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“Pick-Your-Own” Operations

Michigan State University

Cooperative Extension Service

M.P. Kelsey and Hugh Price

Department of Agricultural Economics and Horticulture

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for "Pick-Your-Own" Operations

Computing Production Costs of Fruits and Vegetables

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By: M. P. Kelsey and Hugh Price

Departments of Agricultural Economics and Horticulture, respectively

VEGETABLE CROP PRODUCTION for a pick-your-own operation requires special management considerations if the grower expects to provide a good supply of high-quality, pick-your-own vegetables throughout the season. Variety and pesticide selection are two examples of important management factors.

Pesticides

Pick-your-own vegetable farms usually produce a wide selection of vegetables requiring the use of many different pesticides. Pesticide use can cause problems in contamination and residues if proper planning is not conducted. You can avoid herbicide residues by using weed control chemicals which do not cause carryover to subsequent crops. Registered insect and disease control chemicals should be selected that have few or zero days between application and safe harvest. This minimizes the number of days customers must be restricted from fields.

When several crops are planted in close proximity, they are subject to contamination from drifting pesticides that may not be registered for the particular crop. Therefore, pesticide drift during application must be prevented by the use of proper application equipment and technique.

Early Varieties

Fresh vegetables available early in the season can attract customers and lengthen the season. Selection of early maturing varieties and the use of plastic soil mulches and plant and row covers will permit earlier planting and hasten the maturity of warm-season crops. Sweet corn, tomatoes, peppers and vine crops all respond favorably to mulches and protective plant covers. These require additional investment, but benefits from their use exceed costs by attracting customers early in the season.

Since early varieties of most vegetables are not usually as high in quality as longer-season varieties, they should be planted only for the first early production. Mid-season varieties are usually of higher quality, and main season varieties are highest in quality. After an initial planting of early, middle and late season varieties, only main season varieties are suggested for successive planting due to better quality and higher yield.

Planting

Successive plantings of main season varieties should be made according to the weather and particularly by temperature conditions. Snap beans and sweet corn

should be planted each week except in the cool early season and in planting for late summer and fall production. In early season, the interval between plantings should be longer than one week. For fall production, the time interval between plantings should be less than one week due to the seasonal differences in temperature.

Weed Control

Good weed control is necessary for top production and to retain customers. Searching for snap beans, tomatoes and other crops in weeds is not pleasant. Weeds often harbor plant diseases and insects which lower production and quality. Also, snakes in weedy areas may frighten customers.

Row Spacing

Standardization in row spacing is necessary when several crops are grown using one set of farm machinery. This requires some crops to be grown at row spacing differing from that for optimum production. A tractor with a wheel spacing of 6 feet (wheel center to wheel center) can operate in 2-, 3-, 4- and 5-foot rows. These row spacings will accommodate most crops. Row spacing requirements must be considered for other farm equipment, such as a cultivator, used in most crops. Ease of harvesting by customers should also be a consideration in selecting the best row spacing for a particular crop.

Irrigation

Irrigation is essential in maintaining schedules. It not only supplements rainfall during dry periods, but should be used to insure timely emergence of seeded crops. With irrigation, a production schedule can be followed closely to provide a continuous supply of pick-your-own vegetables.

Irrigation water and pesticides may need to be applied in the late evening during the harvest season when customers are not generally in the field.

Extension publications which should be consulted for specific production recommendations include the following:

- E-154 Fruit Pesticide Handbook
- E-312 Control of Insects, Diseases and Nematodes on Commercial Vegetables
- E-433 Chemical Weed Control for Horticultural Crops
- E-550 Fertilizer Recommendations for Michigan Vegetable and Field Crops
- E-675 A to T—Commercial Vegetable Recommendations for Michigan
- E-682 Commercial Strawberry Culture in Michigan

Evaluating Production Costs

Vegetable crop budgets are given in the following tables as guidelines for the physical inputs, man-hours, costs and possible production involved in producing crops for pick-your-own operations. The tables have been developed for easy adaptation to individual situations. They are not provided as recommendations on practices of materials.

Each crop budget includes a table giving hours and cost of labor, machinery time and operating costs and materials and costs for each growing operation. Most labor has been budgeted at \$3.50 per hour, which results in a cost of \$4.28 per hour when the employee's share of Social Security and Workman's Compensation are added. Out-of-pocket costs will be reduced where the operator and his family provide these labor functions.

Machinery costs are shown in Table 1, assuming the equipment line and amount of use on an 80-acre farm. Variable costs per hour include repairs, gas and oil shown in the three right-hand columns. Operating costs for gas and oil are estimated at 0.06 times the PTO or rated engine horsepower times gasoline cost of \$0.63 per gallon. For example, the first item in Table 1 is a 54 H.P. tractor $\times 0.06 = 3.3 \times \$0.63 = \$2.07$.

Repair costs per hour were estimated, using the wear-out lives and total repair estimates given in Table 2 and Figure 1. It was assumed that all equipment was at the mid-point of its wear-out life. Repair costs per hour equal the percent of total purchase price obtained from Figure 1 at total accumulated hours of 50 percent of lifetime hours. Multiply percentage by the purchase price, and then divide by one half the estimated hours of wear-out life for that kind of equipment. For example, the large tractor has an estimated wear-out life of 12,000 hours of use, and during that period of time total repairs on the average will equal 120 percent of the current list price. At 50 percent of wear-out life, using Repair Curve 1, the applicable percentage is 42. Forty-two percent times current purchase price of \$14,410 equals \$6,052 of total repairs. This figure divided by 6,000 hours of use at the midpoint of its wear-out life equals \$1.01 repair cost per hour.

Overhead machinery costs were calculated, using depreciation per hour of use on each crop. Interest was charged at 8 percent times the total machinery invested divided by the number of acres operated. Other overhead costs such as taxes and insurance have been detailed in the overhead cost table. Subsequent tables include an estimate of overhead costs and harvesting cost if sold wholesale rather than pick your own.

Table 1—Equipment and Building Costs
(Assumed for an 80 Acre Fruit Farm Southwest Michigan, 1979)

Item	Purchase cost	Years of usage	Salvage value	Average value	Annual depreciation	Annual Hrs. use for farm*	Depreciation per unit use	Variable cost per hour		
								Repairs	Operating	Total
Large tractor (50-60-HP)	14,410	10	7,200	10,850	720	500	1.44	\$0.88	\$2.07	\$2.95
Small tractor (40 HP)	3,930	10	2,700	3,315	93	500	.20	.83	1.38	2.21
2-ton truck (used)	3,144	10	0	1,572	315	3,000/M	.11/M	.12/M	.07/M	.19/MG
Weed sprayer	600	10	0	300	60	100	.60	.38	—	.38
Row crop sprayer	1,370	10	720	1,045	65	150	.43	.90	—	.90
Well and tank	5,080	20	0	2,540	335	450/MG	.74/MG	.05/MG	.12/MG	.17/MG
Fertilizer spreader	950	8	450	650	62	75	.83	.40	—	.40
Trailer	500	15	250	375	17	100	.17	.18	—	.18
High pressure sprayer	1,370	15	720	1,045	65	50	1.30	.38	—	.38
Disk (8 ft.)	1,350	15	0	675	90	50	1.80	.60	—	.60
Drag (12 ft.)	270	15	0	135	18	50	.18	.12	—	.12
Wiggle hoe	150	10	0	75	15	50	.30	.12	—	.12
Transplanter (2-row)	1,350	10	0	675	135	50	2.70	.60	—	.60
Culti-mulcher	1,800	15	0	900	120	100	1.20	.55	—	.55
Cultivator	600	10	0	300	60	100	.60	.30	—	.30
Irrigation (10 A)	18,000	15	0	9,000	1,200	200/AI	3.33/AI	4.17/AI	—	4.17
Rotary mower	2,540	15	0	1,270	169	100	1.69	.45	—	.45
Plow (3B)	1,200	15	0	600	80	100	.80	.60	—	.55
Planter (2 row)	1,800	15	0	900	120	50	2.40	.75	—	.75
Rotary hoe	1,200	10	0	600	120	50	2.40	.39	—	.39

* Annual usage is based upon a farm with 80 acres of fruit. Units are hours except when followed by "M" which indicates miles; "MG" thousand gallons; "AI" acre inches; and "MD" man days.

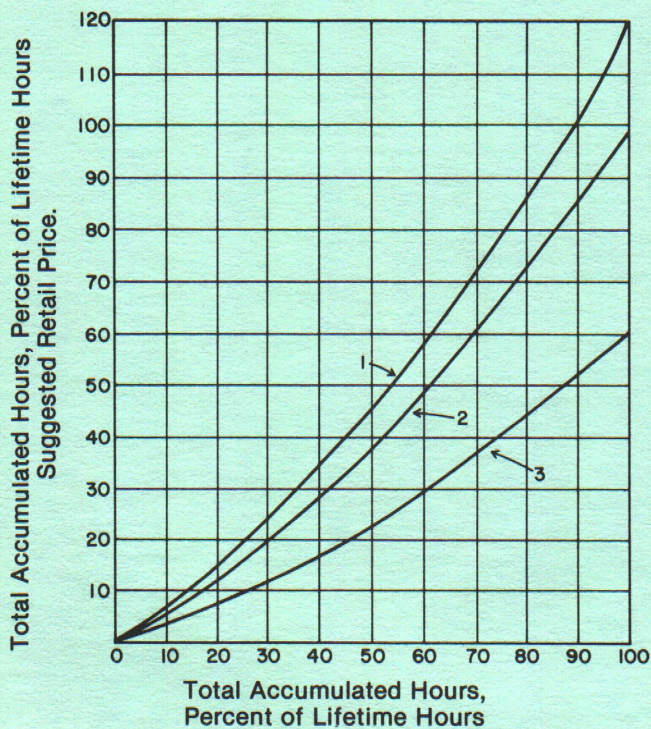


Figure 1. Total Accumulated Repair Costs for Farm Tractors and Implements.

Table 2—Machinery Schedule for Estimated Wear-Out Life and Repairs

Item	Estimated wear-out life (hours)	Total repairs in wear-out life % list price	Repair curve (Figure 1)
Stationary power unit	12,000	120	1
Tractor (2 wheel drive)	12,000	120	1
Wagon or tractor	5,000	100	2
Mower, rotary	2,000	60	3
Fertilizer equipment (dry)	1,200	120	1
Mower	2,000	120	1
Seeding equipment	1,200	100	2
Sprayers, mounted	1,200	100	2
Tillage tools	2,500	120	1
Truck	2,000	60	3

Table 3—Variable Cost of Growing Snap Beans

Operation	Labor			Equipment				Materials		
	Labor Hours	Wage Rate	Cost	Equipment Used	Hours of Use	Cost Per Hour	Cost	Item	Cost	Total Variable Cost
Lime (1 yr. cost)								.5 T/A @ \$13.00/T	\$ 7.50	\$ 7.45
Plow	.6	\$4.00	\$ 2.40	Large tractor	.6	\$2.95	\$ 1.77			
				Plow	.6	.55	.33			\$ 4.65
Disk (twice)	.6	4.00	2.40	Large tractor	.6	2.95	1.77			
				Disk	.6	.60	.36			4.53
Fertilize	.5	4.00	2.00	Small tractor	.4	2.21	.88			
				Fertilizer Spreader	.4	.90	.36	300 lb 10-20-20 @ \$9.00/cwt \$8.00/cwt	24.00	27.24
Pre-emerg. weed control	.5	4.00	2.00	Weed sprayer	.4	.90	.36			
								3 lb Eptam/A @ \$2.70/lb	11.70	14.94
Drag (herbicide incorporation)	.2	4.00	.80	Large tractor	.2	2.95	.59			
				Drag	.2	.12	.02			1.41
Plant	2.0	4.00	8.00	Small tractor	2.0	2.21	4.42			
				Planter	2.0	.75	1.50	75 lb Seed/A @ \$1.20/lb 200 lb 10-20-20 @ \$8.00/cwt 1 lb granular Di-Syston/A @ .60/lb	90.00 16.00 .60	120.52
Cultivate (three times)	5.0	4.00	20.00	Small tractor	5.0	2.21	11.05			
				Cultivator	5.0	.30	1.50			32.55
							\$24.91		\$149.80	\$213.91

Overhead Cost for Snap Beans

	Cash	Noncash	Your Farm
Machinery depreciation		\$ 35.74	
Machinery insurance \$ 3.68 (1% of value)			
Building depreciation 3.68 (1% of machine value)			
Building operating cost 3.68			
Taxes 18.00			
Interest— Machinery (8%) 29.45			
Building 7.36 (¼ machine value × 8%)			
Real estate 80.00 (1,000 @ acre × 8%)			
Operating funds 4.26 (\$213.19 × 8% × .25 yr.)			
Total	\$25.36	\$160.49	
Total overhead		\$185.85	

Per Acre Cost of Growing and Harvesting Snap Beans (300 Bu)

Variable growing cost	Per acre	Per bu	Your farm
Labor	\$ 37.60		
Machinery	25.79		
Fertilizer	47.50		
Seed	90.00		
Herbicide	11.70		
Spray material60		
Total	\$ 213.19	\$.71	
Overhead cost	\$ 185.85	\$.62	
Total variable & overhead	\$ 399.04	\$1.33	
Harvest cost	\$1,210.50	\$4.04	
Total cost	\$1,609.54	\$5.36	

Snap Beans Harvest Cost (300 Bu, by hand)

Labor—250 hr @ \$3.31	\$ 865.00	
50 hr @ \$4.17	208.50	
Machinery	12.00	
Materials (baskets @ \$.40)	125.00	
	\$1,210.50	

Table 4—Growing Operations and Related Variable Costs for 10 Acres of Strawberry Production
(Southwestern Michigan, 1979)

Operation	Labor			Machinery				Materials		
	Labor Hr. per 10 Acres	Wage rate	Cost	Equipment used	Hours of use	Cost per hour of use	Cost	Item	Cost per 10 acres	Total Cost per 10 acres
Fall (Soil building)										
Plow	6	\$4.28	\$25.68	3-Plow tractor	6	\$2.95	\$17.70			\$ 46.68
				Plow	6	.55	3.30			
Disk (twice)	6	4.28	25.68	Disk	6	.55	3.30			46.68
				3-Plow tractor	6	2.95	17.70			
Drag	2	4.28	8.56	3-Plow tractor	2	2.95	5.90			14.70
				Drag	2	.12	.24			
Seeding rye	3	4.28	12.84	2-Plow tractor	3	2.21	6.63	Rye 2B/A @ 3.00/B	\$ 60.00	80.67
				Fert. spreader	3	.40	1.20			
Fumigation				Custom application	15 @	acre	150.00	30 Gal DD/A @ 4.37	1,311.00	1,461.00
Culti-mulch	3	4.28	12.84	3-Plow tractor	3	2.95	8.85			23.79
				Culti-mulcher	3	.70	2.10			
Growing year										
Plow-down fertilizer	3	4.28	12.84	2-Plow tractor	3	2.21	6.63	400 lb 11-48-0 @ 169/T	338.00	358.67
				Fert. spreader	3	.40	1.20			
Plow	6	4.28	25.68	3-Plow tractor	6	2.95	17.70			46.68
				Plow	6	.55	3.30			
Disk (twice)	6	4.28	25.68	3-Plow tractor	6	2.95	17.70			46.68
				Disk	6	.55	3.30			
Drag	2	4.28	8.56	3-Plow tractor	2	2.95	5.90			14.70
				Drag	2	.12	.24			
Planting ¾ acre/hr										
Tractor driver	14	4.28	59.92	3-Plow tractor	14	2.95	41.30	4,500 plants/A planted 2½ x 4 @ \$45.00/1,000	2,025.00	2,133.92
				Transplanter	14	.55	7.70			
Hourly (4)	56	3.56	199.36							
Regular	14	4.28	59.92	2-Plow tractor	7	2.21	15.47			82.35
				Trailer	7	.18	1.26			
				Truck	30 Mi	.19	5.70			
Weed spray	8 hr	4.28	34.24	2-Plow tractor	8	2.21	17.68	12 lb Dacthal/A sprayed @ \$2.50/lb. Spray .4 of area/spray	120.00	173.68
				Weed sprayer	8	.38	1.76			
Wiggle hoe	Hoeing 60 Hr	3.56	213.60	2-Plow tractor	30	2.21	66.30			283.50
				Wiggle hoe	30	.12	3.60			
Cultivation (6 times)	14 Hr/ Cultiv 84 Hr	4.28	359.52	2-Plow tractor	84	2.21	185.64	600 lb 11-48-0 @ \$169/T in 2 side dressings	507.20	1,075.88
Hoeing (3 times)	1 A/10 Hr/day 300 Hr	3.56	1,068.00							1,068.00
Pinch blossoms (2 times)	½ A/ man/ day 320 Hr	3.56	1,139.20							1,139.20
Spraying (4 times)										
1. 50 gal/A	2 men @ 5 Hr ea.			3-Plow tractor	5	2.95	14.75	2 pt. Guthion/A @ \$1.92/pt	80.50	138.95
	5	4.28	21.40	High pressure sprayer	5	.90	4.50	1 lb Cyprex/A @ \$4.21/lb		
	5	3.56	17.80							
2. 50 gal/A	2 men @ 5 Hr ea.			3-Plow tractor	5	2.95	14.75	Same as above	80.50	138.95
	5	4.28	21.40	High pressure sprayer	5	.90	4.50			
	5	3.56	17.80							

Table 4—(Strawberries) Continued

Operation	Labor			Machinery				Materials		
	Labor Hr. per 10 Acres	Wage rate	Cost	Equipment used	Hours of use	Cost per hour of use	Cost	Item	Cost per 10 acres	Total Cost per 10 acres
3. 200 Gal/A	5	4.28	21.40	3-Plow tractor	5	2.95	14.75	Kelthane 2½ lb/A @ \$2.45/lb	141.75	180.65
				Row crop sprayer	5	.55	2.75	Guthion 2 pt/A @ \$1.92/pt		
								Cyprex 1 lb/A @ \$4.21/lb		
4. 200 Gal/A	5	4.28	21.40	3-Plow tractor	5	2.95	14.75	2 pt Guthion/A @ \$1.92/pt	80.50	119.40
				Row crop sprayer	5	.55	2.75	1 lb Cyprex/A @ \$4.21 lb		
Irrigation—set-up equipment	20	3.56	71.20	2-Plow tractor	10	2.21	22.40			97.10
				Trailer	10	.35	3.50			
One half A (6 times)	1/10 hr/A	4.28	12.84	Irrigation equip. Pump	30 A	4.17	125.10			183.48
					30 A	1.52	45.54			
Cutting runners in fall	10	4.28	42.80	2-Plow tractor	10	2.21	22.10			67.70
				Cultivator	10	.28	2.80			
Herbicide spray	8	4.28	34.24	Weed sprayer	8	.38	3.04	8# 50% WP Ten- oran/A @ \$3.58/#, .4 area. 12# Di- phenamid/A @ \$3.80/#, .4 area	114.60	169.56
				2-Plow tractor	8	2.21	17.68			
Labor cabins for 219 man days of labor						.93	203.67		181.81	236.77
										203.67
			3,574.40				1,162.21		5,040.86	9,777.47
First Fruiting year										
Set up of irrigation equipment	20	3.56	71.20	2-Plow tractor	10	2.21	22.10			96.80
				Trailer	10	.35	3.50			
Broadcast fertilizer	3	4.28	12.84	2-Plow tractor	3	2.21	6.63	200 lb 12-12-12 per A	133.00	153.67
				Fert. spreader	3	.40	1.20	A \$133/T		
Mulching: 1 man	16	4.28	68.48	2-Plow tractor	16	2.21	35.36	2 T straw @ \$30/T	600.00	893.36
2 men	32	3.56	113.92	Trailer	16	.35	5.60			
				Straw spreader	(Rent @ \$7/A)					
Setting straw off rows	80	3.56	284.80							284.80
Frost control (5 times) 7 Hr/night	35	4.28	149.80	Irrigation equipment Pump	40 A	4.17	166.80			377.40
					40 A	1.52	60.80			
First cover spray 200 gal/A	7	4.28	29.96	Weed sprayer	8	2.21	17.68	6 lb Captan/A @ \$1.13 lb	67.80	118.48
				2-Plow tractor	8	.38	3.04			
Second cover spray	5	4.28	21.40	Row crop sprayer	5	.55	2.75	2 lb Thiodan/A @ \$3.93/lb	78.60	176.78
								1 lb Benlate/A @ \$9.55/lb	47.75	
				3-Plow tractor	5	2.95	17.68	½ lb Captan @ .86/lb	8.60	
Third cover spray	5	4.28	21.40	Row crop sprayer	5	.55	2.75	1 lb Benlate/A @ \$9.55/lb	47.75	98.18
								½ lb Captan/A @ .86	8.60	
				3-Plow tractor	5	2.95	17.68			
Pre-Harvest spray	5	4.28	21.40	Row crop sprayer	5	.55	2.75	½ lb Benlate/A @ \$9.55/lb	47.75	128.92
								1 lb Thiodan/A @ \$3.93/lb	39.30	
				3-Plow tractor	5	2.95	17.68			
Pre-Harvest spray	5	4.28	21.40	Row crop sprayer	5	.55	2.75	½ lb Benlate/A @ \$9.55/lb	47.75	89.58
				3-Plow tractor	5	2.95	17.68			

Table 4—(Strawberries) Continued

Operation	Labor			Machinery				Materials		
	Labor Hr. per 10 Acres	Wage rate	Cost	Equipment used	Hours of use	Cost per hour of use	Cost	Item	Cost per 10 acres	Total Cost per 10 acres
Hoeing (1 time)	160	3.56	569.60	Row crop sprayer	5					569.60
Irrigation (1/2 AI (6 times)	1/10 Hr Per AI			3-Plow tractor	5					
				Irrigation equipment	30 AI	4.17	125.10	1 lb Captan/A @ .86/lb	502.35	685.88
	3	4.28	12.84	Pump	30 AI	1.52	45.60	1/2 lb. Benlate/A on 3 irrigations @ \$9.55/lb		
Broadcast fertilizer	3	4.28	12.84	2-Plow tractor	3	2.21	6.63	2 qt Guthion/A @ \$4.25/qt on 3 irrigations		
Labor cabins for 73 man days of labor				Fert. spreader	3	.40	1.20	50 lb 46% Urea/A @ \$200/T	50.00	70.67
						.93	67.89			67.89
Variable cost to harvest first fruiting year			\$1,411.88				\$ 720.85		\$1,679.25	\$ 3,811.98
Variable cost for growing and first fruiting year			\$4,986.28				\$1,883.06		\$6,720.11	\$13,589.45

Overhead Cost @ acre for Growing Strawberries

Item	Cash	Noncash	Your Farm
Depreciation on machinery		\$183.83	
Taxes (2 years)	\$36.00		
Building operating cost	18.38		
Building depreciation		18.38	
Machinery insurance	18.38		
Interest on machinery		73.64	
(average value) (\$921. @ 8%)			
Building		43.82	
(1/4 machine value x 8%)			
Real estate (2 years)		160.00	
\$1000 @8%			
Operating funds		28.02	
Total	\$72.76	\$507.69	
Total overhead		\$580.45	

Strawberry Harvest Cost (400 crates)

Labor—Piecework	\$1,008.00	
Other	256.79	
Machinery	29.76	
Crates and baskets	620.00	
	\$1,914.55	

Per Acre Cost of Growing and Harvesting Strawberries (400 crates)

Variable growing cost	Per acre	Per crate	Your farm
Labor—Piecework	\$ 412.25		
Regular	121.55		
Machinery	191.03		
Fertilizer	102.82		
Plants	202.50		
Herbicide	53.64		
Spray material	136.55		
Other	190.32		
Total	\$1,410.66	\$3.51	
Overhead cost	\$ 580.41	\$1.45	
Total variable & overhead	\$1,991.07	\$4.79	
Harvest cost	\$1,914.55	\$4.79	
Total cost	\$3,905.62	\$9.74	

Table 5—Variable Cost of Growing Sweet Corn

Operation	Labor			Equipment				Materials		
	Labor Hours	Wage Rate	Cost	Equipment Used	Hours of Use	Cost Per Hour	Cost	Item	Cost	Total Variable Cost
Plow-down fertilizer	.5	\$4.00	\$ 2.00	Small tractor	.5	\$2.21	\$ 1.11	400 lb 10-20-20 @ \$8.00/cwt	\$32.00	\$ 35.31
				Fertilizer spreader	.5	.40	.20			
Plow	.6	4.00	2.40	Large tractor	.6	2.95	1.77			3.50
				Plow	.6	.55	.33			
Disk (twice)	.6	4.00	2.40	Large tractor	.6	2.95	1.77			4.53
				Disk	.6	.60	.36			
Drag	.2	4.00	.80	Large tractor	.2	2.95	.59	Dyfonate 6 2/3 lb @ \$1.20 over row with planter	8.00	1.41
				Drag	.2	.12	.02			
Plant	2.0	4.00	8.00	Small tractor	2.0	2.21	4.42	10 lb Seed @ \$1.80/lb	18.00	51.92
				Planter	2.0	.75	1.50	200 lb 10-20-20 @ \$6.00/cwt	12.00	
Pre-emergence herbicide	.5	4.00	2.00	Small tractor	.4	2.21	.88	1 lb Bladex/A @ \$2.78/lb	2.78	10.01
				Weed sprayer	.4	3.8	.15	2 lb Lasso/A @ \$2.10/lb	4.20	1.98
Rotary hoe	.3	4.00	1.20	Small tractor	.3	2.21	.66			
				Rotary hoe	.3	.39	.12			
Cultivation (2 times)	4.0	4.00	16.00	Small tractor	4.0	2.21	8.84	200 lb ammonium nitrate @ \$6.60 cwt (applied once)	13.20	39.24
				Cultivator	4.0	.30	1.20			
Spray (3 times)	1.5	4.00	6.00	Small tractor	1.5	2.21	3.32	1.5 lb Sevin/spray @ \$1.48/lb	2.22	12.89
				RC sprayer	1.5	.90	1.35			
	10.2		\$40.80				\$28.59			\$160.79

Overhead Cost for Growing Sweet Corn

Hr/hourly rate	Cash	Noncash	Your Farm
Depreciation on machinery value \times 1%		\$ 19.37	
Taxes, insurance and repairs on buildings	\$ 2.50		
(\$2,500 avg. value \times 8% \times 1/80)			
Depreciation on buildings		3.13	
(\$5,000 purchase price \div 20 yrs. \div 1/80)			
Taxes (land)	18.00		
Interest on real estate		80.00	
(\$1,000 \times .08) (land value)			
Interest on buildings		1.25	
(1/4 value \times 8%)			
Interest on operating funds		3.20	
(160.00 \times 8% \times .25)			
Interest on machinery		19.37	
(19,370 \times .08 \times 1/80)			
Insurance on machinery	2.42		
(19,370 \times .01 \times 1/80)			
Total	\$22.92	\$126.32	
Total overhead		\$149.24	

Sweet Corn Harvest (Variable Cost)

Labor—26 hr per A@	\$4.00 =	\$104.00	
Small tractor—3 hr@	\$2.21 =	\$ 6.63	
Trailer—3 hr@	\$.18 =	\$.54	
Sacks (150—5 doz)@	\$.40 =	\$ 60.00	
		\$171.17	

Per-Acre Cost of Growing and Harvesting Sweet Corn. (750 doz)

Variable growing cost	Per acre	Cost per doz	Your farm
Labor (10.2 hr@ \$4.00)	\$ 40.80		
Machinery	28.59		
Fertilizer	57.20		
Seed	18.00		
Herbicide and sterilant	14.98		
Spray material	2.20		
Total	\$161.77	\$.22	
Overhead cost	\$149.24	\$.20	
Total variable & overhead	\$311.01	\$.42	
Harvest cost	\$171.17	\$.23	
Total cost	\$482.18	\$.65	

Table 6—Variable Cost of Growing Fresh Market Tomatoes

Operation	Labor			Equipment				Materials		
	Labor hours	Wage rate	Cost	Equipment used	Hours of use	Cost per hour	Cost	Item	Cost	Total variable cost
Lime (1 yr's cost)										
Disk cover crop	.4	\$4.00	\$ 1.60	Large tractor	.4	\$2.95	\$ 1.18	.5 T/A @ \$13.00	\$ 6.50	\$ 6.50
				Disk	.4	.55	.22			3.00
Seed cover crop	.3	4.00	1.20	Small tractor	.3	2.21	.88	2 B Rye seed @	6.00	8.20
				Fertilizer spreader	.3	.40	.12	\$3.00/B		
Plow	.6	4.00	2.40	Large tractor	.6	2.95	1.77			4.50
				Plow	.6	.55	.33			
Fertilizer	.3	4.00	1.20	Large tractor	.3	2.95	.89	150 lb Ammonium nitrate @	11.25	37.46
								\$7.50/cwt		
				Fertilizer spreader	.3	.40	.12	400 lb 5-20-20 @	24.00	37.46
								\$6./cwt		
Disk (twice)	.6	4.00	2.40	Large tractor	.6	2.95	1.77			4.50
				Disk	.6	.55	.33			
Weed spray	.5	4.00	2.00	Small tractor	.4	2.21	.88	1.5 Treflan @	5.72	8.75
				Weed sprayer	.4	.38	.15	\$3.81/pt		
Drag (to incorporate herbicide)	.2	4.00	.80	Large tractor	.2	2.95	.59			1.41
				Drag	.2	.12	.02			
Planting										
Tractor driver	3.0	4.00	12.00	Large tractor	3.0	2.95	8.85	5,000 plants @	75.00	163.18
								\$15.00/1,000		
Hourly (4)	12.0	3.56	42.72	Transplanter	3.0	.60	1.80	20 lb 10-50-10 @	2.50	
								\$3.00/cwt		
Regular	3.0	4.00	12.00	Small tractor	3.0	2.21	6.63			
				Trailer	3.0	.18	.54			
				Truck	6 mi	.19	1.14			
Cultivate (3 times)	7.0	4.00	28.00	Small tractor	7.0	2.21	15.47	500 lb 11/48-0	60.00	105.57
				Cultivator	7.0	.30	2.10	(applied once)		
Hand hoe	4.0	3.56	14.24							14.24
Spray (first)	.5	4.00	2.00	Small tractor	.5	2.21	1.11	1 lb Monitor @	9.00	12.56
				RC sprayer	.5	.90	.45	\$9.00/lb		
Spray (second)	.5	4.00	2.00	Small tractor	.5	2.21	1.11	2 lb Maneb @	2.70	9.80
								\$1.35/lb		
				RC sprayer	.5	.90	.45	2 lb Thiodan @	3.54	
								\$1.77/lb		
Spray (third)	.5	4.00	2.00	Small tractor	.5	2.21	1.11	2 lb Maneb @	2.70	6.26
				RC sprayer	.5	.90	.45	\$1.35/lb		
5 sprays	2.5	4.00	10.00	Small tractor	2.5	2.21	5.53	2 lb Maneb/spray	13.50	54.27
								@ \$1.35/lb		
				RC sprayer	2.5	.90	2.25	1.5 lb Copper/spray	9.00	
								@ \$1.20/lb		
								5 lb Epson salts/	.50	
								spray @ \$.02/lb		
								1 pt Guthion/spray	10.25	
								@ \$2.05/pt		
								3 lb Nutrilife/spray	3.24	
								on 2 sprays @		
								\$.54/lb		
3 sprays	1.5	4.00	6.00	Small tractor	1.5	2.21	3.32	2 lb Maneb/spray	8.10	24.47
								@ \$1.35/lb		
				RC sprayer	1.5	.90	1.35	1.5 lb Copper/spray	5.40	
								@ \$1.20 lb		
								5 lb Epsom salts/	.30	
								spray @ \$.02/lb		
			\$142.56				\$61.91		\$259.20	\$463.67

Overhead Cost for Tomatoes

	Cash	Noncash	Your farm
Machinery depreciation (value 17,434)		\$ 17.43	
Machinery insurance	\$ 1.74		
Building depreciation		1.74	
Building operating cost	1.74		
Taxes	18.00		
Interest—Machinery		17.34	
Building		1.73	
Real estate (1000 × 8%)		80.00	
Operating funds (\$463.67 × 8% × .25)		9.27	
Total	\$21.48	\$127.51	
Total overhead		\$148.99	

Tomato Harvest Cost (500 Bu)

Your farm		
Labor—Piecework	\$ 407.55	
Other	317.49	
Machinery	87.23	
Materials	466.80	
	\$1,279.07	

Per-Acre Cost of Growing and Harvesting Tomatoes (500 Bu)

Variable growing cost	Per acre	Per Bu	Your farm
Labor—Regular	\$ 85.60		
Hourly	56.96		
Machinery	61.91		
Fertilizer	97.75		
Plants	75.00		
Herbicide	5.72		
Spray material	63.79		
Other	17.04		
Total	\$ 463.67	\$.93	
Overhead cost	\$ 148.99	\$.30	
Total variable and overhead	\$ 612.66	\$1.23	
Harvest cost	\$1,279.07	\$2.55	
Total cost	\$1,891.83	\$5.01	

Table 7—Variable Cost of Growing Cabbage

Operation	Labor			Equipment				Materials		
	Labor hours	Wage rate	Cost	Equipment used	Hours of use	Cost per hour	Cost	Item	Cost	Total variable cost
Plow	.6	\$4.00	\$ 2.40	Large tractor	.6	\$2.95	\$ 1.77			\$ 4.50
				Plow	.6	.55	.33			
Disk (twice)	.6	4.00	2.40	Large tractor	.6	2.95	1.77			4.50
				Disk	.6	.55	.33			
Drag	.2	4.00	.80	Large tractor	.2	2.95	.59			1.41
				Drag	.2	.12	.02			
Spread fertilizer	.5	4.00	2.00	Small tractor	.4	2.21	.88	500 lb 10-20-20 @	\$ 30.00	33.04
				Fertilizer spreader	.4	.40	.16	\$6.00/cwt		
Pre-emergence weed control	.5	4.00	2.00	Small tractor	.4	2.21	.88	1 lb Treflan per		6.85
				Weed sprayer	.4	.38	.15	acre @ \$7.50/lb	3.81	
Disk in materials	.3	4.00	1.20	Large tractor	.3	2.95	.89			2.26
				Disk	.3	.55	.17			
Planting										
Tractor driver	3.0	4.00	12.00	Large tractor	3.0	2.95	8.85	14,000 plants @	154.00	308.18
Hourly (4)	12.0	3.31	39.72	Transplanter	3.0	.60	1.80	\$11.00/thousand		
Regular	3.0	4.00	12.00	Small tractor	3.0	2.21	6.63	200 lb 0-45-0 @	17.00	
								\$8.55/cwt		
								10 lb 10-50-10 @	1.30	
								\$.13/lb		
								2 lb Guthion/A @	7.20	
								\$3.60/lb		
								30 lb PCNB/A @	45.00	
								\$1.50/lb		
Cultivation (3 times)	5.0	4.00	20.00	Small tractor	5.0	2.21	11.05	100 lb Ammonium	7.50	40.05
				Cultivator	5.0	.30	1.50	nitrate @		
								\$7.50/cwt		
Hoeing	10.0	3.31	33.10							33.10
Insecticide spray (7 times)	3.5	4.00	14.00	Small tractor	3.5	2.21	7.74	Dipel 1 lb 3.2%	27.60	
				RC sprayer	3.5	.90	3.15	WP/A @ \$9.20/lb		
								—3 sprays		
								Lannate ½ gal/A	64.95	139.22
								@ \$21.65 per gal		
								6 sprays		
								Parathion ½ lb/A	9.63	
								@ \$2.75/lb.		
								7 sprays		
								Maneb 1½ lb/A @	12.15	
								\$1.35/lb 6 sprays		
			\$141.62				\$51.24		\$370.24	\$563.11

Overhead Cost for Growing Cabbage

	Cash	Noncash	Your farm
Depreciation on machinery		20.28	
Building depreciation		2.03	
Building cost	2.03		
Machinery insurance	2.03		
Taxes	18.00		
Interest on Machinery		20.28	
Building		2.03	
Real estate		80.00	
(1000 × 8%)			
Operating funds		11.18	
(\$559. × .08 × .25)			
Total	\$22.06	\$135.80	
Total overhead		\$157.86	

Per Acre Cost of Growing and Harvesting Cabbage (10,000 head)

Variable growing cost	Per acre	Cost/100 head	Your farm
Labor	\$ 141.62		
Machinery	51.24		
Fertilizer	55.90		
Plants	140.00		
Herbicide	3.81		
Spray material	166.53		
Total	\$ 559.10	\$ 5.59	
Overhead cost	\$ 157.86	\$ 1.58	
Total variable & overhead	\$ 716.96	\$ 7.17	
Harvest cost	\$ 576.73	\$ 5.77	
Total cost	\$1,293.69	\$12.94	

Cabbage Harvest Cost (10,000 head)

Labor—80 hr@ \$4.00	\$320.00	
Small tractor—7 hr@ \$2.21	15.47	
Trailer—7 hr@ \$.18	1.26	
Sacks—600@ \$.40	240.00	
	\$576.73	