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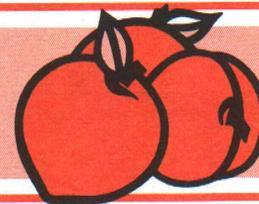
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Michigan State University
Cooperative Extension Service
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COST OF PRODUCING PEACHES IN WESTERN MICHIGAN



By Myron P. Kelsey,¹ Mike Thomas,²
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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 costs of production vary considerably from farm to farm. In addition, overhead costs 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 1989 purchase cost and, therefore, may 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" column for you to note your costs for particular operations within the total peach enterprise. For operations for which your costs cannot be determined, you may wish to adjust and substitute the study data.

The assembled data assume that equipment and labor are 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. But to allow for differences in the proportion of work performed by regular hired help, which is a cash expense, or by 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, Worker's Compensation and other fringe benefits. An \$8 per hour rate was used for skilled part-time help and \$6 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 these 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 increases or decreases. 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 types 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 you can reduce them. 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 profits. 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 costs for peach production (Table 3) include allocation of machinery overhead on the basis of the proportion of total farm use in peaches, interest on

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Table 1. Growing operations and related variable cost for 10 acres of peaches, western Michigan, 1989.

Operation	Labor			Equipment	Machinery					Item	Cost per 10 acres	Total variable cost	Your farm	
	Labor (hr)	Wage rate	Cost		Hours of use	Unit var. cost	Total var. cost	Fixed unit cost	Total fixed cost					
Removing dead wood	10	\$8.00	\$80.00	Chain saw	5	\$1.20	\$6.00	\$1.25	\$6.25					
				Tractor (40 hp)	5	\$5.08	\$25.40	\$4.45	\$22.25					
				Trailer	5	\$0.19	\$0.95	\$4.10	\$20.50					\$112.35
Fine pruning	100	\$8.00	\$800.00											
	200	\$6.00	\$1,200.00											\$2,000.00
Brush removal	20	\$8.00	\$160.00	Tractor (60 hp)	20	\$6.79	\$135.00	\$5.93	\$118.60					
				Brush rake	20	\$0.80	\$16.00	\$2.00	\$40.00					\$311.80
Fertilizer (N)	2	\$8.00	\$16.00	Tractor (40 hp)	2	\$5.08	\$10.16	\$4.45	\$8.98	Actual nitrogen: 50 lb	\$140.00			
				Fertilizer spreader	2	\$1.27	\$2.54	\$8.92	\$17.84	@ \$28/lb			\$168.70	
Fertilizer (potash)	2	\$8.00	\$16.00	Tractor (40 hp)	2	\$5.08	\$10.16	\$4.45	\$8.98	0-0-60: 100 lb/yr	\$67.50			
				Fertilizer spreader	2	\$1.27	\$2.54	\$8.92	\$17.84	@ \$135/ton			\$96.20	
Lime (once every 5 years)				Custom applied					Lime: 2 tons/A @ \$17.50/ton	\$70.00			\$70.00	
Weed control (40% of area)	3	\$8.00	\$24.00	Tractor (40 hp)	3	\$5.08	\$15.24	\$4.45	\$13.35	Princep: 2.5 lb @ \$2/lb	\$20.00			
				Weed sprayer	3	\$1.93	\$5.79	\$7.11	\$21.33	Solican: 2.5 lb @ \$12.50/lb	\$125.00			
										Gramoxone: 1.5 qt @ \$9/qt	\$54.00			
									Spreader: .5 pt @ \$1.50/pt	\$3.00			\$247.83	
Weed control (25% of area)	3	\$8.00	\$24.00	Tractor (40 hp)	3	\$5.08	\$15.24	\$4.45	\$13.35	2,4-D: 2 qt @ \$3.50/qt	\$17.50			
				Weed sprayer	3	\$1.93	\$5.79	\$7.11	\$21.33					\$62.53
Mowing or tilling	9	\$8.00	\$72.00	Tractor (60 hp)	9	\$6.79	\$61.11	\$5.93	\$53.37					
				Rotary mower	9	\$1.71	\$15.39	\$4.02	\$36.18					\$148.50
Spray program														
Peach borer spray	5	\$8.00	\$40.00	Tractor (60 hp)	5	\$6.79	\$33.95	\$5.93	\$29.65	Lorsban: .75 qt @ \$42/gal	\$78.75			
				PTO sprayer	5	\$4.98	\$24.90	\$12.15	\$68.75					\$177.60
Dormant spray (100 gal/A)	1.5	\$8.00	\$12.00	Tractor (60 hp)	1.5	\$6.79	\$10.19	\$5.93	\$8.90	Cocis: 3 lb @ \$2.96/lb	\$88.00			
				PTO sprayer	1.5	\$4.98	\$7.47	\$12.15	\$18.23					\$118.46
Pink (100 gal/A)	3	\$8.00	\$24.00	Tractor (60 hp)	3	\$6.79	\$20.37	\$5.93	\$17.79	Pounce: 8 oz @ \$1/oz	\$80.00			
				PTO sprayer	3	\$4.98	\$14.94	\$12.15	\$36.45	Sulphur: 12 lb @ \$1.22/lb	\$26.40			\$165.71
Late bloom (100 gal/A)	3	\$8.00	\$24.00	Tractor (60 hp)	3	\$6.79	\$20.37	\$5.93	\$17.79	Benlate: 1 lb @ \$13.75/lb	\$137.50			
				PTO sprayer	3	\$4.98	\$14.94	\$12.15	\$36.45	Captan: 6 lb @ \$1.38/lb	\$78.00			\$274.81
Shuck split (100 gal/A)	3	\$8.00	\$24.00	Tractor (60 hp)	3	\$6.79	\$20.37	\$5.93	\$17.79	Sulphur: 12 lb @ \$2.22/lb	\$26.40			
				PTO sprayer	3	\$4.98	\$14.94	\$12.15	\$36.45	Pencap M: 3 pt @ \$2.09/pt	\$62.70			
										Thiodan: 3 lb @ \$4/lb	\$120.00			\$268.41
Oriental fruit moth	3	\$8.00	\$24.00	Tractor (60 hp)	3	\$6.79	\$20.37	\$5.93	\$17.79	Dodine: .25 lb @ \$6/lb	\$15.00			
				PTO sprayer	3	\$4.98	\$14.94	\$12.15	\$36.45	Sulphur: 12 lb @ \$2.22/lb	\$26.40			
										Pencap M: 3 pt @ \$2.09/pt	\$62.70			\$163.41
Mite spray	3	\$8.00	\$24.00	Tractor (60 hp)	3	\$6.79	\$20.37	\$5.93	\$17.79	Vendex: 1.5 lb @ \$22/lb	\$330.00			
				PTO sprayer	3	\$4.98	\$14.94	\$12.15	\$36.45					\$389.31
Preharvest	3	\$8.00	\$24.00	Tractor (60 hp)	3	\$6.79	\$20.37	\$5.93	\$17.79	Rovral: 1.5 lb @ \$21/lb	\$315.00			
				PTO sprayer	3	\$4.98	\$14.94	\$12.15	\$36.45					\$374.31
2nd preharvest	1.5	\$8.00	\$12.00	Tractor (60 hp)	1.5	\$6.79	\$10.19	\$5.93	\$8.90	Rovral: 1.5 lb @ \$21/lb	\$315.00			
				PTO sprayer	1.5	\$4.98	\$7.47	\$12.15	\$18.23					\$344.66
Hand thinning	300	\$6.00	\$1,800.00										\$1,800.00	
Mouse baiting	2	\$8.00	\$16.00	Tractor (40 hp)	2	\$5.08	\$10.16	\$4.45	\$8.98	Zinc phosphide corn: 10 lb/A				
				Fertilizer spreader	2	\$1.27	\$2.54	\$8.92	\$17.84	@ \$53/lb	\$53.00			\$81.70
Tree replacement (1st half of orchard life) -- annual cost	5	\$6.00	\$30.00	Tractor (40 hp)	1	\$5.08	\$5.08	\$4.45	\$4.45	Trees: 2/A @ \$3.50/tree	\$70.00			
				Tree auger	1	\$0.50	\$0.50	\$2.50	\$2.50					\$105.58
Paint trees (2x - 14 years) -- annual cost	1.5	\$6.00	\$9.00						Paint: 8 gal per 10 A @ \$8/gal	\$6.40				\$15.40
Irrigation (trickle on 40% acreage)	9	\$8.00	\$72.00					\$45.51	\$455.14	Repairs: @ \$4.50/A	\$18.00			
												Electricity: @ \$20.50/A	\$82.00	
Pest management/consulting									\$20/A	\$200.00			\$200.00	
Pickup operation (miles)					200 M	\$0.16	\$32.00	\$0.38	\$76.00				\$32.00	
Management & labor supervision	50	\$8.00	\$400.00										\$400.00	
Miscellaneous									\$50/A	\$500.00			\$500.00	
Totals	743		\$4,927.00				\$684.41		\$1,454.90		\$3,189.85		\$8,800.46	

Table 2. Variable harvest cost for 10 acres (250 bu/A) of peaches,
western Michigan, 1989.

	Hours of use	Rate	Total	Your farm
Labor				
- Harvest labor	2,500	\$1.20	\$3,000.00	-----
- Supervisory labor	70	\$8.00	\$560.00	-----
- Tractor labor	90	\$6.00	\$540.00	-----
Equipment use:				
- Tractor (40 hp)	20	5.08	\$101.60	-----
- Trailer	20	\$0.19	\$3.80	-----
- Tractor (40 hp)	20	\$5.08	\$101.60	-----
- Forklift	20	\$0.75	\$15.00	-----
- Truck	300	\$0.39	\$117.00	-----
Total variable cost			\$4,439.00	-----
Total cost per bushel			\$1.78	-----

Table 3. Overhead cost for growing and harvesting 10 acres of peaches,
western Michigan, 1989.

	Total	Your farm
Equipment, growing	\$1,454.90	-----
Equipment, harvest	\$471.00	-----
Interest on land (\$800/A @ 10%)	\$800.00	-----
Property taxes @ \$30/A	\$300.00	-----
Int. on 1/2 orchard value of \$700/A @ 10%	\$350.00	-----
Orchard depreciation of \$700/A over 10 yr	\$700.00	-----
Interest on growing & harvest cost @ 10%	\$661.97	-----
Total overhead cost	\$4,737.88	-----
Total cost per bushel	\$1.90	-----

Table 4. Total growing and harvesting cost for 10 acres (250 bu/A) of peaches,
western Michigan, 1989.

	Total	Your farm
Variable growing cost	\$8,800.46	-----
Variable harvest cost	\$4,439.00	-----
Overhead cost	\$4,737.88	-----
Total cost	\$17,977.34	-----
Total cost per bushel	\$7.19	-----

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 of the equipment on the farm. Fixed costs on machinery include depreciation, 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 on a value of \$700 per acre, interest on investment on the average value of the orchard and land of \$800 per acre, and taxes.

You should evaluate your situation and decide whether to consider fixed costs as part of the total cost for decision-making purposes. Orchard overhead is a fixed cost if you own the orchard outright, but it is a variable cost if you rent.

PRODUCTION COSTS

Average yields per acre obtained are very important in determining costs per bushel of peaches (Table 5). These figures are based on the assumption that preharvest costs per acre, such as spraying, pruning, cultivating, etc., do not vary greatly, regardless of the yield obtained.

Table 5. Effect of varying yield on cost/bushel for peaches, western Michigan, 1989.

Yield/acre	Variable		Total variable cost	Your farm	Overhead cost	Total cost	Your farm
	Growing cost	Harvest cost					
100	8.80	\$1.78	\$10.58	-----	\$4.74	\$15.31	-----
150	5.87	\$1.78	\$7.64	-----	\$3.16	\$10.80	-----
200	4.40	\$1.78	\$6.18	-----	\$2.37	\$8.54	-----
250	3.52	\$1.78	\$5.30	-----	\$1.90	\$7.19	-----
300	2.93	\$1.78	\$4.71	-----	\$1.58	\$6.29	-----
350	2.51	\$1.78	\$4.29	-----	\$1.35	\$5.64	-----
400	2.20	\$1.78	\$3.98	-----	\$1.18	\$5.16	-----
450	1.96	\$1.78	\$3.73	-----	\$1.05	\$4.78	-----



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