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PLANNING DATA FOR SMALL SCALE COMMERCIAL VEGETABLE AND STRAWBERRY PRODUCTION IN NEW YORK

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INTRODUCTION

Information on the production practices, costs, and returns in producing vegetables and small fruits commercially on a small scale has been developed for western New York. This publication summarizes the findings on growing and harvesting practices and costs. A companion publication will present data on marketing costs and net returns for alternative methods of marketing these crops. The data have been developed from several different sources. Since conditions vary from one farming operation to another the numbers must be considered approximate, and adjustments made to local situations.

In developing the data, a farm operation was first specified with respect to available land, labor and management, buildings and equipment. Then a production schedule listing the operations that must be performed for each crop by months throughout the season was determined. The times required to perform each operation were estimated based on agricultural engineering data. The quantities of seed, fertilizer, pesticides, and other materials were specified. Prices prevailing in 1980 for equipment and materials were obtained. The variable or direct costs of producing each crop except for labor, were then determined. The amount of labor used in production has been estimated. On small farms, however, much of the labor is provided by the farm operator or members of the family, and the cost of such labor will depend on other opportunities that will differ from one farm to another. Labor has therefore been treated as a residual claimant.

Variable costs of production and the amount of skilled and unskilled labor required in growing and harvesting are presented for each crop.

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FARM SITUATION AND RESOURCES

Production practices and costs are based on conditions assumed to prevail on a small farm in western New York in 1980. The farm consists of about 50 acres of tillable land of which half can be used for vegetable and small fruit production annually. Skilled labor is available to operate equipment and supervise field work. Family members can provide some unskilled labor and additional help can be hired locally.

Power and equipment is available to perform most of the operations involved in growing vegetables and small fruit (table 1). Some of the work may be custom hired. The necessary tractors and implements can usually be purchased at auctions or sales, and need not be of the latest model.

Table 1. FARM POWER AND EQUIPMENT FOR SMALL SCALE VEGETABLE PRODUCTION

Item	Condition	1980 Cost	Estimated Remaining Life
			years
3/4 ton pickup	used	$ 4,000	5
40 H.P. tractor	used	6,840	10
Cultivator tractor	used	3,675	10
2 bottom plow	used	610	5
2 row planter with fertilizer attachment	used	920	5
1 row transplanter	new	570	10
10 foot disc harrow	used	1,550	5
10 foot spring tooth harrow	used	300	7
2 row cultivator	used	430	7
20 foot boom sprayer	used	1,500	5
Fertilizer spreader	used	360	7
Sidedress attachment for cultivator tractor	new	300	10
Flatbed wagon	used	400	7
Total Value		$21,455	

FIXED COSTS OF CROP PRODUCTION

Costs of operating a farm business can be divided into two categories. Some costs such as taxes do not change with changes in the volume of production and are designated fixed costs. Other costs such as seed or spray materials tend to vary directly with the acreage planted to a particular crop and are designated as variable costs. Some costs that could fall into an intermediate category are generally for purposes of analysis considered either fixed or variable. The distinction is useful when considering changes in the business.

The major fixed costs in growing vegetables and small fruits are for use of land, equipment, and buildings, unless the operator's time is also considered (table 2). Machinery depreciation and repair costs consist of both fixed and variable elements, but for this study depreciation has been considered a fixed annual expense and repairs as variable according to use.

Table 2. FIXED COSTS OF CROP PRODUCTION

Machinery and equipment depreciation	$2,785
Interest on average machinery investment[1]	1,196
Insurance on machinery and equipment[2]	109
Building use[2]	109
Land charge[3]	3,000
Real estate taxes[4]	540
Liability insurance[5]	225
Total Annual Fixed Costs	$7,964

1. Interest at 10 percent.
2. Based on 0.5 percent of original cost of equipment.
3. 10 percent of land value of $600 per acre.
4. $1.80 per $100 of market value land and buildings.
5. $7.50 per $1,000 of sales estimated at $30,000 per year.

Machinery and equipment depreciation expense was based on expected years of remaining life and salvage value, without allowing for continuing inflation in prices. The interest charge of 10 percent on machinery investment reflects the alternative opportunity cost of the capital employed. Modest charges were made for insurance on the machinery and equipment and for the buildings used to house the equipment. Based on an estimated value of $600 per acre the charge for the use of the land and buildings at 10 percent amounted to $3,000 per year. Real estate taxes and liability insurance are two other significant items of fixed costs.

PRODUCTION SCHEDULES

Crop production practices usually differ from one farm to another. The differences can be due to variation in soil type, weather conditions, or insect and disease problems. Production practices that were considered to be typical of small scale farm operation in western New York have been developed and are listed in the Appendix.

The production schedule for each crop specifies growing operations by months throughout the season. For each operation the frequency, the material used, the rate per acre, and the hours of operator or unskilled labor involved are specified. Cornell Recommendations for Commercial Vegetable Production 1980 was used as a guide to cultural practices, seeding and fertilization rates, and materials to control weeds, insects, and diseases.

Some operations are common to several crops. In practice lime would be applied over the entire acreage at the rate of several tons per acre every three or four years depending on the pH of the soil. For purposes of these budgets a charge for 1,000 pounds of lime per acre per year has been included for each crop.

All crops with the exception of sweet corn and field corn are sidedressed using the sidedress attachment on the 1 row cultivator tractor. Sidedressing and cultivation are completed in one operation. Sweet corn and field corn are sidedressed by broadcasting urea using the fertilizer spreader and cultivating the urea into the ground in a subsequent operation. The 2 row cultivator is used for this purpose as well as for cultivating peas and snap beans.

Operating the transplanter requires two additional hours of unskilled labor for each hour of skilled labor.

Table 3. TIME REQUIRED FOR GROWING OPERATIONS

Operation	Equipment Used	Hours Per Acre
Plowing	2 bottom plow	1
Disc	10' disc harrow	.25
Harrow	10' springtooth harrow	.33
Plant	2 row planter	1
Cultivate	2 row cultivator	.5
Spray	20' boom sprayer	.3
Fertilize	Fertilizer spreader	.1
Transplant	1 row transplanter	varies
Seeding covercrop	Fertilizer spreader	.1
Lay plastic	Rented plastic layer	2.5
Mulch	Flatbed wagon	varies
Cultivate	Cultivator tractor	2.5
Sidedress	Cultivator tractor plus sidedress attachment	2.5

Vegetable and small fruit production requires the use of many different kinds of chemicals. These crop production schedules and budgets are based on a specific set of materials. These were selected to illustrate the control needed, and naming a particular material does not constitute endorsement of that product nor imply criticism of other materials not included. The chemicals specified were readily available and generally considered among the least toxic. Certain chemicals are restricted in use and may only be applied in New York by a certified applicator. The operator is assumed to be certified.

Most chemicals used on vegetable crops have both a common and a trade name. In this publication, some compounds are referred to by their trade name and others by their common name depending on customary practice.

Equipment and labor requirements for machinery operations were based on speed and field efficiency coefficients from the 1971 ASAE Yearbook. The lowest field efficiency rates were used to allow for inefficiencies that occur when farming small acreages. Time requirements were considered to vary from .4 acres per hour to sidedress or lay plastic to 10 acres per hour to seed cover crop or broadcast fertilizer (table 3).

The actual crop harvest is performed by unskilled labor. Crops were assumed to be packed and graded in the field. Harvest rates were obtained from several sources and were adjusted on the basis of relative time requirements compared to similar crops. Consideration was also given to the amount of selectivity required to maintain uniformity of quality and maturity.

Table 4. HARVEST RATE FOR FIELD HARVEST

Crop	Unit	Units Per Hour
Sweet Corn	dozen	25
Tomatoes	8 quart basket	8
Cabbage	1 3/4 bushel	8
Winter Squash	bushel	15
Peppers	bushel	6
Melons	bushel	10
Cauliflower	12 head crate	5
Broccoli	bushel	3
Cucumbers	bushel	6
Snap beans	bushel	1
Peas	bushel	1
Pumpkins	ton	.5
Strawberries	quart	10
Lettuce	12 head crate	8
Carrots	bunch	20
Beets	bunch	20
Summer Squash	8 quarts	8
Onions	bushel	6

Labor requirements for harvest loading operations include operator labor required for tractor and wagon operation and unskilled labor required to load produce onto the wagon. Labor requirements were estimated at one hour of operator and unskilled labor for each 40 pieces loaded. A piece is equal to the standard packing container used for each crop. This rate was obtained by averaging rates used in studies in New Jersey and Massachusetts.

MARKETING ALTERNATIVES AND COMBINATIONS

Small scale fruit and vegetable growers in western New York have several marketing alternatives. There are four major options. They can sell at one or more weekly retail farmers' markets, they can sell to customers on a U-pick or pick-your-own basis, they can operate a roadside market, or they can develop a wholesale business delivering to restaurants, institutions, or independent retail stores. For the beginning grower or one with limited volume each of these options has certain advantages and limitations. The combination of two or more sometimes can overcome some of the limitations.

Retail Farmers' Markets

In 1979 there were 89 farmers' retail markets in New York. Most farms are within an hour's drive or less of a weekly market. These markets vary in volume of business from those that draw few customers and where most vendors are part-time farmers to those that have many customers and provide a good market for full-time commercial farmers. Sales per vendor probably vary from less than $100 per day for many on the smaller markets to several hundred dollars per day for vendors on the larger markets.

Selling at a farmers' market requires a commitment of time and product on a regular basis over as long a season as possible. There is considerable benefit from being on the market at the same location each week to develop customer loyalty. This means planning to have a succession of crops and being willing to attend the market even when supplies are short. Generally most vendors like to have someone working with them at the market. When two people are involved one can relieve the other during slack periods, and both can pitch in when the market is busy. All labor requirements for selling at farmers' markets were considered to be fixed.

The costs of selling on the farmers' market, apart from the labor involved, are minimal. Most markets charge a small fee payable weekly or for the season. Trucking expense is incurred in hauling the produce to market. There is a cost for bags, and for a scale if product is to be weighed. Additional expenses are largely optional.

U-Pick

U-pick operations in New York increased from 335 in 1974 to 639 in 1979. This method of marketing is suited to small scale farm operations when someone is available during the harvest season to serve the customers. Larger farms need to have a person stationed at the U-pick operation all during business hours and this represents a fixed cost. Smaller farms may be able to serve U-pick customers as they arrive by diverting labor from other nearby work.

Crops that require a lot of labor to harvest and that consumers buy in large quantities for home processing, storage, or immediate consumption are generally best for consumer harvest. Crops for consumer harvesting should have mature fruits and vegetables easily distinguishable from

immature product and easily harvested. Strawberries are widely grown for U-pick, but not sweet corn. Other crops commonly grown for pick-your-own include tomatoes, peas, snap beans, cucumbers, and peppers. Even crops such as broccoli and asparagus are grown in limited quantity for U-pick. Customers sometimes harvest fruit or vegetables of lower quality than would normally be offered for sale by growers, but also tend to pick immature fruit or vegetables at times.

All labor requirements for selling at U-pick were considered to be variable. One hour of unskilled labor was required for each $30 worth of produce sold to provide picking instructions to customers, check out sales, and monitor the operation. One hour of operator labor was required for each $300 of sales to oversee operations and perform general management functions.

Very little cost other than labor is involved in selling on a U-pick basis, and harvest cost is avoided. Sales may be made by volume, weight, or by the unit. Sales by weight require the use of scales and weighing customers' containers, but avoid the problem of customers overfilling containers when sales are made by volume. U-pick customers usually either supply their own containers or purchase them at the farm.

Roadside Market

Roadside markets are generally operated by individual growers on or near their own farm. Markets range from those having no permanent building to those resembling supermarkets in product line and facilities. Some farms with markets raise most of the product sold while others purchase for resale all the produce sold through the market. A favorable market location with respect to population centers or vehicle traffic is important to success especially with rising fuel prices. Customers will not usually drive as far to a roadside market as to a U-pick operation since they generally make smaller but more frequent purchases at the roadside market. Roadside market operations require fixed labor by the operator and by sales help for peak periods, supplemented by variable unskilled labor during the slack times. During periods when the market was not staffed or when sales exceeded that which could be serviced by the sales staff, the assumption was made that one hour of selling labor was required for each $20 of sales made.

The costs of selling through a roadside market will vary depending on the type of facilities and the volume handled. A small permanent structure is often adequate to start a market. This permits selling a variety of products from midsummer to early fall. Sales staff have to be on hand at busy periods such as weekends, but otherwise help could be diverted from other work when customers appear.

Wholesale Sales

Small scale growers may be limited in wholesaling to sales through a commission merchant or sales to supermarkets, restaurants, or roadside markets. Sales to restaurants or stores take time to develop since potential customers need to be convinced of the quality of the product and reliability of the supplier. Packaging and delivery are usually

required so this type of marketing can be expensive. Costs of new containers are substantial, although used containers are sometimes substituted.

All labor requirements for selling at wholesale were also considered variable. Labor was required to load and unload produce and transport it to market. Two classes of labor were involved. Operator labor was used to transport and unload produce, and unskilled labor to load the produce. One hour was considered necessary to transport each load. A loading and unloading rate of 40 pieces per hour was assumed. An additional hour of packing labor was considered necessary to pack strawberry quart baskets into carriers. The truck capacity of one ton held 40 crates of sweet corn, 160 baskets of tomatoes, 80 bushels of peppers, and comparable quantities of other commodities.

Marketing Combinations

Growers starting on a small scale usually begin by going to a farmers' market or two each week or setting up a U-pick operation, although some launch into a small roadside market immediately. As the business expands attempts may be made to secure some local wholesale accounts or to combine two of the direct marketing alternatives. Selling at farmers' markets may be combined with a U-pick operation, but only a few larger businesses successfully combine a roadside market with regular attendance at a farmers' retail market. The combination of roadside market, U-pick operation, and wholesale sales is common among larger established growers.

CROP YIELDS AND PRICES

Crop Yields

Marketable yields of vegetable and small fruit crops are likely to vary widely under part-time or small scale farm operations. Yields are affected by soil and weather conditions as well as by varieties planted and the cultural practices employed. Market conditions can influence the quantity eventually harvested. These factors usually differ from one year to the next. Variation can even occur within one season. Most seasonal crops have an optimum time for planting and harvest, and the yield and quality of earlier or later plantings are generally lower.

Few farmers keep track of yields of individual fresh market vegetable crops. Data from the New York Crop Reporting Service, the Cornell Farm Cost Accounts, and selected publications from other states were used to develop yield levels. Yields specified are considerably less than the levels achieved under small plot experiments, or even by large specialized growers with established markets.

Yield levels specified are assumed to be based on crops harvested by the farm operator and farm employees (table 5). Customer harvested yields may be higher or lower. Experience indicates that customers may be less discriminating than the farm operator in harvesting some crops, while damaging or leaving behind larger quantities of other crops. U-pick yields are often less than harvested yields for peppers, broccoli, snap beans, peas, and strawberries, but larger for tomatoes. U-pick yields for cucumbers may be considerably less than harvested yields due to the tendency of customers to pick the smaller fruit for pickles.

Crop Prices

Prices received by growers for vegetables and small fruits vary from one year to the next, from one grower to another, by different methods of marketing, and during the season. Generally prices start out relatively high at the beginning of the season when supplies are just coming on the market, drop as the volume increases, then may rise again as marketings diminish. Differences in prices from one season to the next generally reflect changes in the size of the crop or of important substitutes. Prices also vary depending on the stage of marketing, from pick-your-own to roadside retail.

The Federal-State Market News Service provides a wealth of information on vegetable and small fruit prices. In western New York, the Rochester office issues daily shipping point prices for major commodities such as apples, cabbage, onions, sweet corn, and potatoes throughout the marketing season and an annual report at the end of the crop year summarizing the market conditions and prices received. The Buffalo office reports daily wholesale prices for shipped-in produce on the Niagara-Frontier Terminal Market, and wholesale prices of locally grown produce on the Farmers' Market during the local season. An annual summary of Monday prices on

the Terminal Market and Thursday prices on the Farmers' Market contains price information on 55 fruits and vegetables shipped into the Buffalo market and 31 locally grown commodities.

The wholesale market generally provides a basis from which other prices are established, although the mechanism does not always work smoothly. Roadside market prices are typically 25 to 50 percent above wholesale. Farmers' market prices in the same community usually run a little below typical roadside prices, reflecting more active competition and sometimes lower quality. U-pick prices generally run below wholesale prices by the costs of harvesting and handling and the containers used.

Table 5. TYPICAL VEGETABLE CROP YIELDS AND ROADSIDE MARKET PRICES
Western New York, 1980

Crop	Unit	Yield Per Acre	Price Per Unit
Sweet Corn	dozen	600 - 800	$ .90 - 1.25
Tomatoes	8 quart	800 - 1,000	2.75 - 3.25
Cabbage	1 3/4 bushel	450 - 600	4.00 - 6.00
Winter Squash	bushel	200 - 300	6.00 - 8.00
Peppers	bushel	250 - 400	10.00 - 12.00
Melons	bushel	200 - 300	10.00 - 14.00
Cauliflower	dozen	200 - 400	8.00 - 10.00
Broccoli	bushel	150 - 250	12.00 - 14.00
Cucumbers	bushel	200 - 250	10.00 - 12.00
Snap Beans	bushel	125 - 175	12.00 - 14.00
Peas	bushel	80 - 140	14.00 - 16.00
Pumpkins	tons	6 - 10	50.00 - 75.00
Strawberries	quarts	3,000 - 6,000	1.00 - 1.40
Misc. Vegetables			
Summer Squash	8 quart	800 - 1,000	2.50 - 3.00
Lettuce	dozen	500 - 750	4.00 - 6.00
Onions	bushel	150 - 200	10.00 - 12.00
Carrots	bunches	1,500 - 2,000	.40 - .60
Beets	bunches	1,500 - 2,000	.30 - .50

VARIABLE EXPENSES

Variable expenses for growing, harvesting, and selling each crop were developed based on the production schedule and costs of materials and services, fuel, and equipment repair costs. These are listed in the Appendix.

These variable expenses do not include a charge for labor. Most if not all of the labor would likely be supplied by the family and could be considered a residual claimant, earning the amount left after other costs have been deducted from gross returns.

Materials and Services

Vegetable and small fruit growers use a large number of different materials and services in crop production and marketing. Prices of purchased materials will often vary from one supplier to another and throughout the season. Large quantities can often be bought at lower prices. Small scale growers may have to make many of their purchases at retail.

Prices listed in the accompanying table reflect the customary prices charged buyers in New York for small quantities of the particular item in the spring of 1980 (table 6).

Fuel Use and Equipment Repair

Estimates of tractor and equipment repair costs have been made by calculating lifetime repair expense as a percentage of the new price and dividing by the expected hours of lifetime use to obtain repair costs per hour of use. The relationship between total repair cost and new price varies with the type of equipment. By this method the repair cost per hour for the use of the diesel tractor is not much more than for the 1 row transplanter since the tractor is used about 10 times as long as the transplanter (table 7).

Fuel and repair costs per acre depend on the costs per hour and the number of acres covered per hour. Diesel fuel use per hour is highest for operations such as plowing or discing, and lowest for planting, cultivating, or spraying (table 8).

Table 6. PRICES OF PURCHASED MATERIALS AND SERVICES, SPRING 1980

Item	Unit	Price
Lime and Fertilizer		
15-15-15 bagged	ton	$220.00
U-46 bagged	ton	262.00
10-20-20 bagged	ton	225.00
Lime custom spread	ton	19.30
Pesticides		
Herbicides		
Atrazine 80% WP	pound	1.71
Alachlor 4 EC	gallon	16.80
Treflan 4 EC	gallon	32.71
Premerge 3 lb/gal	gallon	12.92
Dacthal 75% WP	pound	3.10
Sinbar 80% WP	pound	14.91
Insecticides		
Thiodan 3 lb/gal	gallon	22.00
Thiodan 50% WP	pound	3.78
Methoxychlor 50% WP	pound	2.21
Diazinon 50% WP	pound	3.67
Dipel	pound	7.93
Cygon 400	gallon	26.25
Orthene 75S	pound	5.99
Sevin 80S	pound	2.27
Fungicides		
Benlate 50% WP	pound	9.77
Captan 50% WP	pound	1.62
Bravo 6F	gallon	24.10
Maneb 80% WP	pound	1.37
Fuel		
Diesel fuel	gallon	1.03
Gasoline	gallon	1.19
Seed and Plants		
Sweet corn seed	pound	2.15
Winter squash seed	pound	8.00
Pumpkin seed	pound	8.00
Cucumber seed (standard varieties)	pound	7.00
Snap bean seed	pound	1.40
Pea seed	pound	1.25
Broccoli seed (hybrid)	ounces	14.00
Cauliflower seed	ounces	4.00
Cabbage seed	ounces	4.00
Beet seed	ounces	.80
Carrot seed	ounces	2.00

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Table 6. contd. PRICES OF PURCHASED MATERIALS AND SERVICES, SPRING 1980

Item	Unit	Price
Seed and Plants		
Summer squash seed	ounces	$ 2.25
Field corn seed	bushel	45.00
Rye seed	bushel	5.00
Lettuce plants	thousand	24.00
Onion plants	thousand	12.00
Melon plants	hill (peat pot)	.10
Pepper plants (hybrid)	thousand	40.00
Cabbage plants	thousand	15.00
Cauliflower plants	thousand	20.00
Broccoli plants	thousand	20.00
Tomato plants (hybrid)	thousand	50.00
Strawberry plants	thousand	65.00
Containers		
Used bushel baskets	each	.50
New 8 qt. baskets	each	.22
New quart baskets	each	.07
Used corn crates	each	.50
Used cabbage crates	each	.50
Universal crate (1 bushel capacity)	each	.50
Strawberry carries (8 quart)	each	.50
Custom Work Hired		
Corn harvest	acre	25.00
Strawberry renovation	acre	50.00
Miscellaneous		
Hotkaps	thousand	45.00
Wheat straw	ton	50.00
Black polyethylene	1000' roll	20.00

Table 7. TRACTOR AND EQUIPMENT REPAIR COSTS
Western New York, 1980

Item	Price New	Lifetime Use	Total Lifetime Repairs as a Percent of New Price	Repairs Per Hour of Use
		hours	percent	
40 H.P. tractor	$7,600	12,000	120	$ .76
Cultivator tractor	4,175	8,000	120	.63
2 bottom plow	760	2,500	120	.36
2 row planter with fertilizer attachment	1,150	1,200	100	.96
10' disc harrow	1,940	2,500	120	.93
10' springtooth harrow	375	2,500	120	.18
2 row cultivator	540	2,500	120	.26
20' bean sprayer	1,875	1,200	100	1.56
1 row transplanter	570	1,200	120	.57
Sidedress attachment for cultivator tractor	300	1,200	120	.30
Flatbed wagon	500	5,000	100	.10
Fertilizer spreader	450	1,200	120	.45

Table 8. FUEL USE AND MACHINERY COSTS

Operations Using the 40 H.P. Tractor		Hours Per Acre	Diesel Fuel Per Acre	Repair Costs Per Acre
			gallons	
Plowing	2 bottom plow	1.0	1.53	$1.12
Disc	10' disc harrow	.25	.47	.56
Harrow	10' springtooth harrow	.33	.18	.24
Plant	2-row planter	1.0	.40	1.72
Cultivate	2-row cultivator	.5	.18	.51
Spray	20' boom sprayer	.3	.14	.70
Fertilize	Fertilizer spreader	.1	.11	.12
Seeding (covercrop)	Fertilizer	.1	.11	.12
Lay plastic	Plastic layer (rented)	2.5	.72	1.90
Mulch	Flatbed wagon	--	.36	1.52

Operations Using the Cultivator Tractor		Hours Per Acre	Gasoline Per Hour	Repairs Per Hour
Transplant	1-row transplanter	4	.36	$1.33
Cultivate	Sidedress attachment	2.5	.6	.63
Sidedress	Sidedress attachment	2.5	.6	.63

MARKETING COSTS

Opportunities to market small quantities of fresh fruits and vegetables locally vary from one community to another, and depend on individual circumstances. Marketing costs will differ with the particular marketing channel used and the volume of product moved. An indication of marketing costs can be obtained by making certain assumptions concerning the particular marketing system involved. Adjustments can then be made in cost estimates for different conditions.

Retail Farmers' Market

Small scale or part-time growers may attend only one market a week during July, August, and September while those with larger farms may extend the season and market twice a week from late June through early October. Sales may average $100 per day for the smaller operation, and $150 or more for the larger farm business. If the larger farm requires the services of a hired helper at each market, the costs of attending the markets during the season becomes considerably higher than for the smaller farm (table 9). These costs do not include an allowance for the operator's time.

Table 9. RETAIL FARMERS' MARKET MARKETING COSTS
Western New York, 1980

Markets Attended	1 Market Per Week July - September	2 Markets Per Week Late June - Early October
Number of market days	12	32
Sales per market	$100	$150
Gross sales	$1,200	$4,800
Transportation (40 miles at $.20/mile)	$96	$256
Hired labor (7 hours at $3.50)	--	$784
Market fees ($7.50 per market)	$90	$240
Selling equipment	$20	$20
Containers and bags (1.5 percent of sales)	$18	$72
Total	$224	$1,116

U-Pick

U-Pick marketing costs consist largely of the labor required to supervise the customer harvesting and to make the sales transaction. The amount of labor required can vary a great deal depending on the type of operation. On smaller farms labor can be diverted from other tasks when customers appear, while on larger operations a team may be required to supervise and collect the money during the whole time the farm is open to business. Typically u-pick sales may amount to about $30 per hour of hired labor involved, but at busy times on larger farms this rate may be exceeded several times over.

Strawberries are by far the most common crop sold on a pick-your-own basis in western New York, but some farms extend the season by including green peas, snap beans, and other vegetables. For a u-pick operation selling $7,500 worth of strawberries in a season the marketing costs may amount to $1,075 or about 14 percent of sales, not counting operator labor or management (table 10).

Table 10. U-PICK MARKETING COSTS
Western New York, 1980

Crops Sold	Strawberries	Full Line
Annual sales	$7,500	$15,000
Hired labor ($3.50 per $30 sales)	$875	$1,750
Advertising	$150	$300
Selling equipment	$50	$250
Total	$1,075	$2,300

Roadside Market

Roadside markets may operate largely on a part-time basis just in the summer or build up a larger volume of business and extend the season through late spring to early fall. For smaller markets the facilities may involve the major expense if labor can simply be diverted from other tasks as the need arises. With larger markets the hired labor cost will likely be the major expense. This will vary a great deal from one market to another depending on the volume of business and the resulting sales per hour of paid labor. With a relatively low sales per hour of $20, the costs of marketing through a roadside market may amount to $3,350 per season or 33.5 percent of sales, compared to $6,570 or 22 percent of sales for a larger market (table 11).

Table 11. ROADSIDE MARKET MARKETING COSTS
Western New York, 1980

	July - September Part-Time	Mid-June Through October
Hours of operation	500	1,200
Sales volume	$10,000	$30,000
Hired labor ($3.50 per $20 sales)	$1,750	$4,200
Building (20 percent of $5,000)	$1,000	$1,000
Selling equipment	$200	$200
Advertising (2 percent of sales)	$200	$600
Utilities ($.10 per hour)	$50	$120
Containers (1.5 percent of sales)	$150	$450
Total	$3,350	$6,570

APPENDIX

Production Schedule

EARLY SNAP BEANS

Early beans are planted in May using the 2-row planter, spacing 3' between rows, and harvested in July.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
May					
Plowing	1x			1	
Disc	1x			.33	
Spray herbicide	1x	Treflan 4 E.C.	1 pt.	.3	
Harrow	2x			.5	
Plant	1x	Seed	75 lbs.	1	
		10-20-20	300 lbs.		
				3.13	
June					
Cultivate	1x			.5	
				.5	
Fuel: Diesel 3.08 gal.			Total Labor	3.63	

LATE SNAP BEANS

Late beans are planted in June using the 2-row planter, spacing 3' between the rows, and harvested in August.

June					
Plowing	1x			1	
Disc	1x			.33	
Spray herbicide	1x	Treflan 4 E.C.	1 pt.	.3	
Harrow	2x			.5	
Plant	1x	Seed	75 lbs.	1	
		10-20-20	300 lbs.		
				3.13	
July					
Cultivate	1x			.5	
				.5	
Fuel: Diesel 3.08 gal.			Total Labor	3.63	

Variable Expenses

SNAP BEANS

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	75 lbs.	$1.40/lb.	$105.00
Fertilizer			
10-20-20	300 lbs.	$225/ton	33.75
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Treflan 4 E.C.	1 pt.	$32.71/gal.	4.09
Insecticides			
Orthene 75% S.P.	2/3 lbs.	$5.99/lb.	4.01
Power Truck & Equipment			
Diesel fuel	3.22 gals.	$1.03/gal.	3.32
Grease			.50
Repairs & maintenance			5.79
Other			
Interest	3 mos.	12%	4.93
Variable Growing Cost			$181.14
Harvesting			
Power & Equipment			
Diesel fuel	.75	$1.03/gal.	$ .77
Grease			.12
Repairs & maintenance			5.88
Variable Harvesting Cost			$ 6.77
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	16.20
Total			$16.20

SNAP BEANS (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
U-Pick			
Containers & supplies		.5% sales	2.36
Total			$ 2.36
Roadside Market			
Containers & supplies		1.5% sales	18.00
Total			$18.00

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	3.6	
Harvesting	3.7	153.7
Selling		
U-Pick	2.2	22.5
Roadside Market		95.6
Wholesale	5.5	1.8

Production Schedule

EARLY BROCCOLI

Early broccoli is transplanted in April, spacing 3' between rows and 18" in the row. Harvested in June and July.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
April					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	450 lbs.	.1	
Disc	1x			.33	
Spray herbicide	1x	Dacthal 75% W.P.	9 lbs.	.3	
Harrow	2x			.5	
Transplant	1x	10,000 plants		5	10
		Diazinon 50% W.P.	2 lbs.		
				7.23	10
May					
Spray insecticide	1x	Thiodan 3 E.C.	1 qt.	.3	
Cultivate	1x			2.5	
Hoe & weed					6
Spray insecticide	1x	Diazinon 4 E.C.	1 qt.	.3	
Sidedress	1x	Urea	200 lbs.	2.5	
Spray Insecticide	1x	Dipel	1/2 lb.	.3	
				5.9	6
June					
Spray insecticide	1x	Dipel	1/2 lb.	.3	
Cultivate	1x			2.5	
Hoe & weed					2
Spray insecticide	1x	Dipel	1/2 lb.	.3	
				3.1	2
July					
Spray insecticide	1x	Dipel	1/2 lb.	.3	
				.3	
Fuel: Diesel 5.25 gal.			Total Labor	16.53	18
Gasoline 4.5 gal.					

Variable Expenses

EARLY BROCCOLI

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Plants	10,000	$20/thou.	$200.00
Fertilizer			
10-20-20	450 lbs.	$225/ton	50.63
Urea	200 lbs.	$262/ton	26.20
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Dacthal 75% W.P.	9 lbs.	$3.10/lb.	27.90
Insecticides			
Diazinon 50% W.P.	4 lbs.	$3.67/lb.	14.68
Thiodan 3 E.C.	1 qt.	$22/gal.	5.50
Dipel	2 lbs.	$7.93/lb.	15.86
Power Truck & Equipment			
Diesel fuel	5.25 gals.	$1.03/gal.	5.41
Gasoline	4.5 gals.	$1.19/gal.	5.36
Grease			1.61
Repairs & maintenance			18.56
Other			
Interest	2 mos.	12%	7.87
Variable Growing Cost			$399.23
Harvesting			
Power & Equipment			
Diesel fuel	.75 gal.	$1.03/gal	$ .77
Grease			.12
Repairs & maintenance			2.76
Variable Harvesting Cost			$ 3.65
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	30.64
Total			$30.64

EARLY BROCCOLI (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
U-Pick			
Containers & supplies		.5% sales	5.67
Total			$ 5.67
Roadside Market			
Containers & supplies		1.5% sales	34.42
Total			$34.42

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	16.5	18.0
Harvesting	4.5	63.9
Selling		
U-Pick	3.8	37.8
Roadside		114.7

Production Schedule

LATE BROCCOLI

Late broccoli plants are grown in a field nursery and set out in July. Spacing 3' between rows and 18" in the row. Harvested in September and October.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
June					
Grow plants		Seed	1/4 lb.	1	
				1	
July					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	500 lbs.	.1	
Disc	1x			.33	
Harrow	1x			.25	
Spray herbicide	1x	Dacthal 75% W.P.	9 lbs.	.3	
Harrow	1x			.25	
Pull plants					2
Transplant	1x	10,000 plants		5	10
		Diazinon 50% W.P.	2 lbs.		
Cultivate	1x			2.5	
Spray insecticide	1x	Thioden 3 E.C.	1-1/3 qt.	.3	
Sidedress	1x	Urea	100	2.5	
Hoe & weed					3
Spray insecticide	1x	Diazinon 50% W.P.	1 lb.	.3	
Spray insecticide	1x	Thioden 3 E.C.	1-1/3 qt.	.3	
				13.13	15
August					
Spray insecticide	1x	Thiodan 3 E.C.	1-1/3 qt.	.3	
Cultivate	1x			2.5	
Hoe & weed	1x				1
Spray insecticide	3x	Dipel	3 lbs.	.9	
				3.7	1

LATE BROCCOLI (contd.)

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
September					
Spray insecticide	4x	Dipel	4 lbs.	1.2 / 1.2	
October					
Spray insecticide	1x	Dipel		.3 / .3	
Fuel: Diesel 6.09 gal. Gasoline 4.5 gal.			Total Labor	19.33	16

Variable Expense

LATE BROCCOLI

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	4 oz.	$14/lb.	$ 56.00
Fertilizer			
10-20-20	500 lbs.	$225/ton	56.25
Urea	100 lbs.	$262/ton	13.10
Lime	1,000 lbs.	$19.30/ton	9.65
Herbicides			
Dacthal 75% W.P.	9 lbs.	$3.10/lb.	27.90
Insecticides			
Thiodan 3 E.C.	1 gal.	$22/gal.	22.00
Dipel	8 lbs.	$7.93/lb.	63.44
Diazinon 50% W.P.	2 lbs.	$3.67/lb.	7.34
Power Truck & Equipment			
Diesel fuel	6.09 gals.	$1.03/gal.	6.27
Gasoline	4.5 gals.	$1.19/gal.	5.35
Grease			1.75
Repairs & maintenance			22.76
Other			
Interest	3 mos.	12%	8.75
Variable Growing Cost			$300.56
Harvesting			
Power & Equipment			
Diesel fuel	.75	$1.03/gal.	$ .77
Grease			.12
Repairs & maintenance			2.76
Variable Harvesting Cost			$ 3.65
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	37.45
Total			$37.45

LATE BROCCOLI (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
U-Pick			
Containers & supplies		.5% sales	6.93
Total			$ 6.93
Roadside			
Containers & supplies		1.5% sales	42.07
Total			$42.07

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	19.3	16
Harvesting	5.5	78.1
Selling		
U-Pick	4.6	46.2
Roadside		140.2

Production Schedule

EARLY CABBAGE

Early cabbage is spaced 3' between rows, 1' in the row. Plants are set out in late April. Crop is harvested in July and August.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
April					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	450 lbs.	.1	
Disc	1x			.33	
Spray herbicide	1x	Treflan 4 E.C.	1 qt.	.3	
Harrow	2x			.5	
Transplant	1x	Plants	14,000	7	
		Diazinon 50% W.P.	2 lbs.		
				9.23	14
May					
Cultivate	1x			3.5	
Spray insecticide	1x	Thiodan 3 E.C.	1-1/3 qt.	.3	
Hoe					4
Sidedress	1x	Urea	200 lbs.	3.5	
Spray insecticide	1x	Thiodan 3 E.C.	1-1/3 qt.	.3	
				7.6	4
June					
Spray insecticide	1x	Thiodan 3 E.C.	1-1/3 qts.	.3	
Cultivate	1x			3.5	
Hoe	1x				4
Spray insecticide	2x	Dipel	1.5 lbs.	.6	
				4.4	4
July					
Spray insecticide	3x	Dipel	2-1/4 lbs.	.9	
				.9	

EARLY CABBAGE (contd.)

Operation	Fre-quency		Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
August					
Spray insecticide	2x	Dipel	1.5 lbs.	.6 / .6	
Fuel: Diesel	5.39		Total Labor	22.73	22
Gasoline	6.3				

Variable Expenses

EARLY CABBAGE

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Plants	14,000	$15/thou.	$210.00
Fertilizer			
10-20-20	450 lbs.	$225/ton	50.63
Urea	200 lbs.	$262/ton	26.20
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Treflan 4 E.C.	1 qt.	$32.71/gal.	8.18
Insecticides			
Thiodan 3 E.C.	1 qt.	$22/gal.	5.50
Dipel	4.5 lbs.	$7.93/lb.	35.69
Diazinon 50% W.P.	2 lbs.	$3.67/lb.	7.34
Power Truck & Equipment			
Diesel fuel	5.39 gals.	$1.03/gal.	5.55
Gasoline	6.3 gals.	$1.19/gal.	7.50
Grease			1.96
Repairs & maintenance			25.91
Other			
Interest	3 mos.	12%	12.58
Variable Growing Cost			$416.69
Harvesting			
Power & Equipment			
Diesel fuel	1.5 gals.	$1.03/gal.	$ 1.55
Grease			.22
Repairs & maintenance			5.52
Variable Harvesting Cost			$ 7.29
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	31.00
Total			$31.00

EARLY CABBAGE (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Roadside Market			
Containers & supplies		1.5 sales	34.56
Total			$34.56
Wholesale			
Containers & supplies	480	$.50	$240.00
Truck & equipment	12 tons	$12/ton	144.00
Total			$384.00

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	22.7	22
Harvesting	12	72
Selling		
Roadside Market		114.6
Wholesale	18	6

Production Schedule

LATE CABBAGE

Plants for late cabbage are grown in a field nursery and set out in June. Spacing 3' between rows, 18" in the row. Harvested September through November.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
May					
Growing plants		Cabbage seed	1/4 lb.	1	
				1	
June					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	450 lbs.	.1	
Disc	1x			.33	
Harrow	1x			.25	
Spray herbicide	1x	Dacthal 75%	9 lbs.	.3	
Harrow	1x			.25	
Pull plants	1x				3
Transplant	1x	Cabbage plants	14,400	7	14
		Diazinon 50% W.P.	1 lb.		
				9.23	17
July					
Cultivate	1x			2.5	
Spray insecticide	1x	Thiodan 3 E.C.	1 1/3 qts.	.3	
Sidedress	1x	Urea	200 lbs.	2.5	
Hoe & weed					6
Spray insecticide	1x	Thiodan 3 E.C.	1 1/3 qts.	.3	
Spray	1x	Dipel	3/4 lb.	.3	
				5.9	6

LATE CABBAGE (contd.)

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
August					
Spray insecticide	1x	Dipel	3/4 lb.	.3	
Cultivate	1x			2.5	
Hoe & weed					2
Spray insecticide & fungicide	2x	Dipel Maneb 50% W.P.	1.5 lbs. 6 lbs.	.6	
				3.4	2
September					
Spray insecticide & fungicide	2x	Dipel Maneb 50% W.P.	1.5 lbs. 6 lbs.	.6	
				.6	
Fuel: Diesel 6.25 gal. Gasoline 4.5 gal.			Total Labor	20.13	25

Variable Expenses

LATE CABBAGE

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	1/4 lb.	$4/oz.	$ 16.00
Fertilizer			
10-20-20	450 lbs.	$225/ton	50.63
Urea	200 lbs.	$226/ton	26.20
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Dacthal 75% W.P.	9 lbs.	$3.10/lb.	27.90
Insecticides			
Thiodan 3 E.C.	2 2/3 qts.	$22.00/gal.	14.68
Dipel	3 3/4 lbs.	$7.93/lb.	29.74
Fungicides			
Maneb 80% W.P.	12 lbs.	$1.37/lb.	16.44
Power & Equipment			
Diesel fuel	6.2 gals.	$1.03/gal.	6.44
Gasoline	4.5 gal.	$1.19/ga.	5.36
Grease			1.77
Repairs & maintenance			25.91
Other			
Interest	3 mos.	12%	7.22
Variable Growing Cost			$247.94
Harvesting			
Power & Equipment			
Diesel fuel	1.5 gals.	$1.03/gal.	$ 1.55
Frease			.22
Repairs & maintenance			5.52
Variable Harvesting Cost			$ 7.29
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	34.42
Total			$34.42

LATE CABBAGE (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Roadside Market			
Containers & supplies		1.5% sales	38.70
Total			$ 38.70
Wholesale			
Containers & supplies	600	$.50	300.00
Truck & equipment	15 tons	$12/ton	180.00
Total			$480.00

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	20.1	25
Harvesting	15	90
Selling		
Roadside Market		143.2
Wholesale	22.5	7.5

Production Schedule

EARLY CAULIFLOWER

Early cauliflower is trnasplanted in May. Spacing 3' between rows, 18" in the row. Harvested in July.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
May					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	450 lbs.	.1	
Disc	1x			.33	
Spray herbicide	1x			.3	
Harrow	2x			.50	
Transplant	1x	10,000 plants		5	10
		Diazinon 50% W.P.	2 lbs.		
Spray insecticide	1x	Thiodan 3 E.C.	1 qt.	.3	
Cultivate	1x			2.5	
Hoe & weed					4
Spray insecticide	1x	Diazinon 4 E.C.	1 qt.	.3	
				10.33	14
June					
Sidedress	1x	Urea	200 lbs.	2.5	
Hoe & weed					4
Spray insecticide	1x	Dipel	1/2 lb.	.3	
Tie					4
Spray insecticide	1x	Dipel	1/2 lb.	.3	
				3.1	8
July					
Spray insecticide	1x	Dipel	1/2 lb.	.3	
Tie					4
Spray insecticide	1x	Dipel	1/2 lb.	.3	
				.6	4
Fuel: Diesel 5.25 gal.			Total Labor	14.03	26
Gasoline 3.00 gal.					

Variable Expenses

EARLY CAULIFLOWER

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Plants	10,000	$25/thou.	$250.00
Fertilizer			
10-20-20	450 lbs.	$225/ton	50.63
Urea	200 lbs.	$262/ton	26.20
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Treflan 4 E.C.	1 pt.	$32.71/gal.	4.09
Insecticides			
Thiodan 3 E.C.	1 qt.	$22/gal.	5.50
Diazinon 50% W.P.	3 lbs.	$3.67/lb.	11.01
Dipel	2 lbs.	$7.93/lb.	15.86
Power Truck & Equipment			
Diesel	5.25 gals.	$1.03/gal.	5.41
Gasoline	3.15 gals.	$1.19/gal.	3.75
Grease			1.37
Repairs & maintenance			16.98
Other			
Interest	2 mos.	12%	6.93
Variable Growing Cost			$417.38
Harvesting			
Power & Equipment			
Diesel fuel	.75 gal.	$1.03/gal.	$ .77
Grease			.12
Repairs & maintenance			2.76
Variable Harvesting Cost			$ 3.65
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	28.35
Total			$28.35

EARLY CAULIFLOWER (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Roadside Market			
Containers & supplies		1.5% sales	31.50
Total			$31.50
Wholesale			
Containers & supplies	260	$.50 each	$135.00
Truck & equipment	2.36 tons	$12/ton	28.32
Total			$163.32

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	14	26
Harvesting	6.5	58.5
Selling		
Roadside Market		113.7
Wholesale	9.7	3.2

Production Schedule

LATE CAULIFLOWER

Late cauliflower plants are grown in a field nursery and transplanted in June. Spacing 3' between rows, 18" in the row. Harvested in September and October.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
June					
Grow plants		Seed	1/4 lb.	1	
				1	
July					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	500 lbs.	.1	
Disc	1x			.33	
Harrow	1x			.25	
Spray herbicide	1x	Dacthal 75% W.P.	9 lbs.	.3	
Harrow	1x			.25	
Pull plants					2
Transplant	1x	10,000 plants		5	10
		Diazinon 50% W.P.	1 lb.		
Cultivate	1x			2.5	
Spray insecticide	1x	Thiodan 3 E.C.	1-1/3 qt.	.3	
Sidedress	1x	Urea	100 lbs.	2.5	
Hoe & weed					4
Spray insecticide	1x	Diazinon 50% W.P.	1 lb.	.3	
Spray insecticide	1x	Thiodan 3 E.C.	1-1/3 qt.	.3	
				13.13	16
August					
Spray insecticide	1x	Thiodan 3 E.C.	1-1/3 qt.	.3	
Cultivate	1x			2.5	
Hoe & weed					4
Spray insecticide	3x	Dipel	3 lbs.	.9	
Tie					4
				3.7	8

LATE CAULIFLOWER (contd.)

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
September					
Spray insecticide	3x	Dipel	3 lbs.	.9	
Tie					4
				.9	4
October					
Spray insecticide	2x	Dipel	2 lbs.	.6	
				.6	
Fuel: Diesel 6.12 gal. Gasoline 4.5 gal.			Total Labor	19.33	28

Variable Expenses

LATE CAULIFLOWER

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	4 oz.	$4/oz.	$ 16.00
Fertilizer			
10-20-20	500 lbs.	$225/ton	56.25
Urea	100 lbs.	$262/ton	13.10
Lime	1000 lbs.	$19.30/ton	9.65
Herbicides			
Treflan 4 E.C.	1 qt.	$32.71/gal.	8.18
Insecticides			
Thiodan 3 E.C.	1 gal.	$22/gal.	22.00
Dipel	8 lbs.	$7.93/lb.	63.44
Diazinon 50% W.P.	2 lbs.	$3.67/lb.	7.34
Power & Equipment			
Diesel fuel	6.12 gal.	$1.03/gal.	6.30
Gasoline	4.5 gal.	$1.19/gal.	5.36
Grease			1.75
Repairs & maintenance			2.76
Other			
Interest	3 mos.	12%	6.09
Variable Growing Cost			$209.13
Harvesting			
Power & Equipment			
Diesel fuel	.75 gal.	$1.03/gal.	$ .77
Grease			.12
Repairs & maintenance			2.76
Variable Harvesting Cost			$ 3.65
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	28.35
Total			$28.35

LATE CAULIFLOWER (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Roadside Market			
Containers & supplies		1.5% sales	31.50
Total			$31.50
Wholesale			
Containers & supplies	350	$.50 each	$175.00
Truck & equipment	3.2 ton	$12/ton	38.40
Total			$213.40

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	19.3	28
Harvesting	8.7	78.7
Selling		
Roadside Market		153.1
Wholesale	13.2	4.4

Production Schedule

EARLY SWEET CORN

Early sweet corn is planted in May using the 2-row planter, spacing 3' between rows and harvested in July.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
May					
Plowing	1x			1	
Disc	1x			.33	
Harrow	1x			.25	
Plant	1x	Seed	12 lbs.	1	
		10-20-20	250 lbs.		
Spray herbicide	1x	Atrazine 80% W.P.	1.5 lbs.	.3	
		Alachlor 4 E.C.	2.5 qts.		
				2.88	
June					
Sidedress	1x	Urea	150 lbs.	.1	
Cultivate	1x			.5	
Spray insecticide	1x	Sevin 80% S.P.	4 lbs.	.3	
				.9	
July					
Spray insecticide	1x	Sevin 80% S.P.	4 lbs.	.3	
				.3	
Fuel: Diesel 2.66 gal.			Total Labor	4.08	

Variable Expenses

EARLY SWEET CORN

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	12 lbs.	$2.15/lb.	$ 25.00
Fertilizer			
10-20-20	250 lbs.	225/ton	28.13
Urea	150 lbs.	262/ton	19.65
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Atrazine 80% W.P.	1.5 lbs.	$1.71/lb.	2.57
Lasso 4 E.C.	2.5 qts.	$16.80/gal.	10.50
Insecticides			
Sevin 80% S.P.	8 lbs.	$2.27/lb.	18.16
Power Truck & Equipment			
Diesel fuel	2.66 gals.	$1.03/gal.	2.74
Grease			.41
Repairs & maintenance			6.37
Other			
Interest	3 mos.	12%	4.02
Variable Growing Cost			$138.00
Harvesting			
Power & Equipment			
Diesel fuel	1.25 gals.	$1.03/gal.	$ 1.29
Grease			.19
Repairs & maintenance			4.60
Variable Harvesting Cost			$ 6.08
Selling			
Roadside Market			
Containers & supplies		1.5% sales	11.25
Total			$11.25

EARLY SWEET CORN (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	8.10
Total			$ 8.10
Wholesale			
Containers & supplies	120	$.50	$50.00
Truck & equipment	3 tons	$12/ton	36.00
Total			$96.00

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	4.1	
Harvesting	3.0	27.0
Selling		
Roadside Market		31.5
Wholesale	4.5	1.5

Production Schedule

MIDSEASON SWEET CORN

Midseason sweet corn is planted in May using the 2-row planter, spacing 3' between rows, and harvested in August.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
May					
Plowing	1x			1	
Disc	1x			.33	
Harrow	1x			.25	
Plant	1x	Seed	12 lbs.	1	
		10-20-20	250 lbs.		
Spray herbicide	1x	Atrazine 80% W.P.	1.5 lbs.	.3	
		Alachlor 4 E.C.	2.5 qts.		
				2.88	
June					
Sidedress	1x	Urea	150 lbs.	.1	
Cultivate	1x			.5	
				.6	
July					
Spray insecticide	2x	Sevin 80% S.P.	8 lbs.	.6	
				.6	
August					
Spray insecticide	2x	Sevin 80% S.P.	8 lbs.	.6	
				.6	
Fuel: Diesel 2.94 gal.			Total Labor	4.68	

Production Schedule

LATE SWEET CORN

Late sweet corn is planted in June using the 2-row planter, spacing 3' between rows, and harvested in September.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
June					
Plowing	1x			1	
Disc	1x			.33	
Harrow	1x			.25	
Plant	1x	Seed	12 lbs.	1	
		10-20-20	250 lbs.		
Spray herbicide	1x	Atrazine 80% W.P.	1.5 lbs.	.3	
				2.88	
July					
Sidedress	1x	Urea	150 lbs.	.1	
Cultivate	1x			.5	
				.6	
August					
Spray insecticide	3x	Sevin 80% S.P.	12 lbs.	.9	
				.9	
September					
Spray insecticide	1x	Sevin 80% S.P.	4 lbs.	.3	
				.3	
Fuel: Diesel 2.94 gal.			Total Labor	4.68	

Variable Expenses

MIDSEASON AND LATE SWEET CORN

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	12 lbs.	$2.15/lb.	$ 25.80
Fertilizer			
10-20-20	250 lbs.	$225/ton	28.13
Urea	150 lbs.	$262/ton	19.65
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Atrazine 80% W.P.	1.5 lbs.	$1.71/lb.	2.57
Lasso 4 E.C.	2.5 qts.	$16.80/gal.	10.50
Insecticides			
Sevin 80% S.P.	16 lbs.	$2.27/lb.	36.32
Power Truck & Equipment			
Diesel fuel	2.94 gals.	$1.03/gal.	3.03
Grease			.45
Repairs & maintenance			7.77
Other			
Interest	3 mos.	12%	4.61
Variable Growing Cost			$158.48
Harvesting			
Power & Equipment			
Diesel fuel	1.25 gals.	$1.03/gal.	$ 1.29
Grease			.19
Repairs & maintenance			4.60
Variable Harvesting Cost			$ 6.08
Selling			
Roadside Market			
Containers & supplies		1.5% sales	9.00
Total			$ 9.00

MIDSEASON AND LATE SWEET CORN (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	6.75
Total			$ 6.75
Wholesale			
Containers & supplies	150	$.50	$ 75.00
Truck & equipment	3.75 tons	$12/ton	45.00
Total			$120.00

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	4.7	
Harvesting	3.7	33.7
Selling		
Roadside		39.4
Wholesale	5.6	1.9

Production Schedule

CUCUMBERS

Cucumbers are planted using 1 unit of the 2-row planter. Rows are spaced 6' apart.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
June					
Plowing	1x			1	
Spread fertilizer		10-20-20	600 lbs.	.1	
Disc	1x			.33	
Harrow	2x			.5	
Plant	1x	Seed	1.5 lbs.	1	
Spray herbicide	1x	Premerge 3.0 sol.	1 gal.	.3	
Cultivate	1x			1.2	
Hoe & weed					4
Spray insecticide	1x	Methoxychlor 50% W.P.	2 lbs.	.3	
				4.73	4
July					
Sidedress	1x	Urea	100 lbs.	1.2	
Spray insecticide & fungicide	1x	Thiodan 50% W.P.	1 lb.	.3	
		Maneb 80% W.P.	2 lbs.		
Cultivate				1.2	
Hoe & weed					4
Spray insecticide & fungicide	1x	Methoxychlor 50% W.P.	2 lbs.	.3	
		Benlate 50% W.P.	1/2 lb.		
				3.0	4
August					
Spray insecticide & fungicide	1x	Thiodan 50% W.P.	1 lb.	.3	
		Bravo 500	2-1/4 pts.		
Spray insecticide & fungicide	1x	Methoxychlor 50% W.P.	2 lbs.	.3	
		Benlate 50% W.P.	1/2 lb.		
Spray fungicide	1x	Bravo 500	2-1/4 pts.	.3	
				.9	
Fuel: Diesel	3.96 gal.		Total Labor	8.63	8
Gasoline	2.16 gal.				

Variable Expenses

CUCUMBERS

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	1.5 lbs.	$7/lb.	$ 10.50
Fertilizer			
10-20-20	600 lbs.	$225/ton	67.50
Urea	100 lbs.	$262/ton	13.10
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Premerge 3.0 Sol.	1 gal.	$12.92/gal.	12.92
Insecticides			
Methoxychlor 50% W.P.	6 lbs.	$2.21/lb.	13.26
Thiodan 50% W.P.	2 lbs.	$3.78/lb.	7.56
Fungicides			
Maneb 80% W.P.	2 lbs.	$1.37/lb.	2.74
Benlate 50% W.P.	1 lb.	$9.77/lb.	9.77
Bravo 6F	4.5 pts.	$24.10/gal.	13.56
Power Truck & Equipment			
Diesel fuel	3.96 gals.	$1.03/gal.	4.08
Gasoline	2.16 gals.	$1.19/gal.	2.57
Grease			1.00
Repairs & maintenance			11.17
Other			
Interest	3 mos.	12%	5.76
Variable Growing Cost			$195.14
Harvesting			
Power & Equipment			
Diesel fuel	.75 gal.	$1.03/gal.	$ .77
Grease			.12
Repairs and maintenance			2.76
Variable Harvesting Cost			$ 3.65
Selling			
Farmers' Market		1.5% sales	31.27
Total			$31.27

CUCUMBERS (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
U-Pick			
Containers & supplies		.5% sales	3.50
Total			$ 3.50
Roadside Market			
Containers & supplies		1.5% sales	35.21
Total			$35.21
Wholesale			
Containers & supplies	225	$.50 each	$112.50
Truck & equipment	5.6 tons	$12/ton	67.20
Total			$179.70

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	8.6	8
Harvesting	5.6	43.2
Selling		
Roadside		109.7
U-Pick	2.3	23.3
Wholesale	8.4	2.8

Production Schedule

MELONS

Melons are planted by hand on plastic. Spacing 7' between rows, 3' in the row. Half are covered with hotcaps.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
June					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	500 lbs.	.1	
Disc	1x			.33	
Harrow	1x			.25	
Spray herbicide	1x	Dacthal 75% W.P.	11 lbs.	.3	
Harrow	1x			.25	
Lay plastic	1x	4' black	6,000 ft.	2.5	
Plant melons					12
Hotcap melons (1/2 acreage)		1,000 hotcaps			8
Remove hotcaps					2
Spray insecticide & fungicide	1x	Methoxychlor 50% W.P. Maneb 80% W.P.	2 lbs. 2 lbs.	.3	
Cultivate	1x			.75	
Hoe & weed					2
				5.78	24
July					
Spray insecticide & fungicide	1x	Thiodan 50% W.P. Maneb 80% W.P.	1 lb. 2 lbs.	.3	
Hoe & weed					2
Spray insecticide & fungicide	1x	Methoxychlor 50% W.P. Benlate 50% W.P.	2 lbs. 1/2 lb.	.3	
Spray insecticide & fungicide	1x	Thiodan 50% W.P. Benlate 50% W.P.	1 lbs. 1/2 lb.	.3	
				.9	2

MELONS (contd.)

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
August					
Spray insecticide & fungicide	1x	Methoxychlor 50% W.P. Bravo 500	2 lbs. 2-1/4 pts.	.3	
Spray fungicide	2x	Bravo 500	4-1/2 pts.	.6 .9	
September					
Spray fungicide	1x	Bravo 500	2-1/4 pts.	.3 .3	
October					
Remove plastic*	1x			1 1	4 4
Fuel: Diesel 4.67 gal. Gasoline .45 gal.			Total Labor	8.88	30

* Removing plastic requires use of wagon and tractor.

Variable Expenses

MELONS

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Plants	2,000 hills	$.10/hill	$200.00
Fertilizer			
10-20-20	500 lbs.	$225/ton	56.25
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Dacthal 75% W.P.	11 lbs.	$3.10/lb.	34.10
Insecticides			
Methoxychlor 50% W.P.	6 lbs.	$2.21/lb.	13.26
Thiodan 50% W.P.	2 lbs.	$3.72/lb.	7.56
Fungicides			
Maneb 80% W.P.	4 lbs.	$1.37/lb.	5.48
Benomyl 50% W.P.	1 lb.	$9.77/lb.	9.77
Chlorthaloui 6F	9 pts.	$24.10/gal.	27.11
Power Truck & Equipment			
Diesel fuel	4.67 gals.	$1.03/gal	4.81
Gasoline	.45 gal.	$1.19/gal.	.53
Grease			.80
Repairs & maintenance			12.47
Other			
Black plastic	6,000 ft.	$20/thou. ft.	120.00
Hotkaps	1,000	$45/thou.	45.00
Interest	3 mos.	12%	16.66
Variable Growing Cost			$573.45
Harvesting			
Power & Equipment			
Diesel fuel	.75 gal.	$1.03/gal.	$ .77
Grease			.12
Repairs & maintenance			2.76
Variable Harvesting Cost			$ 3.65

MELONS (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Roadside Market			
Containers & supplies		1.5% sales	29.25
Total			$29.25
Farmers' Market			
Containers & supplies		1.5% sales	27.00
Total			$27.00
Wholesale			
Containers & supplies	300	$.50 each	$150.00
Truck & equipment	6 tons	$12/ton	72.00
Total			$222.00

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	9	30
Harvesting	6	30
Selling		
Roadside Market		112.5
Wholesale	9	3

Production Schedule

EARLY PEAS

Early peas are planted in April using the 2-row planter, spacing 3' between rows, and harvested in June.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
April					
Plowing	1x			1	
Disc	1x			.33	
Spray herbicide		Treflan 4 E.C.	1-1/4 pt.	.3	
Harrow	2x			.5	
Plant	1x	Seed	50 lbs.	1	
		10-20-20	400 lbs.		
				3.13	
May					
Cultivate	1x			.5	
				.5	
Fuel: Diesel 3.08 gal.			Total Labor	3.63	

LATE PEAS

Late Peas are planted in May using the 2-row planter, spacing 3' between rows, and harvested in July.

May					
Plowing	1x			1	
Disc	1x			.33	
Spray herbicide	1x	Treflan 4 E.C.	1-1/4 pt.	.3	
Harrow	2x			.5	
Plant	1x	Seed	50 lbs.	1	
		10-20-20	400 lbs.		
				3.13	
June					
Cultivate	1x			.5	
				.5	
Fuel: Diesel 3.08 gal.			Total Labor	3.63	

Variable Expenses

PEAS

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	50 lbs.	$1.25/lb.	$ 62.50
Fertilizer			
10-20-20	400 lbs.	$225/ton	45.00
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Treflan 4 E.C.	1 1/4 pts.	$32.71/gal.	5.11
Power Truck & Equipment			
Diesel fuel	3.08 gals.	$1.03/gal.	3.17
Grease			.48
Repairs & maintenance			5.09
Other			
Interest	2 mos.	12%	2.83
Variable Growing Cost			$143.83
Harvesting			
Power & Equipment			
Diesel fuel	.25 gal.	1.03	$ .26
Grease			.04
Repairs & maintenance			.92
Variable Harvesting Cost			$ 1.22
Selling			
Farmers' Market (June)			
Containers & supplies		1.5% sales	25.03
Total			$25.03
U-Pick (June)			
Containers & supplies		.5%	3.00
Total			$ 3.00

PEAS (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Roadside Market (June)			
Containers & supplies		1.5% sales	28.12
Total			$28.12
Wholesale (June)			
Containers & supplies	100	$.50 each	$50.00
Truck & equipment	1.4 tons	$12/ton	16.80
Total			$66.80

Variable Labor Per Acre (Hours)

	Skilled		Unskilled	
	June	July	June	July
Growing	3.6	3.6	--	--
Harvesting	3.1	2.5	128.1	102.5
Selling				
U-Pick	2.5	2.0	25.0	20.0
Roadside Market			93.7	75.0
Wholesale	4.6	1.5	3.6	1.2

Production Schedule

PEPPERS

Peppers are spaced 3' between rows, 18" in the row. Plants are set out in late May, and crop is harvested in August and September.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
May					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	500 lbs.	.1	
Disc	1x			.33	
Spray herbicide	1x	Treflan 4 E.C.	3/4 qt.	.3	
Harrow	2x			.25	
Transplant	1x	Plants	10,000	5	10
				6.98	10
June					
Cultivate	1x			2.5	
Spray insecticide	1x	Orthene 75% S.P.	1 1/3 lbs.	.3	
Sidedress	1x	Urea	230 lbs.	2.5	
Spray insecticide	1x	Orthene 75% S.P.	1 1/3 lbs.	.3	
Hoe & weed					4
				5.6	4
July					
Cultivate	1x			2.5	
Spray insecticide	1x	Cygon	2 1/4 pts.	.3	
Cultivate	1x			2.5	
Spray insecticide	1x	Orthene 75% S.P.	1 1/3 lbs.	.3	
Hoe & weed					4
				5.6	4
August					
Spray insecticide	1x	Cygon	2 1/4 pts.	.3	
				.3	4
Fuel: Diesel Fuel 5.25 gal. Gasoline 2.7 gal.			Total Labor	18.48	22

Variable Expenses

PEPPERS

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Plants	10,000	$40/thou.	$400.00
Fertilizer			
15-15-15	700 lbs.	$220/ton	77.00
Urea	100 lbs.	$262/ton	13.10
Lime	1,000 lbs.	$19.30	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Treflan 4 E.C.	3/4 qt.	$32.71/gal.	6.13
Insecticides			
Orthene 75% S.P.	4 lbs.	$5.99/lb.	23.96
Cygan 4 E.C.	2 1/4 pts.	$26.25/gal.	7.38
Power Truck & Equipment			
Diesel fuel	5.25 gals.	$1.03/gal.	5.41
Gasoline	6 gals.	$1.19/gal.	7.14
Grease			1.88
Repairs & maintenance			20.13
Other			
Interest	3 mos.	12%	17.45
Variable Growing Cost			$599.24
Harvesting			
Power & Equipment			
Diesel fuel	.75 gal.	$1.03/gal	$ .77
Grease			.12
Repairs & maintenance			2.76
Variable Harvesting Cost			$ 3.65
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	41.98
Total			$41.98

PEPPERS (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
U-Pick			
Containers & supplies		.5% sales	9.45
Total			$ 9.45
Roadside Market			
Containers & supplies		1.5% sales	47.25
Total			$47.25
Wholesale			
Containers & supplies	300	$.50 each	$150.00
Truck & equipment	3.75 tons	$12/ton	45.00
Total			$195.00

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	18.5	22.0
Harvesting	7.5	57.6
Selling		
U-Pick	6.3	62.9
Roadside		157.5
Wholesale	5.6	1.8

Production Schedule

PUMPKINS

Pumpkins are planted using 1 unit of the 2-row planter. Rows are spaced 6' apart.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
June					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	200 lbs.	.1	
Disc	1x			.33	
Harrow	2x			.5	
Plant	1x	10-20-20	200 lbs.	1	
		Seed	3 lbs.		
Spray Herbicide	1x	Premerge 3.0 sol.	1 gal.	.3	
Cultivate	1x			1.25	
Hoe & weed					4
Spray insecticide	1x	Methoxychlor 50% W.P.	2 lbs.	.3	
				4.78	4
July					
Sidedress	1x	Urea	140 lbs.	1.25	
Spray insecticide	1x	Thiodan 50% W.P.	1 lb.	.3	
Cultivate	1x			1.25	
Hoe & weed					4
Spray insecticide	1x	Methoxychlor 50% W.P.	2 lbs.	.3	
				3.1	4
August					
Spray fungicide	1x	Benlate 80% W.P.	1/2 lb.	.3	
				.3	
Fuel: Diesel 3.57 gal.			Total Labor	8.18	8
Gasoline 2.25 gal.					

Variable Expenses

PUMPKINS

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	3 lbs.	$8/lb.	$ 24.00
Fertilizer			
10-20-20	400 lbs.	$225/ton	45.00
Urea	140 lbs.	$262/ton	18.34
Lime	1,000 lbs.	$19.30/ton	9.65
Herbicides			
Premerge 3.0 sol.	1 gal.	$12.92/gal.	12.92
Insecticides			
Methoxychlor 50% W.P.	4 lbs.	$2.21/lb.	8.84
Thiodan 50% W.P.	1 lb.	$3.78/lb.	3.78
Fungicides			
Benlate 50% W.P.	1/2 lb.	$9.77/lb.	4.89
Power Truck & Equipment			
Diesel fuel	3.57 gals.	$1.03/gal.	3.68
Gasoline	2.25 gals.	$1.19/gal.	2.68
Grease			.96
Repairs & maintenance			9.86
Other			
Interest	4 mos.	12%	5.73
Variable Growing Cost			$150.33
Harvesting			
Power & Equipment			
Diesel fuel	.75 gal.	$1.03/gal.	$ .77
Grease			.12
Repairs & maintenance			2.15
Variable Harvesting Cost			$ 3.04
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	6.60
Total			$ 6.60

PUMPKINS (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Roadside Market			
Containers & supplies		1.5% sales	7.20
Total			$ 7.20
Wholesale			
Truck & equipment	8 tons	$12/ton	96.00
Total			$96.00

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	8.2	8
Harvesting	16	16
Selling		
Roadside Market		24
Wholesale	24	8

Production Schedule

WINTER SQUASH

Winter squash is planted in June using 1 unit of the 2-row planter. Spacing 6' between rows.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
June					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	200 lbs.	.1	
Disc	1x			.33	
Harrow	2x			.5	
Plant	1x	10-20-20	200 lbs.	1	
		Seed	4 lbs.		
Spray herbicide	1x	Premerge 3.0 sol.	1 gal.	.3	
Cultivate	1x			1.25	
Hoe & weed					4
Spray insecticide	1x	Methoxychlor 50% W.P.	2 lbs.	.3	
				4.78	4
July					
Sidedress	1x	Urea	140 lbs.	1.25	
Spray Insecticide	1x	Thiodan 50% W.P.	1 lb.	.3	
Cultivate	1x			1.25	
Hoe & weed					4
Spray insecticide	1x	Methoxychlor 50% W.P.	2 lbs.	.3	
				3.1	4
August					
Spray fungicide	1x	Benlate 50% W.P.	1/2 lb.	.3	
	1x	Maneb 80% W.P.	3 lbs.	.3	
	1x	Benlate 50% W.P.	1/2 lb.	.3	
				.9	
Fuel: Diesel 3.85 gal.			Total Labor	8.78	8
Gasoline 2.25 gal.					

Variable Expenses

WINTER SQUASH

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed	4 lbs.	$8/lb.	$ 32.00
Fertilizer			
10-20-20	400 lbs.	$225/ton	45.00
Urea	140 lbs.	$262/ton	18.34
Lime	1,000 lbs.	$19.30/ton	9.65
Herbicides			
Premerge 3.0 sol.	1 gal.	$15/gal.	15.00
Insecticides			
Methoxychlor 50% W.P.	4 lbs.	$2.21/lb.	8.84
Thiodan 50% W.P.	1 lb.	$3.78/lb.	3.78
Fungicides			
Benlate 50% W.P.	1 lb.	$9.77/lb.	9.77
Maneb 80% W.P.	3 lbs.	$1.37/lb.	4.11
Power Truck & Equipment			
Diesel fuel	3.85 gals.	$1.03/gal.	3.96
Gasoline	2.25 gals.	$1.19/gal.	2.68
Grease			.99
Repairs & maintenance			9.30
Other			
Interest	4 mos.	12%	6.52
Variable Growing Cost			$169.94
Harvesting			
Power & Equipment			
Diesel fuel	.75 gal.	$1.03/gal.	$ .77
Grease			.12
Repairs & maintenance			2.76
Variable Harvesting Cost			$ 3.65
Selling			
Roadside Market			
Containers & supplies		1.5% sales	15.00
Total			$15.00

WINTER SQUASH (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	13.50
Total			$13.50
Wholesale			
Containers & supplies	250	$.50 each	$125.00
Truck & equipment	6.25 tons	$12/ton	75.00
Total			$200.00

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	9	8
Harvesting	6.2	23
Selling		
Roadside Market	--	54.5
Wholesale	9.4	3.1

Production Schedule

STRAWBERRIES - ESTABLISHMENT YEAR

The crop requires one year for establishment and is fruited for 4 years. Plants spaced 3-1/2' between rows and 2' in the row.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
April					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	400 lbs.	.1	
Disc	1x			.33	
Harrow	2x			.50	
Spray herbicide	1x	Dacthal 75% W.P.	12 lbs.	.3	
Harrow	1x			.25	
Transplant	1x	Plants	6,000	3	6
				5.48	6
May					
Cultivate	1x			1.5	
Sidedress	1x	Urea	100 lbs.	1.5	
Hoe & weed					10
Spray fungicide	1x	Benlate 50% W.P.	3/4 lb.	.3	
				3.3	10
June					
Cultivate	2x			3.0	
Spray herbicide	1x	Enide 50% W.P.	8 lbs.	.3	
Cultivate				1.5	
Hoe, weed & deflower					20
				4.8	20
July					
Cultivate				3.0	
Hoe & weed					5
				3.0	5

STRAWBERRIES - ESTABLISHMENT YEAR (contd.)

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
August					
Cultivate	1x			1.5	
Spray herbicide	1x	Enide 50% W.P.	8 lbs.	.3	
Cultivate	1x			1.5	
Hoe & weed					5
				3.3	5
September					
Cultivate	1x			1.5	
				1.5	
November					
Spray herbicide	1x	Sinbar 80% W.P.	3/4 lb.	.3	
Mulch (wagon & tractor)	1x	Straw	ton	2	20
				2.3	20
Fuel: Diesal 4.93 gal.			Total Labor	23.68	66
Gasoline 9 gal.					

Variable Expenses

STRAWBERRY ESTABLISHMENT

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Plants	6,000	$65/thou.	$390.00
Fertilizer			
10-20-20	400 lbs.	$225/ton	45.00
Urea	100 lbs.	$262/ton	13.10
Herbicides			
Dacthal 75% W.P.	12 lbs.	$3.10/lb.	37.20
Sinbar 80% W.P.	3/4 lb.	$14.91/lb.	11.18
Enide 50% W.P.	16 lbs.	$3.44/lb.	55.04
Fungicides			
Benlate 50% W.P.	1.5 lbs.	$9.77/lb.	14.66
Power Truck & Equipment			
Diesel fuel	4.93 gals.	$1.03/gal.	5.08
Gasoline	9 gals.	$1.19/gal.	10.71
Grease			2.37
Repairs & maintenance			21.68
Other			
Straw	1 ton	$50/ton	50.00
Interest	12 mos.	12%	72.69
Variable Growing Costs			$728.71

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	23.7	66.0

Production Schedule

STRAWBERRIES - FRUITING YEARS 1 - 3

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
April					
Pull back mulch	1x				4/4
May					
Spray insecticide	1x	Thiodan 3 E.C.	1-1/2 pts.	.3	
Spray insecticide & fungicides	1x	Thiodan 3 E.C.	1-1/2 pts.	.3	
		Captan 50% W.P.	4 lbs.		
		Benlate 50% W.P.	1 lb.		
Spray insecticide & fungicides	1x	Thiodan 3 E.C.	2/3 pts.	.3	
		Captan 50% W.P.	4 lbs.		
		Benlate 50% W.P.	1 lb.	.9	
June					
Spray fungicide	1x	Captan 50% W.P.	4 lbs.	.3	
		Benlate 50% W.P.	1 lb.	.3	
July					
Mow (rent or borrow mower)	1x			.1	
Spread fertilizer	1x	10-20-20	500 lbs.	.5	
Renovation (custom hired)					
Spray herbicide	1x	Sinbar 80%	3/4 lbs.	.3	
Cultivate (1 row cultivator)				1.5	
Hoe & weed				2.4	5/5

STRAWBERRIES - FRUITING YEARS 1 - 3 (contd.)

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
August					
Cultivate (1 row cultivator)	1x			1.5	
Hoe & weed	1x			1.5	5
					5
September					
Cultivate (1 row cultivator)	1x			1.5	
				1.5	
November					
Spray herbicide	1x	Devrinol	8 lbs.	.3	
Mulch strawberries				2	20
				2.3	20
Fuel: Diesel 1.31 gal.			Total Labor	8.9	34
Gasoline 2.7 gal.					

Variable Expenses

STRAWBERRY FIRST TO THIRD YEAR FRUITING

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Fertilizer			
10-20-20	500 lbs.	$265/ton	$ 66.25
Herbicides			
Sinbar 80% W.P.	3/4 lb.	$14.91/lb.	11.18
Devrinol 50% W.P.	8 lbs.	$5.07/lb.	40.56
Insecticides			
Thiodan 50% W.P.	2 lbs.	$3.78/lb.	7.56
Fungicides			
Benlate 50% W.P.	3 lbs.	$9.77/lb.	29.31
Captan 50% W.P.	12 lbs.	$1.62/lb.	19.44
Power Truck & Equipment			
Diesel fuel	1.31 gals.	$1.03/gal.	1.35
Gasoline	2.7	$1.19	3.21
Grease			.68
Repairs & maintenance			8.68
Other			
Hired renovation		$50/acre	50.00
Straw	1 ton	$50/ton	50.00
Interest	12 mos.	12%	23.24
Variable Growing Costs			$311.46
Harvesting			
Power & Equipment			
Diesel fuel	1 gal.	$1.03	$ 1.03
Grease			.15
Repairs & maintenance			3.68
Variable Harvesting Cost			$ 4.86
Selling			
U-Pick			
Containers & supplies			10.00
Total			$10.00

STRAWBERRY FIRST TO THIRD YEAR FRUITING (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Roadside			
Containers & supplies	3,500 qts.	$.02 each	$ 70.00
	44 carriers	$.40 each	17.60
Total			$ 87.60
Wholesale			
Containers & supplies	3,500 qts.	$.02 each	$ 70.00
	438 carriers	$.40 each	175.20
Truck & equipment	2.43 tons.	$12/ton	29.16
Total			$274.36

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	8.9	34
Harvesting	10.9	360.9
Selling		
U-Pick	6.1	60.7
Roadside		210.0
Wholesale	16.4	5.5

Production Schedule

STRAWBERRIES - FOURTH FRUITING YEAR

Operation	Frequency		Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
April					
Pull back mulch	1x				4/4
May					
Spray insecticide	1x	Thiodan 3 E.C.	1-1/2 pints	.3	
Spray insecticide & fungicides		Thiodan 3 E.C.	1-1/2 pints	.3	
		Captan 50% W.P.	4 lbs.		
		Benlate 50% W.P.	1 lb.		
Spray insecticide & fungicides	1x	Thiodan 3 E.C.	2/3 pints	.3	
		Captan 50% W.P.	4 lbs.		
		Benlate 50% W.P.	1 lb.	.9	
June					
Spray fungicide	1x	Captan 50% W.P.	4 lbs.	.3	
		Benlate 50% W.P.		.3	
Fuel: Diesel .58 gal.			Total Labor	1.2	4

Variable Expenses

STRAWBERRY FOURTH YEAR FRUITING

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Insecticides			
Thiodan 50% W.P.	2 lbs.	$3.78/lb.	$ 7.56
Fungicides			
Benlate 50% W.P.	3 lbs.	$9.77/lb.	29.31
Captan 50% W.P.	12 lbs.	$1.62/lb.	19.44
Power Truck & Equipment			
Diesel fuel	.58 gal.	$1.03/gal.	.60
Grease			.09
Repairs & maintenance			2.80
Other			
Interest	2 mos.	12%	1.46
Variable Growing Cost			$61.26
Harvesting			
Power & equipment			
Diesel fuel	1 gal.	$1.03	$ 1.03
Grease			.15
Repairs & maintenance			3.68
Variable Harvesting Cost			$ 4.86
Selling			
U-Pick			
Containers & supplies			10.00
Total			$10.00
Roadside			
Containers & supplies	3,500 qts.	$.02 each	$70.00
	44 carriers	$.40 each	17.60
Total			$87.60

STRAWBERRY FOURTH YEAR FRUITING (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Wholesale			
Containers & supplies	3,500 qts.	$.02 each	$ 70.00
	438 carriers	$.70 each	175.20
Truck & equipment	2.43 tons	$12/ton	29.16
Total			$274.36

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	1.2	4.0
Harvesting	10.9	360.9
Selling		
U-Pick	6.1	60.7
Roadside		210.0
Wholesale	16.4	5.5

Production Schedule

TOMATOES

Tomatoes are transplanted in late May. Average spacing 5' between rows, 18" in the row. Harvested in August and September.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
May					
Plowing	1x			1	
Spread fertilizer	1x	10-20-20	700 lbs.	.1	
Disc	1x			.33	
Spray herbicide	1x	Treflan 4 E.C.	1 qt.	.3	
Harrow	2x			.5	
Transplant	1x	Plants	6,000	3	6
				5.23	6
June					
Cultivate	1x			1.5	
Spray insecticide & fungicide	1x	Thiodan 50% W.P. Maneb 80% W.P.	1 lb. 3 lbs.	.3	
Sidedress	1x	Urea	150 lbs.	1.5	
Hoe & weed					12
				3.3	12
July					
Spray insecticide & fungicide	1x	Sevin 80% S.P. Maneb 80% W.P.	1.5 lbs. 3 lbs.	.3	
Cultivate	1x			1.5	
Hoe & weed					6
Spray insecticide & fungicide	2x	Thiodan 50% W.P. Maneb 80% W.P.	2 lbs. 6 lbs.	.6	
				2.4	6
August					
Spray fungicide	3x	Bravo 500 E.C.	7.5 pts.	.9	
				.9	

TOMATOES (contd.)

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
September					
Spray fungicide	1x	Bravo 500 E.C.	2-1/2 pts.	.3 .3	
Fuel: Diesel 4.81 gal. Gasoline 2.7 gal.			Total Labor	12.13	24.00

Variable Expenses

TOMATOES

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Plants	6,000	$50/thou.	$300.00
Fertilizer			
10-20-20	700 lbs.	$225/ton	78.75
Urea	150 lbs.	$262/ton	19.65
Lime	1,000 lbs.	$19.30/ton	9.65
Cover crop	2 bu.	$5/bu.	10.00
Herbicides			
Treflan 4 E.C.	1 qt.	$32.71/gal.	8.18
Insecticides			
Sevin 80% S.P.	1.5 lbs.	$2.27/lb.	3.41
Thiodan 50% W.P.	3 lbs.	$3.78/lb.	11.34
Fungicides			
Maneb 80% W.P.	12 lbs.	$1.37/lb.	16.44
Bravo	10 pts.	$24.10/gal.	30.13
Power Truck & Equipment			
Diesel fuel	4.81 gals.	$1.03/gal.	4.95
Gasoline	2.7 gals.	$1.19/gal.	3.21
Grease			1.22
Repairs & maintenance			14.00
Other			
Interest	4 mos.	12%	20.44
Variable Growing Cost			$531.57
Harvesting			
Power & Equipment			
Diesel fuel	.75 gal.	$1.03	$ .77
Grease			.12
Repairs & maintenance			2.15
Variable Harvesting Cost			$ 3.04

TOMATOES (contd.)

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Farmers' Market			
Containers & supplies		1.5% sales	45.56
Total			$45.56
U-Pick			
Containers & supplies		.5% sales	3.50
Total			$ 3.50
Roadside Market			
Containers & supplies		1.5% sales	50.62
Total			$50.62
Wholesale			
Containers & supplies	900	$.12	$108.00
Truck & equipment	5.6 ton	$12/ton	67.50
Total			$175.50

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	12.1	24
Harvesting	12.5	137.5
Selling		
U-Pick	3.0	30.0
Roadside Market		188.5
Wholesale	33.6	11.2

Production Schedule

MISCELLANEOUS VEGETABLES

Beets: 500' of row, 3' between rows, 1/32 acre, planted by hand.
Carrots: 1500' of row, 3' between rows, 3/32 acre, planted by hand.
Lettuce: 1/2 acre, 3' between rows, 1' between plants in row.
Onions: 1/4 acre, 3' between rows, 4" between plants. Onions are transplanted using the transplanter and plants are planted by hand to fill in gaps. Hours required for transplanting (unskilled labor) are doubled to account for this. Onions are sprayed with Diazinon at the same time sprays are applied to cauliflower or other cole crops.
Summer Squash: 1/8 acre, 6' between rows. Summer squash receives the same treatment as cucumbers.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
April					
Plow	1x			1	
Spread fertilizer	1x	10-20-20	600 lbs.	.1	
Harrow	1x			.25	
Spray herbicide (onions)	1/4x	Dacthal 75% W.P.	2.5 lbs.	.075	
Harrow (7/8 acre)	7/8x			.219	
Transplant:					
lettuce	1/2x	Plants	6,000	3	6
onions	1/4x	Plants	24,000	12	48
Plant:					
carrots	3/32x	Seed	3 oz.	1.5	
beets	1/32x	Seed	3 oz.	.5	
				18.644	54
May					
Cultivate	7/8x			2.2	
Hoe & weed					8
Spray insecticide	1/4x	Diazinon 4 E.C.	1/4 qt.	.075	
				2.275	8
June					
Harrow	1/8x			.031	
Plant:					
summer squash	1/8x	Seed	5 oz.	.125	
Spray insecticide (summer squash)		Methoxychlor 50% W.P.	1/4 lbs.	.037	
Hoe & weed					6
				.193	6

MISCELLANEOUS VEGETABLES (contd.)

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
July					
Spray insecticide (onions)	1/4x	Diazinon 4 E.C.	1/4 qt.	.075	
Spray insecticide (summer squash)	1/8x	Thiodan 50% W.P.	1/8 lb.	.037	
Hoe & weed					2
Spray insecticide	1/8x	Methoxychlor 50% W.P.	1/4 lb.	.037	
				.149	2
August					
Spray insecticide & fungicide (summer squash)	1/8x	Benlate 50% W.P.	1/16 lb.		
		Thiodan 50% W.P.	1/8 lb.	.037	
				.037	
Fuel: Diesel 7.64 gal. Gasoline 1.32 gal.			Total Labor	21.3	70

Variable Expenses

MISCELLANEOUS VEGETABLES

	Amount (Units)	Cost Per Unit	Cost Per Acre
Growing			
Seed			
Carrot	3 oz.	$2/oz.	$ 6.00
Summer squash	9 oz.	$2.25/oz.	20.25
Beet	3 oz.	$.80/oz.	2.40
Plants			
Lettuce	6,000	$24/thou.	144.00
Onion	24,000	$12/thou.	288.00
Fertilizer			
10-20-20	600 lbs.	$225/ton	67.50
Lime	1,000 lbs.	$19.30/ton	9.65
Herbicides			
Dacthal 75% W.P.	2.5 lbs.	$3.10/lb.	7.75
Insecticides			
Diazinon 50% W.P.	1 lb.	$3.67/lb.	3.67
Methoxychlor 50% W.P.	1/2 lb.	$2.21/lb.	1.11
Thiodan 50% W.P.	1/4 lb.	$3.78/lb.	.95
Fungicides			
Benlate 50% W.P.	1/8 lb.	$9.77/lb.	1.22
Power Truck & Equipment			
Diesel fuel	7.64 gals.	$1.03/gal.	7.87
Gasoline	1.32 gals.	$1.19/gal.	1.57
Grease			1.42
Repairs & maintenance			21.44
Other			
Interest	3 mos.	12%	17.56
Variable Growing Cost			$602.36
Harvesting			
Power & Equipment			
Diesel fuel	.5 gal.	$1.03/gal.	$ .51
Grease			.08
Repairs & maintenance			1.84
Variable Harvesting Cost			$ 2.43

MISCELLANEOUS VEGETABLES

	Amount (Units)	Cost Per Unit	Cost Per Acre
Selling			
Farmers' Market		1.5% sales	32.31
Total			$32.31
Roadside Market		1.5% sales	36.44
Total			$36.44

Variable Labor Per Acre (Hours)

	Skilled	Unskilled
Growing	21.3	70
Harvesting	11.0	75.1
Selling Roadside		123.2

Production Schedule

FIELD CORN (MAY PLANTING)

Field corn is planted in May and custom harvested in October.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
May					
Plowing	1x			1	
Disc	1x			.33	
Harrow	1x			.25	
Plant	1x	Seed	.26 bu.	1	
		10-20-20	150 lbs.		
Spray herbicide	1x	Lasso 4 E.C.	2.5 pts.	.3	
		Atrazine 80% W.P.	1.5 lbs.		
				2.88	
June					
Sidedress	1x	Urea	120 lbs.	.1	
Cultivate	1x			.5	
				.6	
October					
Harvest supervision				.25	
Sell				.25	
				.50	
Fuel: Diesel 4.19 gal.			Total Labor	3.98	

Production Schedule

FIELD CORN (JUNE PLANTING)

Field corn is planted in June and custom harvested in October.

Operation	Frequency	Material	Rate Per Acre	Hours Operator Labor	Hours Unskilled Labor
June					
Plowing	1x			1	
Disc	1x			.33	
Harrow	1x			.25	
Plant	1x	Seed	.26 bu.	1	
		10-20-20	150 lbs.		
Spray herbicide	1x	Lasso 4 E.C.	2.5 pts.	.3	
		Atrazine 80% W.P.	1.5 lbs.		
				2.88	
July					
Sidedress	1x	Urea	120 lbs.	.1	
Cultivate	1x			.5	
				.6	
October					
Harvest supervision				.25	
Sell				.25	
				.50	
Fuel: Diesel 3.00 gal.			Total Labor	3.98	