An Economic Production Guide for Vegetable Growers, Agents and Specialists in Georgia

By

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Foreword

This vegetable report serves as guide for farmers, researchers and extension staff, lending agencies, and others in agriculture. The budgets presented here are intended as guides. Production practices, yields, selling and input prices vary significantly between growers, researchers, states and regions, as well as nationally and internationally. Growers are advised to enter their actual yields and selling and input price data.

Acknowledgments

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DISLAIMER:

Any commercial product or equipment mentioned in this publication does not imply its endorsement by the University of Georgia, College of Agricultural and Environmental Sciences as a preferred product or equipment over those not mentioned. Furthermore, any omission of any product or equipment does not imply the product or equipment is unsatisfactory. This report is only a guideline. Production practices, yields, selling and input prices vary significantly between growers, researchers, states, regions (nationally and internationally). Growers are advised to enter their actual yield, selling and input price data in the column "Your Costs" to determine what their personalized result is.

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2019 Economics Planning Guide for Vegetable Producers

Economic Analysis for Agricultural Enterprises

This publication provides economic and technical information in the form of enterprise budgets for conventional vegetable crops produced in the state of Georgia. The collaborators included a multidisciplinary team involving researchers, extension specialists, and county agent personnel involved in various aspects of vegetable research to determine production practices and input quantities, and to estimate costs for each enterprise. Our goal is to capture the actual agricultural practices adopted by Georgia vegetable growers.

An economic analysis using enterprise budgets represent a type of information that can be used by a wide variety of individuals in making decisions in the fresh food and fiber industry. They are used:

1. by farmers for planning purposes
2. by extension personnel in providing educational programs to farmers,
3. by lenders as a basis for credit,
4. to provide basic data for research, and
5. to inform non-farmers of the costs incurred by farmers in the production of fresh food and fiber crops.

An economic analysis using enterprise budgets should be prepared with a specific objective in mind. The budgets in this report were prepared to provide general information for several different uses. They provide information concerning general levels of costs which will need to be adjusted for specific situations. Stakeholders and all the users should think of these analyses as a first approximation of the enterprise and then make appropriate adjustments using the "Your Farm" column provided on each budget to add, delete, or change costs to reflect their specific situations. Five scenarios of net returns over costs (Best, Optimistic, Expected, Pessimistic, and Worst) are included to show various revenue levels and chances of obtaining profitability are included to show the various revenues and chances of obtaining profitability. In most cases, we assume that 50% of the farmers would receive the Expected case scenario while 7% of them would receive the Best or Worst case at least once in ten years. In addition, a price sensitivity analysis, which depicts profitability margins at five different price levels is also included in this study. The logic behind these assumptions are due to price volatility in the fresh vegetable market.

Methods and Procedures

Production Practices

The production practices in this study are a reflection of actual practices adopted by growers in Georgia, which are also based on recommendations from University of Georgia (UGA) Researchers, Specialists and Extension Agents.

Machinery

Machinery costs were obtained from dealers. The prices vary based on size and horsepower (HP). We acknowledge that some farmers are more sophisticated than others are and may use more sophisticated and expensive machines. But our calculations are based on machines that would make economic sense based on the number of acres used in our study. Irrespective of which machine used, we amortized the equipment.

Pre-Variable Costs (P-VC)

Pre-Variable Costs (P-VC) in this study include such items as plants, fertility, mulch, fumigation, insecticide, fungicides, herbicides, stakes, strings, labor, irrigation and interest on operation costs.

Investment and Annual Fixed Costs

In the investment and annual fixed costs, equipment, such as tractors, plow, disc harrow, subsoiler, transplanter, sprayers, tillovator etc. were used. We included the estimated percentage time each equipment was used for a particular crop, the total cost of the equipment, the salvage value, the life span, depreciation, interest rate, taxes and insurance in our calculation. We also assumed 6.5% interest rates. Due to rounding errors, 7% interest rate will show up in some areas.

Total Cost (TC)

Total cost (TC) was the summation of Pre-Variable Cost + Harvesting and Marketing Costs (H&MC) + Fixed Costs (FC. Another method used was the summation of Total Variable Cost (TVC) + Fixed Costs.

Estimates of Returns

Crop yields and prices are necessary to determine returns. However, because it is difficult to estimate crop yields that may be expected for a particular production system in a given year, this study assumed five yield scenarios but the calculations are based on the Expected yield since it is the yield that we believe at least 50% of the farmers may attain. Fresh vegetable prices are fluctuating and volatile and may easily change.

Estimates of Irrigation Costs

Irrigation costs included sprinkler systems for solid set and drip tapes for the drip system. We used solid set for onion even though some farmers in Georgia are using center pivot systems. We also included power unit, well, pump, and filter. In our calculations, we considered the investment cost, the life span, depreciation, interest, taxes and insurance.

Estimates of Harvesting and Marketing Costs (H&MC)

Harvesting and Marketing costs were obtained directly from the growers or extension agents. These costs vary from year to year and sometimes, from grower to grower. In such case, the average is adopted. Some growers use brokers' services while others do not.

Collard Greens

Table 1: Yields and Prices – Collard Greens Per Acre

	BEST	OPT	MEDIAN	PESS	WORST
Yield (boxes)	800	700	600	500	400
Price per box.	10.00	9.00	8.00	7.00	6.00

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Collard Green Production

Item	Unit	Quantity	Price	Amt./acre	Total	Yours
Variable Costs						
Transplants	Thou	17.50	24.00	420.00	420	_____
Lime, applied	Ton	1.00	30.00	30.00	30	_____
Fertilizer						
Nitrogen (N)	lbs.	200.00	0.50	100.00	100	_____
Phosphorus (P205)	lbs.	110.00	0.44	48.40	48	_____
Potassium (K20)	lbs.	110.00	0.32	35.20	35	_____
Side-dressing (N)	Ton	0.50	25.00	12.50	13	_____
Gypsum	Ton	0.50	70.00	35.00	35	_____
Disease control	Acre	10.00	20.00	200.00	200	_____
Herbicide	Acre	1.00	35.00	35.00	35	_____
Insecticide	Acre	1.00	175.00	175.00	175	_____
Machinery (fuel, lub & maintenance)	Acre	1.00	75.00	75.00	75	_____
Labor	Hrs	15.00	10.75	161.25	161	_____
Irrigation (electric pump) 1/	Acre	1.00	99.85	99.85	100	_____
Scouting	Acre	1.00	25.00	25.00	25	_____
Interest on Operation Capital	$	1452.20	0.06	43.57	44	_____
Pre-Harvest Variable Costs				**1495.76**	**1,496**	

Harvest and Marketing Costs	Unit	Quantity	Price	Amt/acre	Total	Yours
Labor (Harvest, packing)	Boxes	570.00	0.50	285	285	_____
Harvest Wagon (hauling)	Each	20.00	3.00	60	60	_____
Ice (cooling)	Boxes	25.00	0.15	4	4	_____
Container/packaging (wax boxes)	Boxes	570.00	2.00	1140	1,140	_____
Broker fees	$	4560.00	0.08	342.00	342	_____

Total Harvest and Marketing	**1830.75**	**1,831**
Total Variable Costs	**3326.51**	**3,327**

FIXED COSTS:

Annual Fixed Cost	Unit	Quantity	Price	Amt/acre	Total	Yours
Machinery	Acre	1.00	63.82	63.82	64	_____
Irrigation	Acre	1.00	298.95	298.95	299	_____
Overhead and Management	$	1495.76	0.15	224.36	224	_____
Total Fixed Costs				**587.14**	**587**	
Total budgeted cost per acre				**3913.65**	**3,914**	

Table 3: Sensitivity Returns Over Cash Flow – Collard Green

	Best	Opt	Opt	Expected	Pess	Pess	Worst
Returns ($)	2,053	1,664	1,275	886	497	109	-280
Chances (%)	7%	16%	31%	50%			
Chances (%)				50%	31%	16%	7%
CHANCES FOR PROFIT		**87%**	**BASE BUDGETED NET REVENUE**				**886**

Table 4. Price Sensitivity Returns Over Cash Flow – Collard Green

Price/Yield (lbs)	Best	Opt	Opt	Expected 570.00	Pess	Pess	Worst	$-Net Returns	% Chances of Profits
6.0	784	447	109	-228	-566	-903	-1241	-228	37
7.0	1412	1051	690	329	-32	-393	-754	329	68
8.0	2053	**1664**	**1275**	886	**497**	**109**	-280	886	87
9.0	2757	2369	1981	1594	1220	847	474	1444	98
10.0	3362	2908	2455	2001	1547	1094	640	2001	99

Table 5. Break-Even (BE) Costs Per Box – Collard Green

Preharvest variable cost per box.					2.49
Harvest & marketing cost per box.					3.05
Fixed Outlays per box.					0.98
Total budgeted cost per cwt.					6.52
Yield per acre					489.21

Table 6. Irrigation – Collard Green

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
WELL (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
FILTER & AUTO	200	10	20	7	2
TOTAL	**99700**		**7970**	**3240**	**748**

TOTAL ANNUAL FIXED COSTS	11958
TOTAL ANNUAL FIXED COSTS PER ACRE	298.95
TOTAL ANNUAL FIXED COSTS PER ACRE	299

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	2023.50	50.59
ANNUAL PUMPING HOURS	2000.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	1970.40	
ANNUAL ENERGY COST PER ACRE		49.26
OPERATING COST PER ACRE PER YEAR		99.85

Table 7: Investment and Annual Fixed Machinery Costs – Collard Green

Item	% of time for This crop	Cost	Salvage Value	Life	Yrs. of Depr.	Int.	Tax&Ins	FC/Ac.
Tractors (100 hp)	33%	70000	14000	15	1232	901	194	23
Plow (6 row bedder))	33%	22000	4400	15	387	283	61	7
Disk (24')	33%	22000	4400	15	387	283	61	7
Subsoiler	33%	5000	1000	15	88	64	14	2
Transplanter	33%	12000	2400	15	211	154	33	4
Cultivator (6 row)	33%	6000	1200	15	106	77	17	2
Sprayer (18 row boom)	33%	15000	3000	15	264	193	42	5
Tillovator (6 row)	33%	40000	8000	15	704	515	111	13
Total		**63360**	**12672**		**3379**	**2471**	**532**	**64**

Total Annual Fixed Costs	$6382.46
Total Annual Fixed Costs Per Acre	$63.82

Kale – Bareground and Irrigated

Table 1: Yields and Prices – Kale Green Per acre

	BEST	OPT	MEDIAN	PESS	WORST
Yield (lbs.)	21250	18700	17000	15300	12750
Price per lb.	0.45	0.40	0.35	0.30	0.25

Table 2: Variable Costs (VC), Harvesting & Marketing Cost & Fixed Costs - Kale Green

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
Transplants	Thou	15.00	22.00	330.00	330	_____
Lime, applied	Ton	1.00	30.00	30.00	30	_____
Fertilizer						
Nitrogen (N)	lbs	175.00	0.50	87.50	88	_____
Phosporus (P205)	lbs	150.00	0.44	66.00	66	_____
Potassium (K20)	lbs	150.00	0.32	48.00	48	_____
Disease control	Acre	10.00	20.00	200.00	200	_____
Herbicide	Acre	3.00	11.70	35.10	35	_____
Insecticide	Acre	1.00	175.00	175.00	175	_____
Machinery (fuel, lub & maintenance)	Acre	1.00	75.00	75.00	75	_____
Labor	Hrs	15.00	10.50	157.50	158	_____
Irrigation (electric pump) 1/	Acre	1.00	99.85	99.85	100	_____
Scouting	Acre	1.00	25.00	25.00	25	_____
Interest on Oper. Cap.	$	1328.95	0.06	39.87	40	_____
PreHarvest Variable Costs				**1368.82**	**1,3699**	
Harvest and Marketing Costs	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Harvest, hauling and packing	Lbs	16150.00	0.01	162	162	_____
Staking Bins	Each	20.00	3.00	60	60	_____
Ice	Boxes	672.92	0.15	101	101	_____
Boxes waxed	Boxes	672.92	2.00	1346	1,346	_____
Broker fees	$	5652.50	0.15	847.88	848	_____
Total Harvest and Marketing				**2516.15**	**2,516**	

Total Variable Costs	**3884.96**	**3,885**

1/- Diesel would cost about $100 per acre

FIXED COSTS:

Annual Fixed Cost	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Machinery	Acre	1.00	159.56	159.56	160	_____
Irrigation	Acre	1.00	298.95	298.95	299	_____
Overhead and Management	$	1368.82	0.15	205.32	205	_____
Total Fixed Costs				**663.83**	**664**	_____
Total budgeted cost per acre				**4548.80**	**4,546**	

Table 3: Sensitivity Returns Over Cash Flow – Kale Green

	Best	**Opt**	**Opt**	**Expected**	**Pess**	**Pess**	**Worst**
Returns($)	2,802	2,335	1,868	1,401	934	468	1
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%

CHANCES FOR PROFIT	**93%**	**BASE BUDGETED NET REVENUE**	**1,401**

Table 4: Price Sensitivity Returns Over Cash Flow – Kale Green

Price/Yield	**Best**	**Opt**	**Opt**	**Expected 16150.00**	**Pess**	**Pess**	**Worst**	**Net Returns**	**% Chance of Profit**
0.25	**1261**	822	383	**-57**	**-496**	**-935**	**-1374**	**-57**	47
0.30	**2027**	1575	1124	**672**	221	-231	**-682**	672	77
0.35	**2802**	2335	1868	**1401**	934	468	**1**	1401	93
0.40	**3586**	3101	2615	**2130**	1645	1160	**674**	2130	99
0.45	**4378**	3872	3365	**2859**	2353	1846	**1340**	2859	99

Table 5. Break-Even (BE) Costs Per Box – Kale Green

Preharvest variable cost per cwt.					0.08
Harvest & marketing cost per cwt.					0.15
Fixed Outlays per cwt.					0.04
Total budgeted cost per cwt.					0.27
BE Yield per acre					12996.56

Table 6: Irrigation – Kale Green

ACRES IN SYSTEM	40.00
INTEREST RATE	0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
WELL (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
FILTER & AUTO	200	10	20	7	2
	0	20	0	0	0
	0	20	0	0	0
TOTAL	99700		7970	3240	748

TOTAL ANNUAL FIXED COSTS	11958
TOTAL ANNUAL FIXED COSTS PER ACRE	298.95
TOTAL ANNUAL DEBT PAYMENT PER ACRE	264

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	2023.50	50.59
ANNUAL PUMPING HOURS	2000.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	1970.40	
ANNUAL ENERGY COST PER ACRE		49.26
OPERATING COST PER ACRE PER YEAR		**99.85**

Table 7: Investment and Annual Fixed Machinery Costs – Kale Green

Number of acres of this crop			40						
Interest rate (%)			0.07						
Equipment Costs for this crop									
		% of time for		**Salvage**	**Yrs. of**				
Item		**This crop**	**Cost**	**Value**	**Life**	**Depreciation**	**Interest**	**Tax & Ins**	**FC/Ac.**
Tractors (100 hp)		33%	70000	14000	15	1232	901	194	58
Plow (6 row Bedder)		33%	22000	4400	15	387	283	61	18
Disk (24')		33%	22000	4400	15	387	283	61	18
Subsoiler		33%	5000	1000	15	88	64	14	4
Trans planter		33%	12000	2400	15	211	154	33	10
Cultivator (6 row)		33%	6000	1200	15	106	77	17	5
Sprayer (18 row boom)		33%	15000	3000	15	264	193	42	12
Tillovator (6 row)		33%	40000	8000	15	704	515	111	33
Total			**63,360**	**12672**		**3379**	**2471**	**532**	**160**
		Total Annual Fixed Costs				$6382.46			
		Total Annual Fixed Costs Per Acre				$159.56			

Onion – Irrigated

Table 1: Yields and Prices – Onion Per Box

	BEST	OPT	MEDIAN	PESS	WORST
Yield (40 lb. boxes)	900	800	700	600	500
Price per box	16.00	14.00	12.00	10.00	8.00

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Onion Production

Item	Unit	Quantity	Price	Amt./acre	Total	Yours
Variable Costs						
Plants	Thou	85.00	6.50	552.50	553	_____
Lime, applied	Ton	0.33	43.00	14.19	14	_____
Side-dressing (Cal Nitrate)	Ton	0.20	375.00	75.00	75	_____
Fertilizer (complete)	Ton	0.70	345.00	241.50	242	_____
Insecticide	Acre	1.00	321.00	60.00	60	_____
Fungicide	Acre	1.00	300.00	300.00	300	_____
Herbicide	Acre	1.00	30.00	30.00	30	_____
Machinery (fuel, lub & maintenance)	Acre	1.00	50.00	50.00	50	_____
Set plants	Acre	1.00	450.00	450.00	450	_____
Land rent 1/-	Acre	1.00	0.00	0.00	0	_____
Irrigation	Appl.	8.00	8.90	71.20	71	_____
Interest on Operation Capital	$	1844.39	0.07	64.55	65	_____
Pre-Harvest Variable Costs	Acre	1.00		**1908.94**	**1,909**	
Harvest and Marketing Costs	**Unit**	**Quantity**	**Price**	**Amt./acre**	**Total**	**Yours**
Hand harvest labor	Boxes	665.00	1.50	998	998	_____
General labor	Hrs	50.00	12.00	600	600	_____
Grading	Boxes	665.00	1.50	997.50	998	_____
Labeled mesh bags	Ea	100.00	0.48	48.00	48	_____
Cartons	Ea	665.00	1.25	831.25	831	_____
Drying	Boxes	665.00	0.10	66.50	67	_____
Vidalia Onion Committee Assessment	Bag	665.00	0.13	86.45	86	_____
Total Harvest and Marketing				**3627.20**	**3,627**	

Total Variable Costs	**5536.14**	**5,536**

1/- Land rent prices vary significantly from location to location and whether it is irrigated or not.

FIXED COSTS:

Annual Fixed Cost	**Unit**	**Quantity**	**Price**	**Amt./acre**	**Total**	**Yours**
Machinery	Acre	1.00	346.39	346.39	346	
Irrigation	Acre	1.00	305.18	305.18	305	
Overhead and Management	$	1908.94	0.15	286.34	286	
Total Fixed Costs				**937.91**	**938**	
Total budgeted cost per acre				**6474.05**	**6,474**	

Table 3: Sensitivity Returns Over Cash Flow – Onion

	Best	**Opt**	**Opt**	**Expected**	**Pess**	**Pess**	**Worst**
Returns($)	4,262	3,483	2,705	1,926	1,147	369	-410
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%

CHANCES FOR PROFIT	**89%**	**BASE BUDGETED NET REVENUE**	**1,926**

Table 4: Price Sensitivity Returns Over Cash Flow – Onion

Price/Yield	**Best**	**Opt**	**Opt**	**Expected 665.00**	**Pess**	**Pess**	**Worst**	**Net Returns**	**Chances of Profit %**
8.00	1268	554	-160	-874	-1588	-2302	-3016	-874	27
10.00	2747	2007	1266	526	-214	-955	-1695	526	64
12.00	4262	3483	2705	1926	1147	369	-410	1926	89
14.00	5808	4981	4153	3326	2499	1671	844	3326	98
16.00	7380	6495	5611	4726	3841	2957	2072	4726	99

Table 5: Break-Even (BE) Costs Per Box – Onion

BE Pre-harvest variable cost per box.	$2.73
BE Harvest & marketing cost per box.	$5.18
BE Fixed Outlays per box.	$1.34
BE Total budgeted cost per box	$9.25
BE yields (boxes)	306

Table 6. Investment and Annual Fixed Machinery Costs – Onion

Number of acres of this crop	40
Interest rate	0.07

Item	% of time for This crop	Cost	Salvage Value	Life	Depr.	Yrs. of Int.	Tax&Ins	FC/Ac.
Tractors (100 hp)	10%	70000	14000	15	373	294	59	18
Plow (6 row bedder))	50%	22000	4400	15	587	462	92	29
Disk (24')	10%	22000	4400	15	117	92	18	6
Sub-soiler	50%	5000	1000	15	133	105	21	6
Cultivator (6 row)	40%	6000	1200	15	128	101	20	6
Sprayer (18 row boom)	25%	15000	3000	15	200	158	32	10
Plastic bins	100%	6000	1200	6	800	252	50	28
Forklift	75%	46000	9200	15	1840	1449	290	89
Total		**192000**	**38400**		**4179**	**2913**	**583**	**192**

Total Annual Fixed Costs	$13,855.47
Total Annual Fixed Costs Per Acre	$346.39

Table 7: Irrigation – Onion

ACRES IN SYSTEM	40.00
INTEREST RATE	0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	2100	450
Power unit	12500	1	0	438	94
WELL (8 inches)	15000	20	750	525	113
Pump	12000	10	1200	420	90
FILTER & AUTO	200	10	20	7	2
	0	20	0	0	0
	0	20	0	0	0
TOTAL	99700		7970	3490	748

TOTAL ANNUAL FIXED COSTS	12207
TOTAL ANNUAL FIXED COSTS PER ACRE	305.18
TOTAL ANNUAL DEBT PAYMENT PER ACRE	264

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	2023.50	50.59
ANNUAL PUMPING HOURS	2000.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	1970.40	
ANNUAL ENERGY COST PER ACRE		49.26

OPERATING COST PER ACRE PER YEAR	99.85

1/- Most onion growers use but center pivot irrigation system.

Squash - Double Cropped on Plastic

Table 1: Yields and Prices – Squash Per Box

	BEST	OPT	MEDIAN	PESS	WORST
Yield (30 lbs./boxes)	1200	1000	800	600	400
Price per box	13.50	12.50	11.50	10.50	9.50

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Squash Production

Item	Unit	Quantity	Price	Amt./acre	Total	Yours
Variable Costs						
Seeds	lbs	4.00	50.00	200.00	200	_____
Fumigant	Gal	1.00	280.00	280.00	280	_____
Fertilizer						
Side-dressing	Gal	1.13	200.00	226.00	226	_____
Plastic removal	Acre	1.00	85.00	85.00	85	_____
Nematicide	Acre	1.00	45.00	45.00	45	_____
Fungicide	Acre	7.00	40.00	280.00	280	_____
Herbicide	Acre	2.00	28.00	56.00	56	_____
Insecticide	Acre	7.00	22.00	154.00	154	_____
Machinery (fuel, lub & maint)	Acre	1.00	75.00	75.00	75	_____
Labor	Hrs	15.00	10.50	157.50	158	_____
Irrigation (electric pump) 1/	Acre	1.00	99.85	99.85	100	_____
Interest on Operation Cap.	$	1658.35	0.07	53.90	54	_____
Pre-Harvest Variable Costs				**1712.24**	**1,712**	
Harvest and Marketing Costs	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Picking and hauling	Boxes	760.00	0.85	646	646	_____
Washing and packing	Boxes	760.00	0.45	342	342	_____
Boxes waxed	Boxes	760.00	2.00	1520	1,520	_____
Marketing	Boxes	760.00	0.81	615.60	616	_____
Total Harvest and Marketing				**3123.60**	**3,124**	1

Total Variable Costs	**4835.84**	**4,836**	1

1/- Diesel would cost about $2.50 per gallon

FIXED COSTS:

Annual Fixed Cost	**Unit**	**Quantity**	**Price**	**Amt./acre**	**Total**	**Yours**
Machinery	Acre	1.00	159.56	159.56	160	
Irrigation	Acre	1.00	298.95	298.95	299	
Overhead and Management	$	1712.24	0.15	256.84	257	
Total Fixed Costs				**715.35**	**715**	
Total budgeted cost per acre	**$**			**5551.19**	**5,551**	

Table 3: Sensitivity Returns Over Cash Flow – Squash

	Best	**Opt**	**Opt**	**Expected**	**Pess**	**Pess**	**Worst**
Returns($)	6,224	5,366	4,507	3,649	2,790	1,932	1,073
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%

CHANCES FOR PROFIT	**98%**	**BASE BUDGETED NET REVENUE**	**3,649**

Table 4: Price Sensitivity Returns Over Cash Flow – Squash

Price/Yield	**Best**	**Opt**	**Opt**	**Expected 760.00**	**Pess**	**Pess**	**Worst**	**Net Returns**	**% Chance of Profit**
7.50	**2062**	1524	987	**449**	**-89**	**-627**	**-1165**	**449**	66
8.50	**3077**	2467	1858	**1249**	**640**	**30**	**-579**	**1249**	85
9.50	**4112**	3424	2737	**2049**	1361	**673**	**-15**	2049	93
10.50	**5163**	4392	3620	**2849**	2077	1306	**536**	2849	97
11.50	**224**	5366	4507	**3649**	2790	1932	**1073**	3649	98

Table 5. Break-Even (BE) Costs Per Box – Squash

BE Pre-harvest variable cost per lb.	$2.14
BE Harvest & marketing cost per lb.	$3.90
BE Fixed Outlays per lb.	$0.89
BE Total budgeted cost per lb.	$6.94
BE Yield per acre (boxes)	483

Table 6: Investment and Annual Fixed Machinery Costs – Squash

Number of acres of this crop 40
Interest rate 0.07

Equipment Costs for this crop

Item	% of time for This crop	Cost	Salvage Value	Life	Depr.	Yrs. of Int.	Tax&Ins	FC/Ac.
Tractors (100 hp)	33%	70000	14000	15	1232	901	194	58
Plow (6 row bedder))	33%	22000	4400	15	387	283	61	18
Disk (24')	33%	22000	4400	15	387	283	61	18
Subsoiler	33%	5000	1000	15	88	64	14	4
Transplanter	33%	12000	2400	15	211	154	33	10
Cultivator (6 row)	33%	6000	1200	15	106	77	17	5
Sprayer (18 row boom)	33%	15000	3000	15	264	193	42	12
Tillovator (6 row)	33%	40000	8000	15	704	515	111	33
Total		**63360**	**12672**		**3379**	**2471**	**532**	**160**

Total Annual Fixed Costs	$6,382.46
Total Annual Fixed Costs Per Acre	$159.56

Table 7. Irrigation – Squash

ACRES IN SYSTEM	40.00
INTEREST RATE	0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
WELL (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
FILTER & AUTO	200	10	20	7	2
TOTAL	**99700**		**7970**	**3240**	**748**

TOTAL ANNUAL FIXED COSTS	11958
TOTAL ANNUAL FIXED COSTS PER ACRE	$298.95
TOTAL ANNUAL DEBT PAYMENT PER ACRE	$264

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	2023.50	50.59
ANNUAL PUMPING HOURS	2000.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	1970.40	
ANNUAL ENERGY COST PER ACRE		49.26

OPERATING COST PER ACRE PER YEAR	**$99.85**

Sweet Corn – Irrigated

Table 1: Yields and Prices – Sweet corn Per Crates

	BEST	OPT	MEDIAN	PESS	WORST
Yield (wire bound crates boxes)	550	500	450	400	350
$ Price (+ cooling)	15.50	14.50	13.50	12.50	11.50

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Sweet Corn Production

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
Seeds	Thou	25.00	6.00	150.00	150	_____
Lime, applied	Ton	0.50	30.00	15.00	15	_____
Fertilizer						
Nitrogen (N)	lbs	300.00	0.50	150.00	150	_____
Phosphorus	lbs	70.00	0.50	35.00	35	_____
Potassium	lbs	250.00	0.50	125.00	125	_____
Fungicide	Acre	3.00	75.00	225.00	225	_____
Insecticide soil	lb	8.00	2.00	16.00	16	_____
Insecticide applied with irrigation	Acre	4.00	20.00	80.00	80	_____
Insecticide	Acre	35.00	12.00	420.00	420	_____
Aerial Application	Appl	6.00	35.00	210.00	210	_____
Herbicide	Acre	1.00	10.00	10.00	10	_____
Scouting & inspection fees	Acre	1.00	19.50	19.50	20	_____
Fuel, Oil, Lub, & Machinery)	Acre	1.00	30.00	30.00	30	_____
Labor, pre-harvest	Acre	1.00	35.00	35.00	35	_____
Repair and Maintenance	Acre	1.00	10.00	10.00	10	_____
Crop Insurance	Acre	1.00	14.00	14.00	14	_____
Irrigation	Acre	1.00	99.85	99.85	100	_____
Interest on Operating Capital	$	1644.35	0.06	49.33	49	_____
Pre-Harvest Variable Costs				**1693.68**	**1,694**	1

Harvest and Marketing Costs	Unit	Quantity	Price	Amt/acre	Total	Yours
Labor (Harvest, packing)	Crt.	427.50	1.70	727	727	_____
Pre-cooling	Crt	427.50	1.10	470	470	_____
Container	Crt	427.50	1.75	748	748	_____

Container/packaging	Boxes	427.50	0.40	171	171	1
Marketing (10%)	$	2116.13	0.10	211.61	212	1
Total Harvest and Marketing				**2327.74**	**2,328**	1
Total Variable Costs				**4021.42**	**4,021**	1

1/- Diesel would cost about $100 per acre

FIXED COSTS:

Annual Fixed Cost	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Machinery	Acre	1.00	159.56	159.56	160	
Irrigation	Acre	1.00	298.95	298.95	299	
Overhead and Management	$	1693.68	0.15	254.05	254	
Total Fixed Costs				**712.56**	**713**	
Total budgeted cost per acre				**4733.98**	**4,734**	

Table 3: Sensitivity Returns Over Cash Flow – Sweet Corn

	Best	**Opt**	**Opt.**	**Expected**	**Pess**	**Pess**	**Worst**
Returns($)	2,261	1,954	1,648	1,341	1,034	728	421
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%

CHANCES FOR PROFIT	**99%**	**BUDGETED NET REVENUE**	**1,341**

Table 4: Price Sensitivity Returns Over Cash Flow – Sweet Corn

	Best	**Opt**	**Opt**	**Expected**	**Pess**	**Pess**	**Worst**	**$-Net Profit**	**% Chances of Profit**
$-Price/Yield				**427.50**					
11.50	**775**	514	252	**-9**	**-270**	**-532**	**-793**	**-9**	49
12.50	**1761**	1471	1181	**891**	601	311	**21**	**891**	94
13.50	**2205**	1914	1623	**1332**	1031	730	**429**	**1341**	99
14.50	**2763**	2439	2115	**1791**	1467	1143	**819**	**1791**	99
15.50	**3268**	2926	2583	**2241**	1899	1556	**1214**	**2241**	99

Table 5: Irrigation – Sweet Corn

ACRES IN SYSTEM	40.00
INTEREST RATE	0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
WELL (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
FILTER & AUTO	200	10	20	7	2
TOTAL	99700		7970	3240	748

TOTAL ANNUAL FIXED COSTS	11958
TOTAL ANNUAL FIXED COSTS PER ACRE	$298.95

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	2023.50	50.59
ANNUAL PUMPING HOURS	2000.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	1970.40	
ANNUAL ENERGY COST PER ACRE		49.26

OPERATING COST PER ACRE PER YEAR	**$99.85**

Table 6: Investment and Annual Fixed Machinery Costs – Sweet Corn

Number of acres of this crop	40
Interest rate	0.07

Item	% of time for This crop	Cost	Salvage Value	Life	Depr.	Yrs. of Int.	Tax&Ins	FC/Ac.
Tractors (100 hp)	33%	70000	14000	15	1232	901	194	58
Plow (6 row bedder))	33%	22000	4400	15	387	283	61	18
Disk (24')	33%	22000	4400	15	387	283	61	18
Subsoiler	33%	5000	1000	15	88	64	14	4
Transplanter	33%	12000	2400	15	211	154	33	10
Cultivator (6 row)	33%	6000	1200	15	106	77	17	5
Sprayer (18 row boom)	33%	15000	3000	15	264	193	42	12
Tillovator (6 row)	33%	40000	8000	15	704	515	111	33
Total		**63360**	**12672**		**3379**	**2471**	**532**	**160**

Total Annual Fixed Costs	$6382.46
Total Annual Fixed Costs Per Acre	$159.56

Table 7: Break-Even (BE) Costs Per Box – Sweet Corn

BE Pre-harvest variable cost per box.	$3.76
BE Harvest & marketing cost per box.	$5.17
BE Fixed Outlays per box.	$1.58
BE Total budgeted cost per box.	$10.52

Carrots – Irrigated

Table 1: Yields and Prices – Carrots Per Bag

	BEST	OPT	MEDIAN	PESS	WORST
Yield (50 lb. bag)	1150	950	750	550	350
Price per bag	15.00	14.00	13.00	12.00	11.00

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Carrots Production

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
Seeds	Acre	1.00	500.00	500.00	500	_____
Lime, applied	Ton	1.00	30.00	30.00	30	_____
Fertilizer	Acre	1.00	520.00	520.00	520	_____
Insecticide	Acre	1.00	54.00	54.00	54	_____
Fungicide	Acre	1.00	300.00	300.00	300	_____
Fumigants	Acre	1.00	225.00	225.00	225	_____
Herbicide	Acre	1.00	94.30	94.30	94	_____
Machinery (fuel, lub & maintenance)	Hr	6.00	2.50	15.00	15	_____
Labor	Hr	8.00	10.00	80.00	80	_____
Land rent	Acre	1.00	200.00	200.00	200	_____
Irrigation	Acre	1.00	99.85	99.85	100	_____
Interest on Oper. Cap.	$	2118.15	0.06	63.54	64	_____
PreHarvest Variable Costs	Acre	1.00		**2181.69**	**2,182**	_____

Harvest and Marketing Costs	Unit	Quantity	Price	Amt/acre	Total	Yours
Harvest	Bags	712.50	1.00	713	713	_____
Grading & Packing	Bags	712.50	1.50	1069	1,069	_____
Packing materials	Bags	712.50	0.75	534	534	_____
Lines, baggers, coolers, broker fees	Bags	712.50	3.00	2137.50	2,138	_____
Broker's commission	Bags	4453.13	0.10	445.31	445	_____
Total Harvest and Marketing				**4898.44**	**4,898**	_____

Total Variable Costs	**7080.13**	**7,080**

1/- Diesel would cost about $100 per acre

FIXED COSTS:

Annual Fixed Cost	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Machinery	Acre	1.00	312.00	312.00	312	_____
Irrigation	Acre	1.00	298.95	298.95	299	_____
Overhead and Management	$	2181.69	0.15	327.25	327	_____
Total Fixed Costs				**938.20**	**938**	
Total budgeted cost per acre				**8018.33**	**8,018**	

Table 3: Sensitivity Returns Over Cash Flow – Carrots

	Best	**Opt**	**Opt**	**Expected**	**Pess**	**Pess**	**Worst**
Returns($)	3,975	3,227	2,479	1,732	984	236	-511
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%
CHANCES FOR PROFIT		**88%**	**GETED NET REVENUE**				**1,732**

Table 4: Price Sensitivity Returns Over Cash Flow – Carrots

Price/Yield (lbs.)	**Best**	**Opt**	**Opt**	**Expected 712.50**	**Pess**	**Pess**	**Worst**	**Net Returns**	**% Chances of Profit**
11.00	1982	1398	815	232	-352	-935	-1518	232	58
12.00	2971	2308	1645	982	319	-345	-1008	982	77
13.00	3975	3227	2479	1732	984	236	-511	1732	88
14.00	4989	4153	3317	2482	1646	810	-26	2482	93
15.00	6010	5084	4158	3232	2305	1379	453	3232	96

Table 5: Irrigation – Carrots

ACRES IN SYSTEM	40.00
INTEREST RATE	0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
WELL (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
FILTER & AUTO	200	10	20	7	2
TOTAL	**99700**		**7970**	**3240**	**748**

TOTAL ANNUAL FIXED COSTS	$11,958
TOTAL ANNUAL FIXED COSTS PER ACRE	$298.95

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	2023.50	50.59
ANNUAL PUMPING HOURS	2000.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	1970.40	
ANNUAL ENERGY COST PER ACRE		49.26

OPERATING COST PER ACRE PER YEAR	$99.85

Table 6: Investment and Annual Fixed Machinery Costs – Carrots

Number of acres of this crop	40
Interest rate (%)	0.07

Equipment Costs for Carrots - 2019

Item	% of time for This crop	Cost	Salvage Value	Life	Depr.	Yrs. of Int.	Tax&Ins	FC/Ac.
Tractors (100 hp)	33%	70000	14000	15	1232	901	194	58
Plow (6 row Bedder)	33%	22000	4400	15	387	283	61	18
Disk (24')	33%	22000	4400	15	387	283	61	18
Subsoiler	33%	5000	1000	15	88	64	14	4
Trans planter	33%	12000	2400	15	211	154	33	10
Cultivator (6 row)	33%	6000	1200	15	106	77	17	5
Sprayer (18 row boom)	33%	15000	3000	15	264	193	42	12
Tillovator (6 row)	33%	40000	8000	15	704	515	111	33
Total		**192000**	**38400**		**3379**	**2471**	**532**	**160**

Total Annual Fixed Costs	12,480.00
Total Annual Fixed Costs Per Acre	312.00

Table 7: Break-Even (BE) Costs Per Box – Carrots

BE Pre-harvest variable cost per box ($).	2.91
BE Harvest & marketing cost per box ($)	6.53
BE Fixed Outlays per box ($).	1.25
BE Total budgeted cost per box ($)	10.69
BE Yields (boxes).	617

Climbing Cucumber – Irrigated

Table 1: Yields and Prices – Climbing Cucumber Per Bushel

	BEST	OPT	MEDIAN	PESS	WORST
Yield (bushels)	950	850	750	650	550
Price per bushel ($)	24	22	20	18	16

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Cucumber Production

Pre-Harvest Variable Costs	Unit	Quantity	Price	Amt./acre	Total	Yours
Seeds	lbs.	3.00	$250.00	$750.00	750	_____
Lime, applied	Ton	0.50	$30.00	$15.00	15	_____
Fertilizer (5-10-15)	lbs.	6.00	$20.00	$120.00	120	_____
Side-dress Fertilizer (19% N)	lbs.	60.00	$1.50	$90.00	90	_____
Trellis netting (heavy duty W4'x328')	ft.	33.20	$53.06	$1,761.59	1,762	_____
Trellis frame (46"x18")	ft.	52.60	$19.72	$1,037.27	1,037	_____
Insecticide/1	Acre	6.00	$30.00	$180.00	180	_____
Fungicide	Acre	4.00	$60.00	$240.00	240	_____
Nematicide	Acre	4.00	$10.50	$42.00	42	_____
Herbicide	Acre	3.00	$10.00	$30.00	30	_____
Plastic mulch	Roll	1.20	$105.00	$126.00	126	_____
Bee hive	Acre	1.00	$50.00	$50.00	50	_____
Machinery	Acre	1.00	$75.00	$75.00	75	_____
Repair and Maintenance	Acre	1.00	$25.00	$25.00	25	_____
Labor	Hrs	20.00	$10.50	$210.00	210	_____
Land rent 2/-	Acre	1.00	$0.00	$0.00	0	_____
Irrigation (Mach + Labor)	Acre	1.00	$65.08	$65.08	65	_____
Interest on Operating Capital	$	4816.94	$0.07	$156.55	157	_____
Pre-Harvest Variable Costs				**$4,973.49**	**4,973**	

Harvest and Marketing Costs	Unit	Quantity	Price	$/acre	Total	Yours
Picking and hauling	Bu	713	$1.75	$1,246.88	1,247	_____
Shelling, packing and cooling	Bu	713	$4.00	$2,850.00	2,850	_____
Container	Bu	713	$0.40	$285.00	285	_____
Marketing (sales commission)	Bu	15000	$0.07	$1,050.00	1,050	
Total Harvest and Marketing			**$6.22**	**$5,431.88**	5,432	
Total Variable Costs				**$10,405.36**	**10,405**	

Fixed Cost	Unit	Quantity	Price	Amt/Acre		
Machinery	Acre	1.00	$104.10	$104.10	104	
Irrigation	Acre	1.00	$218.51	$218.51	219	
Land	Acre	1.00	$0.00	$0.00	0	
Overhead and Management	$	4973.49	$0.15	$746.02	746	
Total Fixed Costs				**$1,068.63**	1,069	
Total budgeted cost per acre				**$11,474.00**	11,474	

Table 3: Sensitivity Returns Over Cash Flow – Climbing Cucumber

	Best	Opt	Opt	Expected	Pess	Pess	Worst
Returns($)	6,480	5,495	4,511	3,526	2,541	1,557	572
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%

CHANCES FOR PROFIT **96%** **BUDGETED NET REVENUE** **3,526**

Table 4: Price Sensitivity Returns Over Cash Flow – Climbing Cucumber

	Best	Opt	Opt	Expected	Pess	Pess	Worst	$-Net Returns	% Chances of Profit
$-Price/Yield (lbs.)				**712.50**					
16.00	**3363**	2487	1612	**736**	**-140**	**-1015**	**-1891**	736	66
18.00	**4912**	3985	3058	**2131**	1204	277	**-650**	2131	87
20.00	**6480**	5495	4511	**3526**	2541	1557	**572**	3526	96
22.00	**8063**	7015	5968	**4921**	3874	2827	**1779**	4921	99
24.00	**9658**	8544	7430	**6316**	5202	4088	**2974**	6316	99

Table 5: Irrigation – Climbing Cucumber

ACRES IN SYSTEM	40.00
INTEREST RATE	7.0%

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
PIPE & FITTINGS	8000.00	20	400	260	$ 60.00
STORAGE TANKS	500.00	10	50	16	$ 3.75
WELL	6500.00	25	260	211	$ 48.75
PUMP & MOTOR	4000.00	12	333	130	$ 30.00
FILTER & AUTO	250.00	10	25	8	$ 1.88
Injection system	750.00	10	75	24	$ 5.63
TUBING	5800	1	5800	189	$ 43.50
INSTALLATION	8500.00	20	425	276	$ 63.75
TOTAL	34300		7368	1115	$ 257.25

TOTAL ANNUAL FIXED COSTS	$ 8,740.33
TOTAL ANNUAL FIXED COSTS PER ACRE	$ 218.51
Total Annual Debt Payment Per Acre	$ 74.10

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	185.00	4.63
ANNUAL PUMPING HOURS	2500.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	2418.00	
ANNUAL ENERGY COST PER ACRE		60.45
OPERATING COST PER ACRE PER YEAR		**$65.08**

Table 6: Investment and Annual Fixed Machinery Costs – Climbing Cucumber

Number of acres of this crop 40
Interest rate 6.50%

Item	% of time for This crop	Cost	Salvage Value	Yrs. of Life	Depr.	Int.	Tax & Ins	FC/Ac.
Tractors	10%	70000	14000	15	373	273	59	18
Plow	20%	6600	1320	10	106	51	11	4
Disk	10%	12000	2400	10	96	47	10	4
Appl. Herb	0%	1700	340	10	0	0	0	0
Bedder	50%	3000	600	10	120	59	13	5
Trans planter	50%	2900	580	10	116	57	12	5
Cultivator	0%	3500	700	10	0	0	0	0
Sprayer	30%	15000	3000	10	360	176	38	14
Side dresser	20%	4500	900	10	72	35	8	3
Trellis	100%	10000	2000	5	1600	390	84	52
Total		27870	5574		2843	1087	234	104

Total Annual Fixed Costs	$4,163.97
Total Annual Fixed Costs Per Acre	$104.10

Table 7: Break-Even (BE) Costs Per Box – Climbing Cucumber

BE Pre-harvest variable cost per carton				$ 6.63
BE Harvest & marketing cost per carton				$ 7.24
BE Fixed Costs per carton				$ 1.42
BE Total budgeted cost per carton				$ 15.30
BE Yield per acre (boxes)				574

Tomatoes on Plastic – Fall Planting

Table 1: Yields and Prices – Tomatoes on Plastic Per Carton

	BEST	OPT	MEDIAN	PESS	WORST
Yield (25 lbs. cartons)	1800	1700	1600	1500	1400
$ Price (+ cooling)	11.00	10.00	9.00	8.00	7.00

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Tomato Production

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
Plants	Thou	4.80	200.00	960.00	960	_____
Lime and gypsum	Ton	1.50	108.00	162.00	162	_____
Fertilizer granular	Ton	1.00	350.00	350.00	350	_____
Fertilizer liquid	Ton	1.00	170.00	170.00	170	_____
Mulch, plastic black 1/	Roll 4000'	2.85	100.00	285.00	285	_____
Fumigation	Acre	200.00	2.85	570.00	570	_____
Insecticide 2/	Appl	21.00	24.40	512.40	512	_____
Fungicide	Appl	5.00	200.00	1000.00	1,000	_____
Herbicide	Acre	1.90	31.34	59.55	60	_____
Stakes	Thou	4.00	40.00	160.00	160	_____
String	Acre	30.00	7.00	210.00	210	_____
Labor, mach operation	Hr	5.00	7.00	35.00	35	_____
Labor, production transplant	Hr	100.00	8.00	800.00	800	_____
Crop Insurance	Acre	1.00	140.00	140.00	140	_____
Consultant	Acre	1.00	70.00	70.00	70	_____
Cleanup (plastic & stakes)	Acre	1.00	150.00	150.00	150.00	_____
Machinery	Acre	1.00	25.76	25.76	26	_____
Irrigation	Acre	1.00	75.63	75.63	76	_____
Interest on Operation Capital	$	5735.34	0.06	172.06	172	_____
Pre-Harvest Variable Costs				**5907.40**	**5,907**	_____
Harvest and Marketing Costs	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Picking and hauling	Crt	1520.00	1.25	1900	1,900	_____
Grading and packing	Crt	1520.00	0.85	1292	1,292	_____
Container	Crt	1520.00	0.85	1292	1,292	_____
Marketing	$	4484.00	0.09	381.14	381	_____

Total Harvest and Marketing		**4865.14**	**4,865**
Total Variable Costs	**$**	**10772.54**	**10,773**

1/- Diesel would cost about $100 per acre

Fixed Costs

Annual Fixed Cost	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Machinery	Acre	1.00	159.56	159.56	160	_____
Irrigation	Acre	1.00	63.59	63.59	64	_____
Overhead and Management	$	5907.40	0.15	886.11	886	_____
Total Fixed Costs				**1109.26**	**1,109**	
Total budgeted cost per acre	**$**			**11881.80**	**11,882**	

Table 3: Sensitivity Returns Over Cash Flow – Tomato

	Best	**Opt**	**Opt.**	**Expected**	**Pess**	**Pess**	**Worst**
Returns($)	5,079	4,226	3,372	2,518	1,665	811	-43
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%

CHANCES FOR PROFIT	**93%**	**BASE BUDGETED NET REVENUE ($)**	**2,518**

Table 4: Price Sensitivity Returns Over Cash Flow – Tomato

Price/Yield	**Best**	**Opt**	**Opt**	**Expected 1520.00**	**Pess**	**Pess**	**Worst**	**% Chance of Profit**
7.00	**1791**	966	142	**-682**	**-1506**	**-2330**	**-3154**	34
8.00	**3431**	2593	1756	**918**	81	**-757**	**-1594**	71
9.00	**5079**	4226	3372	**2518**	1665	811	**-43**	93
10.00	**6735**	5863	4991	**4118**	3246	2373	**1501**	99
11.00	**8399**	7505	6612	**5718**	4825	3931	**3038**	99

Table 5: Irrigation – Tomato

ACRES IN SYSTEM	40.00
INTEREST RATE	0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Pipe & Fittings	6000	20	300	195	45
Tubing	5800	1	0	189	44
WELL (8 inches)	6500	25	260	211	49
Pump & motor	3500	12	292	114	26
Filter & auto	200	10	20	7	2
Storage tanks	800	20	40	26	6
Installation	8000	20	400	260	60
TOTAL	30800		1312	1001	231

TOTAL ANNUAL FIXED COSTS	2544
TOTAL ANNUAL FIXED COSTS PER ACRE	63.59
TOTAL ANNUAL DEBT PAYMENT PER ACRE	82

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	831.00	20.78
ANNUAL PUMPING HOURS	2250.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	2194.20	
ANNUAL ENERGY COST PER ACRE		54.86

OPERATING COST PER ACRE PER YEAR	75.63

Table 6: Investment and Annual Fixed Machinery Costs – Tomato

Number of acres of this crop	40
Interest rate	0.07

Equipment Costs for Tomatoe - 2019

Item	% of time for This crop	Cost	Salvage Value	Life	Depr.	Yrs. of Int.	Tax&Ins	FC/Ac.
Tractors (100 hp)	33%	70000	14000	15	1232	901	194	58
Plow (6 row bedder))	33%	22000	4400	15	387	283	61	18
Disk (24')	33%	22000	4400	15	387	283	61	18
Subsoiler	33%	5000	1000	15	88	64	14	4
Transplanter	33%	12000	2400	15	211	154	33	10
Cultivator (6 row)	33%	6000	1200	15	106	77	17	5
Sprayer (18 row boor	33%	15000	3000	15	264	193	42	12
Tillovator (6 row)	33%	40000	8000	15	704	515	111	33
Plastic layer (3 row)	33%	0	0	15	0	0	0	0
_____	33%	0	0	0	0	0	0	0
Total		63360	12672		3379	2471	532	160

Interest on Investment (Ave. Inv. X Int. Rate)	2471.04
Taxes and Insurance (Ave. Inv. X .014)	532.22
Total Annual Fixed Costs	6382.46
Total Annual Fixed Costs Per Acre	159.56

Table 7: Break-Even (BE) Costs Per Box – Tomato

BE Pre-harvest variable cost per box ($)	3.69
BE Harvest & marketing cost per box ($).	3.04
BE Fixed Outlays per box ($).	0.69
BE Total budgeted cost per box ($)	7.43
BE Yield per acre (cartons) (lbs.)	1320

Cabbage – Bare ground and Irrigated

Table 1: Yields and Prices – Cabbage, bare-ground and irrigated

	BEST	OPT	MEDIAN	PESS	WORST
Yield (50 lbs. boxes)	850	800	750	700	650
$ Price/50 lb. box	11.00	10.00	9.00	8.00	7.00

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Cabbage Production

Item	Unit	Quantity	Price	Amt./acre	Total	Yours
Variable Costs						
Transplants	Thou	17.50	24.00	420.00	420	_____
Lime, applied	Ton	1.00	30.00	30.00	30	_____
Nitrogen (N)	lbs	225.00	0.70	157.50	158	_____
Phosphorus (P205)	lbs	110.00	0.50	55.00	55	_____
Potassium (K20)	lbs	110.00	0.50	55.00	55	_____
Gypsum	Ton	0.50	75.00	37.50	38	_____
Disease control	Acre	10.00	20.00	200.00	200	_____
Herbicide	Acre	6.00	15.00	90.00	90	_____
Insecticide	Acre	1.00	120.00	120.00	120	_____
Greenhouse Fungicide	Appl	1.00	120.00	120.00	120	_____
Machinery (fuel, lub. & maintenance)	Acre	1.00	75.00	75.00	75	_____
Labor	Hrs	15.00	10.50	157.50	158	_____
Irrigation (electric pump) 1/	Acre	1.00	99.85	99.85	100	_____
Scouting	Acre	1.00	25.00	25.00	25	_____
Interest on Operation Capital	$	1642.35	0.07	53.38	53	_____
Pre-Harvest Variable Costs				**1695.72**	**1,696**	_____
Harvest and Marketing Costs	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Labor (Harvest, packing)	Boxes	712.50	0.50	356	356	_____
Harvest Wagon (hauling)	Boxes	712.50	3.00	2138	2,138	_____
Ice (cooling)	Boxes	712.50	0.15	107	107	_____
Container/packaging	Boxes	712.50	0.70	499	499	_____
Broker fees	$	3099.38	0.08	232.45	232	_____
Total Harvest and Marketing				**3331.83**	**3,332**	

Total Variable Costs	**5027.55**	**5,028**

1/- Diesel would cost about $100 per acre

FIXED COSTS:

Annual Fixed Cost	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Machinery	Acre	1.00	159.56	159.56	160	_____
Irrigation	Acre	1.00	298.95	298.95	299	_____
Overhead and Management	$	1695.72	0.15	254.36	254	_____
Total Fixed Costs				**712.87**	**713**	
Total budgeted cost per acre				**5740.42**	**5,740**	

Table 3: Break-Even (BE) Costs Per Box – Cabbage

BE Pre-harvest variable cost per box ($)	2.26
BE Harvest & marketing cost per box ($)	4.44
BE Fixed Outlays per box ($)	0.95
BE Total budgeted cost per box ($)	7.65
BE Yield per Acre (boxes)	638

Table 4: Sensitivity Returns Over Cash Flow – Cabbage

	Best	**Opt**	**Opt.**	**Expected**	**Pess**	**Pess**	**Worst**
Returns($)	2,185	1,793	1,402	1,010	618	226	-166
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%

CHANCES FOR PROFIT	**90%**	**BASE BUDGETED NET REVENUE ($)**	**1,010**

Table 5: Price Sensitivity Returns Over Cash Flow – Cabbage

Price/Yield (lbs)	Best	Opt	Opt	Expected 712.50	Pess	Pess	Worst	$-Net Returns	% Chance 0f Profit
7.00	651	270	-110	-490	-871	-1251	-1632	-490	26
8.00	1416	1030	645	260	-126	-511	-897	260	63
9.00	2185	**1793**	**1402**	1010	**618**	**226**	-166	1010	90
10.00	2959	2559	2159	1760	1360	960	560	1760	99
11.00	3737	3328	2919	2510	2100	1691	1282	2510	99

Table 6: Irrigation – Cabbage

ACRES IN SYSTEM	40.00
INTEREST RATE	0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.	
Sprinkler system	60000	10	6000	1950	450	
Power unit	12500	1	0	406	94	
WELL (8 inches)	15000	20	750	488	113	
Pump	12000	10	1200	390	90	
FILTER & AUTO	200	10	20	7	2	
	0	20	0	0	0	
	0	20	0	0	0	
TOTAL	99700		7970	3240	748	

TOTAL ANNUAL FIXED COSTS	11958
TOTAL ANNUAL FIXED COSTS PER ACRE	298.95
TOTAL ANNUAL DEBT PAYMENT PER ACRE	264

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	2023.50	50.59
ANNUAL PUMPING HOURS	2000.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	1970.40	
ANNUAL ENERGY COST PER ACRE		49.26
OPERATING COST PER ACRE PER YEAR		99.85

Table 7: Investment and Annual Fixed Machinery Costs – Cabbage

Number of acres of this crop	40
Interest rate	0.07

Equipment Costs for Cabbage - 2019

Item	% of time for This crop	Cost	Salvage Value	Life	Depr.	Yrs. of Int.	Tax&Ins	FC/Ac.
Tractors (100 hp)	33%	70000	14000	15	1232	901	194	58
Plow (6 row bedder))	33%	22000	4400	15	387	283	61	18
Disk (24')	33%	22000	4400	15	387	283	61	18
Subsoiler	33%	5000	1000	15	88	64	14	4
Transplanter	33%	12000	2400	15	211	154	33	10
Cultivator (6 row)	33%	6000	1200	15	106	77	17	5
Sprayer (18 row boor	33%	15000	3000	15	264	193	42	12
Tillovator (6 row)	33%	40000	8000	15	704	515	111	33
Plastic layer (3 row)	33%	0	0	15	0	0	0	0
_____	33%	0	0	0	0	0	0	0
Total		63360	12672		3379	2471	532	160

Interest on Investment (Ave. Inv. X Int. Rate)	2471.04
Taxes and Insurance (Ave. Inv. X .014)	532.22
Total Annual Fixed Costs	6382.46
Total Annual Fixed Costs Per Acre	159.56

Eggplant – Irrigation

Table 1: Yields and Prices – Eggplant, Irrigated

	BEST	OPT	MEDIAN	PESS	WORST
Yield (33 lb. boxes)	1600	1400	1200	1000	800
Price per box	10.00	9.00	8.00	7.00	6.00

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Eggplant Production

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
Transplants	Thou	6.00	100.00	600.00	600	_____
Lime, applied	Ton	1.00	30.00	30.00	30	_____
Side-dressing	lbs	30.00	0.50	15.00	15	_____
Nitrogen (N)	lbs	150.00	0.50	75.00	75	_____
Phosphorus (P205)	lbs	80.00	0.50	40.00	40	_____
Potassium (K20)	lbs	120.00	0.50	60.00	60	_____
Magnesium (Mg)	lbs	25.00	0.50	12.50	13	_____
Disease control	Acre	1.00	100.00	100.00	100	_____
Herbicide	Acre	1.00	32.00	32.00	32	_____
Insecticide	Acre	1.00	120.00	120.00	120	_____
Plastic	Roll	2.85	100.00	285.00	285	_____
Plastic Removal	Acre	1.00	85.00	85.00	85	_____
Stakes & strings	Acre	1.00	100.00	100.00	100	_____
Machinery (fuel, lub & maintenance)	Acre	1.00	75.00	75.00	75	_____
Labor	Hrs	15.00	10.50	157.50	158	_____
Irrigation (electric pump) 1/	Acre	1.00	99.85	99.85	100	_____
Bee hive	Acre	1.00	75.00	75.00	75	_____
Scouting	Acre	1.00	25.00	25.00	25	_____
Interest on Operation Capital.	$	1986.85	0.07	64.57	65	_____
Pre-Harvest Variable Costs	Acre	1.00		**2051.42**	**2,051**	
Harvest and Marketing Costs	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Labor (Harvest, packing)	Boxes	1140.00	2.50	2850	2,850	_____
Harvest Wagon (hauling)	Each	20.00	3.00	60	60	_____
Container/packaging	Boxes	1140.00	1.50	1710	1,710	_____
Broker fees	$	1094.40	0.08	82.08	82	_____

Total Harvest and Marketing	**4702.08**	**4,702**
Total Variable Costs	**6753.50**	**6,754**

1/- Diesel would cost about $100 per acre

FIXED COSTS:

Annual Fixed Cost	**Unit**	**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Machinery	Acre	1.00	312.00	312.00	312	_____
Irrigation	Acre	1.00	298.95	298.95	299	_____
Overhead and Management	$	2051.42	0.15	307.71	308	_____
Total Fixed Costs				**918.66**	**919**	_____
Total budgeted cost per acre				**7672.16**	**7,672**	

Table 3: Break-Even (BE) Costs per Box – Eggplant

BE Pre-harvest variable cost per box.							1.71
BE Harvest & marketing cost per box.							3.92
BE Fixed Outlays per box.							0.77
BE Total budgeted cost per box.							6.39
BE Yield Per Acre (boxes)							959.02

Table 4: Sensitivity Returns Over Cash Flow – Eggplant

	Best	**Opt**	**Opt**	**Expected**	**Pess**	**Pess**	**Worst**
Returns($)	4,105	3,379	2,654	1,928	1,202	477	-249
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%

CHANCES FOR PROFIT	**91%**	**BASE BUDGETED NET REVENUE ($)**	**1,928**

Table 5: Price Sensitivity Returns Over Cash Flow – Eggplant

Price/Yield	Best	Opt	Opt	Expected 1140.00	Pess	Pess	Worst	% Chance of Profit
6.00	1455	820	184	-452	-1087	-1723	-2359	36
7.00	2763	2088	1413	738	63	-612	-1287	71
8.00	4105	3379	2654	1928	1202	477	-249	91
9.00	5475	4689	3903	3118	2332	1546	760	98
10.00	6867	6014	5160	4307	3454	2601	1748	99

Table 6: Investment and Annual Fixed Machinery Costs – Eggplant

Number of acres of this crop	40
Interest rate	0.07

Equipment Costs for Eggplant - 2019

Item	% of time for This crop	Cost	Salvage Value	Life	Depr.	Yrs. of Int.	Tax&Ins	FC/Ac.
Tractors (100 hp)	33%	70000	14000	15	1232	901	194	58
Plow (6 row bedder))	33%	22000	4400	15	387	283	61	18
Disk (24')	33%	22000	4400	15	387	283	61	18
Subsoiler	33%	5000	1000	15	88	64	14	4
Transplanter	33%	12000	2400	15	211	154	33	10
Cultivator (6 row)	33%	6000	1200	15	106	77	17	5
Sprayer (18 row boor	33%	15000	3000	15	264	193	42	12
Tillovator (6 row)	33%	40000	8000	15	704	515	111	33
Plastic layer (3 row)	33%	0	0	15	0	0	0	0
_____	33%	0	0	0	0	0	0	0
Total		192000	38400		3379	2471	532	160

Interest on Investment (Ave. Inv. X Int. Rate)	7488.00
Taxes and Insurance (Ave. Inv. X .014)	1612.80
Total Annual Fixed Costs	12480.00
Total Annual Fixed Costs Per Acre	312.00

Table 7: Irrigation – Eggplant

ACRES IN SYSTEM	40.00
INTEREST RATE	0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
WELL (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
FILTER & AUTO	200	10	20	7	2
	0	20	0	0	0
	0	20	0	0	0
TOTAL	99700		7970	3240	748

TOTAL ANNUAL FIXED COSTS	11958
TOTAL ANNUAL FIXED COSTS PER ACRE	298.95
TOTAL ANNUAL DEBT PAYMENT PER ACRE	264

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	2023.50	50.59
ANNUAL PUMPING HOURS	2000.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	1970.40	
ANNUAL ENERGY COST PER ACRE		49.26

OPERATING COST PER ACRE PER YEAR	99.85

Snap Beans

Table 1: Yields and Prices – Snap Beans

	BEST	OPT	MEDIAN	PESS	WORST
Yield (bushels)	200	190	180.00	170.00	160
Price per bushel	26.00	24.00	22.00	20.00	18.00

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Snap Beans Production

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
Seeds	lbs.	60.00	$3.50	$210.00	210	_____
Lime, applied	Ton	0.50	$30.00	$15.00	15	_____
Fertilizer (5-10-15)	lbs.	6.00	$17.00	$102.00	102	_____
Side dress Fertilizer (19% N)	lbs.	60.00	$0.70	$42.00	42	_____
Insecticide/1	Acre	6.00	$15.00	$90.00	90	_____
Fungicide	Acre	2.00	$75.00	$150.00	150	_____
Nematicide	Acre	4.00	$10.50	$42.00	42	_____
Herbicide	Acre	3.00	$5.00	$15.00	15	_____
Machinery	Acre	1.00	$75.00	$75.00	75	_____
Repair and Maintenance	Acre	1.00	$25.00	$25.00	25	_____
Labor	Hrs	12.00	$10.50	$126.00	126	_____
Land rent 2/-	Acre	1.00	$0.00	$0.00	0	_____
Irrigation (Mach + Labor)	Acre	1.00	$65.08	$65.08	65	_____
Interest on Operation Capital	$	957.08	$0.07	$31.10	31	_____
Pre-Harvest Variable Costs				**$988.18**	**988**	_____
Harvest and Marketing Costs		**Quantity**	**Price**	**Amt/acre**	**Total**	**Yours**
Picking and hauling	Bu	171	$1.75	$299.25	299	_____
Shelling, packing and cooling	Bu	171	$4.00	$684.00	684	_____
Container	Bu	171	$0.40	$68.40	68	_____
Marketing (sales commission 7%)	Bu	3960	$0.07	$277.20	277	_____
Total Harvest and Marketing				**$1,328.85**	**1,329**	
Total Variable Costs				**$2,317.03**	**2,317**	

Fixed Cost		Quantity	Price	Am.t/acre	Total	Yours
Machinery	Acre	1.00	$109.89	$109.89	110	_____
Irrigation	Acre	1.00	$218.51	$218.51	219	_____
Land	Acre	1.00	$0.00	$0.00	0	_____
Overhead and Management	$	988.18	$0.15	$148.23	148	_____
Total Fixed Costs				**$476.62**	**477**	
Total budgeted cost per acre				**$2,793.65**	**2,794**	

Table 3: Break-Even (BE) Costs per Box – Snap Beans

BE Pre-harvest variable cost per carton	$ 5.49
BE Harvest & marketing cost per carton	$ 7.38
BE Fixed Costs per carton	$ 2.65
BE Total budgeted cost per carton	$ 15.52
BE Yield per acre (boxes)	127

1/ Fall plantings may require additional application, estimated at $30 more.

Table 4: Sensitivity Returns Over Cash Flow – Snap Beans

	Best	Opt	Opt	Expected	Pess	Pess	Worst
Returns($)	1,749	1,555	1,361	1,166	972	778	584
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%

CHANCES FOR PROFIT	**99%**	**BASE BUDGETED NET REVENUE ($)**	**1,166**

Table 5: Price Sensitivity Returns Over Cash Flow – Snap Beans

$-Price/Yield	Best	Opt	Opt	Expected 171.00	Pess	Pess	Worst	Net Return	% Chance of Profit
18	1061	873	685	497	309	121	-67	497	91
20	1404	1213	1023	832	641	450	259	832	99
22	1749	1555	1361	1166	972	778	584	1166	99
24	2095	1897	1699	1501	1303	1105	907	1501	99
26	2442	2240	2038	1836	1634	1432	1230	1836	99

Table 6: Investment and Annual Fixed Machinery Costs – Snap Beans

Number of acres of this crop 40
Interest rate 6.50%

Equipment Costs for this crop

Item	% of time for This crop	Cost	Salvage Value	Yrs. of Life	Depr.	Int.	Tax&Ins	FC/Ac.
Tractors	33%	70000	14000	15	1232	901	194	58
Plow	33%	6600	1320	10	174	85	18	7
Disk	33%	12000	2400	10	317	154	33	13
Appl. Herb	33%	1700	340	10	45	22	5	2
Bedder	33%	3000	600	10	79	39	8	3
Transplanter	33%	2900	580	10	77	37	8	3
Cultivator	33%	3500	700	10	92	45	10	4
Sprayer	33%	15000	3000	10	396	193	42	16
Sidedresser	33%	4500	900	10	119	58	12	5
_____	33%	0	0	0	0	0	0	0
_____	33%	0	0	0	0	0	0	0
Total		**39336**	**7867**		**2531**	**1534**	**330**	**110**

Interest on Investment (Ave. Inv. X Int. Rate)	$1,534.10
Taxes and Insurance (Ave. Inv. X .014)	$330.42
Total Annual Fixed Costs	$4,395.41
Total Annual Fixed Costs Per Acre	$109.89

Table 7: Irrigation – Snap Beans

ACRES IN SYSTEM	40.00
INTEREST RATE	6.50%
ROW WIDTH IN FEET	6.00
PRICE OF TAPE($/ft.)	$0.08
YEARS TUBING IS TO BE USED	1.00

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
PIPE & FITTINGS	8000.00	20	400	260	$ 60.00
STORAGE TANKS	500.00	10	50	16	$ 3.75
WELL	6500.00	25	260	211	$ 48.75
PUMP & MOTOR	4000.00	12	333	130	$ 30.00
FILTER & AUTO	250.00	10	25	8	$ 1.88
Injection system	750.00	10	75	24	$ 5.63
TUBING	5800	1	5800	189	$ 43.50
INSTALLATION	8500.00	20	425	276	$ 63.75
TOTAL	**34300**		**7368**	**1115**	**$ 257.25**

TOTAL ANNUAL FIXED COSTS	$ 8,740.33
TOTAL ANNUAL FIXED COSTS PER ACRE	$ 218.51
Total Annual Debt Payment Per Acre	$ 78.17

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	185.00	4.63
ANNUAL PUMPING HOURS	2500.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	2418.00	
ANNUAL ENERGY COST PER ACRE		60.45
OPERATING COST PER ACRE PER YEAR		$65.08

TYLCV – TOMATOES

Table 1: Yields and Prices – TYLCV Tomatoes

	BEST	OPT	MEDIAN	PESS	WORST
Yield (cartons)	1900	1800	1700.00	1600.00	1500
Price per carton ($)	10.00	9.00	8.00	7.00	6.00

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of TYLCV Tomatoes Production

Item	Unit	Quant.	Price	Amt/acre	Total	Yours
Variable Costs						
TYLCV-resistant lines plants	Thou	4.00	$117.5	$470.00	470	_____
Lime & gypsum	Ton	1.50	$108.0	$162.00	162	_____
Fertilizer granular	Ton	1.00	$350.0	$350.00	350	_____
Fertilizer liquid (7-0-7)	Gal.	120.00	$1.50	$180.00	180	_____
Silver Mulch 1/	Roll 4000'	2.23	$230.0	$512.90	513	_____
Fumigation	Acre	200.00	$2.9	$570.00	570	_____
Insecticide + TYLCV 2/	Fl.Oz	24.50	$6.5	$159.25	159	_____
Fungicide	Appl.	3.00	$63.3	$189.99	190	_____
Herbicide	Acre	1.90	$31.3	$59.55	60	_____
Stakes	Thou	4.00	$40.0	$160.00	160	_____
Strings	Acre	30.00	$1.5	$46.50	47	_____
Labor, mach operation	Hr.	5.00	$7.0	$35.00	35	_____
Labor, production transplant	Hr.	100.00	$5.5	$550.00	550	_____
Crop Insurance	Acre	1.00	$140.0	$140.00	140	_____
Consultant	Acre	1.00	$70.0	$70.00	70	_____
Cleanup (plastic & stakes)	Acre	1.00	$150.0	$150.00	150	_____
Machinery	Acre	1.00	$25.8	$25.76	26	_____
Irrigation (Mach + Labor)	Acre	1.00	$218.5	$218.51	219	_____
Interest on Operation Cap.	$	4049.5	$0.07	$131.61	132	
Pre-Harvest Variable Costs				**$4,181.1**	4,181	
Harvest and Marketing Costs	**Unit**	**Quant**	**Price**	**Amt/acre**	**Total**	**Yours**
Picking and hauling	Ctn.	1615	$1.25	$2,018.8	2,019	_____
Grading and packing	Ctn.	1615	$0.85	$1,372.8	1,373	_____
Container	Ctn.	1615	$0.85	$1,372.8	1,373	_____
Marketing	Ctn.	1615	$0.15	$242.25	242	
Total Harvest and Marketing			**$3.10**	**$5,006.5**	5,007	

Total Variable Costs					**$9,187.6**	**9,188**	
Fixed Cost							
Fixed Cost	**Unit**	**Quant**	**Price**	**Amount**	**$Amt/A**	**Yours**	
Machinery	Acre	1.00	$285	$285.03	285		
Irrigation	Acre	1.00	$218	$218.51	219		
Land 1/	Acre	1.00	$0.00	$0.00	0		
Overhead and Management	$	4181.1	$0.15	$627.16	627		
Total Fixed Costs				**$1,130.7**	1,131		
Total budgeted cost per acre					**$10,318**	**10,318**	

Table 3: Break-Even (BE) Costs per Box – TYLCV Tomatoes

BE Pre-harvest variable cost per carton	$ 2.46
BE Harvest & marketing cost per carton	$ 2.95
BE Fixed Costs per carton	$ 0.67
BE Total budgeted cost per carton	$ 6.07
BE Yield per acre (boxes)	1290

1/ Land prices vary significantly.

Table 4: Sensitivity Returns Over Cash Flow – TYLCV Tomatoes

	Best	**Opt**	**Opt**	**Expected**	**Pess**	**Pess**	**Worst**
Returns($)	5,942	5,055	4,169	3,282	2,395	1,508	621
Chances	7%	16%	31%	50%			
Chances				50%	31%	16%	7%
CHANCES FOR PROFIT		**97%**	**BASE BUDGETED NET REVENUE ($)**				**3,282**

Table 5: Price Sensitivity Returns Over Cash Flow – TYLCV Tomatoes

Price/Yield	**Best $**	**Opt $**	**Opt $**	**Expected 1615.00**	**Pess $**	**Pess $**	**Worst $**	**% Chances Profit**
6.00	**494**	29	-435	-900	-1142	-1385	-1627	16
7.00	**4203**	3329	2456	**1582**	708	-166	-1040	82
8.00	**5942**	5055	4169	**3282**	2395	1508	**621**	97
9.00	**7689**	6786	5884	**4982**	4079	3177	**2275**	99
10.00	**9443**	8522	7602	**6682**	5761	4841	**3921**	99

Table 6: Investment and Annual Fixed Machinery Costs – TYLCV Tomatoes

Number of acres of this crop 40
Interest rate 6.50%

Equipment Costs for this crop

Item	% of time for This crop	Cost	Salvage Value	Yrs. of Life	Depr.	Int.	Tax&Ins	FC/Ac.
Tractors (125 Hp)	33%	115000	23000	15	2024	1480	319	96
Turning plow	33%	8000	1600	10	211	103	22	8
Disk harrow	33%	12000	2400	10	317	154	33	13
Herbicide applicator	33%	2500	500	10	66	32	7	3
Bedder	33%	4500	900	10	119	58	12	5
Trans planter	33%	3200	640	10	84	41	9	3
Cultivator	33%	3500	700	10	92	45	10	4
Crop sprayer	33%	15000	3000	10	396	193	42	16
Side dresser	33%	4500	900	10	119	58	12	5
_____	33%	0	0	0	0	0	0	0
_____	33%	0	0	0	0	0	0	0
Total		**168200**	**33640**		**3428**	**2165**	**466**	**151**

Interest on Investment (Ave. Inv. X Int. Rate)	$6,559.80
Taxes and Insurance (Ave. Inv. X .014)	$1,412.88
Total Annual Fixed Costs	**$11,401.16**
Total Annual Fixed Costs Per Acre	$285.03

Table 7: Irrigation – TYLCV Tomatoes

ACRES IN SYSTEM	40.00
INTEREST RATE	6.50%
ROW WIDTH IN FEET	6.00
PRICE OF TAPE($/ft)	
YEARS TUBING IS TO BE USED	1.00

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
PIPE & FITTINGS	8000.00	20	400	260	$ 60.00
STORAGE TANKS	500.00	10	50	16	$ 3.75
WELL	6500.00	25	260	211	$ 48.75
PUMP & MOTOR	4000.00	12	333	130	$ 30.00
FILTER & AUTO	250.00	10	25	8	$ 1.88
Injection system	750.00	10	75	24	$ 5.63
TUBING	5800	1	5800	189	$ 43.50
INSTALLATION	8500.00	20	425	276	$ 63.75
TOTAL	**34300**		**7368**	**1115**	**$ 257.25**

TOTAL ANNUAL FIXED COSTS	$ 8,740.33
TOTAL ANNUAL FIXED COSTS PER ACRE	**$ 218.51**
Total Annual Debt Payment Per Acre	**$ 59.64**

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	185.00	4.63
ANNUAL PUMPING HOURS	2500.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	2418.00	
ANNUAL ENERGY COST PER ACRE		60.45
OPERATING COST PER ACRE PER YEAR		**$65.08**

Bell Pepper

Table 1: Yields and Prices – Bell Pepper

	BEST	OPT	MEDIAN	PESS	WORST
Yield (cartons)	1900	1600	1500	1200	1000
Price per carton	14.00	13.00	12.00	11.00	10.00

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Bell Pepper Production

Item	Unit	Quant	Price	Amt/acre	Total	Yours
Variable Costs						
Plants	Thou	17.80	$148.00	$2,634.40	2,634	_____
Lime, applied (gypsum)	Ton	1.00	$38.00	$0.00	0	_____
Base Fertilizer	lbs.	12.00	$9.50	$0.00	0	_____
Side dress Fertilizer (soluble)	Gal.	1.00	$20.83	$20.83	21	_____
Insecticide/1	Acre	7.80	$0.00	$0.00	0	_____
Fungicide	Acre	1.00	$350.00	$350.00	350	_____
Nematicide	Acre	1.00	$822.88	$822.88	823	_____
Herbicide	Acre	1.00	$0.00	$0.00	0	_____
Plastic	Roll	2.80	$100.00	$280.00	280	_____
Plastic Removal	Acre	1.00	$75.00	$75.00	75	_____
Drip Tape	Ft	8700	$0.02	$174.00	174	_____
Fumigation	Acre	1.00	$800.00	$800.00	800	_____
Strings	Acre	1.00	$210.00	$210.00	210	_____
Stakes and strings	Acre	1.00	$100.00	$100.00	100	_____
Scouting	Acre	1.00	$25.00	$25.00	25	_____
Machinery	Hr.	5.00	$21.00	$105.00	105	_____
Transplant Labor	Hr.	20.00	$10.75	$215.00	215	_____
Labor	Hr.	33.00	$8.00	$264.00	264	_____
Land rent	Acre	1.00	$110.00	$110.00	110	_____
Irrigation (Mach + Labor)	Acre	1.00	$79.14	$79.14	79	_____
Interest on Operation Cap.	$	6265	$0.07	$203.62	204	
Pre-Harvest Variable Costs				**$6,468.87**	6,469	
Harvest and Marketing Costs	**Unit**	**Quant**	**Price**	**Amt/acre**	**Total**	**Yours**
Picking and hauling	Ctn.	1425	$0.85	$1,211.25	1,211	_____
Grading and packing	Ctn.	1425	$1.10	$1,567.50	1,568	_____
Container	Ctn.	1425	$0.75	$1,068.75	1,069	_____
Marketing	Ctn.	17100	$0.08	$1,368.00	1,368	_____

Total Harvest and Marketing	**$2.78**	**$5,215.50**	5,216		
Total Variable Costs		**$11,684**	**11,685**		

Fixed Cost

	Unit	Quant	Price	Amt/acre	Total	Yours
Machinery	Acre	1.00	$83.25	$83.25	83	_____
Irrigation	Acre	1.00	$96.16	$96.16	96	_____
Land	Acre	1.00	$0.00	$0.00	0	_____
Overhead and Management	$	6468.9	$0.15	$970.33	970	
Total Fixed Costs				**$1,149.73**	1,150	
Total budgeted cost per acre				**$12,834**	**12,834**	

Table 3: Break-Even (BE) Costs per Box – Bell Pepper

BE Pre-harvest variable cost per carton	$ 4.47
BE Harvest & marketing cost per carton	$ 3.61
BE Fixed Costs per carton	$ 0.80
BE Total budgeted cost per carton	$ 8.88
BE Yield per acre (boxes)	1069.51

1/- Fall plantings may require additional application, estimated at $30 more.

Table 4: Sensitivity Returns Over Cash Flow – Bell Pepper

	Best	Opt	Opt	Expected	Pess	Pess	Worst
Returns($)	7,630	6,528	5,425	4,323	3,126	1,930	733
Chances	6%	16%	32%	51%			
Chances				49%	30%	16%	7%

CHANCES FOR PROFIT	**96%**	**BASE BUDGETED NET REVENUE ($)**	**5,166**

Table 5: Price Sensitivity Returns Over Cash Flow – Bell Pepper

Price/Yield (boxes)	Best	Opt	Opt	Expected 1425.00	Pess	Pess	Worst	Net Returns	% Chance of Profit
10	3829	2857	1885	913	-125	-1163	-2201	1639	68
11	5346	4311	3276	2240	1125	10	-1105	3025	84
12	6875	5773	4670	3568	2371	1175	-22	4411	93
13	8414	7241	6068	4896	3614	2333	1051	5797	97
14	9960	8715	7469	6224	4854	3485	2116	7183	99

Table 6: Investment and Annual Fixed Machinery Costs – Bell Pepper

Number of acres of this crop 40
Interest rate 6.50%

Equipment Costs for this crop

Item	% of time for This crop	Cost	Salvage Value	Yrs. of Life	Depr.	Int.	Tax&Ins	FC/Ac.
Tractors	25%	70000	14000	15	933	683	147	44
Plow	25%	6600	1320	10	132	64	14	5
Disk	25%	12000	2400	10	240	117	25	10
Appl. Herb	25%	1700	340	10	34	17	4	1
Bedder	25%	3000	600	10	60	29	6	2
Transplanter	25%	2900	580	10	58	28	6	2
Cultivator	25%	3500	700	10	70	34	7	3
Sprayer	25%	15000	3000	10	300	146	32	12
Sidedresser	25%	4500	900	10	90	44	9	4
_____	40%	0	0	0	0	0	0	0
_____	40%	0	0	0	0	0	0	0
Total		29800	5960		1917	1162	250	83

Interest on Investment (Ave. Inv. X Int. Rate)	$1,162.20
Taxes and Insurance (Ave. Inv. X .014)	$250.32
Total Annual Fixed Costs	$3,329.85
Total Annual Fixed Costs Per Acre	$83.25

Table 7: Irrigation – Bell Pepper

ACRES IN SYSTEM	40.00
INTEREST RATE	7.00%
ROW WIDTH IN FEET	6.00

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
PIPE & FITTINGS	2000.00	20	100	70	$ 15.00
STORAGE TANKS	4500.00	10	450	158	$ 33.75
WELL (8")	24000.00	25	960	840	$ 180.00
Injection system	6000.00	10	600	210	$ 45.00
		1	0	0	$ 0.00
INSTALLATION	2000.00	20	100	70	$ 15.00
TOTAL	38500		2210	1348	$ 288.75

TOTAL ANNUAL FIXED COSTS	$ 3,846.25
TOTAL ANNUAL FIXED COSTS PER ACRE	$ 96.16
Total Annual Debt Payment Per Acre	$ 66.94

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	747.50	18.69
ANNUAL PUMPING HOURS	2500.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate $ per KWH	0.08	
ANNUAL ENERGY COST	2418.00	
ANNUAL ENERGY COST PER ACRE		60.45
OPERATING COST PER ACRE PER YEAR		$79.14