	\$ 8.82	\$ 8.82	\$ 8.82
Buildings and equipment: 1/2 cost, \$60	4.20	4.20	4.20	4.20	4.20	4.20
Tractor: @ 70¢/hour	9.10	5.60	5.60	5.60	5.60	5.60
Land: @ \$1,200/acre	84.00	84.00	84.00	84.00	84.00	84.00
Interest on accumulated costs		44.30	67.82	94.90	123.23	148.40
Total Interest on Investment	\$ 106.12	\$ 146.92	\$ 170.44	\$ 197.52	\$ 225.85	\$ 251.02
TOTAL COST FOR THE YEAR	\$ 632.79	\$ 336.02	\$ 386.93	\$ 404.73	\$ 474.51	\$ 543.76
Credit for production: @ 23¢/pound					\$ 115.00	\$ 230.00
Net Cost for the Year	\$ 632.79	\$ 336.02	\$ 386.93	\$ 404.73	\$ 359.51	\$ 313.76
ACCUMULATED NET COST	\$ 632.79	\$ 968.81	\$ 1,355.74	\$ 1,760.47	\$ 2,119.98	\$ 2,433.74

Costs are for a 28- by 28-foot planting with 55 trees per acre. Based on labor @ \$2.30 and \$2.65 per hour; medium-wheel tractor per hour cash costs @ \$1.40; depreciation @ \$1.20; and interest @ \$.70.

ABOUT THIS SHEET

English walnuts grow best in deep, alluvial, low-alkaline soils that are not compacted, which impairs drainage. In the southern San Joaquin Valley, production is primarily concentrated in Tulare County, with sizable acreages in Kings, Fresno, and Kern Counties.

This sheet represents average costs to develop an orchard and maintain it through the sixth year.

Rootstocks. Black walnut rootstocks and Paradox hybrid rootstocks are both acceptable. Paradox hybrid roots are more vigorous and are recommended on weaker soils. The hybrid rootstock is resistant to crown rot and tolerates root lesion nematode. Black walnut roots are susceptible to root lesion nematode, resistant to oak root fungus, and do not tolerate marginal soil conditions.

Planting Distances. Double planting walnuts increases production during the first 10 to 12 years. The planting distance used depends on the variety and the soil conditions. More vigorous walnut varieties, such as Serr and Hartley, develop large trees at maturity, whereas Payne, Ashley, Marchetti, and Gustine are less vigorous and occupy less space.

Pollination. Walnut production may be increased by including pollinizer varieties. Check pollination charts available at your local farm advisors' office for details about varieties to use and the number of pollinizer rows needed.

Staking. Some varieties, such as Hartley, need support. Serr generally does not need support.

Irrigation and Fertilization. The root system in young trees is limited, so frequent irrigation is needed, usually once every 2 to 3 weeks during the hot summer months. Less frequent irrigations are needed during cooler growing periods.

Fertilizing trees with nitrogen is suggested. Tree response dictates need.

The University of California's Agricultural Extension programs are available to all, without regard to race, color, or national origin.

Co-operative Extension work in Agriculture and Home Economics, Division of Agricultural Sciences, University of California, and United States Department of Agriculture co-operating. Distributed in furtherance of the Acts of Congress of May 8, and June 30, 1914. George B. Alcorn, Director, California Agricultural Extension Service.

