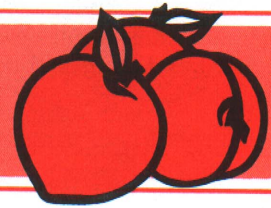


COSTS OF PEACH PRODUCTION IN WESTERN MICHIGAN



By Myron Kelsey and Larry Bradford¹

This cost evaluation of peach production in western Michigan is a projection of costs developed from a small-group discussion with peach growers. Growers described common growing and harvesting practices and prices paid for inputs used by average peach growers of the area. They agreed on the size of peach acreage, equipment and cultural practices generally used by an average peach grower.

These figures do not reflect the average cost of peach production for all growers in the area because higher than average yields have been assumed and cost of production varies considerably from farm to farm. In addition, overhead cost for interest on orchard value and depreciation will vary considerably from farm to farm, depending on when the orchard was planted. These costs include an estimated 1984 establishment cost and, therefore, overstate actual costs on currently producing orchards.

The data can help you develop costs and better evaluate your farm situation. Each of the appropriate tables in this report includes a "Your Farm Cost" column for you to note your own costs for particular operations within the total peach enterprise. For operations where your costs cannot be determined, you may wish to adjust and substitute the study data.

The data were assembled assuming equipment and labor available for a hypothetical farm of 200 acres of diversified tree fruit, including 40

acres of peaches. However, the data are presented for 10 acres of peaches to make it easier for you to visualize many of the resource inputs. Per-acre costs can be determined by dividing by 10.

Labor Costs

The full-time labor classification includes the working time of the operator and regular hired help devoted to peaches. Operator labor is not considered a cash expense by producers, but to allow for differences in the proportion of work performed by regular hired help, which is a cash expense, and the operator, both have been included at the \$8 per hour rate. As a result, producers who do a major portion of the work may have a lower cash labor cost than the figures indicate. This labor rate includes the operator's share of Social Security, Workers' Compensation and other fringe benefits. A \$6.00 per hour rate was used for skilled part-time help and \$4.80 per hour for manual labor.

Equipment Costs

Some major factors considered in the computation of equipment costs are initial cost, salvage value, years of life, annual usage, repair costs, insurance, interest and operating expenses, such as gas and oil. The variable costs for each item of equipment are charged to the crop in Table 1 on the basis of direct use of the equipment.

Variable costs are those that change directly with increases or decreases in the acreage or yield of peaches. Examples of costs are spray material, fertilizer, hired labor and machinery operating costs.

Fixed costs are those that do not change as the acreage or yield of peaches within the farm unit is increased or decreased. Such costs include taxes, interest on investment and machinery depreciation.

Variable Costs

Variable costs incurred in peach production are categorized by labor, machinery and materials in Table 1. Details of hours and type of labor, machinery used and hours of use, and kinds and amounts of materials used by operation are shown. If your costs for particular items are substantially higher than those shown, you may need to analyze those components closely to see if they can be reduced. A high cost for a particular component may be justified if it contributes to a sufficiently higher yield or improved quality.

The variable costs incurred in the harvesting of 10 acres with estimated total production of 2,500 bushels of peaches are shown in Table 2. Labor is the major cost. Therefore, good labor management will enhance the profit picture. In most cases, there will be some economies or diseconomies for some cost items associated with higher or lower yields.

Fixed Costs

The fixed or overhead cost for peach production (Table 3) includes allocation of machinery overhead on the basis of the proportion of total farm use in peaches, interest on orchard investment and orchard depreciation, and taxes. The fixed costs of machinery are allocated to peaches on the basis of hours of use on peaches relative to the total hours of use on the equipment on the farm. Fixed costs on machinery include depre-

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ciation, interest on investment, insurance and housing costs. These figures are shown in Table 1, but only the totals are included in Table 3. Other overhead includes orchard depreciation, interest on investment in the orchard and land, and taxes.

You should evaluate your own situation and decide whether fixed costs should be considered as part of the total cost for decision-making purposes. Orchard overhead is a fixed cost if you own the orchard, but a variable cost if you're renting.

Production Costs

Average yields per acre obtained are very important in determining costs per bushel of peaches (Table 4). These figures are based on the assumption that preharvest costs per acre—such as spraying, pruning, cultivation, etc.—do not vary greatly regardless of the yield obtained.

Table 1. Growing Operations and Variable Costs for 10 Acres of Peach Production Western Michigan, 1984 (125 trees per acre)

Operation	Labor			Machinery						Materials		Total Variable Cost
	Labor per hr.	Wage Rate	Cost	Equipment	Hours of Use	Variable Cost/Unit	Total Variable Cost	Fixed Cost/Unit	Fixed Cost	Item	Cost Per 10 Acres	
Hedging—Custom operation every other year (2 acres/hr. at \$40/hr.)—1 yr. cost							\$100.00				\$100.00	\$100.00
Removing dead wood	15	6.00	90.00	Chain saw	5	1.20	6.00	1.25	6.25			122.35
				40 HP tractor	5	5.08	25.40	4.45	22.25			
				Trailer	5	.19	.95	4.10	20.50			
Fine pruning	100 200	8.00 6.00	800.00 1,200.00									2,000.00
Brush chopping	2	8.00	16.00	60 HP tractor	2	6.79	13.58	5.93	11.86			33.00
				Rotary mower	2	1.71	3.42	4.02	8.04			
Fertilizer (N)	5	8.00	40.00	60 H— tractor	5	6.79	33.95	5.93	29.66	300 lbs. 33-0-0	231.00	311.30
				Fertilizer spreader	5	1.27	6.35	8.92	44.60	/acre@ \$154/ton		
Fertilizer (K ₂ O) (every third year) (annual cost)	2	8.00	16.00	60 HP tractor	2	6.79	13.58	5.93	11.86	100 lbs. potash	57.50	89.62
				Fertilizer spreader	2	1.27	2.54	8.92	17.84	/acre per year equivalent@ \$115/ton		
Weed spray (1/2 area)	8	8.00	64.00	40 HP tractor	8	5.08	40.64	4.45	35.60	1 quart Paraquat/acre	50.00	206.96
				Weed sprayer	8	1.93	15.44	7.11	56.88	sprayed at \$10 qt.		
										1/4 pt spreader/acre sprayed at \$1.50/pt.	1.88	
										2 lbs. Simazin/acre sprayed@ \$3.50/lb.	35.00	
Weed spray (1/4 area)	6	8.00	48.00	40 HP tractor	6	5.08	30.48	4.45	26.70	1 qt. Paraquat/acre	25.00	116.00
				Weed sprayer	6	1.93	11.58	7.11	42.66	sprayed at \$10/qt.		
										1/4 pt. spreader/acre at \$1.50/pt.	.94	
Mowing (3 times)	9	8.00	72.00	60 HP tractor	9	6.79	61.11	5.93	53.37			148.50
				Rotary mower	9	1.71	15.39	4.02	36.18			
Peach borer spray (annually)	5 10	8.00 6.00	40.00 60.00	60 HP tractor	5	6.79	33.95	5.93	29.65	3/4 qt. Larsban per acre@	78.75	215.35
				PTO sprayer	5	.53	2.65	32.41	162.05	\$42/gal.		

Table 1. (Continued)

Operation	Labor			Machinery						Materials		Total Variable Cost
	Labor per hr.	Wage Rate	Cost	Equipment	Hours of Use	Variable Cost/Unit	Total Variable Cost	Fixed Cost/Unit	Fixed Cost	Item	Cost Per 10 Acres	
Spray Dormant (100 gal./A)	2.5	8.00	20.00	60 HP tractor	2.5	6.79	16.98	5.93	14.83	Ferbam 2 lbs./acre@1.80	36.00	85.43
				PTO sprayer	2.5	4.98	12.45	12.15	30.38			
Pink (100 gal./A)	3	8.00	24.00	60 HP tractor	3	6.79	20.37	5.93	17.79	Pydrin 16 oz./acre@1/oz.	160.00	219.31
				PTO sprayer	3	4.98	14.94	12.15	36.45			
Late bloom (100 gal./A)	3	8.00	24.00	60 HP tractor	3	6.79	20.37	5.90	17.79	1 1/2 qts. Funginex@17.50/qt.	262.50	369.06
				PTO sprayer	3	4.98	14.94	12.15	36.45	3 1/2 lbs. Captan@1.35/lb.	47.25	
Shuck split (100 gal./A)	3	8.00	24.00	60 HP tractor	3	6.79	20.37	5.93	17.79	Captan 7 lbs./acre@1.35/lb.	94.50	153.81
				PTO sprayer	3	4.98	14.94	12.15	36.45			
Oriental fruit moth (1254 gal./A)	3	8.00	24.00	60 HP tractor	3	6.79	20.37	5.93	17.79	3 qts. Parathion/acre@17.50/gal.	131.25	190.56
				PTO sprayer	3	4.98	14.94	12.15	36.45			
Pre-harvest	3	8.00	24.00	60 HP tractor	3	6.79	20.37	5.93	17.79	6 lbs. Captan/acre@1.35/lb.	81.00	402.81
				PTO sprayer	3	4.98	14.94	12.15	36.45	1 1/2 qts. Funginex/acre@17.50/qt.	262.50	
2nd Pre-harvest (1/2 acre)	1.5	8.00	12.00	60 HP tractor	1.5	6.79	10.19	5.93	8.90	1 1/2 qts. Funginex/acre@17.50/qt.	131.25	160.91
				PTO sprayer	1.5	4.98	7.47	12.15	18.23			
Hand thinning	250	4.80	1,200.00									1,200.00
Tying trees (40 trees/10 A)	10	4.80	48.00							4 clips per tree @5 cents each 20 ft. strap-ping/tree @1.25/100 ft.	8.00	66.00
											10.00	
Tree replacement	5	6.00	30.00	Tree auger	5	.50	2.50	2.50	12.50			
	5	4.80	24.00	40 HP tractor	5	5.08	25.40	4.45	22.25	4 trees/acre@3.50	140.00	221.90
Late fall tree care	5	6.00	30.00	Chain saw	2	1.20	2.40	1.25	2.50	Fungicide@ 25 cents/acre, 2 pump bottles@1.50 lbs.	2.50	37.90
											3.00	
Mouse control	2	8.00	16.00	40 HP tractor	1	5.08	5.08	4.45	4.45	10 lbs. Zinc phosphide corn @34/cwt.	34.00	56.35
				Spreader	1	1.27	1.27	8.92	8.92			
Paint trees (every 3rd year)	1.5	4.80	7.20							8 gal. paint/10 acres@\$8/gal. (every 3 yrs.)	21.33	28.53
Irrigation	9	8.00	72.00	40 HP tractor	1	5.08	5.08	4.45	4.45	Repairs@1.50 /A Electricity @8/A	15.00	172.27
				Trailer	1	.19	.19	4.10	4.10		80.00	
Pest management	5	8.00	40.00							Pest traps@1/A	10.00	50.00
Pick-up operation				Pick-up	750 mi	.16	120.00	.38	285.00			120.00
Management	50	8.00	400.00									400.00
TOTAL			\$4,465.20				\$702.57		\$1,303.65		\$2,110.15	\$7,277.92

Table 2. Variable Harvest Cost for 2,500 Bushels of Peaches, Western Michigan, 1984

		Total	Your Farm Cost
Harvest labor	550 hours @ \$4.80	\$2,640.00	\$ _____
Harvest supervision	110 hours @ \$8.00	880.00	_____
Tractor, 40 h.p.	20 hours @ \$5.08	101.60	_____
Trailer	20 hours @ \$1.19	3.80	_____
Forklift	20 hours @ \$.75	15.00	_____
Tractor, 40 h.p.	20 hours @ \$5.08	101.60	_____
Truck	500 miles @ \$.39	195.00	_____
	TOTAL	\$3,937.00	\$ _____
	COST PER BUSHEL	\$1.57	_____

Table 3. Overhead Cost for Growing and Harvesting 10 Acres of Peaches, Western Michigan, 1984

	Total	Your Farm Cost
Growing equipment	\$1,303.65	\$ _____
Harvesting equipment	647.00	_____
Interest on land value (\$800/A x 10%)	800.00	_____
Orchard depreciation (\$2500/A x 10 ÷ 8)	3,125.00	_____
Interest on avg. orchard value (\$2,500/A x 10 ÷ 2 x .125)	1,562.50	_____
Real estate taxes @ \$18/A	180.00	_____
	\$7,618.15	_____

Table 4. Effect of Varying Yield on Cost/Bushel for Peaches, Western Michigan, 1984

Harvest Yield Per Acre	Variable Growing Cost ¹	Variable Harvest Cost	Variable Cost	Your Farm Cost	Overhead Cost ²	Cost	Your Farm Cost
100	\$7.28	\$1.57	\$8.85	_____	\$7.62	\$16.47	_____
150	4.85	1.57	6.42	_____	5.08	11.50	_____
200	3.64	1.57	5.21	_____	3.81	9.02	_____
250	2.91	1.57	4.48	_____	3.05	7.53	_____
300	2.43	1.57	4.00	_____	2.54	6.54	_____
350	2.08	1.57	3.65	_____	2.18	5.83	_____
400	1.82	1.57	3.39	_____	1.90	5.29	_____

¹\$7,277.92 variable cost for 10 acres

²\$7,618.15 overhead cost for 10 acres

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