

UNIVERSITY OF CALIFORNIA
AGRICULTURAL EXTENSION SERVICE
Stanislaus County - 1964

SAMPLE COSTS TO PRODUCE WALNUTS IN STANISLAUS COUNTY IN 1963

BY
Vernon Patterson, Farm Advisor - Norman W. Ross, Farm Advisor

This cost study is based on sample or typical sets of conditions as to the size of business and include the operations of several farmers. The result of this study of typical operations is not the average cost of walnut production or the cost of establishment of an orchard. Such a cost analysis would have to involve all growers in the county.

The Basis Of Cost Calculations

Certain assumptions must be made as to size of orchard and yield per acre. This information is indicated on each sample cost.

Man labor is figured at varying rates depending on the work performed. Cost of tractor operation was based on a 40 H.P. tractor at \$1.25 per hour cash cost, 70¢ per hour for depreciation and 25¢ per hour interest on the investment.

Some operations, such as spraying, pruning, and harvesting, may be based on a piecework basis or at a commercial rate when done by a contract operator.

It should be pointed out that no allowance is made for management cost. Growers, generally, must receive more than the total cost of production per ton for their fruit or nut crop, excluding management, to make a living.

How These Costs May Be Helpful to You

It is suggested that you set up a similar set of costs for your operation opposite the various costs listed here. As a result you can compare your costs with these as a guide. In operations where your costs per pound exceed those of the study, there may be adjustments that you can make to reduce your costs. Should your yield per acre be less with correspondingly higher costs, look for places in your operation that influence tonnage such as pruning, fertilization, irrigation procedure, bearing surface, spraying practice, and tree stand. Study the cost range of these items and implications they may make. The real purpose of this study is to help you analyze your operation and improve it by comparing it with sample costs.

SAMPLE COSTS TO PRODUCE WALNUTS IN STANISLAUS COUNTY - 1963

An average of 37 growers representing 1036 acres or
28 acres with an average yield of 1573 pounds
of inshell nuts

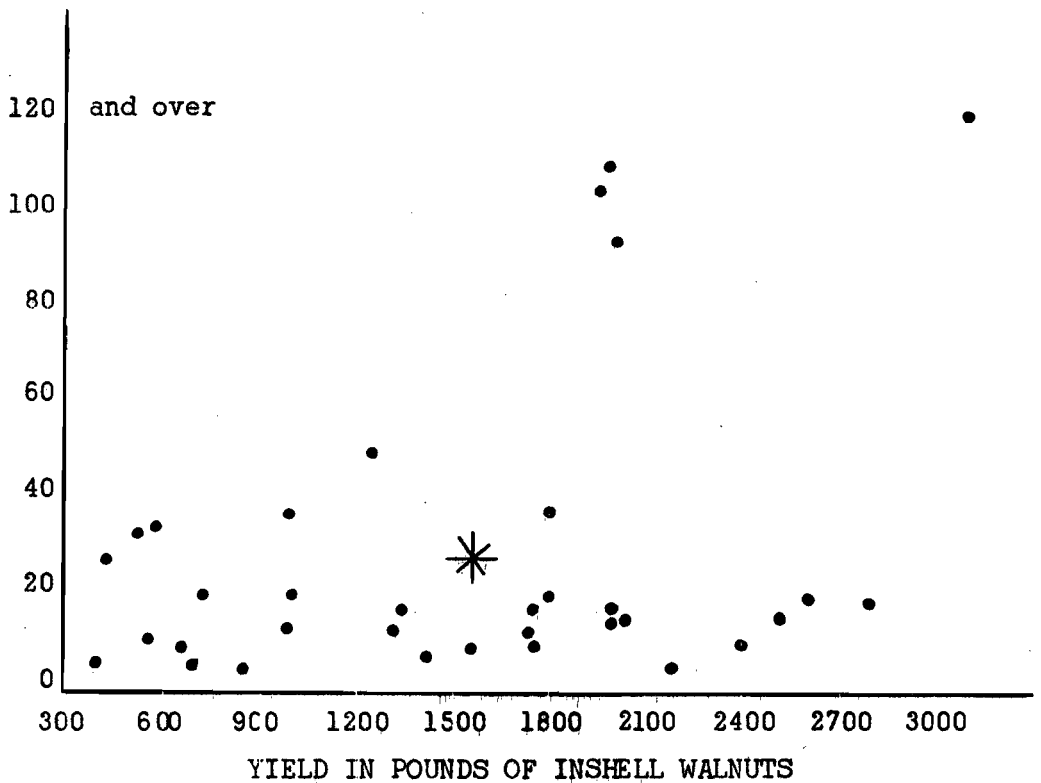
Vernon Patterson, Farm Advisor

Norman Ross, Farm Advisor

PRE-HARVEST CASH COSTS:	Costs	
	Per Acre	Per Lb.
Pruning	\$ 8.65	* .55¢
Brush disposal	2.85	.18
Fertilizer	16.67	* 1.06
Fertilizer application	2.75	.17
Spray material	14.31	* .91
Spraying: 3 applications (contract)	15.75	1.00
Tillage	8.00	.51
Water (district tax)	2.50	.16
Irrigation labor	5.00	.32
Miscellaneous labor	6.50	.41
Miscellaneous materials	2.50	.16
County taxes	27.75	1.76
Office, car, interest, etc. (5% of cash cost)	9.04	.57
Repairs, except tractor	3.00	.19
Total Pre-Harvest Cash & Labor Costs	\$ 125.27	7.96 ¢
HARVESTING COSTS:		
Ground preparation	3.14	.20
Knocking & picking	31.46	* 2.00
Hulling & dehydration	27.53	1.75
Hauling (to huller & to market)	3.54	.23
Total Harvesting Costs	\$ 65.67	4.18 ¢
Total Cash & Labor Costs	\$ 190.94	12.14 ¢
DEPRECIATION:		
Trees: \$1620.76 cost - 40 year life	40.52	2.58
Irrigation facilities: \$100 cost/A - 25 year life	4.00	.25
Buildings & equipment: (\$250 cost/A)	15.00	.95
Tractor: 6 hours @ .70	4.20	.27
Total Depreciation Costs	\$ 63.72	4.05 ¢
INTEREST ON INVESTMENT @ 6%		
Trees: on ½ cost (\$810.38)	48.62	3.09
Irrigation facilities: on ½ cost (\$50/A)	3.00	.19
Buildings & equipment: except tractor on ½ cost (\$125/A)	7.50	.48
Tractor: 6 hours @ .25	1.50	.10
Land: @ \$1500/A	90.00	5.72
Total Interest on Investment	\$ 150.62	9.57 ¢
TOTAL COST OF PRODUCTION	\$ 405.28	25.76 ¢

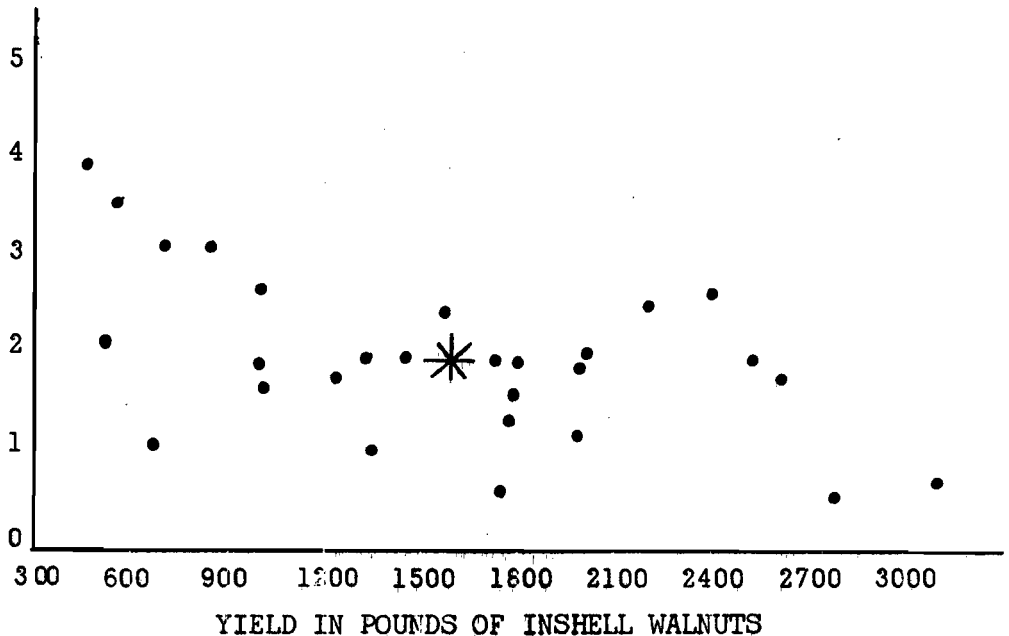
* These average costs are shown on the following charts. Notice that in relation to the range of costs, an average figure may not mean much.

ACRES
FARMED

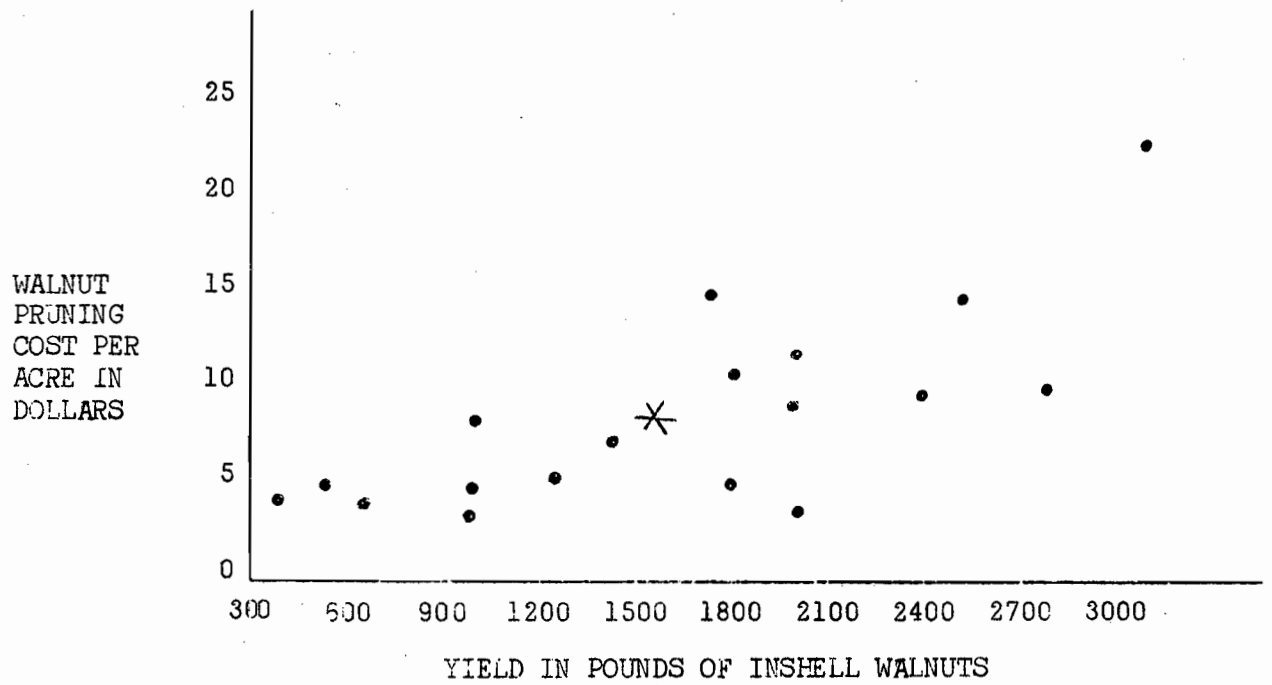


Size of operation apparently does not limit production per acre. Small operators can have production rates just as high as larger orchards. Large orchards have higher yields than in most small orchards. Walnuts are probably the main source of income in the larger acreages so better management practices may be involved.

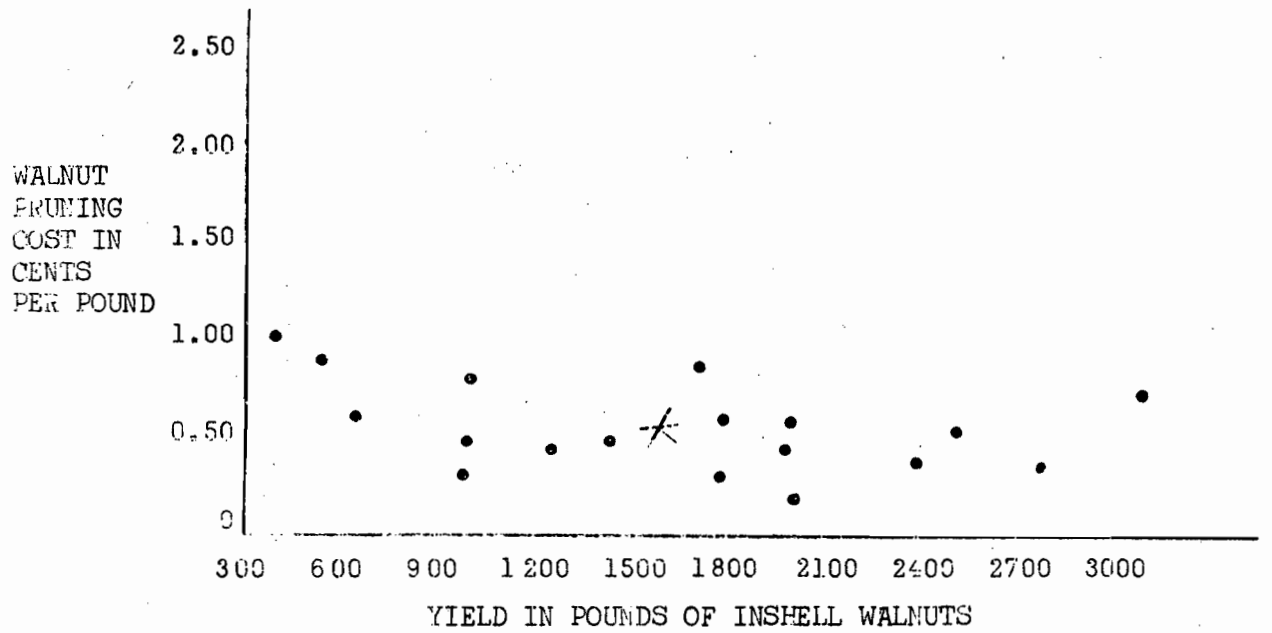
HARVEST
COSTS,
EXCLUDING
HULLING
IN CENTS
PER POUND



Most operators have about the same cost per pound for harvesting. The exceptions are the five high-priced operations of low yield and the low cost per pound operators of high yield. At all levels of production there are some low costs. These indicate that lower harvest costs are possible for most growers.

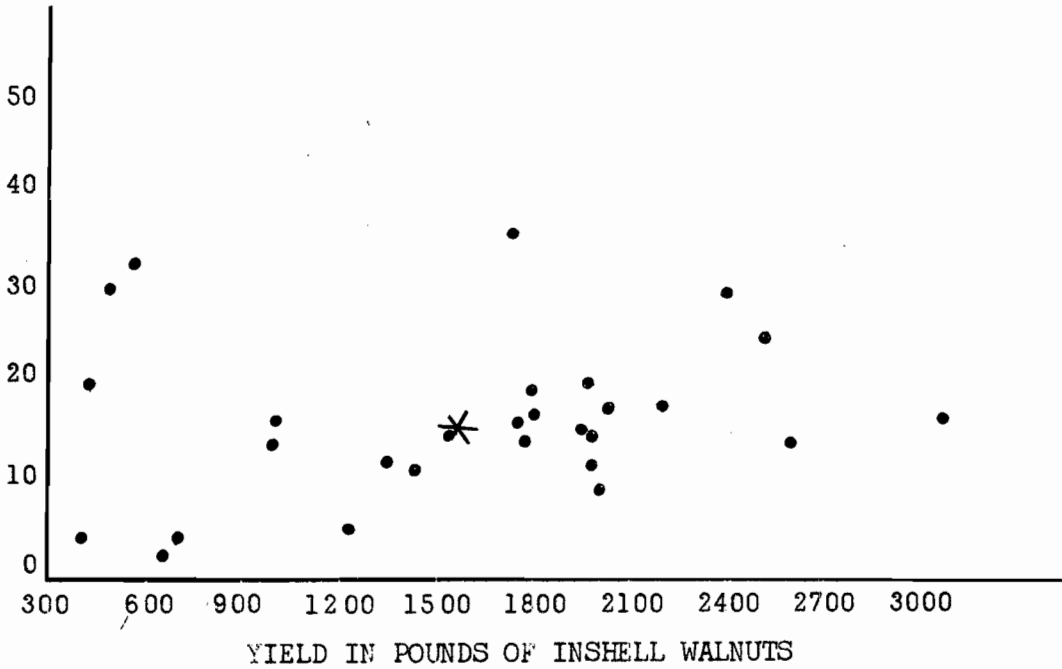


Walnut pruning costs per acre generally increase with increasing yield. Pruning costs sometimes vary considerably from year to year. This may account for the difference in costs for the growers in the 1,700 to 2,000 pound yield bracket.



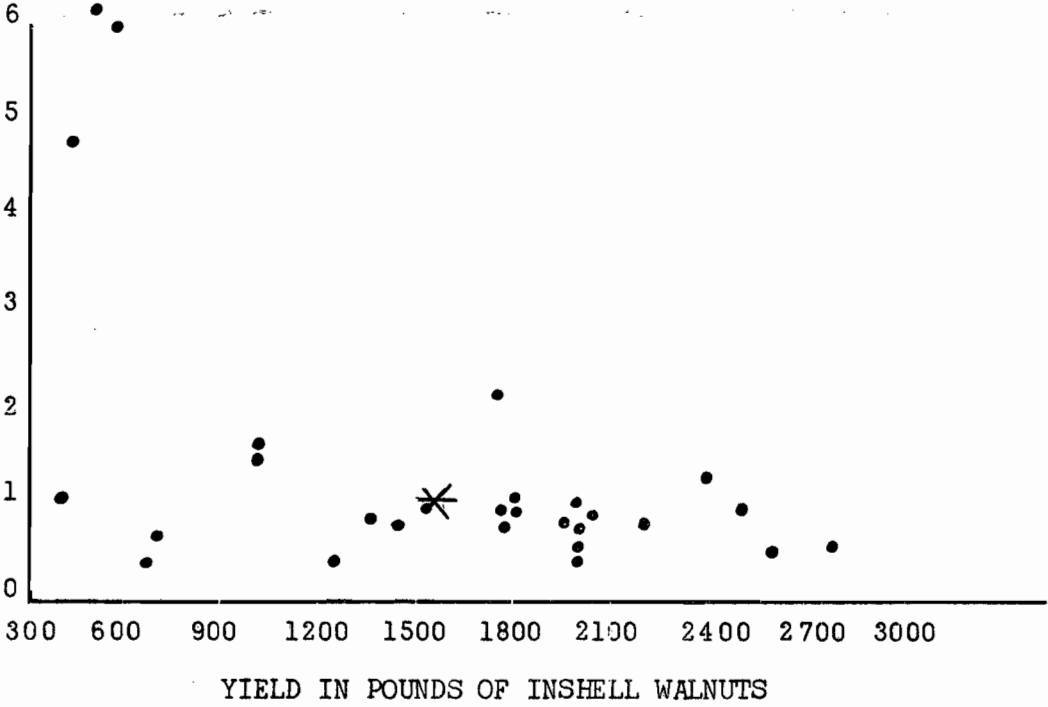
Costs per pound of nuts are mostly in the one-half cent range. This appears to be a case where more pruning is indicated for most growers. For example, two of the low costs per acre operators in the medium production per acre range should consider more intensive pruning.

WALNUT
FERTILIZER
COST PER
ACRE IN
DOLLARS

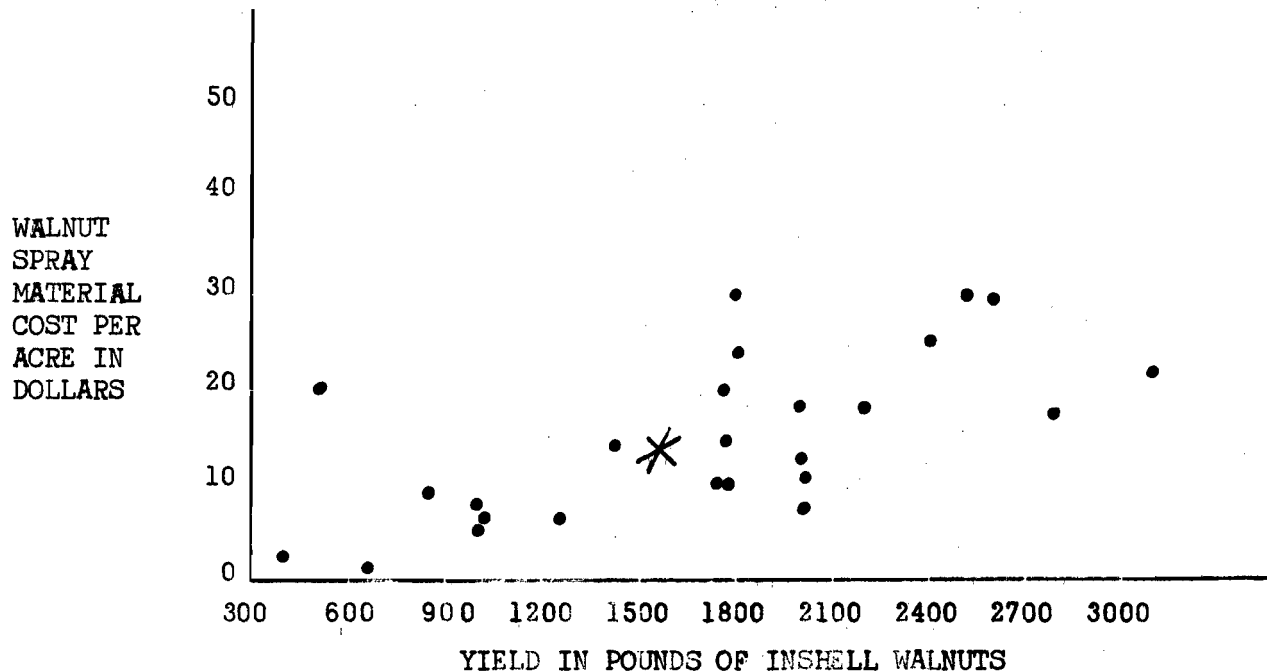


On a cost per acre basis, there is a general increase in cost with an increase in yield. Four growers in the 400 to 600 pound range and one at 1,700 pounds seem to be out of line.

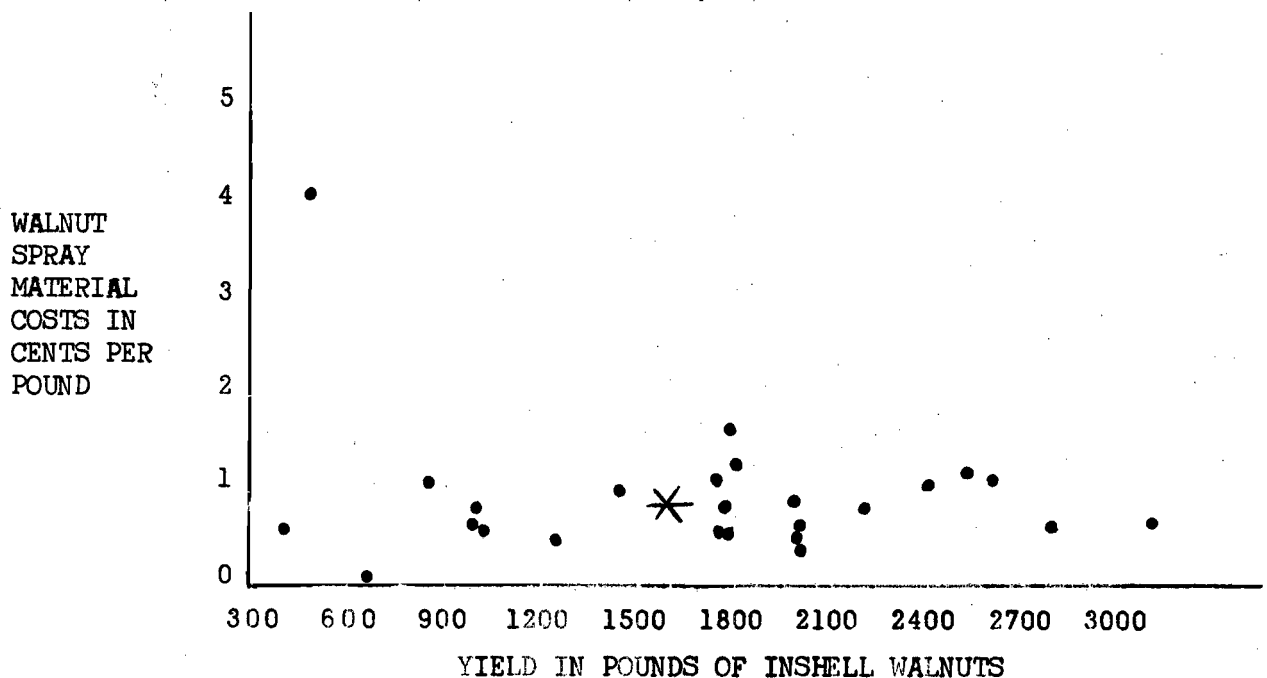
WALNUT
FERTILIZER
COST IN
CENTS PER
POUND



Fertilizer cost per unit of production seems to be about the same. The exceptions are the high cost per acre operators mentioned above. These two graphs indicate that most walnut growers would benefit from the application of more fertilizer.



Spray material costs generally increase with increasing yields. A few figures are out of line but these can often be associated with an outbreak of insects or diseases beyond the normal range. Some of the high-yield growers have costs which are below the general trend, which indicates some careful considerations before treatments are made.



Spray material costs per pound of walnuts are in a fairly narrow range. This, when compared to the per acre costs, indicates that most growers would increase their yields by intensifying the spray program.

SAMPLE COST OF ESTABLISHMENT OF A WALNUT ORCHARD ON THE WESTSIDE OF STANISLAUS COUNTY - 1964

Based on Sample Orchard of 12.2 Acres, Planted 35' x 35' - 35 Trees/A

M = Man Hours; T = Tractor Hours

Vernon Patterson, Farm Advisor

Norman Ross, Farm Advisor

	<u>1st Yr.</u>	<u>2nd Yr.</u>	<u>3rd Yr.</u>	<u>4th Yr.</u>	<u>5th Yr.</u>	<u>6th Yr.</u>
PRE-HARVEST CASH COSTS:						
Land preparation: disc, harrow, level, etc.	\$ 50.00	\$ ----	\$ ----	\$ ----	\$ ----	\$ ----
Layout and plant trees	7.70	----	----	----	----	----
Trees: 35 @ \$2.62	91.70	2.62	----	----	----	----
Irrigation: 11.6 M	14.52	14.52	14.52	14.52	14.52	14.52
Water cost	8.00	8.00	8.00	8.00	8.00	8.00
Tillage: 4.8 M & T	12.00	12.00	12.00	12.00	12.00	12.00
Fertilizer: material	1.82	3.60	7.20	7.20	13.00	13.00
Fertilizer: application	1.87	2.00	3.00	3.00	1.00	1.00
Spray: material	----	2.00	4.00	8.00	12.00	15.00
Spraying	----	2.50	3.00	6.00	6.00	8.00
Pruning and brush disposal	1.87	3.50	4.20	7.00	8.00	10.00
Miscellaneous labor and materials: (includes staking)	21.00	3.60	3.60	4.00	4.00	4.00
County taxes	16.25	16.25	16.25	16.25	19.50	19.50
Office, car, operating capital, etc.	11.00	5.00	5.00	5.00	6.00	6.00
Repairs: except tractor	7.00	7.00	7.00	7.00	8.00	8.00
Total Pre-Harvest Cash Costs	\$244.73	\$82.59	\$87.77	\$97.97	\$112.02	\$119.02
HARVESTING COST:						
Ground preparation	----	----	----	----	3.00	3.00
Knocking, picking, haul out	----	----	----	----	6.00	12.00
Hull, dry and deliver	----	----	----	----	4.00	8.00
Total Harvesting Cost	\$ ----	\$ ----	\$ ----	\$ ----	\$13.00	\$23.00
DEPRECIATION COSTS:						
Irrigation facilities	4.00	4.00	4.00	4.00	4.00	4.00
Buildings and equipment	10.00	10.00	10.00	10.00	15.00	15.00
Tractor @ .70 hour	5.60	4.20	6.30	6.30	6.30	6.30
Total Depreciation Costs	\$19.60	\$18.20	\$20.30	\$20.30	\$25.30	\$25.30
INTEREST ON INVESTMENT:						
Irrigation facilities	3.00	3.00	3.00	3.00	3.00	3.00
Buildings and equipment	5.00	5.00	5.00	5.00	10.00	10.00
Tractor @ .25 hour	2.00	1.50	2.25	2.25	2.25	2.25
Land @ \$1500/A	90.00	90.00	90.00	90.00	90.00	90.00
Interest on accumulated costs	----	21.86	35.19	49.80	65.90	82.41
Total Interest on Investment	\$100.00	\$121.36	\$135.44	\$150.05	\$171.15	\$187.66
TOTAL COSTS PER YEAR	\$364.33	\$222.15	\$243.51	\$268.32	\$321.47	\$354.98
TOTAL ACCUMULATED COSTS	----	\$586.48	\$829.99	\$1098.31	*\$1373.53	*\$1620.76
CREDIT FOR NUTS					(46.25)	(107.75)

* Credit for nuts included

SAMPLE COSTS OF ESTABLISHMENT OF A WALNUT ORCHARD ON THE WESTSIDE OF STANISLAUS COUNTY - 1964

Based on Sample Orchard of 13 Acres, Planted 20' x 20' - 109 Trees/A

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<u>PRE-HARVEST COSTS:</u>	<u>1st Yr.</u>	<u>2nd Yr.</u>	<u>3rd Yr.</u>	<u>4th Yr.</u>	<u>5th Yr.</u>	<u>6th Yr.</u>
Land preparation: disc, harrow, level, etc.	\$ 50.00	\$ ----	\$ ----	\$ ----	\$ ----	\$ ----
Layout and plant trees @ .18	19.62	----	----	----	----	----
Trees: 109@ \$2.62	264.35	----	----	----	----	----
Irrigation	21.78	21.78	21.78	21.78	21.78	21.78
Water	8.00	8.00	8.00	8.00	8.00	8.00
Tillage	15.00	15.00	15.00	15.00	15.00	15.00
Fertilizer: materials	3.50	4.00	10.00	15.00	19.50	22.50
Fertilizer: application	3.00	5.00	7.00	7.00	3.00	3.00
Spray: material	----	3.00	6.00	8.00	15.00	20.00
Spraying	----	3.00	5.00	5.00	6.00	8.00
Pruning and brush removal	6.00	10.50	12.60	21.00	22.00	30.00
Misc. labor and materials (includes staking & tying)	63.00	9.00	9.00	9.00	9.00	9.00
County taxes	16.25	16.25	16.25	16.25	19.50	19.50
Office, car, operating capital, etc.	14.00	12.00	12.00	12.00	12.00	12.00
Repairs, except tractor	7.00	8.00	8.00	8.00	8.00	8.00
Total Pre-Harvest Costs	\$ 491.50	\$ 115.53	\$ 130.63	\$ 146.03	\$ 157.78	\$ 176.78
<u>HARVESTING COST:</u>						
Ground preparation	----	----	----	----	3.00	3.00
Knocking, picking, haul out	----	----	----	----	15.00	36.00
Hull, dry and deliver	----	----	----	----	9.50	22.80
Total Harvesting Cost	\$ ----	\$ ----	\$ ----	\$ ----	\$ 27.00	\$ 61.80
<u>DEPRECIATION COSTS:</u>						
Irrigation facilities	4.00	4.00	4.00	4.00	4.00	4.00
Buildings and equipment	10.00	10.00	10.00	10.00	15.00	15.00
Tractor @ .70 per hour	5.60	4.20	6.30	6.30	6.30	6.30
Total Depreciation Costs	\$ 19.60	\$ 18.20	\$ 20.30	\$ 20.30	\$ 25.30	\$ 25.30
<u>INTEREST COST:</u>						
Irrigation facilities	3.00	3.00	3.00	3.00	3.00	3.00
Buildings and equipment	5.00	5.00	5.00	5.00	10.00	10.00
Tractor @ .25 per hour	2.00	1.50	2.25	2.25	2.25	2.25
Land @ \$1500/A	90.00	90.00	90.00	90.00	90.00	90.00
Interest on accumulated costs	----	36.67	52.86	71.10	91.36	108.26
TOTAL COSTS FOR YEAR	\$ 611.10	\$ 269.90	\$ 304.04	\$ 337.68	\$ 406.69	\$ 477.39
TOTAL ACCUMULATED COSTS	\$ 611.10	\$ 881.00	\$ 1185.04	\$ 1522.72	*\$ 1804.41	*\$ 1981.80
CREDIT FOR NUTS					(125.00)	(300.00)

* Includes credit for crop
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