

Farm Business  
Management  
Reports

EB 1536

1989  
ESTIMATED  
COSTS OF  
PRODUCING  
PEACHES IN  
THE YAKIMA  
VALLEY,  
WASHINGTON

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### **Note**

Enterprise costs and returns vary from one farm to the next and over time for any particular farm. Variability stems from differences in the following:

- . Capital, labor, and management resources.
- . Type and size of machinery complement.
- . Cultural practices.
- . Size of farm enterprise.
- . Crop yields.
- . Input prices
- . Commodity prices.

Costs can also be calculated differently depending on the intended use of the cost estimate. The information in this publication serves as a general guide for growing peaches in the Yakima Valley. To avoid drawing unwarranted conclusions for any particular farm or group of farms, the reader must closely examine the assumptions used. If they are not appropriate for the situation at hand, adjustments in the costs and/or returns should be made.

## 1989 COST OF PRODUCING PEACHES IN THE YAKIMA VALLEY, WASHINGTON

Herbert Hinman, Brooke Peterson, and Kathleen Williams\*/

### *Introduction*

Peaches are Washington State's fourth most planted tree fruit behind apples, pears, and sweet cherries. The 1985 Tree Fruit Survey conducted by the Washington Agricultural Statistics Service showed 2,795 acres of peaches in Washington. More current industry estimates indicate that this average is holding steady or increasing slightly. The annual farm gate value of the peach crop in Washington approaches 10 million dollars depending on crop size and market conditions.

Recent expansion in the apple industry in Washington State and concern about oversupply of this crop has prompted orchardists to consider growing peaches as an alternative to apples.

This bulletin addresses the costs of producing peaches in Washington. Since the production practices used for growing nectarines are similar to that of peaches, this bulletin can also be considered as a guide to the cost of producing nectarines in Washington.

### *Objectives and Limitations of the Study*

A study published in May, 1989, "1989 Estimated Costs of Establishing a Peach Orchard in the Yakima Valley, Washington," EB 1519, assumed the planting

of 40 acres of land to peaches according to the most modern design. The objective of this study is to project what such a planting, when mature, requires in the way of equipment, materials, supplies, and labor, and the potential returns.

Many factors can alter the costs reported in this publication as well as the packout and returns. Therefore, these figures should not be used to represent average costs and returns to an individual grower. The data should be viewed as representative of what knowledgeable growers might anticipate. We recommend that individual growers use the blanks on the right-hand side of various budget tables to estimate their own costs and returns. The primary value of this report is to identify practices and performances considered typical of a modern and well-managed orchard enterprise. While this publication does not represent an average of all growers and is not intended to be a guide to production practices, it does indicate current production trends. As such, it should be helpful in estimating the physical and financial requirements of comparable plantings.

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### *Budget Assumptions*

This study was conducted with a group of experienced peach growers from the Yakima Valley. The practices and requirements outlined represent what this group considers to be the latest developments in planting techniques to produce peaches for the fresh market. Assumptions used were:

1. The peach orchard consisted of a total of 44 acres. Four acres were used for roads, ditches, etc. Therefore, 1.1 acres of land were required for each one acre of orchard actually planted.
2. The orchard was located on good soil in nonrocky terrain. The peach orchard is one-half of an existing 80-acre orchard enterprise (88 acres total).
3. Four varieties of peaches were planted to extend the harvest season. These varieties were Flavorcrest, Regina, Flamecrest, and Angelus.
4. The trees were planted on a 10' x 18' spacing resulting in 242 trees per acre.
5. Irrigation water was available from a public irrigation district. A permanent under-tree sprinkler irrigation system was installed at \$1,000 per acre. This irrigation system has an estimated life of 30 years.
6. For each ten acres of orchard, there is a 125 horsepower propane-driven wind machine.
7. Machinery and buildings were valued at costs incurred if the items were to be replaced. Items were valued at new or replacement value depending on how they are typically replaced. While this may overstate current production costs, it provides an indication of requirements on the enterprise to generate the earnings needed to replace depreciable assets. Continuing increases in prices mean that depreciation claimed on assets purchased prior to price advances understates the amount of capital required for asset replacement. When an enterprise is evaluated to determine its long-run viability, it is important to consider its ability to replace depreciable assets on a replaceable cost basis.
8. The land, before planting, was valued at \$1,600 per acre.

The planting plan and physical resources used in this study do not necessarily represent what any one fruit grower would do if establishing a new planting. Consensus among the grower committee was used to obtain requirements for physical inputs, use of equipment, materials, chemicals, and labor. Suppliers provided

prices for materials, chemicals, and equipment. The tax assessor's office provided information on property taxes. The per acre costs were developed from these production and price data using standard accounting procedures.

### *Annual Production Cost*

Estimated production costs are shown in two tables. Table 1 outlines the schedule of field operations by calendar month, the type of equipment and labor used, and the hours used per acre.

The costs of field operations are divided into two categories. The first is the cost of equipment, irrigation, buildings, and land ownership, all representing fixed costs. The second category, variable costs, is associated with operating the equipment, hiring labor, and purchasing services and materials. Total cost is the sum of fixed and variable costs.

Equipment fixed costs include depreciation, interest on the average investment, property taxes, and insurance. These costs are incurred whether or not a crop is grown and do not vary with the enterprise, given ownership of a specific equipment complement. Per hour fixed costs for equipment are determined by dividing the total annual hours of equipment use over all enterprises for the representative farm. For a specific field operation, equipment fixed costs are determined by multiplying the equipment hours per acre times

the equipment per hour fixed cost. Fixed costs for the irrigation system, the machine shed, shop, and some miscellaneous equipment are determined on a per acre basis by dividing the total annual fixed cost by the number of acres.<sup>1</sup> Land fixed cost includes taxes and interest foregone on land investment. As used in this publication, the land interest cost is termed an opportunity cost to indicate that it is not an out-of-pocket expense, but rather a return that is foregone by the producer as a result of choosing to invest capital in land rather than in an alternative investment. This cost of 10 percent of the land value represents the minimum return the owner-operator must have (not including land appreciation) and continue to farm the land. Of course, for the individual producer, cash costs such as interest payments on loans used to buy land must be identified and treated as cash costs and not as opportunity costs.

Amortized establishment cost represents the costs incurred during the establishment years (minus revenues during those years) that must be recaptured during the productive years. Per acre establishment costs for peaches, summarized from EB 1519, "1989 Estimated Costs of Establishing a Peach Orchard in the Yakima Valley, Washington," total \$10,280.<sup>2</sup> Amortizing this cost over a 15-year period, assuming a 12 percent interest

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<sup>1</sup> Per hour (acre) fixed and variable costs for equipment and buildings acre are shown in Table 5.

<sup>2</sup> Establishment costs are summarized in Table 4.

rate, means that \$1,509 of establishment costs need to be added to the current-year production costs.

Variable costs depend directly on the number of acres produced. These costs include fuel, oil, repairs, fertilizer, interest on operating capital. Labor is also included as a variable cost.

The second table, Table 2, presents a summary of costs appearing in Table 1. Most items are self-explanatory. However, "Machinery Interest," "Tractor Interest," and "Building Interest" warrant additional explanation. These figures represent opportunity costs (returns foregone by investing in the given equipment, buildings, and irrigation complement). Total interest cost on these capital purchases is calculated on the average value of the equipment, buildings, and irrigation system over their respective years of use. The 12 percent interest charge made against this "average" value represents that total interest cost.

#### *Discussion of Production Practices*

Table 1 outlines the general production practices necessary for commercial peach production. Dormant pruning is performed with hand tools as tree size is small. Brush is removed and chopped with a flail. Limbs are tied with nylon string for structural support of the main scaffolds; this procedure is conducted with hand labor at the beginning of the growing

season in April.

Peaches require several sprays for pest control. Dormant oil and parathion are applied in March before budbreak for the control of mites, scales, and aphids. Seasonal insecticides and fungicides are applied in June (2 applications), July, August, and November. The June applications are for general insect and disease control, particularly for control of fruit damaging pests (for example, brown rot and Oriental fruit moth). July insecticide application of Thiodan as a trunk drench is for peach tree borer control; this application is made as a preventative measure. The August insecticide application is for control of fruit damaging insects, particularly Oriental fruit moth. A November application of copper effectively controls foliar diseases such as peach leaf curl and *Coryneum* blight.

Bearing peach trees require 100 lbs. actual N per acre. Ammonium nitrate is applied with a rotary spreader 2 times (April and May) with half of the material applied at each time. No other fertilizer applications are made unless soil and leaf samples indicate supplemental applications are necessary.

Since peaches bloom at a risky time of year, some method of frost control is required once the trees reach production. In this study, wind machines were chosen for frost protection as the irrigation system in the study is undertree solid set. The blocks were irrigated 12 times during the season at

approximately 10-day intervals from late April through September or early October.

Thinning peaches is hand-labor intensive as fruit set tends to be excessive. Bloom thinning is conducted in April during full bloom; it is a non-selective process. A follow-up hand-thinning treatment is used in June to evenly distribute the crop load and enhance individual fruit size. Thinning is a required procedure to produce high-quality fruit.

Herbicides are applied in June, August, and November. The June and August applications of Gramoxone are used as a chemical mowing treatment for weed suppression. The November application of Sinbar is used to kill germinating weed seeds and weed seedlings. In addition, three mowings of grass sod between the rows are required during the season.

Rodent control is a necessary operation in peach production. Gopher bait, generally stychnine-treated oats, is soil applied with a furrow attachment in November. Mouse baits are aerially applied for orchard mice control.

The harvest operation begins with preharvest distribution of bins throughout the orchard block. A three week harvest period is assumed; custom harvest labor is used. Production is assumed to reach 15 tons per acre. This production is sustained in the orchard until about year 20 when production declines due to tree age.

### *Equipment and Building Complement*

Table 5 presents the equipment and building complement used to derive the cost estimates. It includes current purchase prices, annual hours of use, per hour or per acre fixed and variable costs.

Equipment and building fixed costs include depreciation and interest on investment, property taxes, and insurance: costs that do not vary with the number of acres produced. It should be noted that interest on investment represents a 12 percent opportunity cost to the enterprise. These are earnings foregone by investing money in the equipment and building complement rather than an alternative investment. This may also represent interest on funds borrowed to finance equipment and building purchases.

Equipment variable costs include equipment repair, electricity, fuel, and lubrication costs: costs that vary with the crop grown or the number of acres produced.

### *Summary of Receipts, Costs and Profitability*

Per acre costs, returns, and profitability under the given budget are presented in Table 6. Gross receipts are based on the assumption of 15 tons per acre returning \$282 per ton to the grower. Final returns are calculated as net returns to land and management. This is the return the owner-operator realizes to the investment in

land and management after accounting for all costs including \$6.25 per hour for any labor the owner-operator contributes to the production of the crop.

### *Break-Even Returns*

Break-even returns to the fruit grower for different levels of enterprise costs are presented in Table 7. The first break-even return is the amount necessary to cover total variable costs--those costs that occur only if the crop is produced. If the return received does not equal or exceed this break-even return, then producing peaches becomes uneconomical, even in the short run, for the added costs of production are greater than the added returns.

The second break-even return is the amount necessary to cover total cash costs, assuming no interest on outstanding loans or land rent. If other cash costs do exist on an individual's farm, these costs must be identified and included in the cash cost break-even return calculation. This return may be viewed as that return necessary to economically produce in the short run.

The third break-even return accounts for total cash cost plus depreciation on machinery, buildings, and the irrigation system. This return must be realized to stay in business over the long run.

Only if the fourth break-even value, the total cost break-even return, is received will the

owner/operator be able to recover all out-of-pocket expenses, plus realize a competitive return to equity capital invested in land, trees, equipment, and buildings. Failure to obtain the fourth break-even return means that the owner/operator will not receive a return on capital contributions equal to what could have been earned in an alternative use of capital. Attainment of a return above the fourth break-even level means that in addition to covering all cash and opportunity costs, the operator will get a return to management and to the risk assumed.

### *Effect of Price and Yield Variations Upon Profitability*

As previously stated, this study represents potential returns from a peach orchard in its prime production years. To be of practical use to potential investors, the assumptions require careful study. In the calculations demonstrating profitability and break-even returns, an average production level of 15 tons per acre is assumed. This is what experienced growers calculate they can average. However, for the inexperienced grower or absentee owner, a 15 ton per-acre level may be high. Likewise, for the better grower, this level may be low. Furthermore, peach prices may drop or rise in years to come. Therefore, to help investors better analyze their potential situation, Table 8 illustrates likely per-acre returns from varying yields and prices. The solid line dividing the lower





TABLE 1: SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR PRODUCING PEACHES IN THE YAKIMA VALLEY OF WASHINGTON STATE.

OPERATION	TOOLING	MTH YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST					TOTAL VARIABLE COST	TOTAL COST
						FUEL, LUBE, & REPAIRS	LABOR	SERVICE	MATER.	INTER.		
						\$	\$	\$	\$	\$	\$	\$
PRUNE	HAND LABOUR, PRUNING TOOLS	FEB 1989	.00	100.00	2.46	.00	625.00	.00	.00	62.50	687.50	689.96
BRUSH REMOVAL	60HP-4WD, FLAIL	FEB 1989	.90	1.50	14.73	13.88	9.38	.00	.00	2.33	25.58	40.31
DORMANT SPRAY	60HP-4WD, PTO SPRAYER	MAR 1989	.50	.55	7.12	6.72	3.44	.00	20.03	2.72	32.90	40.02
FERTILIZE	25HP-WT, FERTILIZER SPREADER	APR 1989	.33	.36	2.27	1.22	2.27	.00	12.39	1.27	17.15	19.42
TIE LIMBS	TIE LIMBS/NYLON STRING	APR 1989	.00	1.60	.00	.00	10.00	.00	3.00	1.04	14.04	14.04
IRRIGATION (12X)	UNDER TREE SOLID SET IRR. SYS.	SEA 1989	.00	3.60	115.33	20.00	22.50	87.00	.00	7.77	137.27	252.60
FROST CONTROL	125HP WIND MACHINE	APR 1989	7.50*	.00	189.60	142.98	.00	.00	.00	11.44	154.42	344.02
BLOSSOM THINNING	HAND LABOR	APR 1989	.00	100.00	.00	.00	625.00	.00	.00	50.00	675.00	675.00
MOWING	60HP-4WD, 9' ROTARY MOWER	MAY 1989	.75	.82	7.71	4.13	5.16	.00	.00	.65	9.93	17.65
FERTILIZE	25HP-WT, FERTILIZER SPREADER	MAY 1989	.33	.36	2.27	1.22	2.27	.00	12.39	1.11	16.99	19.26
INSECT/FUNGICIDE	60HP-4WD, PTO SPRAYER	JUN 1989	.50	.55	7.12	6.72	3.44	.00	30.50	2.44	43.10	50.22
FUNGICIDE	60HP-4WD, PTO SPRAYER	JUN 1989	.50	.55	7.12	6.72	3.44	.00	3.00	.79	13.95	21.07
HERBICIDE	25HP-WT, 100 GAL. SPRAYER	JUN 1989	1.00	1.10	4.44	3.70	6.88	.00	6.71	1.04	18.32	22.77
FRUIT THINNING	HAND LABOR	JUN 1989	.00	60.50	.00	.00	378.13	.00	.00	22.69	400.81	400.81
MOWING	60HP-4WD, 9' ROTARY MOWER	JUL 1989	.75	.82	7.71	4.13	5.16	.00	.00	.46	9.75	17.46
TRUNK SPRAY	60HP-4WD, PTO SPRAYER W/HDGUN	JUL 1989	1.00	2.10	14.25	13.44	13.12	.00	7.20	1.69	35.45	49.70
INSECTICIDE	60HP-4WD, PTO SPRAYER	AUG 1989	.50	.55	7.12	6.72	3.44	.00	27.50	1.51	39.16	46.29
BIN DISTRIBUTION	25HP-WT, BACKFORK	AUG 1989	5.25	5.78	18.07	12.51	36.09	.00	.00	1.94	50.55	68.62
HARVEST	HAND LABOR	AUG 1989	.00	.00	1.29	.00	.00	1050.00	.00	42.00	1092.00	1093.29
SWAMPING	25HP-WT, BACKFORK	AUG 1989	5.25	5.78	18.07	12.51	36.09	.00	.00	1.94	50.55	68.62
LOAD	60HP-4WD, FORKLIFT	AUG 1989	5.25	5.78	61.29	32.50	36.09	.00	.00	2.74	71.34	132.63
HAULING	CUSTOM HAULING	AUG 1989	.00	.00	.00	.00	.00	75.00	.00	3.00	78.00	78.00
MOWING	60HP-4WD, 9' ROTARY MOWER	AUG 1989	.75	.82	7.71	4.13	5.16	.00	.00	.37	9.65	17.37
HERBICIDE	25HP-WT, 100 GAL. SPRAYER	AUG 1989	1.00	1.10	4.44	3.70	6.88	.00	6.71	.69	17.98	22.42
COPPER APPLICAT.	60HP-4WD, PTO SPRAYER	NOV 1989	.50	.55	7.12	6.72	3.44	.00	23.72	.34	34.22	41.34
HERBICIDE	25HP-WT, 100 GAL. SPRAYER	NOV 1989	1.00	1.10	4.44	3.70	6.88	.00	15.01	.26	25.84	30.28
GOPHER CONTROL	60HP-4WD, GOPHER MACHINE	NOV 1989	.75	.82	6.88	3.32	5.16	.00	2.30	.11	10.88	17.76
MOUSE CONTROL	CUSTOM APPLIED (HELICOPTER)	NOV 1989	.00	.00	.00	.00	.00	11.50	.00	.12	11.62	11.62
MISC USE	1/2 TON PICK-UP	ANN 1989	9.00	9.90	55.26	41.14	61.87	.00	.00	6.18	109.20	164.46
MISC USE	SHOP TOOLS	ANN 1989	.00	.00	28.78	25.08	.00	.00	.00	1.50	26.59	55.37
TAXES	LAND	ANN 1989	.00	.00	75.04	.00	.00	.00	.00	.00	.00	75.04
LAND COST	INTEREST ON LAND INVESTMENT	ANN 1989	.00	.00	176.00	.00	.00	.00	.00	.00	.00	176.00
OVERHEAD	UTILITIES, LEGAL, ACCT., ETC.	ANN 1989	.00	.00	.00	.00	.00	195.99	.00	.00	195.99	195.99
ESTAB. COST	AMORTIZED ESTABLISHMENT COST	ANN 1989	.00	.00	1509.35	.00	.00	.00	.00	.00	.00	1509.35
TOTAL PER ACRE			44.31	306.60	2363.03	376.88	1916.26	1419.49	170.46	232.63	4115.71	6478.75

\* 75 hours per 10 acres.

**TABLE 2: ITEMIZED COST PER ACRE FOR PRODUCING PEACHES  
IN THE YAKIMA VALLEY OF WASHINGTON STATE.**

		PRICE OR		VALUE OR	YOUR
	UNIT	COST/UNIT	QUANTITY	COST	FARM
<b>VARIABLE COSTS</b>					
		\$		\$	
SUPERIOR OIL	GAL	2.40	6.00	14.40	_____
PARATHION	PINT	3.75	1.50	5.63	_____
NYLON STRING	ACRE	3.00	1.00	3.00	_____
AMMON. NITRATE	LBS	.08	300.00	24.78	_____
GRAMOXONE	PINT	4.88	2.00	9.76	_____
ENVY	QT	5.50	.67	3.66	_____
THIODAN	LBS	4.80	9.50	45.60	_____
GUTHION	LBS	4.15	4.00	16.60	_____
SULFUR	LBS	.25	24.00	6.00	_____
COPPER	LBS	1.71	12.00	20.52	_____
STICKER	OZ	.20	16.00	3.20	_____
SINBAR	LBS	22.50	.67	15.01	_____
STRYCHNINE OATS	LBS	1.15	2.00	2.30	_____
PICKING	BIN	17.50	60.00	1050.00	_____
CUSTOM HAULING	TON	5.00	15.00	75.00	_____
MOUSE CONTROL	ACRE	11.50	1.00	11.50	_____
WATER CHARGE	ACRE	37.00	1.00	37.00	_____
ELECTRICAL CHG.	ACRE	50.00	1.00	50.00	_____
TRACTOR REPAIR	ACRE	37.67	1.00	37.67	_____
TRACTOR FUEL/LUBE	ACRE	37.92	1.00	37.92	_____
MACHINERY REPAIRS	ACRE	202.97	1.00	202.97	_____
MACHINE FUEL/LUBE	ACRE	98.32	1.00	98.32	_____
LABOR (TRAC/MACH)	ACRE	1916.26	1.00	1916.26	_____
OVERHEAD COST	ACRE	195.99	1.00	195.99	_____
INTEREST ON OP. CAP.	DOL.	.12	1938.60	232.63	_____
<b>TOTAL VARIABLE COST</b>				<b>4115.71</b>	_____
<b>FIXED COSTS</b>					
		\$		\$	
TRACTOR DEPRECIATION	ACRE	50.66	1.00	50.66	_____
TRACTOR INTEREST	ACRE	60.79	1.00	60.79	_____
TRACTOR INSURANCE	ACRE	3.04	1.00	3.04	_____
TRACTOR TAXES	ACRE	9.12	1.00	9.12	_____
MACHINE DEPRECIATION*	ACRE	170.95	1.00	170.95	_____
MACHINE INTEREST*	ACRE	231.69	1.00	231.69	_____
MACHINE INSURANCE*	ACRE	10.01	1.00	10.01	_____
MACHINE TAXES*	ACRE	30.01	1.00	30.01	_____

TABLE 2: CONTINUED

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
		\$		\$	
BUILDING DEPRECIATION	ACRE	9.38	1.00	9.38	_____
BUILDING INTEREST	ACRE	22.50	1.00	22.50	_____
BUILDING INSURANCE	ACRE	1.12	1.00	1.12	_____
BUILDING TAXES	ACRE	3.38	1.00	3.38	_____
INT. ON LAND	ACRE	160.00	1.10	176.00	_____
LAND TAXES	ACRE	68.22	1.10	75.04	_____
ESTAB. COST**	ACRE	1509.35	1.00	1509.35	_____
TOTAL FIXED COST				2363.03	_____
TOTAL COST				6478.75	_____

\* Includes the irrigation system.

\*\* The \$10,280 establishment cost amortized at 12% over 15 years.

**Table 3. Materials and Services Applied per Acre by Operation.**

<b>Operation</b>	<b>Materials or Services Applied</b>
Dormant spray (March)	1.5 pints Parathion 8 6 gallons Superior Oil
Fertilize (April)	150 lbs. Ammonium Nitrate (33% N)
Tie Limbs (April)	\$3.00 of nylon string
Irrigation (season)	\$37 water charge \$50 electrical charge
Fertilize (May)	150 lbs. Ammonium Nitrate (33% N)
Insect/Fungicide (June)	4 lbs. Thiodan 2 lbs. Guthion 12 lbs. Sulfur
Fungicide (June)	12 lbs. Sulfur
Herbicide (June)	1 pint Gramoxone 1/3 quart Envy
Trunk spray (July)	1.5 lbs. Thiodan
Insecticide (August)	4 lbs. Thiodan 2 lbs. Guthion
Harvest (August)	60 bins @ \$17.50/bin (500-lb. bins)
Hauling (August)	15 tons @ \$5/ton
Herbicide (August)	1 pint Gramoxone 1/3 quart Envy
Copper application (November)	12 lbs. Copper 16 oz. Sticker
Herbicide (November)	.67 lbs. Sinbar
Gopher control (November)	2 lbs. Strychnine oats
Mouse control (November)	\$11.50/acre helicopter
Overhead (season)	5% variable costs

**Table 4. Five-Year Establishment Cost per acre for a Peach Orchard in the Yakima Valley.<sup>a/</sup>**

Establishment Year	Yearly Costs	Yearly Revenue <sup>b/</sup>	Net Yearly Estab. Costs	Accumulated Estab. Costs
	\$	\$	\$	\$
1	2,627.49	.00	2,627.49	2,627.49
2	1,444.38	.00	1,444.38	4,071.87
3	2,054.66	282.00	1,772.66	5,844.53
4	3,479.41	1,692.00	1,787.41	7,631.94
5	5,467.82	2,820.00	2,647.82	10,279.76 <sup>c/</sup>

<sup>a/</sup> Source: "Estimated Costs of Establishing a Peach Orchard in the Yakima Valley, Washington," EB 1519.

<sup>b/</sup> Production estimated at 1 ton in year 3, 6 tons in year 4, and 10 tons in year 5. Sale price to the grower estimated at \$282 per ton.

<sup>c/</sup> At a sale price to the grower of \$220 per ton, the accumulated establishment cost equals \$11,334 per acre. At a sale price to the grower of \$332 per ton the accumulated establishment cost equals \$9,430 per acre.



**Table 6. Summary of Receipts, Costs, and Profitability per Acre for a Mature Peach Orchard in the Yakima Valley, Washington.**

	Quantity (Tons)	Price per Ton	Value or Cost	Your Farm
	\$	\$	\$	\$
Gross receipts to the Grower from production				
Peaches	15	282.00 <sup>*/</sup>	4,230.00	_____
1. Total Receipts			4,230.00	_____
Less: Total Variable Cost			4,177.13	_____
2. Returns over Variable Cost			52.87	_____
Less: Machinery, Irrigation, & Building Fixed Cost			602.84	_____
Amortized Estab. Cost			1,550.71	_____
3. Gross Returns to Land and Management			(2,100.68)	_____
Less: Real Estate Taxes			75.04	_____
4. Net returns to Land and Management			(2,175.72)	_____

<sup>\*/</sup> Average price received by peach producers in 1988.



**Table 7. Break-Even Return per Ton to the Peach Grower.**

	Cost per Acre <sup>a/</sup>	Your Farm	Break-Even Return per Ton <sup>b/</sup>	Your Farm
	\$	\$	\$	\$
1. Total Variable Costs	4,177.13	_____	278.48	_____
Plus: Ins. & Taxes on Machinery, Buildings, & Irrigation	56.68	_____		
Land Taxes	74.04	_____		
	_____	_____		
2. Total Cash Costs	4,308.85	_____	278.26	_____
Plus: Depr. on Machinery, Bldgs & Irrig.	230.99	_____		
3. Total Cash Costs + Depr.	4,539.84	_____	302.66	_____
Plus: Int. on Mach., Bldg. & Irrig.	314.97	_____		
Int. on Land Value	176.00	_____		
Amort. Estab. Cost	1,550.71	_____		
4. Total Cost	6,581.52	_____	438.77	_____

<sup>a/</sup> Excluding storage, packaging, and marketing costs.

<sup>b/</sup> Assumes 15 tons per acre production level.

**Table 8. Per Acre Net Returns to Land Management for Varying Yields and Prices.<sup>a/</sup>**

Yield	Price per Ton						
	\$275	\$300	\$325	\$350	\$375	\$400	\$425
Ton	\$	\$	\$	\$	\$	\$	\$
13	-2536	-2211	-1886	-1561	-1236	-911	-586
15	-2178	-1803	-1428	-1053	-678	-303	72
17	-1819	-1394	-969	-544	-119	306	731
19	-1460	-986	-511	-36	439	914	1,389

<sup>a/</sup> Returns received by the producer after paying all costs.

**Table 9. 1989 Prices for Materials and Services for a Mature Peach Orchard in the Yakima Valley.**

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**Service**

Water charge	\$37.00/acre
Electrical charge	\$50.00/acre
Mouse control	\$17.00/acre
Custom hauling	\$ 5.00/acre
Picking	\$17.50/bin

**Materials**

Ammonium nitrate	\$ .083/lb.
Gramoxone	\$ 4.88/pint
Copper	\$ 1.71/lb.
Strychnine oats	\$ 1.15/lb.
Thiodan	\$ 4.80/lb.
Nylon string (tree tying)	\$ 3.00/acre
Guthion	\$ 4.15/lb.
Superior oil	\$ 2.40/gal.
Envy	\$ 5.50/qt.
Parathion	\$ 3.75/pint
Sinbar	\$22.50/lb.
Sticker	\$ .20/oz.
Sulfur	\$ .25/lb.

**Fuel**

Gasoline	\$ 1.00/gal.
Diesel	\$ 1.00/gal.
LP gas	\$ 1.00/gal.

**Land Taxes** \$62.02/acre

**Labor** \$ 6.25/hour

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