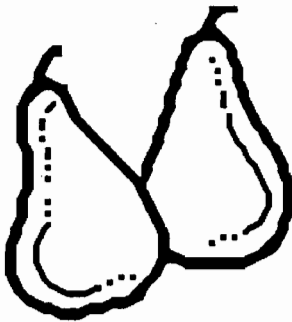


PEARS SACRAMENTO COUNTY 1987



by

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and
J. Du Bruille, Staff Research Associate, U.C. Davis**

1987 PEAR ORCHARD - SAMPLE PRODUCTION COSTS
Sacramento County

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This cost study provides detailed information on the sample costs of producing pears in Sacramento County. A hypothetical 100 acre orchard on 105 acres of land is considered for the purposes of this study. The 5 non-producing acres is for buildings, roads, ditches, burn area, etc.

This study contains six tables including a List of General Assumptions, a Cost of Production Worksheet, a Monthly Summary of Sample Costs, an Equipment List, a Materials List, and a Harvest Cost Summary. Costs given in this sample study are for those of a typical well managed orchard and are not intended to reflect an average of all orchards in Sacramento County.

Practices listed are based on those production procedures considered typical for this crop and area. Sample costs given for labor, materials, equipment and contract services are based on 1987 figures. Some costs or practices listed in this study may not be applicable to your situation. Production costs for pears can vary based on a number of factors including age of orchard, spacing of trees, type of irrigation system, annual variations in pest pressure and differing management practices. This study is intended only as a guide and can be used as an aid in making production decisions, determining potential returns, preparing budgets and evaluating production loans. A blank "Your Costs" column is provided to enter your actual costs on the Cost of Production Worksheets.

For explanation of calculations used for the study refer to the attached list of General Assumptions or call Agricultural Economics Extension, University of California, Davis, California (916) 752-2745.

TABLE 1
GENERAL ASSUMPTIONS FOR PRODUCING PEARS
Sacramento County - 1987

The following list contains a description of some general assumptions pertaining to the sample costs of producing pears in Sacramento County.

1. Land and trees:

Bare land value (105 acres):	\$1,600/acre
Establishment costs (201 Trees/acre - 18' X 12'):	\$8,000/acre

Since only 100 of the 105 total acres are in production, the land value per acre needs to be adjusted to \$1680 per producing acre. To obtain the annual costs for depreciation, the establishment costs are divided by 60 years. Land is not depreciated. Interest on the investment in land and trees is calculated by multiplying the interest rate (12%) by the average value of land and trees. The average value of the trees is estimated to be one half of the establishment costs.

2. Labor rates: (include 34% for SDI, FICA, insurance, and other benefits)

Machinery operators:	\$8.75/hr
Irrigators & misc. labor:	\$5.63/hr

To account for maintenance and repair time, labor hours for operations involving machinery are 10% higher than the machine hours.

3. Equipment costs:

In allocating the equipment costs per acre, the following calculations were made: (a) "Original Cost" of equipment is the new cost including sales tax. (b) "Depreciation" is straight line with an adjustment for Salvage Value. It is calculated by dividing new cost per acre adjusted for Salvage Value by the years to trade. (c) "Interest" on investment is figured as one-half of the new cost per acre multiplied by the interest rate. One-half of the new cost is the average value of the equipment during its useful life. (d) The investment per acre used in the cost study is calculated at 60% of the depreciation and interest costs for all new equipment to reflect a mix of new and used equipment.

4. Office and business costs include phone, office supplies, accounting fees, etc.

5. County taxes are calculated at 1% of land at acquisition plus 1% of the average value of trees, equipment, buildings and improvements.

6. Equipment insurance is calculated at 0.5% of equipment costs.

7. Pickup costs are based on 300 hours and 15,000 miles/year of operation for the new truck and 100 hours/year for the used truck.

TABLE 2
SAMPLE COSTS TO PRODUCE PEARS
Sacramento County - 1987

Labor Rate: \$8.75/hr. skilled labor Interest Rate: 12%
\$5.56/hr. field labor Yield (tns/acre): 17.0

Operation	Tractor/ Implement		Hrs/A	Cash and Labor Costs per Acre					Your Cost
	No. #	No. #		Labor Cost/A	Fuel & Repairs	Material Cost	Custom /Rent	Total Cost	
Cultural costs:									
Pruning				\$372				\$372	
Brush Removal	2	7	.6	3	2			5	
Topping/Hedge -every 5 yrs							\$12	12	
Rodent control -every 2 yrs	1	rent	.3	2	1	\$1	1	5	
Fertilize (100# N, 200# K2O)	1	rent	.5	5	3	45	1	54	
Chop weeds (7X)	1	6	1.8	17	35			52	
Pest/Disease Sprays (11X)**			5.5	48	84	244		376	
Herbicide (3X)**	1	3	1.0	10	7	37		54	
Blight cutting (5X)	8	9	5.0	44	21			65	
Labor (second person)			5.0	28				28	
Irrigate (8 X 4.8")			19.2			82		82	
System repairs	16	17	1.3	7	29			36	
Costs for pick up trucks					41			41	
TOTAL CULTURAL COSTS			40	\$536	\$223	\$409	\$13	\$1,182	
Harvest Costs:									
Harvest Costs**				654	12		63	729	
TOTAL HARVEST COSTS				\$654	\$12		63	\$729	
Cash overhead:									
Office and business costs								\$70	
Reclamation costs								20	
County Taxes								119	
Equipment Insurance								3	
Interest on operating capital @ 12% for 12 months								133	
TOTAL CASH OVERHEAD COSTS								\$346	
TOTAL CASH COSTS								\$2,256	
TOTAL CASH COST PER TON								\$133	
Investment									
			Per producing Acre	Annual Cost					
				Depreciation	Interest @ 12%				
Land (bare)			\$1,680		\$202			\$202	
Equipment & buildings*			2,240	\$163	134			297	
Trees (60 yr. depreciation)			8,000	133	480			613	
TOTAL INVESTMENT COSTS			\$ 11,920	\$296	\$816			\$1,112	
TOTAL COSTS PER ACRE								\$3,368	
Cost per ton at yield of 17 tons/acre								\$198	

* See Table 4 for details on equipment.

** See Tables 5 and 6 for details.

TABLE 3
MONTHLY SUMMARY OF
SAMPLE COSTS TO PRODUCE PEARS

Sacramento County - 1987

Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Cultural costs:													
Pruning	186											186	
Brush Removal				1	1	1		1		1			5
Topping/Hedge 1/5 yrs											12		12
Rodent control									5				5
Fertilize (3X)			18						36				54
Chop weeds (7X)		7		7	7	7	7	7		7			52
Pest/Disease Sprays	33		98	54	30	83				33		46	376
Herbicide (3X)				18		18				18			54
Blight cutting (5X)				13	13	13		13		13			65
Labor-2 people				6	6	6		6		6			28
Irrigation 8 X 4.8"					21	21	21	10	10				82
Labor					18	6	6	3	3				36
Costs for pick ups	3	3	3	3	3	3	3	3	3	3	3	3	41
TOTAL CULTURAL COSTS	\$222	\$11	\$119	\$102	\$99	\$158	\$37	\$44	\$57	\$81	\$15	\$235	\$1,182
Harvest Costs:													
Harvest Costs							364	364					729
TOTAL HARVEST COSTS							\$364	\$364					\$729
Cash overhead:													
Office/business costs	6	6	6	6	6	6	6	6	6	6	6	6	\$70
Reclamation costs	20												\$20
County Taxes				60								60	\$119
Equipment Insurance	3												\$3
Int.-operating capital	3	3	4	6	7	8	12	17	17	18	18	21	\$133
TOTAL CASH OVERHEAD	\$32	\$9	\$10	\$71	\$12	\$14	\$18	\$22	\$23	\$24	\$24	\$87	\$346
TOTAL CASH COSTS	\$254	\$19	\$129	\$173	\$112	\$172	\$420	\$430	\$80	\$105	\$39	\$322	\$2,256

TABLE 4
EQUIPMENT AND BUILDING LIST FOR PEARS*
Sacramento County - 1987

Interest Rate: 12%

Fuel Cost per Gallon \$.54 diesel
\$.74 unleaded gasoline

ITEM #	DESCRIPTION	NEW COST	ANNUAL USE (ACRES)	COST PER ACRE	LIFE (HRS)	YEARS TO TRADE	— OVERHEAD —		ANNUAL USE (HRS)	TAR	— HOURLY COSTS —		
							DEPRECIATION	INTEREST			FUEL	REPAIRS	TOTAL
Tractors:													
1	50 HP wheel diesel	18,000	100	\$180	10,000	10	12.68	10.80	690	120%	\$1.81	\$3.13	\$4.94
2	30 HP wheel diesel	8,500	100	85	10,000	10	5.99	5.10	110	33	1.09	2.55	3.64
3	Weed sprayer, P.T.O.	2000	100	20	1200	8	1.94	1.20	150	144		2.40	2.40
4	Speed sprayer, 500 gal.	24,000	100	240	2,500	8	22.56	14.40	300	144	2.48	13.82	16.31
5	Duster	1,400	100	14	2,000	10	1.15	.84	10	5		.70	.70
6	Batwing chopper	10,500	100	105	2,000	10	8.64	6.30	100	144		15.12	15.12
7	Trailer	600	100	6	5,000	20	.28	.36	90	15		.05	.05
8	Tree squirrel, sp	12,000	100	120		10	9.88	7.20	600	144	1.28	2.88	4.16
9	Chain saw	200	100	2	5,000	1	2.92	.12	8,100	144		.06	.06
10	4 Rakes @ \$9	36	100			10	.04	.02	90	10			
11	8 Bin trailers @ \$1050	8,400	100	84		20	4.20	5.04	170	36		.89	.89
12	70 Picking bags @ \$16.14	1,130	100	11		5	2.26	.68	170	36		.48	.48
13	36 Ladders @ \$105	3,780	100	38		20	1.89	2.27	7,500	15			
14	Nurse truck for sprayer	7,000	100	70		5	12.60	4.20	200	36	4.35	2.52	6.87
15	2 Pick-ups (1 new/1 used)	15,000	100	150	2,000	5	27.00	9.00	400	80	4.26	6.00	10.26
SUBTOTAL		\$112,546		\$1,125			\$114	\$68					
% OF NEW COSTS*		\$67,527		\$675			\$68	\$41					
16	Sprinkler irrig. system	120,000	100	1,200		15	80.00	72.00	1,920	36		1.50	1.50
17	Irrigation pump (50 HP)	6,000	100	60		20	3.00	3.60	1,920	36		.06	.06
	Shop and tools	4,000	100	40		10	4.00	2.40					
	Buildings for equipment	24,000	100	240		35	6.86	14.40					
	Chemical building	2,500	100	25		35	.71	1.50					
TOTAL COST		\$224,027		\$2,240			\$163	\$134					

* DEFINITIONS:

- YEARS TO TRADE ——— The projected life of the machine in years adjusted for excessive annual use.
- OVERHEAD ——— Per acre per year.
- SALVAGE VALUE ——— A machine's worth at the end of its useful life. Included in "DEPRECIATION" calculation.
- DEPRECIATION ——— ("NEW COST" - "SALVAGE VALUE") divided by "ACRES USE" divided by "YEARS TO TRADE" = Depreciation cost per acre per year.
- INTEREST ——— ("NEW COST" + "SALVAGE VALUE") divided by "ACRES USE" X ("INTEREST RATE" divided by 2) = average interest cost per acre per year.
- TAR ——— Total accumulated repairs. The total cost of repairs during the machine's life expressed as a percent of "NEW COST". Calculated from equations based on equipment type and annual use.
- HOURLY COST OF FUEL — Diesel fuel, oil and lube costs per hour = HP x cost of diesel fuel/gal X 0.0667.
Gasoline fuel, oil and lube costs per hour = HP x cost of gasoline/gal X 0.0889.

Table 5
 MATERIALS LIST FOR PEARS
 Sacramento County - 1987

Pest and Disease Sprays:

Date	Material Cost /acre	Application*				cost/acre		
		Tractor No.	Impl. No.	Impl. No.	Hrs/A	Fuel & Labor	Repairs	Custom
Oct	\$15.60	1	4	14	.36	\$6.93	\$10.12	
Dec	28.64	1	4	14	.36	6.93	10.12	
Jan	15.60	1	4	14	.36	6.93	10.12	
Mar-1	50.40	1	5		.12	1.16	.68	
Mar-2	13.74	1	4		.40	3.85	8.50	
	3.58							
Mar-3	3.58	1	4		.40	3.85	8.50	
Apr	15.36	1	4		.40	3.85	8.50	
	11.83							
	10.40							
	3.58							
May	7.68	1	4		.40	3.85	8.50	
	10.40							
Jun-1	10.29	1	4		.40	3.85	8.50	
	10.40							
Jun-2	26.80	1	4	14	.36	6.93	10.12	
	6.50							
TOTAL	\$244				3.6	\$48	\$84	

* See Table 4 for details on equipment.

TABLE 6
HARVEST COST DETAIL FOR PEARS*
Sacramento County - 1987

Yield (tons/acre) = 17
Labor costs per bin = \$15.90
Contractor costs per bin = \$1.95

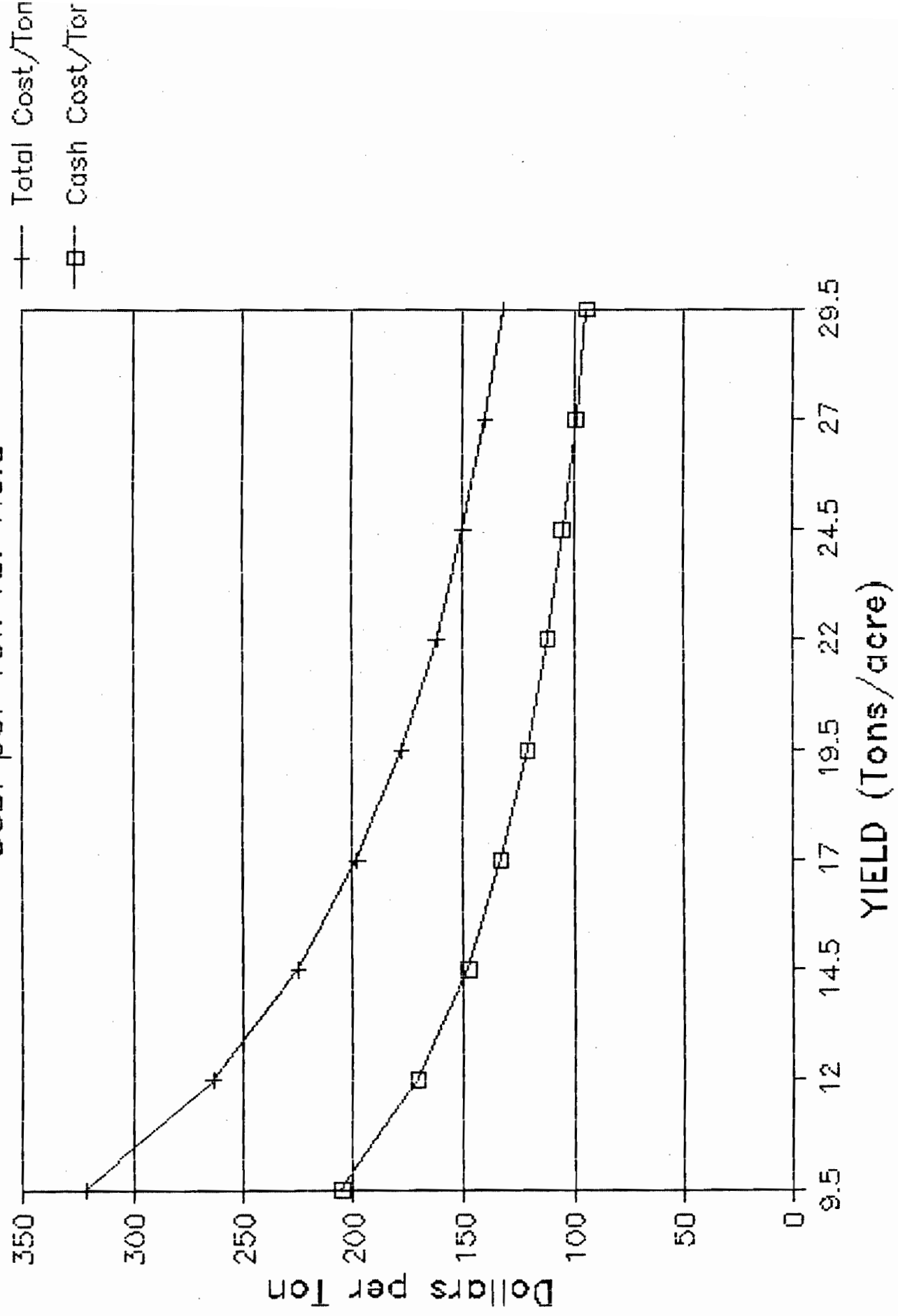
Harvesting capacity:
Bins/ton = 1.8
Harvest Days = 21
Total bins/A = 38.6

	Tractor/ Impl. No.	Impl. No.	Total Hrs/A	-Cash and Labor Costs per Acre-			
				Labor	Fuel & Repairs	Custom / Rent	Total
Tractors 30HP (6)			1020	\$89	\$8	\$30	\$127
6 Trailers	11		170		2		2
Forklift			213	19	2	8	28
250 bins						25	25
70 packing bags	12		170		1		1
Labor costs for picking				487			487
Contractor costs for picking				60			60
Total Harvest Costs				\$654	\$12	\$63	\$729
Harvest Costs per ton				\$38	\$1	\$4	\$43

* See Table 4 for details on equipment.

1987 PEARS - SACRAMENTO COUNTY

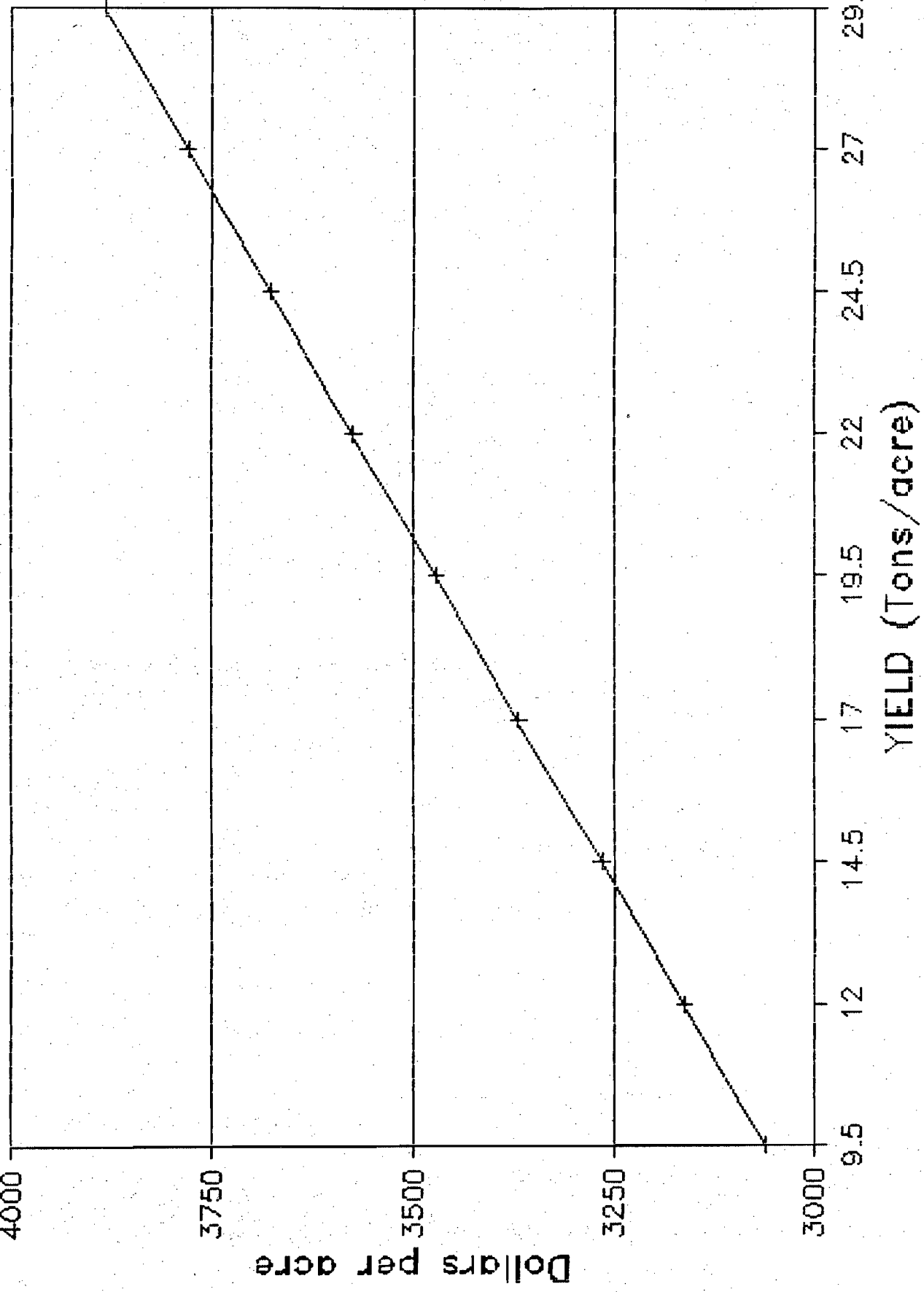
Cost per Ton vs. Yield





1987 PEARS - SACRAMENTO COUNTY

Total Cost per Acre



YIELD (Tons/acre)