Cost Of NARE Production

NATIONAL AGRICULTURAL RESEARCH AND EXTENSION INSTITUTE AGRICULTURE ROAD, MON REPOS, EAST COAST DEMERARA, GUYANA

CONTACT: 592-220-2249 / 529-220-2841 | WWW: NAREI.ORG.GY | SOCIAL: NAREIGY @FACEBOOK AND INSTAGRAM

COST OF PRODUCTION

PREFACE

Agriculture continues to be the backbone of Guyana's economy and this sector will continue in this realm despite the emerging oil and gas sectors. The Fruit and Vegetable sector has significant potential for further growth and development. These types of farming activities must be recognized as business ventures. In every business enterprise, profitability is of paramount importance.

Farmers in Guyana are not fully aware of the costs incurred in their production systems. As a consequence, they cannot determine their profitability. This Manual serves as a guide to assist farmers in this regard, based on current input prices and selling prices.

Additionally, this Manual provides information for entrepreneurs who are interested in agriculture ventures by providing information that could be incorporated into their business plans.

I trust that all farmers would find the information in this Manual to be very beneficial to them.

Oudho Homenauth, NAREI

© July, 2020 All Rights Reserved

TABLE OF CONTENTS

PAGE No.

A. C	COCONU	T AND CASH CROPS					
	1.	Cassava	::	::	::	::	06
	2.	Coconut (Dwarf)	::	::	::	::	08
	3.	Coconut (Dwarf Suriname Brown)	::	::	::	::	11
	4.	Coconut (Tall)	::	::	::	::	14
	5.	Hot Pepper	::	::	::	::	17
	6.	Pineapple	::	::	::	::	19
	7.	Plantain	::	::	::	::	21
B . F	RUITS						
	1.	Avocado	::	::	::	::	24
	2.	Cherry	::	::	::	::	28
	3.	Guava	::	::	::	::	32
	4.	Oranges	::	::	::	::	36
	5.	Passion Fruit	::	::	::	::	40
	6.	Rough Lemon	::	::	::	::	43
	7.	Soursop	::	::	::	::	48
	8.	Tangerine	::	::	::	::	52
C. V	/EGETA	BLES					
	1.	Bora	::	::	::	::	57
	2.	Cucumber	::	::	::	::	61
	3.	Ochro	::	::	::	::	64
	4.	Pumpkin	::	::	::	::	68
	5.	Sweet Pepper	::	::	::	::	70
	6.	Sweet Potato	::	::	::	::	73

ſ

COCONUT AND CASH CROPS

Establishing Cassava Production Cost/Hectare

Region	4	Irrigation	Manual
Soil type	Sandy	Size (ha) - for calculation purposes	1 ha
Terrain	Flat	Approximate plantable area	6,000 m ²
Crop and variety	Cassava	Expected yield	19,000 kg
Time to maturity	9 months	Reaping period	one crop
Planting distance (I * w)	1.5m x 1m	Marketable yield	90%

			No of		
	Assumptions/Details	Unit	Units	Cost/Unit	Year 1
LAND PREPARATTION					
Land Clearing		Man days	0	\$0	
Ploughing and chipping		Man days	0	\$0	
<u>PLANTING</u>					
Preparing planting material	Labour	Man days	2	\$6,000	\$12,000
Labour to plant cassava (including making mounds)	8 days	Man days	8	6,000	48,000
Planting material		Bundle	24	2,000	48,000
WEED CONTROL					
Weed Control (brush cut and apply chemicals	Apply weedicide	Man days	10	6,000	60,000
Herbicide - chemical		Litres	5	2,000	10,000
FERTILIZER					
Fertilizer		Bags	7	7,500	52,500
Labour		Man days	4	6,000	24,000
Disease Control					

Labour to apply chemicals]	Man days	4	6,000	24,000
Fungicide		Litres	3	2,000	6,000
Pesticide		Litres	3	2,500	7,500
HARVESTING					
Labour	Harvest manually	Man days	10	6,000	60,000
Transportation	2 trips per cycle	Trips	2	7,500	15,000
		Si	ubtotal of la	bour and material	\$367,000
Contingencies	10% of labour and material				\$36,700
Supervision	10% of labour and material				\$36,700
			(Cost of production	\$440,400

<u>Revenue</u>

Assume 80% marketable yield

Farm gate price = \$70/kg

		No of		
Item	Assumptions	units	Price/Unit	Total
Revenue	Total yield = 19,000 kg	17100	\$70	\$ 1,197,000
		То	tal Revenue	\$ 1,197,000
Expenditure				\$440,400
Gross Margin				\$756,600
	Gr	oss Margin	for 6,000m ²	\$ 453,960

Establishing Coconuts (DWARF) - Using Seedlings Production Cost/Hectare

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Coconuts - Dwarf
Time to maturity	3 - 4 yrs
Productive Life	40 - 50 yrs
Planting Distance (I * w)	7m x 7m (24ft x 24ft)
Plant Population	200

Irrigation	Rain fed
Size (ha) - for calculation purposes	1 ha
Approximate plantable area	100%
Expected yield	10 bunches/tree and 20 nuts/bunch
Cost of Tools and equipment	30000 amortized over 5 years
Land Rental/Taxes per hectare	\$15,000
Marketable Yield	90%

					Cost of Production			
	Assumptions/details	Unit	No of Units	Cost/ Unit	Year 1	Year 2	Year 3	Year 4
LAND PREPARATTION								
Land Clearing	Excavator with minimum of 8 hours	hours	8	\$9,250	\$74,000			
Ploughing and chipping		hours	8	\$8,500	\$68,000			
<u>PLANTING</u>								
Dig holes	Planting 200 coconuts	day labour	3	\$6,000	\$18,000			
Planting material	Planting distance = 7m x 7m	seedlings	200	\$500	\$100,000			
WEED CONTROL								

Bushing	2 men for 3 days and 3 times per year; reduced by 2/3 due to intercropping	day labour	3	\$6,000	\$18,000	\$18,000	\$18,000	\$18,000
Apply herbicide	2 man, twice per year; reduced by 50%	day labour	2	\$6,000	\$12,000	\$12,000	\$12,000	\$12,000
Apply herbicide	Glyphosate - 6 litres/coverage and spraying twice per year; reduced by 50%	Litre	6	\$1,500	\$9,000	\$9,000	\$9,000	\$9,000
<u>FERTILIZER</u>								
Fertilizer	8 lbs of 12:12:17:2/plant	Bags	16	\$9,500	\$0	\$152,000	\$152,000	\$152,000
Labour to fertilize	6 labourers to fertilize 200 plants	day labour	6	\$6,000	\$0	\$36,000	\$36,000	\$36,000
HARVESTING								
Labour	10 bunches/tree @ 20 nuts/tree	climber/picker	40000	10	\$0	\$0	\$200,000	\$400,000
Transportation	3 time/year		3	14,000	\$42,000	\$42,000	\$42,000	\$42,000
		Subtotal of	labour and	d material	\$341,000	\$227,000	\$427,000	\$669,000
Contingencies	10% of labour and material				\$34,100	\$22,700	\$42,700	\$66,900
supervision	10% of labour and material				\$34,100	\$22,700	\$42,700	\$66,900
Cost of tools		\$30,000 to						
discounted for 5 years		start up			\$6,000	\$6,000	\$6,000	\$6,000
Cost of Land								
		Hectare	1	15,000	\$15,000	\$15,000	\$15,000	\$15,000
			Cost of p	roduction	\$341,000	\$293,400	\$533,400	\$823,800

Revenue:	Assume \$40/dry nuts and \$70/water nuts	Unit	No of Units	Price/ unit	Total Revenue Year 1	Total Revenue Year 2	Total Revenue Year 3	То	tal Revenue Year 4
Dry nuts	Assuming 80% marketable	dry nuts	36,000	40	0	0	\$720,000	\$	1,440,000
	Assuming 80%	water							
Water nuts	marketable	nuts	36,000	70	0	0	\$1,260,000	\$	2,520,000
Expenditure					\$341,000	\$293,400	\$533,400	\$	823,800

_____ **(** 9 **)**_____

Gross Profit per Hectare						Gross Profit
Dry nuts			(\$341,000)	(\$293,400)	\$186,600	\$616,200
Water nuts			(\$341,000)	(\$293,400)	\$726,600	\$1,696,200
Accumulated Losses/Gain						
Dry nuts			(\$341,000)	(\$634,400)	(\$447,800)	\$168,400
Water nuts			(\$341,000)	(\$634,400)	\$92,200	

NOTE

Assuming all things stable, producer will recover cost of investment (including accumulated losses) in year 4 from producing dry coconuts only and in year 3 from water coconuts only

Establishing Coconuts (DWARF- Suriname Brown) - Using Seedlings Production Cost/Hectare

		_		
Region	4		Irrigation	Rain fed
Soil type	Sandy loam		Size (ha) - for calculation purposes	1 ha
Terrain	Flat		Approximate plantable area	100%
Crop and variety	Coconuts - Dwarf (Surinam Brown)		Expected yield	100 - 120 nuts/tree/yr
Time to maturity	2 - 3 years		Cost of Tools and Equipment	\$30,000 amortized over 5 years
Length of reaping	30 - 40 yrs		Land Rental/Taxes per hectare	\$15,000
Planting distance (I * w)	7m x 7m (24ft x 24ft)		Marketable Yield	90%
Plant population	200			

					Cost	of Produc	tion
	Assumptions/details	Unit	No of Units	Cost/unit	Year 1	Year 2	Year 3
LAND PREPARATTION							
Land Clearing	Excavator with minimum of 8 hours	hours	8	\$9,250	\$74,000		
Ploughing and chipping		hours	8	\$8,500	\$68,000		
<u>PLANTING</u>							
Dig holes	Planting 200 coconuts	day labour	3	\$6,000	\$18,000		
Planting material	Planting distance = 7m x 7m	seedlings	200	\$750	\$150,000		
WEED CONTROL							
Bushing	2 men for 3 days and 3 times per year; reduced by 2/3 due to intercropping	day labour	3	\$6,000	\$18,000	\$18,000	\$18,000
Apply herbicide	2 men, twice per year; reduced by 50%	day labour	2	\$6,000	\$12,000	\$12,000	\$12,000

Annhu hankisida	Glyphosate - 6 litres/coverage and	Litro		¢1 500	ć0.000	ć0.000	ć0.000
	spraying twice per year; reduced by 50%	Litre	6	\$1,500	\$9,000	\$9,000	\$9,000
FERTILIZER							
Fertilizer	8 lbs of 12:12:17:2/plant	Bags	16	\$9,500	\$152,000	\$152,000	\$152,000
Labour to fertilize	6 labourers to fertilize 200 plants	day labour	6	\$6,000	\$36,000	\$36,000	\$36,000
HARVESTING							
Labour	10 bunches/tree @ 20 nuts/tree	climber/picker	40000	10	\$0	\$12,000	\$400,000
Transportation	\$14,000/load		3	14000	\$0	\$0	\$42,000
		Subtotal of	f labour a	nd material	\$537,000	\$239,000	\$669,000
Contingencies	10% of labour and material				\$53,700	\$23,900	\$66,900
supervision	10% of labour and material				\$53,700	\$23,900	\$66,900
Cost of tools discounted for 5 years	\$30000 for initial purchase				\$6,000	\$6,000	\$6,000
Cost of Land							
	\$15,000/ha	hectare	1	\$15,000	\$15,000	\$15,000	\$15,000
			Cost of	Production	\$665,400	\$307,800	\$823,800

Revenue:	Assume \$40/dry nuts and \$60/water nuts	Unit	No of Units	Price/ Unit	Total Revenue Year 1	Total Revenue Year 2	Total Revenue Year 3
Dry nuts	Assuming 80% marketable	dry nuts	36000	40	0	\$432,000	\$1,440,000
Water nuts	Assuming 80% marketable	water nuts	36000	70	0	\$756,000	\$2,520,000
Expenditure					\$665,400	\$307,800	\$823,800
					Gross	Gross	Gross
Gross Profit per Hectare					Profit	Profit	Profit
Dry nuts					(\$665,400)	\$124,200	\$616,200
Water nuts					(\$665,400)	\$448,200	\$1,696,200

_____ **[** 12 **]**_____

Accumulated Losses/Gain					
Dry nuts			(\$665,400)	(\$541,200)	\$75,000
Water nuts			(\$665,400)	(\$217,200)	\$1,479,000

NOTE

Assuming all things stable, producer will recover cost of investment (including accumulated losses) in year 2 whether s/he produces dry or water coconuts only.

Establishing Coconuts (Tall) - Using Seedlings Production Cost/Hectare

Region	4	Irrigation	Rain fed
Soil type	Sandy loam	Size (ha) - for calculation purposes	1 ha
Terrain	Flat	Approximate plantable area	100%
Crop and variety	Coconuts - Tall	Expected yield	10 bunches/tree and 20 nuts/bunch
Time to maturity	5 - 6 years	Cost of Tools and equipment	\$30,000 amortized over 5 years
Productive Life	50 - 65 yrs	Land Rental/Taxes per hectare	\$15,000
Planting distance (I * w)	9m x 9m (30ft x 30ft)	Marketable Yield	90%
Plant population	123 - square formation		

							Cost of D	roduction		
			No of	Cost/						
	Assumptions/details	Unit	Units	unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
LAND PREPARATTION										
	Excavator with minimum of									
Land Clearing	8 hours	hours	8	\$9,250	\$74,000					
Ploughing and chipping		hours	8	\$8,500	\$68,000					

PLANTING										
Dig holes	Planting 123 coconuts	day labour	2	\$6,000	\$12,000	0	0	0	0	
Planting material	Planting distance = 9m x 9m	seedlings	123	\$300	\$36,900	0	0	0	0	
<u>REPLACEMENT</u>										
Replacing dead seedlings	After the 1st year.	seedlings	20	\$300		\$6 <i>,</i> 000				
Labour to replace dead seedlings	Planting 20counts=9m x 9m	Labour	1	\$6,000		\$6,000				
WEED CONTROL										
Weeding	2 men for 3 days and 3 times per year; reduced by 2/3 due to intercropping	day labour	6	\$3,000	\$18,000	\$18,000	\$18,000	\$18,000	\$18,000	\$18,000
Weeding	1 man_twice_per year:	ady labour	0	<i>Ş</i> 3,000	÷10,000	Ŷ10,000	910,000	910,000	<i></i>	910,000
Apply herbicide	reduced by 50%	day labour	2	\$6,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
A	Glyphosate - 6 litres/coverage and spraying twice per year;		C	¢1 500	¢0.000	¢0.000	¢0.000	¢0.000	¢0.000	¢0,000
	reduced by 50%	Litre	6	\$1,500	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000
FERTILIZER										
Fertilizer	8 lbs of 12:12:17:2/plant	Bags	10	\$9,500	\$0	\$95,000	\$95,000	\$95,000	\$95,000	\$95,000
Labour to fertilize	4 labourers to fertilize 123 plants	day labour	4	\$6,000	\$0	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000
PEST AND DISEASES MANAGEMENT										
Pesticides	chemicals	bottles	2	\$9,500	\$0	\$19,000	\$19,000	\$19,000	\$19,000	\$19,000
labour to apply pesticide	2 persons once per year	day labour	2	\$6,000	\$0	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
HARVESTING										
Labour	10 bunches/tree @ 20 nuts/tree	climber/ picker	24600	10	\$0	\$0	\$0	\$0	123.000	\$246.000
Transportation		1	2	14000	\$28,000	\$28,000	\$28,000	\$28,000	\$28,000	\$28,000

		Subtotal of	labour and	d material	\$257,900	\$195,000	\$189,000	\$189,000	\$281,000	\$435,000
Contingencies	10% of labour and material				\$25,790	\$19,500	\$18,900	\$18,900	\$28,100	\$43,500
Supervision	10% of labour and material				\$25,790	\$19,500	\$18,900	\$18,900	\$28,100	\$43,500
		·							·	
Cost of tools discounted for	\$30,000 for tools and	startup	\$30000/							
5 years	equipment	cost	5		\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$0
Cost of Land										
		Hectare	1	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
		Cost of p	roduction	\$330.480	\$255.000	\$247.800	\$247.800	\$358.200	\$537.000	

Revenue: Assume \$40/dr \$70/ water nut	y nut and	Units	No of units	Cost/ unit	Total Revenue Year 1	Total Revenue Year 2	Total Revenue Year 3	Total Revenue Year 4	Total Revenue Year 5	Total Revenue Year 6	Total Revenue Year 7	Total Revenue Year 8	Total Revenue Year 9
Dry nuts	Assuming 80% marketable	dry nuts	22140	40	0	0	0	0	\$442,800	\$885,600	\$885,600	\$885,600	\$885,600
Water nuts	Assuming 80% marketable	water nuts	22140	70	0	0	0	0	\$774,900	\$1,549,800	\$1,549,800	\$1,549,800	\$1549,800
Expenditures					\$330,480	\$255,000	\$247,800	\$247,800	\$358,200	\$537,000	\$537,000	\$537,000	\$537,000
Gross Profit per H	lectare												
Dry nuts					(\$330,480)	(\$255,000)	(\$247,800)	(\$247,800)	\$84,600	\$348,600	\$250,200	\$250,200	\$250,200
Water nuts					(\$330,480)	(\$255,000)	(\$247,800)	(\$247,800)	\$416,700	\$1,012,800			
Accumulated Losses/Gain													
Dry nuts					(\$330,480)	(\$585,480)	(\$833,280)	(\$1,081,080)	(\$996,480)	(\$647,880)	(\$397,680)	(\$147,480)	\$102,720
Water nuts					(\$330,480)	(\$585,480)	(\$833,280)	(\$1,081,080)	(\$664,380)	\$348,420			

NOTE

Assuming all things stable, producer will recover cost of investment (including accumulated losses) in year 9 from producing dry coconuts only and in year 6 from water coconuts only

Cost of Production - Hot Pepper (Miwiri Red)

Region	4	Plant population	17,700
Soil type	Sandy	Irrigation	Manual
Terrain	Flat Hot Pepper - Miwiri	Size (ha) - for calculation purposes	1 ha 6,000
Crop and variety	Red	Approximate plantable area	m² 17,700
Time to maturity	6 - 8 wks	Expected yield	kg
Planting distance (I * w)	.75m x .75m	Marketable yield	80%

			No of		
	Assumptions/details	Unit	Units	Cost/unit	Year 1
LAND PREPARATTION					
Land Clearing			0	\$0	
Ploughing and chipping			0	\$0	
<u>PLANTING</u>					
Transplanting	Labour	Man days	6	\$4,000	\$24,000
Planting material	Seedlings(100/tray)	tray	180	\$900	\$162,000
WEED CONTROL					
Weed Control	Apply weedicide	Man days	6	\$ 4,000	\$ 24,000
Herbicide - chemical		bottle	8	\$ 2,000	\$ 16,000
IRRIGATION		Man days	10	\$ 2,000	\$ 20,000
<u>FERTILIZER</u>					
Fertilizer		Bags	10	\$ 9,500	\$ 95,000
Labour	labour to fertilize peppers	Man days	4	\$ 6,000	\$ 24,000
Disease Control					
Labour to apply chemicals		Man days	5	\$ 4,000	20000

Fungicide		bottles	6	\$ 1,000	\$ 6,000
Insecticide		bottles	10	1500	15000
HARVESTING					
Labour		Man days	12	6000	72000
Transportation	\$7,500/load		2	7500	15000
			Subtotal of lab	our and material	\$ 493,000
Contingencies	10% of labour and material				49,300
supervision	10% of labour and material				49,300
			C	ost of production	591,600

Revenue

Assume 80% marketable yield

Farm gate price = \$250/kg

Item		Assumptions	No of units	Price/Unit		Total	
Revenue	Total yield = 7,750 kg		6200	\$250	\$	1,550,000	
Total Revenue							
Expenditure						591,600.0	
Gross Margin							
Gross Margin for 6,000m ²							

Cost of Production – Pineapples (Montserrat)

Region	4
Soil type	Sandy
Terrain	Flat
Crop and variety	Pineapples - Montserrat
Time to maturity	18 - 24 months
Time to maturity	18 - 24 1101(115
Planting distance (I * w)	1.5m x 0.6m = 0.9m ²
Plant population	11,000 plants/ha

Irrigation	Rain fed
Size (ha) - for calculation purposes	1 ha
Approximate plantable area	6,000 m ²
Expected	
yield	1.5 - 3.0 kg/fruit
Reaping	
period	Once/planting
Marketable yield	90%

					COST OF PRODUCTION
			No of		
	Assumptions/details	Unit	Units	Cost/unit	18 Months
Land Preparation	Already done				
<u>Planting</u>	<u> </u>				
Dig holes	2 persons to plant 11,000 pine plants	Man days	4	\$6,000	\$24,000
Planting material	1.5m x 0.6m = 0.9m ²	pine plants	11000	\$10	\$110,000
REPLACEMENT					
Dead pine plants	1.5m x 0.6m = 0.9m ²	pine plants	100	\$10	\$1,000
Dig holes	1 person to plant 100pine plants	Man days	1	\$6,000	\$6,000
Fertilizer	Urea (2 bags) and (4 bags) phosphate of ammonia (6 bags/acre = 12 bags/ha)	Bags	12	\$8,500	\$102,000

Labour to apply fertilizer	2 persons, 3 times	Man days	6	\$6,000	\$36,000			
WEEDING								
Weeding	Weedicide- 5 applications per season	Chemicals	10	\$5,000	\$50,000			
Apply herbicide	5 times over planting season, 2 persons	Man days	10	\$6,000	\$60,000			
PEST CONTROL								
Pest control	2 applications/season	Chemicals	2	\$5,000	10,000			
Labour to apply pesticide	2 persons, twice per season	Man days	4	\$6,000	24,000			
Harvesting								
Transportation	2 trips	Trips	2	\$7,500	\$15,000.00			
Labour	2 persons for 5 days	Man days	10	\$6,000	60,000			
		9	ubtotal of labou	Ir and material	498,000			
Contingencies	10% of labour and material				\$49,800			
Supervision	10% of labour and material				\$49,800			
Knives, etc					\$5,000			
		Cost of Production						

Gross Profit

	Assumptions	Unit	No of units	Price/Unit		Totals
	11,000 with marketable yield of 90% =					
Revenue	9,900 plants	pineapples	9,900	150	\$	1,485,000
Expenses over 2 years						\$602,600
Gross Profit/ha					\$	882,400
Gross Profit for .6ha						

Cost of Production – Plantains

Region	4	Plant population	1,700 plants/ha
Soil type	Sandy	Irrigation	Rain fed
Terrain	Flat	Size (ha) - for calculation purposes	1 ha
Crop and variety	Plantains	Approximate plantable area	6,000 m ²
Time to maturity	9 months	Expected yield	18 kg/bunch
Planting distance (I * w)	2.4m x 2.4m	Marketable yield	80%

			No of		
	Assumptions/details	Unit	Units	Cost/Unit	Year 1
LAND PREPARATTION					
Land Clearing			0	\$0	
Ploughing and Chipping			8	\$0	
<u>PLANTING</u>					
Digging Holes	1,700 holes	Man days	3	\$6,000	\$18,000
Planting Material	Planting 1700 plantains	suckers	1700	\$200	\$340,000
REPLACEMENT					
Replace Dead Suckers	100 Suckers	Suckers	100	\$200	\$20,000
Labour to Replace Dead Suckers	1 person to plant 100suckers	Man days	1	\$6,000	\$6,000
		Ivian days		<i>40,000</i>	<i>40,000</i>
Wood Control	Applywoodicido	Man days	2	\$ 6 000	¢ 19 000
	Apply weedicide	IVIALI Udys	3	۵,000 <i>ڊ</i>	\$ 18,000
Apply Herbicide	1 man, twice per year; reduced by 50%	Man days	6	\$ 6.000	\$ 36.000

	Glyphosate - 6 litres/coverage and				
Apply herbicide	spraying twice per year; reduced by 50%	Litre	6	\$1,500	\$ 9,000
<u>FERTILIZER</u>					
Fertilizer	17 bags Urea + 9 bags TSP + 9 Bags MoP	Bags	35	\$ 9 <i>,</i> 500	\$ 332,500
Labour to fertilize	4 labourers to fertilize 1,700 plants	Man days	6	\$ 6,000	\$ 36,000
PEST CONTROL					
Labour to apply chemicals		Man days	4	\$ 6,000	\$ 24,000
Fungicide			10	\$ 1,000	\$ 10,000
Insecticide			10	\$ 1,500	\$ 15,000
HARVESTING					
Labour	4 days	Man days	4	\$ 6,000	\$ 24,000
Transportation	2 trips	Trips	2	\$ 7,500	\$15,000
Subtotal of labour and material					
Contingencies	10% of labour and material				\$90,350
supervision	10% of labour and material				\$9 <i>,</i> 035
			Cost of	Production	\$1,002,885

FRUITS

Cost of Production/ha – Avocado

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Avocado
Time to maturity	3 - 5 years
Productive life of plant	40 years
Planting distance (L * W) m	6m * 7m

Plant population per hectare	240
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield (fruits/tree/year)	80
Cost of Tools and Equipment	
Land Rental/Taxes per hectare	\$15,000
Marketable Yield	70%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No. of Appli- cations	Cost/ Unit	Year 1	Year 2	Year 3	Year 4	Year 5
	Mechanical										
-		Excavator with minimum of 8 hours - including levelling and									
tior	Land Clearing	making drains	hours	4	1	\$9,250	\$37,000				
epara		Excavator with minimum of 8									
H Pr	Levelling	hours	hours	8		\$8,500	\$68,000				
Lanc	Make drains	Tractor and implement	Job work	1		\$30,000	\$30,000				
	Plough/rotovate	Tractor and implement	Job work	1		\$90,000	\$90,000				
	Make mounds/dig holes										
	Other (specify)										

	Labour							
	Land Clearing	N/A						
	Levelling	N/A						
	Make drains	N/A						
	Plough/rotovate	N/A						
	Make mounds/dig holes	N/A						
	Other (specify)							
						\$225,000		
	Organic manure (compost) for holes	Assume 1.5 kg/plant *240 plants = 360 kg. le 7 bags	Bag	7	\$300	\$2,100		
Preplanting	Limo	200lbs/acre = 500 lbs/ha =228 kg/ha 227 kg = 5 bags	Pag	E	\$2 800	\$14.000		
	Linie	100g nackets	Dag Packet	5	 ş2,800	\$14,000		
	Ryzolex (soil borne fungicide)	used	- 100g	10	\$550	\$5,500		
	Labour for preplanting activities	Manual	Man day	4	\$6,000	\$24,000		
						\$45,600		
	Seedlings - grafted	10,000 sq m/ (6m * 7m)		240	\$350	\$84,000		
g	Labour to plant/transplant	3 persons for 1	Man day	3	\$6,000	\$18,000		
Plantir	Replacement seedlings	assume 10% loss therefore need to replace 24 seedlings		24	\$350	\$8,400		
	Labour to roplace lost plants	1 person to	Man day	1	\$6,000	\$6.000		
		replace seedings	uay		Ş0,000	50,000		
						\$116,400		

	Glyphosate	2L per									
		application.									
.		Apply every 4									
ntr		first 2 years									
S		twice per year as	Bottle								
eed		of year 3.	- 1 L	2		\$ 1,200	\$7,200	\$7,200	\$4,800	\$4,800	\$4,800
3	Labour to apply weedicide			2		\$ 6,000	\$36,000	\$36,000	\$24,000	\$24,000	\$24,000
		2 persons each									
	Weed manually	time as above		2	2	\$ 6,000	\$24,000	\$24,000	\$12,000	\$ 12,000	\$ 12,000
							\$67,200	\$67,200	\$40,800	\$40,800	\$40,800
		2 bags - split									
izer	Urea	application		2		\$ 5,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
iti	12:12:17:2	1 kg/plant		12		\$ 9,500	\$114,000	\$114,000	\$114,000	\$114,000	\$114,000
Å		2 person for 2	Man			40.000	40.000	40.000	40.000	40.000	40.000
	Labour to apply fertilizer	days	day	2	2	\$6,000	Ş24,000	Ş24,000	\$24,000	\$24,000	\$24,000
							\$148,000	\$148,000	\$148,000	\$148,000	\$148,000
-		Once per year as									
ntre		preventative	Pottlo								
Ō	Triogophorus	then as required	- I	1		\$3 520	\$3 520	\$3 520	\$3 520	\$3 520	\$3 520
est			Man	⊥		<i>\$3,320</i>	<i>Ş</i> 3,320	<i>Ş</i> 3,320	<i>\$3,320</i>	<i>\$3,320</i>	<i>43,320</i>
Δ.	Labour to apply product	2 persons	day	2		\$6,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
							\$15,520	\$15,520	\$15,520	\$15,520	\$15,520
		Assume 5 days in									
		year 3 and 10									
	Hervesting	days in year 4	Ivian	2	variad	¢6,000	0	¢20.000	¢120.000	¢120.000	¢120.000
	Transportation (carry supplies to	Accumo 2 trins in	uay	Z	varieu	Ş0,000	0	\$30,000	\$120,000	\$120,000	\$120,000
	farm)	vear 1 and 1 trip	Per								
sts	(ann)	in other years	trip	1		\$7,500	\$22,500	\$7,500	\$7,500	\$7,500	\$7,500
S C			•				. ,	\$22,500	\$37,500	\$127,500	\$127,500
Othe		Sub-	total varia	ble cost			\$640,220	\$268,220	\$331,820	\$331,820	\$331,820
0		10% of labour	Per								
	Contingency	and material	annum				\$64,022	\$26,822	\$33,182	\$33,182	\$33,182

-

Supervision	10% of labour and material	Per annum			\$64,022	\$26,822	\$33,182	\$33,182	\$33,182	
	Tota	al Cost - M	aterial a	nd Labour	\$768,264	\$321,864	\$398,184	\$398,184	\$398,184	

Assumptions	Calculations	Year 1	Year 2	Year 3	Year 4	Year 5
Yield /fruit/tree/year		0.00	0	20	60	80
Number of fruits/ha	240	0	0	4800	14400	19200
Average Marketable						
Yield	70%	0	0	3360	10080	13440
Revenue: \$120/fruit	\$120	0	\$0	\$403,200	\$1,209,600	\$1,612,800
Cost of Production		\$768,264	\$321,864	\$398,184	\$398,184	\$398,184
Gross Profit		(\$768,264)	(\$321,864)	\$5,016	\$811,416	\$1,214,616

Cost of Production/ha – Cherry (West Indian)

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Cherry (West Indian)
Time to maturity	2 - 3 years
Productive life of plant	15 years
Planting distance(L * W)m	4.5m x 4.5m

Plant population per hectare	500
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield (kg/year)	25000
Cost of Tools and Equipment	
Land Rental/Taxes per hectare	\$15,000
Marketable Yield	70%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No.of Applications	Cost/ Unit	Year 1	Year 2	Year 3	Year 4	Year 5
	Mechanical										
tion	Land Clearing	Excavator with minimum of 8 hours - including levelling and making drains	hours	4	1	\$9,250	\$37,000				
repara	Levelling	Excavator with minimum of 8 hours	hours	8		\$8,500	\$68,000				
Land F	Make drains	Tractor and implement	Job work	1		\$30,000	\$30,000				
	Plough/rotovate	Tractor and implement	Job work	1		\$90,000	\$90,000				
	Make mounds/dig holes										

	Other (specify)							
	Labour							
	Land Clearing	N/A						
	Levelling	N/A						
	Make drains	N/A						
	Plough/rotovate	N/A						
	Make mounds/dig holes	N/A						
	Other (specify)							
						\$225,000		
	Organic manure (compost) for holes	Assume 1.5 kg/plant *500	Bag	15	\$300	\$4 500		
olanting	Lime	200lbs/acre = 500 lbs/ha =228 kg/ha 227 kg = 5 hags $@$ 50 kg each	Bag	5	\$2,800	\$14,000		
Prep	Ryzolex (soil borne fungicide)	15 - 20 100g packets used	Packet - 100g	18	\$550	\$9,900		
	Labour for preplanting activities	Manual	Man day	4	\$6,000	\$24,000		
						\$52,400		
	Seedlings - grafted	10,000 sq m/ (4.5m * 4.5m)		500	\$200	\$100,000		
ting	Labour to plant/transplant	2 persons for 2 days	Man day	4	\$6,000	\$24,000		
Plant	Replacement seedlings	assume 20% loss therefore need to replace 100 seedlings		100	\$200	\$20,000		
	Labour to replace lost plants	1 person to replace seedlings	Man day	1	\$6,000	\$6,000		
						\$150,000		

29]-

Control	Glyphosate	2L per application. Apply every 4 months for the first 2 years; twice per year as of year 3.	Bottle - 1 L	1		\$ 1,200	\$7,200	\$7,200	\$4,800	\$4,800	\$4,800
Weed	Labour to apply weedicide			2		\$ 6,000	\$36,000	\$36,000	\$24,000	\$24,000	\$24,000
	Weed manually	2 persons each time as above		2	2	\$ 6,000	\$24,000	\$24,000	\$12,000	\$ 12,000	\$ 12,000
							\$67,200	\$67,200	\$40,800	\$40,800	\$40,800
ter	Urea	2 bags - split application		2		\$ 5,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
ertiliz	12:12:17:2	1 kg/plant		12		\$ 9,500	\$114,000	\$114,000	\$114,000	\$114,000	\$114,000
	Labour to apply fertilizer	2 person for 2 days	Man day	2	2	\$6,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000
							\$148,000	\$148,000	\$148,000	\$148,000	\$148,000
Control	Triogophorus	Once per year as preventative measure and then as required	Bottle - L	2		\$3,520	\$7,040	\$7,040	\$7,040	\$7,040	\$7,040
Pest (Labour to apply product	2 persons	Man day	2		\$6,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
							\$19,040	\$19,040	\$19,040	\$19,040	\$19,040
	Harvesting	Assume 5 days in year 2 and 10 days in year 3 onwards	Man day	2	varied	\$6,000	0	\$30,000	\$120,000	\$120,000	\$120,000
	Transportation (carry supplies to farm)	Assume 3 trips in year 1 and 1 trip in other years	Per trip	1		\$7,500	\$22,500	\$7,500	\$7,500	\$7,500	\$7,500
osts							\$22,500	\$37,500	\$127,500	\$127,500	\$127,500
er C		Sub-	total varia	ble cost			\$684,140	\$271,740	\$335,340	\$335,340	\$335,340
Oth	Contingency	10% of labour and material	Per annum				\$68,414	\$27,174	\$33,534	\$33,534	\$33,534
	Supervision	10% of labour and material	Per annum				\$68,414	\$27,174	\$33,534	\$33,534	\$33,534
Total Cost - Material and Labour						\$820,968	\$326,088	\$402,408	\$402,408	\$402,408	

Assumptions	Calculations	Year 1	Year 2	Year 3	Year 4	Year 5
Average yield/ha/yr		0.00	5000	15000	30000	30000
Average						
Marketable Yield	70%	0	3500	10500	21000	21000
Revenue: \$66/kg	\$66	0	\$231,000	\$693,000	\$1,386,000	\$1,386,000
Cost of Production		\$820,968	\$326,088	\$402,408	\$402,408	\$402,408
Gross						
Profit		(\$820,968)	(\$95,088)	\$290,592	\$983,592	\$983,592

Cost of Production/ha – Guava

Region	4	Planting distance (L * W)m	4.5m * 4.5m
Soil type	Sandy loam	Plant population per hectare	500
Terrain	Flat	Irrigation (rainfed, drip, manual, etc)	Rain fed
Crop and variety	Guava	Expected yield (kg/ha/year)	65,000 kg
Time to maturity	18 - 24 months	Cost of Tools and Equipment	
Productive life of plant	12 - 15 years	Marketable Yield	70%

		Assumptions (frequency, rate,		No of	No. of	Cost/					
		etc)	Unit	Units	Applications	unit	Year 1	Year 2	Year 3	Year 4	Year 5
	Mechanical										
ation	Land Clearing	Excavator with minimum of 8 hours - including levelling and making drains	hours	4	1	\$9,250	\$37,000				
repara	Levelling	Excavator with minimum of 8 hours	hours	8		\$8,500	\$68,000				
nd P	Make drains	Tractor and implement	Job work	1		\$30,000	\$30,000				
La La	Plough/rotovate	Tractor and implement	Job work	1		\$90,000	\$90,000				
	Make mounds/dig holes Other (specify)										

	Labour							
	Land Clearing	N/A						
	Levelling	N/A						
	Make drains	N/A						
	Plough/rotovate	N/A						
	Make mounds/dig holes	N/A						
	Other (specify)							
						\$225,000		
۵۵	Organic manure (compost) for holes	Assume 1.5 kg/plant *500 plants = 750 kg. le 15 bags	Bag	15	\$300	\$4,500		
eplantin	Lime	200lbs/acre = 500 lbs/ha =228 kg/ha 227 kg = 5 bags @ 50 kg each	Bag	5	\$2,800	\$14,000		
Pr	Ryzolex (soil borne fungicide)	100g packets used	Packet - 100g	18	\$550	\$9,900		
	Labour for preplanting activities	Manual	Man day	4	\$6,000	\$24,000		
						\$52,400		
	Seedlings - grafted	10,000 sq m/ (4.5m * 4.5m)		500	\$200	\$100,000		
Planting	Labour to plant/transplant	2 persons for 2 days	Man day	4	\$6,000	\$24,000		
	Replacement seedlings	Assume 10% loss therefore need to replace 50 seedlings		50	\$200	\$10,000		
	Labour to replace lost plants	1 person to replace seedlings	Man day	1	\$6,000	\$6,000		

]-

							\$140,000				
Control	Glyphosate	2L per application. Apply every 4 months for the first 2 years; twice per year as of year	Bottle								
р р		3.	- 1 L	2		\$ 1,200	\$7,200	\$7,200	\$4,800	\$4,800	\$4,800
Wee	Labour to apply weedicide	2 persons each time as above		2		\$ 6,000	\$36,000	\$36,000	\$24,000	\$24,000	\$24,000
	Weed manually	twice/year		2	2	\$ 6,000	\$24,000	\$24,000	\$24,000	\$ 24,000	\$ 24,000
	,						\$67,200	\$67,200	\$52,800	\$52,800	\$52,800
er	Urea	2 Bags		2		\$ 5,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
iliz	12:12:17:2	1 kg/plant		12		\$ 9,500	\$114,000	\$114,000	\$114,000	\$114,000	\$114,000
Fert	Labour to apply fertilizer	2 person for 2 days	Man day	2	2	\$6,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000
							\$148,000	\$148,000	\$148,000	\$148,000	\$148,000
ntrol	Triogophorus	Once per year as preventative measure and then as required	Bottle - L	2		\$3,520	\$7,040	\$7,040	\$7,040	\$7,040	\$7,040
est Cor	Pronto (contact insecticide)		Bottle - L	2		\$4,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
-	Labour to apply product	2 persons	Man day	2		\$6,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
							\$27,040	\$27,040	\$27,040	\$27,040	\$27,040
	Labour to nick and cort	Assume 5 days in year 3 and 10 days	Man	2	varied	\$6,000	0	\$12,000	\$60,000	\$120,000	\$120,000
Other Costs	Transportation (carry supplies to farm)	Assume 3 trips in year 1 and 1 trip in other years	Per trip	1	Vaneu	\$7,500	\$22,500	\$7,500	\$7,500	\$7,500	\$7,500

						\$22,500	\$19,500	\$67,500	\$127,500	\$127,500
Sub-total variable cost							\$261,740	\$295,340	\$355,340	\$355 <i>,</i> 340
	10% of labour and	Per								
Contingency	material	annum				\$68,214	\$26,174	\$29,534	\$35,534	\$35,534
	10% of labour and	Per								
Supervision	material	annum				\$68,214	\$26,174	\$29,534	\$35,534	\$35,534
Total Cost - Material and Labour						\$818,568	\$314,088	\$354,408	\$426,408	\$426,408

Assumptions	Assumptions Calculations		Year 2	Year 3	Year 4	Year 5
Yield /fruit/tree/year		0.00	5,000	50,000	65,000	65,000
Average Marketable Yield	70%	0	3,500	35,000	45,500	45,500
Revenue: \$30/kg	\$30	0	\$105,000	\$1,050,000	\$1,365,000	\$1,365,000
Cost of Production		\$818,568	\$314,088	\$354,408	\$426,408	\$426,408
Gross						
Profit		(\$818,568)	(\$209,088)	\$695,592	\$938,592	\$938,592

Cost of Production/ha – Orange

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Oranges
Time to maturity	4 - 5 years
Productive life of plant	20 years

Planting distance (L * W)m	5m * 5m
Plant population per hectare	400
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield (lemons/tree)	200
Cost of Tools and Equipment	
Marketable Yield	70%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No. of Appli- cations	Cost/ Unit	Year 1	Year 2	Year 3	Year 4	Year 5
	Mechanical										
2	Land Clearing	Excavator with minimum of 8 hours - including levelling and making drains	hours	4	1	\$9,250	\$37,000				
nd Preparatio	Levelling	Excavator with minimum of 8 hours	hours	8		\$8,500	\$68,000				
	Make drains	Tractor and implement	Job work	1		\$30,000	\$30,000				
	Plough/rotovate	Tractor and implement	Job work	1		\$90,000	\$90,000				
-ar	Make mounds/dig holes										
-	Other (specify)										
	Labour										
	Land Clearing	N/A									
	Levelling	N/A									
	Make drains	N/A									
----------	---------------------------------------	---------------------------------------------------------------------------	------------------	-----	------------------	-----------	--	--			
	Plough/rotovate	N/A									
	Make mounds/dig holes	N/A									
	Other (specify)										
						\$225,000					
	Organic manure (compost) for holes	Assume 1.5 kg/plant *400 plants = 600 kg. Ie 12 bags	Bag	12	\$350	\$4,200					
planting	Lime	200lbs/acre = 500 lbs/ha =228 kg/ha 227 kg = 5 bags @ 50 kg each	Bag	5	\$2,800	\$14,000					
Pre	Ryzolex (soil borne fungicide)	100g packets used	Packet - 100g	14	\$550	\$7,700					
	Labour for preplanting activities	Manual	Man day	4	\$6 <i>,</i> 000	\$24,000					
						\$49,900					
	Seedlings - grafted	10,000 sq m/ (5m * 5m)		400	\$350	\$140,000					
ള	Labour to plant/transplant	2 persons for 2 days	Man day	4	\$6,000	\$24,000					
Plantir	Replacement seedlings	Assume 20% loss therefore need to replace 80 seedlings		80	\$350	\$28,000					
	Labour to replace lost plants	1 person to replace seedlings	Man day	1	\$6,000	\$6,000					
						\$198,000					

Control	Glyphosate	2L per application. Apply every 4 months for the first 2 years; twice per year as of year 3.	Bottle - 1 L	2		\$ 1,200	\$7,200	\$7,200	\$4,800	\$4,800	\$4,800
ed											
Ne	Labour to apply	2 persons each time		2		\$ 6,000	\$36,000	\$36,000	\$24,000	\$24,000	\$24,000
	weedicide	/		2		\$ 0,000	\$30,000	\$30,000	\$24,000	\$24,000	\$24,000
	Weed manually	twice/year		2	2	\$ 6,000	\$24,000	\$24,000	\$24,000	\$ 24,000	\$ 24,000
<u> </u>		2.0		2		¢ 5 000	\$67,200	\$67,200	\$52,800	\$52,800	\$52,800
ize	Urea	2 Bags		2		\$ 5,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Ē	12:12:17:2	1 kg/plant	Man	10		Ş 9,500	\$95,000	\$95,000	\$95,000	\$95,000	\$95,000
Fel	Labour to apply fertilizer	2 person for 2 days	day	2	2	\$6,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000
		· · · · ·	,				\$129,000	\$129,000	\$129,000	\$129,000	\$129,000
		Once per year as									
ō		preventative measure	Bottle								
ntr	Triogophorus	and then as required	- L	2		\$3,520	\$7 <i>,</i> 040	\$7 <i>,</i> 040	\$7,040	\$7,040	\$7,040
S	Pronto (contact		Bottle								
est	insecticide)		- L	2		\$4,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
8	Labour to apply product	2 persons	Man	2		\$6,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
			uay	2		J 0,000	\$27.040	\$27.040	\$27.040	\$27.040	\$27.040
		Assume 5 days in year					ŞZ7,040	327,040	ŞZ7,040	ŞZ7,040	ŞZ7,040
		3 and 10 days in year	Man								
	Labour to pick and sort	4 onwards	day	2	varied	\$6,000	0	\$12,000	\$60,000	\$120,000	\$120,000
its	·	Assume 3 trips in year	-								
So	Transportation (carry	1 and 1 trip in other	Per								
er (supplies to farm)	years	trip	1		\$7,500	\$22,500	\$7,500	\$7,500	\$7,500	\$7,500
th							\$22,500	\$19,500	\$67,500	\$127,500	\$127,500
0	Sub-total variable cost						\$718,640	\$242,740	\$276,340	\$336,340	\$336,340

J

	Total Cost - Ma	aterial and Labour		\$862,368	\$291,288	\$331,608	\$403,608	\$403,608
Supervision	10% of labour and material	Per annum		\$71,864	\$24,274	\$27,634	\$33,634	\$33,634
Contingency	10% of labour and material	Per annum		\$71,864	\$24,274	\$27 <i>,</i> 634	\$33,634	\$33,634

Assumptions	Calculations	Year 1	Year 2	Year 3	Year 4	Year 5
Yield /fruit/tree/year		0.00	10	60	150	200
Number of fruits/ha	400	0	4,000	24000	60000	80000
Average Marketable Yield	70%	0	2800	16800	42000	56000
Revenue: \$30 per orange	\$30	0	\$84,000	\$504,000	\$1,260,000	\$1,680,000
Cost of Production		\$862,368	\$291,288	\$331,608	\$403,608	\$403,608
Gross Profit		(\$862,368)	(\$207,288)	\$172,392	\$856,392	\$1,276,392

Cost of Production/ha – Passion Fruit (Yellow)

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Passion Fruit (Yellow)
Time to maturity	15 - 18 months
Productive life of plant	6 years
Planting distance(L * W)m	3m * 3m

Plant population per hectare	1100
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield (fruits/tree)	250
Cost of Tools and Equipment	
Land Rental/Taxes per hectare	\$15,000
Marketable Yield	70%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No. of Appli- cations	Cost/ Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Total Cost
	Mechanical											
tion	Land Clearing	Excavator with minimum of 8 hours - including levelling and making drains	hours	Δ	1	<u> </u>	\$37 000					\$37,000
parat		Excavator with minimum of 8			⊥	<i>\$3,230</i>	<i></i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					<i>\$31,000</i>
re	Levelling	hours	hours	8		\$8,500	\$68,000					\$68,000
nd P	Make drains	Tractor and implement	Job work	1		\$30,000	\$30,000					\$30,000
Laı	Plough/rotovate	Tractor and implement	Job work	1		\$90,000	\$90,000					\$90,000
	Make mounds/dig holes											
	Other (specify)											

]							
	Labour								
	Land Clearing	N/A							\$0
	Levelling	N/A							\$0
	Make drains	N/A							\$0
	Plough/rotovate	N/A							
	Make mounds/dig holes	N/A							\$0
	Other (specify)								\$0
						\$225,000			
	Organic manure (compost) for holes	Assume 15 bags/acre	Bag	15	\$300	\$4,500			\$4,500
anting		200lbs/acre = 500 lbs/ha =228 kg/ha 227 kg = 5 bags							
b	Lime	@ 50 kg each	Bag	5	\$2 <i>,</i> 800	\$14,000			\$14,000
Pre	Ryzolex (soil borne fungicide)	100g packets used	Packet - 100g	15	\$550	\$8,250			\$8,250
	Labour for preplanting activities	Manual	Man day	4	\$6,000	\$24,000			\$24,000
						\$50,750			
	Seedlings - grafted	10,000 sq m/ (3m * 3m)		1100	\$75	\$82,500			\$82,500
nting	Labour to plant/transplant	2 persons for 2 days	Man day	4	\$6,000	\$24,000			\$24,000
Plar	Replacement seedlings	assume 10% loss therefore need to replace 110 seedlings		110	\$75	\$8,250			\$8,250

	Labour to replace	1 person to	Man				4.5.555					4
	lost plants	replace seedlings	day	1		Ş6,000	\$6 <i>,</i> 000					\$6,000
							\$120,750					
ed Control	Glyphosate	2L per application. Apply every 4 months for the first 2 years; twice per year as of year 3.	Bottle - 1 L	1		\$ 1,200	\$7,200	\$7,200	\$4,800	\$4,800	\$4,800	\$28,800
Wee	Labour to apply weedicide			2		\$ 6,000	\$36,000	\$36,000	\$24,000	\$24,000	\$24,000	\$144,000
	Weed manually	2 persons each time as above		2	2	\$ 6,000	\$24,000	\$24,000	\$12,000	\$ 12,000	\$ 12,000	\$84,000
							\$67,200	\$67,200	\$40,800	\$40,800	\$40,800	
er	Urea	2 bags - split application		2		\$ 5,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
ertiliz	12:12:17:2	Fertilizer 50 kg bag		12		\$ 9,500	\$114,000	\$114,000	\$114,000	\$114,000	\$114,000	\$570,000
Fe	Labour to apply fertilizer	2 person for 2 days	Man day	2	2	\$6,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000	\$120,000
							\$148,000	\$148,000	\$148,000	\$148,000	\$148,000	
Control	Triogophorus	Once per year as preventative measure and then as required	Bottle -	2		¢2 520	¢7.040	¢7.040	¢7.040	¢7.040	¢7.040	¢25,200
st (Triogophorus	then as required	L	2		\$3,520	\$7,040	\$7,040	\$7,040	\$7,040	\$7,040	\$35,200
Pe	Labour to apply product	2 persons	Man day	2		\$6,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$60,000
							\$19,040	\$19,040	\$19,040	\$19,040	\$19,040	
	Harvesting	Assume 250 passion fruit/vine	Man day	2	varied	\$6,000	0	\$30,000	\$120,000	\$120,000	\$120,000	\$390,000

sts	Transportation (carry supplies to	Assume 3 trips in year 1 and 1 trip									
ŏ	farm)	in other years	Per trip	1	\$7,500	\$22,500	\$7,500	\$7,500	\$7,500	\$7,500	\$52,500
L.						\$22,500	\$37,500	\$127,500	\$127,500	\$127,500	\$442,500
the		Sub-t	otal variab	le cost		\$653,240	\$271,740	\$335,340	\$335,340	\$335,340	\$1,931,000
Ö	Contingency	10% of labour and material	Per annum			\$65,324	\$27,174	\$33,534	\$33,534	\$33,534	\$193,100
	Supervision	10% of labour and material	Per annum			\$65,324	\$27,174	\$33,534	\$33,534	\$33,534	\$193,100
		Total Cost - Mate	erial and L	abour		\$783,888	\$326,088	\$402,408	\$402,408	\$402,408	\$2,317,200

Assumptions	Calculations	Year 1	Year 2	Year 3	Year 4	Year 5
Yield /fruit/tree/year		0.00	150	200	250	250
Number of fruits/ha	1100	0	165,000	220000	275000	275000
Average Marketable Yield	70%	0	115500	154000	192500	192500
Revenue: \$10/fruit	\$10	0	\$1,155,000	\$1,540,000	\$1,925,000	\$1,925,000
Cost of Production		\$783,888	\$326,088	\$402,408	\$402,408	\$402,408
Gross Profit		(\$783,888)	\$828,912	\$1,137,592	\$1,522,592	\$1,522,592

Cost of Production/ha – Rough Lemon

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Rough Lemon
Time to maturity	2 - 3 years
Productive life of plant	20 years
Planting distance(L * W)m	6m * 6m

Plant population per hectare	270
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield (lemons/tree)	100
Cost of Tools and Equipment	
Land Rental/Taxes per hectare	\$15,000
Marketable Yield	95%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No. of Appli- cations	Cost/ Unit	Year 1	Year 2	Year 3	Year 4	Year 5
	Mechanical										
ion		Excavator with minimum of 8 hours - including levelling and	h		1	¢0.250	¢27.000				
and Preparati	Land Clearing	making drains	nours	4	1	\$9,250	\$37,000				
	Levelling	Excavator with minimum of 8 hours	hours	8		\$8,500	\$68,000				
	Make drains	Tractor and implement	Job work	1		\$30,000	\$30,000				
	Plough/rotovate	Tractor and implement	Job work	1		\$90,000	\$90,000				
	Make mounds/dig holes										
	Other (specify)										
	Labour										

	Land Clearing	N/A						
	Levelling	N/A						
	Make drains	N/A						
	Plough/rotovate	N/A						
	Make mounds/dig holes	N/A						
	Other (specify)							
						\$225,000		
	Organic manure (compost) for holes	Assume 1.5 kg/plant *270 plants = 405 kg. Ie 8 bags	Bag	8	\$300	\$2,400		
eplanting	Lime	200lbs/acre = 500 lbs/ha =228 kg/ha 227 kg = 5 bags @ 50 kg each	Bag	5	\$2,800	\$14,000		
Pre	Ryzolex (soil borne fungicide)	100g packets used	Packet - 100g	9	\$550	\$4,950		
	Labour for preplanting activities	Manual	Man day	4	\$6,000	\$24,000		
						\$45 <i>,</i> 350		
	Seedlings - grafted	10,000 sq m/(6m * 6m)		270	\$350	\$94,500		
ng	Labour to plant/transplant	1 person to plant seedlings	Man day	3	\$6,000	\$18,000		
Planti	Replacement seedlings	assume 20% loss therefore need to replace 54 seedlings		54	\$350	\$18,900		
	Labour to replace lost plants	1 person to replace seedlings	Man day	1	\$6,000	\$6,000		
						\$137,400		

Control	Glyphosate	2L per application. Apply every 4 months for the first 2 years; twice per year as of year 3.	Bottle - 1 L	1		\$ 1,200	\$7,200	\$7,200	\$4.800	\$4,800	\$4,800
Veed (Labour to apply weedicide	2 persons each time as above		2		\$ 6,000	\$36,000	\$36,000	\$24,000	\$24,000	\$24,000
,	Weed manually	twice/year		2	2	\$ 6,000	\$24,000	\$24,000	\$24,000	\$ 24,000	\$ 24,000
							\$67 , 200	\$67 , 200	\$52,800	Ş52,800	\$52,800
er	Urea	1 Bag		1		\$ 5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
rtiliz	12:12:17:2	1 kg/plant		6		\$ 9,500	\$57,000	\$57,000	\$57,000	\$57,000	\$57,000
Fei	Labour to apply fertilizer	2 person for 2 days	Man day	2	2	\$6,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000
							\$86,000	\$86,000	\$86,000	\$86,000	\$86,000
itrol	Triogophorus	Once per year as preventative measure and then as required	Bottle	2		\$3 520	\$7.040	\$7.040	\$7 040	\$7.040	\$7 040
Ğ	Pronto (contact		Bottle	۷.		<i>43,320</i>	Υ,0 1 0	Υ,0 1 0	Υ,0 1 0	Υ,0 1 0	Ϋ́,0+0
est	insecticide)		- L	2		\$4,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Pe	Labour to apply product	2 persons	Man day	2		\$6,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
							\$27,040	\$27,040	\$27,040	\$27,040	\$27,040
ther Costs	Labour to pick and sort	Assume 5 days in year 3 and 10 days in year 4 onwards	Man day	2	varied	\$6,000	0	ŚŊ	\$60,000	\$120.000	\$120.000
	Transportation (carry	Assume 3 trips in year 1 and 1 trip in other	Per	2	Varieu	<i>90,000</i>		<u> </u>	<i></i>	<i></i>	<i>9120,000</i>
ō	supplies to farm)	years	trip	1		\$7,500	\$22,500	\$7,500	\$7,500	\$7,500	\$7,500
							\$22,500	\$7,500	\$67,500	\$127,500	\$127,500

	Sub-total variable cost					\$610,490	\$187,740	\$233,340	\$293,340	\$293,340
Contingency	10% of labour and material	Per annum				\$61,049	\$18,774	\$23,334	\$29,334	\$29,334
	10% of labour and	Per				<i>Q</i> 01,015	<i><i>\</i>10,771</i>	<i>\$23,33</i> 1	<i>\</i> 23,331	<i>\$23,33</i> 1
Supervision	material	annum				\$61,049	\$18,774	\$23,334	\$29 <i>,</i> 334	\$29,334
Total Cost - Material and Labour						\$732,588	\$225,288	\$280,008	\$352,008	\$352,008

Assumptions	Calculations	Year 1	Year 2	Year 3	Year 4	Year 5
Yield /fruit/tree/year		0.00	10	50	100	100
Number of fruits/ha	270	0	2,700	13500	27000	27000
Average Marketable Yield	95%	0	2565	12825	25650	25650
Revenue: \$40/fruit	\$40	0	\$102,600	\$513,000	\$1,026,000	\$1,026,000
Cost of Production		\$732,588	\$225,288	\$280,008	\$352,008	\$352,008
Gross Profit		(\$732,588)	(\$122,688)	\$232,992	\$673,992	\$673,992

Cost of Production/ha – Soursop

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Soursop
Time to maturity	2 - 3 years
Productive life of plant	15 years
Planting distance (L * W)m	4.5m x 4.5m

Plant population per hectare	500
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield	15 fruits/tree
Cost of Tools and Equipment	
Land Rental/Taxes per hectare	\$15,000
Marketable Yield	70%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No. of Appli- cations	Cost/ Unit	Year 1	Year 2	Year 3	Year 4	Year 5
	Mechanical										
on		Excavator with minimum of 8 hours - including levelling and									
ati	Land Clearing	making drains	hours	4	1	\$9,250	\$37,000				
Prepara	Levelling	Excavator with minimum of 8 hours	hours	8		\$8,500	\$68,000				
	Make drains	Tractor and implement	Job work	1		\$30,000	\$30,000				
-and	Plough/rotovate	Tractor and implement	Job work	1		\$90,000	\$90,000				
	Make mounds/dig holes										
	Other (specify)										
	Labour										

	Land Clearing	N/A						
	Levelling	N/A						
	Make drains	N/A						
	Plough/rotovate	N/A						
	Make mounds/dig holes	N/A						
	Other (specify)							
						\$225,000		
	Organic manure (compost) for holes	Assume 1.5 kg/plant *500 plants = 750 kg. le 15 bags	Bag	15	\$300	\$4,500		
lanting	lime	200lbs/acre = 500 lbs/ha =228 kg/ha 227 kg = 5 bags @ 50	Bag	5	\$2,800	\$14,000		
Prep			Dag	J	<i></i> ,2,000	Ş14,000		
	Ryzolex (soil borne fungicide)	15 - 20 100g packets used	Packet - 100g	18	\$550	\$9,900		
	Labour for preplanting activities	Manual	Man dav	4	\$6.000	\$24.000		
			,			\$52,400		
	Seedlings - grafted	10,000 sq m/ (4.5m * 4.5m)		500	\$200	\$100,000		
മ	Labour to plant/transplant	2 persons for 2 days	Man day	3	\$6,000	\$18,000		
Planting	Replacement seedlings	assume 20% loss therefore need to replace 100 seedlings		100	\$200	\$20,000		
	Labour to replace lost plants	1 person to replace seedlings	Man dav	1	\$6,000	\$6,000		
		<u> </u>	,		 , ,'	, , ,		
						\$144,000		

-(49 **)**

_	Glyphosate	2L per application. Apply every 4 months									
ntro		for the first 2 years;									
Cor		twice per year as of	Bottle	1		\$ 1 200	\$7 200	\$7 200	\$4 800	\$4 800	\$4 800
eed	Labour to apply weedicide		1.	2		\$ 6.000	\$36.000	\$36.000	\$24.000	\$24.000	\$24.000
Š		2 persons each time as				1 - 7	1 /	1,	, , ,	1 /	,
	Weed manually	above		2	2	\$ 6,000	\$24,000	\$24,000	\$12,000	\$ 12,000	\$ 12,000
							\$67,200	\$67,200	\$40,800	\$40,800	\$40,800
zer	Urea	2 bags - split application		2		\$ 5,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
tili:	12:12:17:2	1 kg/plant		12		\$ 9,500	\$114,000	\$114,000	\$114,000	\$114,000	\$114,000
Fer			Man								
	Labour to apply fertilizer	2 person for 2 days	day	2	2	\$6,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000
							\$148,000	\$148,000	\$148,000	\$148,000	\$148,000
0		Once per year as									
ntr		preventative measure	Bottle								
ပိ	Triogophorus	and then as required	- L	2		\$3,520	\$7,040	\$7,040	\$7,040	\$7,040	\$7,040
est			Man								
d	Labour to apply product	2 persons	day	2		\$6,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
							\$19,040	\$19,040	\$19,040	\$19,040	\$19,040
		Assume 5 days in year									
		2 and 10 days in year 3	Man								
	Harvesting	onwards	day	2	varied	\$6,000	0	\$30,000	\$120,000	\$120,000	\$120,000
sts	/	Assume 3 trips in year	_								
Cos	Transportation (carry supplies	1 and 1 trip in other	Per	1		¢7 Ε00	622 E00	¢7 500	¢7 500	¢7 Ε00	¢7 Ε00
er		years	ιιμ			JV,500	\$22,500	\$7,500	\$7,500	\$7,500	\$7,500
the		C. h. h.	 				\$22,500	\$57,500	\$127,500	\$127,500	\$127,500
U		Sub-te	otal varial	Die Cost			\$678,140	\$2/1,/40	\$335,340	Ş335,340	>335,340

J

Contingency	10% of labour and	Per		\$67 814	\$27 174	\$33 534	\$33,534	\$33,534
contingency	material	annann		Ψ07,011	<i>727,17</i>	φ 3 5,551	400,00 T	
	10% of labour and	Per						
Supervision	material	annum		\$67,814	\$27,174	\$33,534	\$33,534	\$33,534
		\$813,768	\$326,088	\$402,408	\$402,408	\$402,408		

Assumptions	Calculations	Year 1	Year 2	Year 3	Year 3 Year 4	
Yield /fruit/tree/vear		0.00	6	12	15	15
Number of fruits/ha	500	0	3,000	6000	7500	7500
Average fruit weight/ha						
Assuming each fruit weighs 1.5 kg	1.5	0	4,500	9000	11250	11250
Average Marketable Yield	70%	0	3150	6300	7875	7875
Revenue: \$220/kg	\$220	0	\$693,000	\$1,386,000	\$1,732,500	\$1,732,500
Cost of Production		\$813,768	\$326,088	\$402,408	\$402,408	\$402,408
Gross Profit		(\$813,768)	\$366,912	\$983,592	\$1,330,092	\$1,330,092

Cost of Production/ha – Tangerine (Budded)

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Tangerine - Budded
Time to maturity	2 - 3 years
Productive life of plant	20 years
Planting distance(L * W)m	4.5m * 4.5m

Plant population per hectare	500
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield (fruits/ha/year)	100
Cost of Tools and Equipment	
Land Rental/Taxes per hectare	\$15,000
Marketable Yield	80%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No. of Appli- cations	Cost/ Unit	Year 1	Year 2	Year 3	Year 4	Year 5
	Mechanical										
ion	Land Clearing	Excavator with minimum of 8 hours - including levelling and making drains	hours	4	1	\$9,250	\$37,000				
arat	Levelling	Excavator with minimum of 8 hours	hours	8		\$8,500	\$68,000				
rep	Make drains	Tractor and implement	Job work	1		\$30,000	\$30,000				
and Pi	Plough/rotovate Make mounds/dig holes	Tractor and implement	Job work	1		\$90,000	\$90,000				
	Other (specify)										
	Labour										
	Land Clearing	N/A									

	Levelling	N/A								
	Make drains	N/A								
	Plough/rotovate	N/A								
	Make mounds/dig holes	N/A								
	Other (specify)									
						\$225,000				
	Organic manure (compost) for holes	Assume 1.5 kg/plant *500 plants = 750 kg. Ie 15 bags	Bag	15	\$300	\$4,500				
eplanting	Lime	200lbs/acre = 500 lbs/ha =228 kg/ha 227 kg = 5 bags @ 50 kg each	Bag	5	\$2,800	\$14,000				
Pre	Ryzolex (soil borne fungicide)	100g packets used	Packet - 100g	18	\$550	\$9,900				
	Labour for preplanting activities	Manual	Man day	4	\$6,000	\$24,000				
						\$52,400				
	Seedlings - grafted	10,000 sq m/ (4.5m * 4.5m)		500	\$350	\$175,000				
ß	Labour to plant/transplant	2 persons for 2 days	Man day	4	\$6,000	\$24,000				
Plantir	Replacement seedlings	Assume 10% loss therefore need to replace 50 seedlings		50	\$350	\$17,500				
	Labour to replace lost	1 person to replace			,	1 /				
	plants	seedlings	Man day	1	\$6,000	\$6,000				
						\$222,500				
Weed	Glyphosate	2L per application. Apply every 4 months for the first 2 years;	Bottle - 1 L	2	\$ 1,200	\$7,200	\$7,200	\$4,800	\$4,800	\$4,800

		twice per year as of year 3.									
		2 persons each time as				\$					
	Labour to apply weedicide	above		2		6,000	\$36,000	\$36,000	\$24,000	\$24,000	\$24,000
	Weed manually	twice/vear		2	2	\$ 6.000	\$24,000	\$24,000	\$24,000	Ş 24.000	\$ 24.000
		twice/year		2	2	0,000	\$67,200	\$67,200	\$52,800	\$52,800	\$52.800
						Ś	<i></i>	<i>\\</i> ,	<i><i><i>vvvvvvvvvvvvv</i></i></i>	<i><i><i>vvujvvujvuujvuujvuujvuuuuuuuuuuuuu</i></i></i>	<i></i>
zer	Urea	2 Bags		2		5,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
tili						\$					
er	12:12:17:2	1 kg/plant		12		9,500	\$114,000	\$114,000	\$114,000	\$114,000	\$114,000
ш	Labour to apply fertilizer	2 person for 2 days	Man day	2	2	\$6,000	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000
							\$148,000	\$148,000	\$148,000	\$148,000	\$148,000
_		Once per year as									
tro		preventative measure				40.000	4	4	4	4	4
ou	Triogophorus	and then as required	Bottle - L	2		\$3,520	\$ <i>7,</i> 040	\$ <i>1,</i> 040	\$7,040	\$7,040	\$7,040
st C	Pronto (contact										
Pe	insecticide)		Bottle - L	2		\$4,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
	Labour to apply product	2 persons	Man day	2		\$6,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
							\$27,040	\$27,040	\$27,040	\$27,040	\$27,040
		Assume 5 days in year									
		3 and 10 days in year 4									
	Labour to pick and sort	onwards	Man day	2	varied	\$6,000	0	\$12,000	\$60,000	\$120,000	\$120,000
S											
ost		Assume 3 trips in year									
Ŭ	Transportation (carry	1 and 1 trip in other	Destric			67 F00	622 F00	ć7 500	67 500	67 500	67 F00
hei	supplies to farm)	years	Per trip	1		\$7,500	\$22,500	\$7,500	\$7,500	\$7,500	\$7,500
ot							\$22,500	\$19,500	\$67,500	\$127,500	\$127,500
		Sub	o-total varia	ble cost			\$764,640	\$261,740	\$295,340	\$355,340	\$355,340

- (54 **)**

Contingency	10% of labour and material	Per annum				\$76,464	\$26,174	\$29,534	\$35,534	\$35,534
Supervision	10% of labour and material	Per annum				\$76.464	\$26.174	\$29.534	\$35.534	\$35.534
Supervision	material	Total C	oct M	atorial an	d Labour	\$017 569	\$214 099	\$254.409	\$426.408	\$426.408
		TOLATC	.USL - 1916	aterial and		221/,200	ŞS14,000	ŞSS4 ,400	3420,400	3420,40 0

Assumptions	Calculations	Year 1	Year 2	Year 3	Year 4	Year 5
Yield /fruit/tree/year		0	0	60	100	100
Number of fruits/ha	500	0	0	30,000	50,000	50,000
Average Marketable Yield	80%	0	0	24,000	40,000	40,000
Revenue: \$30/kg	\$30	0	\$0	\$720,000	\$1,200,000	\$1,200,000
		6047 560	6244.000	6054 400	¢426.400	¢426.400
Cost of Production		\$917,568	\$314,088	\$354,408	\$426,408	\$426,408
Gross Profit		(\$917,568)	(\$314,088)	\$365,592	\$773,592	\$773,592

VEGETABLES

-

Cost of Production/ha – Bora (Yard Long)

Region	4	Planting distance (L * W)m	0.6m x 0.9m (using 3 seeds/hole)
Soil type	Sandy loam	Plant population per hectare	18500 holes (55,000 plants)
Terrain	Flat	Irrigation (rainfed, drip, manual, etc)	Rain fed
Crop and variety	Bora - Yard Long	Expected yield (kg/ha/year)	15 tons/ha (10 pods/vine)
Time to maturity	6 weeks	Cost of Tools and Equipment	
Productive life of plant	5-6 weeks	Marketable Yield	95%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No. of Appli- cations	Cost/ Unit	Total Cost
	Mechanical						
ion	Land Clearing	Excavator with minimum of 8 hours - including levelling and making drains	hours	4	1	\$0	\$0
oarati	Levelling	Excavator with minimum of 8 hours	hours	8		\$0	\$0
Prep	Make drains	Tractor and implement	Job work	1		\$0	\$0
pu	Plough/rotovate	Tractor and implement	Job work	1		\$0	\$0
Ľ	Make mounds/dig holes						
	Other (specify)						
	Labour						
	Land Clearing	N/A					

57

	Levelling	N/A					
	Make drains	N/A					
	Plough/rotovate	N/A					
	Make mounds/dig holes	N/A					
	Other (specify)						
							\$0
gu	Organic manure (compost) for holes	Assume 15 bags	Bag	15		\$300	\$4,500
nti	Lime	Assume 4 bags/ha	Bag	4		\$2,800	\$11,200
eplai	Ryzolex (soil borne fungicide)	100g packets used	Packet - 100g	18		\$550	\$9,900
Pr	Labour for preplanting activities	Manual	Man day	4		\$6,000	\$24,000
							\$49,600
nting	Coode	25 kg seeds (approx 398400 using 3	Ka	25		ć ar a	¢8,900
lar	seeds	seeds/hole/	кg	25		Ş352	\$8,800
	Labour to plant/transplant	4 persons	Man day	4		\$6 <i>,</i> 000	\$24,000
							\$32,800
trol	Glyphosate - contact herbicide	2 applications per crop	Bottle - 1 L	2	2	\$1,200	\$4,800
d Cont	Labour to apply weedicide	2 persons each time as above		2	2	\$6,000	\$24,000
Weed	Weed manually	2 persons, twice/crop		2	2	\$6,000	\$24,000
							\$52,800
<u> </u>	Urea	2 Bags		2		\$5 <i>,</i> 000	\$10,000
tilize	Fertilizer	12:12:17:2 and incorporate inoculum		7		\$9,500	\$66,500
Fer	Inocolum	Applied to seed at time of planting					

_____ **(** 58 **)**_____

	Labour to apply fertilizer	2 person for 2 days	Man day	2	2	\$6,000	\$24,000
		Add vine and tree mix	L	1		1400	1400
							\$101,900
ntrol	Rizolex	Fungicide	Bottle - 500ml	2		\$1,760	\$3,520
est Coi	Leaf Guard	For leaf miners - 100-gram packs (3 packs)	Packs	3		\$2,000	\$6,000
đ	Labour to apply products	2 persons	Man day	2		\$6,000	\$12,000
	Abamectin	Insecticide	Bottle - L	1		2500	\$2,500
							\$24,020
	Purchase stakes for vines	18,500 stakes@\$10/stake		18500		\$10	\$185,000
	Labour to wrap plants around vines	1 person for 3 days		3		6000	\$18,000
r Costs	Labour to pick and sort	Assume 2.5 vines/hole = 18,500 *2.5 = 46,250 plants Assume 10 pods/vine; total pods = 462,500	Pod	462500		\$0.25	\$115,625
Othe	Labour to sort and tie pods into bundles	2 persons week for 5 weeks	Man days	2	5	6000	\$60.000
	Transportation (carry supplies to farm)	Assume 2 trips/crop cycle	Per trip	2		\$7,500	\$15,000
							\$393,625
			Sub-to	otal variable cost			\$654,745
		10% of labour and					
	Contingency	material	Per annum				\$65,475

_____ **(** 59 **)**_____

Supervision	10% of labour and material	Per annum				\$65,475
	Tot	al Cost - Mate	rial and Labour			\$785,694
Total Cost - Material and Labour					Ş78	

Assumptions	Calculations	Total
10 pods/vine	462500	439375
Average Marketable Yield	95%	417406
Assume 80 - 100 pods/bundle and \$300/bundle	\$300.00	\$1,391,354
Cost of Production		\$785,694
Gross Profit		\$605,660

Cost of Production/ha – Cucumber (Quest)

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Cucumber - Quest
Time to maturity	2.5 - 3 months
Productive life of plant	1 month (after maturity)
Planting distance(L * W)m	1.2m * 1.2m

Plant population per hectare	6,900
Irrigation (rainfed, drip, manual, etc)	Rain fed and sprinkler
Expected yield (cucumbers/crop)	103,500
Cost of Tools and Equipment	
Land Rental/Taxes per hectare	\$15,000
Marketable Yield	85%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No. of Appli- cations	Cost/ Unit	Total Cost
uo	Mechanical						
	Land Clearing	Excavator with minimum of 8 hours - including levelling and making drains	hours		1	\$0	\$0
atio	Levelling	Excavator with minimum of 8 hours	hours			\$0	\$0
ars	Make drains	Tractor and implement	Job work			\$0	\$0
rep	Plough/rotovate	Tractor and implement	Job work			\$0	\$0
₫	Make mounds/dig holes						
Land	Labour						
	Land Clearing	2 labourers to apply weedicide	Man days			0	\$0
	Levelling						
	Make drains	3 labourers	Man days			0	\$0

	Make mounds/dig holes]					
	Other (specify)						
							\$0
ടി	Fertilize holes	Fertilize holes using 6:25:25	Bag	6		\$6,000	\$36,000
lantir	Lime	200lbs/acre = 500 lbs/ha =228 kg/ha 227 kg = 5 bags @ 50 kg each	Bag	5		\$2,800	\$14,000
Prep	Ryzolex (soil borne fungicide)	15 - 20 100g packets used	Packet - 100g	18		\$550	\$9,900
	Labour to fertilize holes	3 persons	Man day	3		\$6,000	\$18,000
							\$77,900
50	Seeds	4 tins - 100g	Tin	4		\$3,800	\$15,200
antir	Labour to plant/transplant	4 persons	Man day	4		\$6,000	\$24,000
ЫД	Labour to replace lost seedlings	1 person to replace seedlings	Man day	1		\$6,000	\$6,000
							\$45,200
itrol	Gramoxone	6 litres of contact weedicide once/crop	Bottle - 1 I	6		\$1,500	\$9,000
ed Con	Labour to apply weedicide	2 persons, twice per crop cycle	Man days	2	2	\$6,000	\$24,000
Me	Weed manually	2 persons, once per crop cycle	Man Days	2		\$6,000	\$12,000
							\$45,000
izer	Fertilizer	4 bags of 15:15:15	Bags	4		\$6,000	\$24,000
ertil	Urea	2 bags	Bags	2		\$9,500	\$19,000
L	Labour to apply fertilizer	4 persons once/crop cycle	Man day	4	1	\$6,000	\$24,000

_____ **(** 62 **)**_____

	Vine and tree mix	500 mil	Bottle - 0.5 I	0.5		1400	700
			Bottle - 0.5 L	0.5		1400	\$67,700
							Ş07,700
Itrol	Systemic insecticide	Caprid	Bottle - 1 L	4		\$5,200	\$20,800
Cor	Fungicide	Carbendazim	Bottle - 1 L	2		\$3,000	\$6,000
est							
<u>ط</u>	Labour to apply pest control	1 person /2 times during the crop cycle	Man Day	2		6000	\$12,000
							\$38,800
	Harvesting	4 labourers, 8 times/crop		2	8	6000	\$96,000
sts	Transportation (carry supplies to farm)	Assume 2 trips per crop cycle	Per trip	2		\$7,500	\$15,000
ပိ	<u> </u>						\$111,000
ler							
5			Sub-total va	riable cost			\$385,600
Ū	Contingency	10% of labour and material	Per annum				\$38,560
	Supervision	10% of labour and material	Per annum				\$38,560
Total Cost - Material and Labour \$462							

Assumptions	Calculations	Total
Average yield/ha/yr	103,500	103,500
Average Marketable Yield	85%	87,975
Revenue: \$10/cucumber	\$10	\$879,750
Cost of Production		\$462,720
Gross Profit /ha		\$417,030

Cost of Production/ha – Ochro (Creole)

Region	4
Soil type	Clay
Terrain	Flat
Crop and variety	Ochro - Creole
Time to maturity	3 months
Productive life of plant	3 months
Planting distance(L * W)m	1m * 1m

Plant population per hectare	10,000
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield (kg/crop)	11363
Cost of Tools and Equipment	\$150,000
Land Rental/Taxes per hectare	\$15,000
Marketable Yield	85%

		Assumptions (frequency, rate, etc)	Unit	No of Units	Number of Applications	Cost/unit	Total Cost
	Mechanical						
d Preparation	Land Clearing	Excavator with minimum of 8 hours - including levelling and making drains	hours	4	1	\$0	\$0
	Levelling	Excavator with minimum of 8 hours	hours	8		\$0	\$0
	Make drains	Tractor and implement	Job work	1		\$0	\$0
	Plough/rotovate	Tractor and implement	Job work	1		\$0	\$0
u (Make mounds/dig holes						
La							
	Labour						

	Land Clearing	N/A				
	Levelling	N/A				
	Make drains	N/A				
	Plough/rotovate	N/A				
	Make mounds/dig holes	N/A				
	Other (specify)					
						\$0
						÷
മ	Apply fertilizer	5 bags of 6:25:25	Bag	5	\$6,000	\$30,000
antin	Line	200lbs/acre = 500 lbs/ha =228 kg/ha	Dec	F	ć2 000	¢14.000
bla	Lime	227 kg = 5 bags @ 50 kg each	Bag	5	 \$2,800	\$14,000
Pre	Ryzolex (soil borne fungicide)	100g packets used	100g	10	\$550	\$5,500
	Labour for preplanting activities	Manual	Man day	3	\$6,000	\$18,000
						\$67,500
	Seeds	9 kg of seeds	Кg	9	 \$1,100	\$9,900
ള	Labour to plant/transplant		Man day	2	 \$6,000	\$12,000
ntir						
Pla	Labour to replace lost plants	1 person to replace seedlings	Man day	1	\$6,000	\$6,000
			iviali day	1	Ş0,000	\$0,000
						\$27.900
	Glyphosate - systemic	2 L per application				+
			Bottle - 1 L	2	\$ 1,200	
We	Grammazone - contact	3 applications	Bottle - 1 L	3	\$ 1,300	\$3,900
	Labour to apply weedicide	3 times per crop season		3	\$ 6,000	\$18,000

Weed manually	2 persons twice/crop cycle		2	2	\$ 6,000	\$24,000
						\$45,900
Urea	2 bags - split application		2		\$ 5,500	\$11,000
Fertillizer	4 bags 15:15:15		4		\$ 6,000	\$24,000
Labour to apply fertilizer	2 persons, twice per crop	Man day	2	2	\$6,000	\$24,000
						\$59,000
Systemic insecticide	Caprid	Bottle - L	5		\$5,200	\$26,000
Fungicide	Fastac	Bottle - L	3		\$1,800	\$5,400
Labour to apply chemicals	2 persons at 3 times for the crop	Man Day	2	3	6,000	\$36,000
						\$67,400
Harvesting	2 persons to reap crop over 10 days	Man day	2	10	\$6,000	\$120,000
Transportation (carry supplies to farm)	Assume 2 trips per crop cycle	Per trip	2		\$7,500	\$15,000
						\$135,000
						40.40 700
Contingono		Sub-total va	riable cost			\$343,700
Contingency	10% of labour and material	Per annum				\$34,370
		t - Material a	ad Labour			\$34,370 \$ 412,440
	Weed manually Urea Urea Fertillizer Labour to apply fertilizer Systemic insecticide Fungicide Labour to apply chemicals Harvesting Transportation (carry supplies to farm) Contingency Supervision	Weed manually 2 persons twice/crop cycle Urea 2 bags - split application Fertillizer 4 bags 15:15:15 Labour to apply fertilizer 2 persons, twice per crop Systemic insecticide Caprid Fungicide Fastac Labour to apply chemicals 2 persons at 3 times for the crop Harvesting 2 persons to reap crop over 10 days Transportation (carry supplies to farm) Assume 2 trips per crop cycle Contingency 10% of labour and material Supervision 10% of labour and material	Weed manually 2 persons twice/crop cycle Urea 2 bags - split application Fertillizer 4 bags 15:15:15 Labour to apply fertilizer 2 persons, twice per crop Man day Systemic insecticide Caprid Bottle - L Fungicide Fastac Bottle - L Labour to apply chemicals 2 persons at 3 times for the crop Man day Harvesting 2 persons to reap crop over 10 days Man day Transportation (carry supplies to farm) Assume 2 trips per crop cycle Per trip Contingency 10% of labour and material Per annum Supervision 10% of labour and material Per annum	Weed manually 2 persons twice/crop cycle 2 Urea 2 bags - split application 2 Fertillizer 4 bags 15:15:15 4 Labour to apply fertilizer 2 persons, twice per crop Man day 2 Systemic insecticide Caprid 5 5 Fungicide Fastac Bottle - L 3 Labour to apply chemicals 2 persons at 3 times for the crop Man Day 2 Harvesting 2 persons to reap crop cycle Per trip 2 Transportation (carry supplies to farm) Assume 2 trips per crop cycle Per trip 2 Contingency 10% of labour and material Per annum Per annum Supervision 10% of labour and material Per annum Per annum	Weed manually 2 persons twice/crop cycle 2 2 Urea 2 bags - split application 2 2 Fertillizer 4 bags 15:15:15 4 4 Labour to apply fertilizer 2 persons, twice per crop Man day 2 2 Systemic insecticide Caprid Man day 2 2 Fungicide Fastac Bottle - L 5	Weed manually2 persons twice/crop cycle222\$ 6,000Urea2 bags - split application22\$ 5,500Fertillizer4 bags 15:15:1544\$ 6,000Labour to apply fertilizer2 persons, twice per cropMan day22\$ 6,000Labour to apply fertilizer2 persons, twice per cropMan day22\$ 6,000Labour to apply fertilizer2 persons, twice per cropMan day22\$ 6,000Labour to apply fertilizer2 persons at stimes for the cropMan Day23\$ 1,800Labour to apply chemicals2 persons at 3 times for the cropMan Day23\$ 6,000Harvesting2 persons to reap crop over 10 daysMan day210\$ \$ 6,000Transportation (carry supplies to farm)Assume 2 trips per crop cyclePer trip210\$ \$ \$,7,500Contingency10% of labour and materialPer annum </td

Assumptions	Calculations	Month 1	Month 2	Month 3 onwards
Yield/crop (kg)	11,300	0.00	0	\$11,300
Average Marketable Yield (kg)	85%	0	0	\$9,605
Revenue: \$Price/Kg	\$80	0	\$0	\$768,400
Cost of Production				\$412,440
Gross Profit				\$355,960

Cost of Production/ha – Pumpkin

Region	4
Soil type	Sandy
Terrain	Flat
Сгор	Pumpkin
Length of reaping	2 crops
Planting distance	1.9m * 3.1 m

Plant population	1851
Irrigation	Rain fed
Size (ha) - for calculation purposes	1 ha
Approximate plantable area	.6 ha 80% first crop and
Expected marketable yield - kg	70% second crop

ltom (Astivity)	Accumptions (dotails	Unit	No of	Cost/	Total
πεμγΑςτινιτγ	Assumptions/details	Onit	Units	Unit	COST
Make mounds and plant seeds	2 men for 2 days	Man days	4	\$6,000	\$24,000
		Seeds (1851 =			
Planting material	Spacing = 1.9m x 3.1m = 5.4m ²	1lbs or .5kg)	1	\$4,000	\$4,000
Weeding	2 men for 3 times per year	Man days	6	\$6,000	\$36,000
Apply herbicide	2 man, twice per year	Man days	4	\$6,000	\$24,000
	Glyphosate - 6 litres/coverage and				
Apply herbicide	spraying twice per crop	Litre	12	\$1,500	\$18,000
Fertilizing	24g of 15:15:15:2/plt	Bag	1	\$7,500	\$7,500
	(2 men to fertilize 1851 plants) and				
Apply fertilizer	once/crop	Man days	4	\$6,000	\$24,000
Apply fungicide	Fungicide + bactericide + sticker	Agro chemicals	1	\$14,000	\$14,000
Labour to apply fungicide	2 men, twice per crop (and 2 crops)	Man days	8	\$6,000	\$48,000

Labour for harvesting	2 persons for 10	Man days	20	\$6,000	\$120,000
Subtotal of labour and material			\$319,500		
Contingencies	10% of labour and material				\$31,950
supervision	10% of labour and material				\$31,950
Cost of production					\$383,400

<u>Revenue</u>

Assume 10lbs (4.5kg)/pumpkin Assume 80% marketable yield for first crop and 70% yield 2nd crop Farm gate price = \$15/lb = \$33/kg

ltem	Assumptions	Unit	No of units	Price/Unit		Total
	Assume 80% marketable yield and 4.5					
Revenue - 1st crop	kg per pumpkin	KG	6664	\$33	\$	989,545
Revenue - 2nd crop	Assume 70% of marketable yield	KG	5831	\$33	\$	865,852
Total Revenue						1,855,396
			Cost of	production		\$383,400
Gross Profit						

Cost of Production/ha – Sweet Pepper (Local Sweet)

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Sweet Pepper - Local Sweet
Time to maturity	8 weeks
Productive life of plant	2 - 3 months

Planting distance(L * W)m	0.9m * 0.6m
Plant population per hectare	18 510
	10,515
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield - Kg	27778
Cost of Tools and Equipment	
Marketable Yield	90%

		Assumptions (frequency, rate, etc)	Unit	No of Units	Number of Applications	Cost/unit	Total Cost
	Mechanical						
Ition	Plough/rotovate	Tractor and implement	Job work	0		\$0	\$0
	Make mounds/dig holes						
ara	Other (specify)						
d	Labour						
2re	Land Clearing	N/A					
Ч	Levelling	N/A					
Lan	Make drains	N/A					
	Plough/rotovate	N/A					
	Make mounds/dig holes	N/A					

	Other (specify)]					
							\$0
ting	Add limestone to soil	Assume 4 bags	Bags	4	2800		\$11,200
eplant	Add organic matter to soil	Organic matter	Bag	12		\$350	\$4,200
Pre	Labour for preplanting activities	Manual	Man day	4		\$6,000	\$24,000
							\$39,400
Iting	Seedlings	?? Trays	Tray				\$0
Plan	Labour to transplant seedlings		Man day	3		\$6,000	\$18,000
							\$18,000
b Io	Weedicide	Gramoxone	Bottle - 1 I	1		\$ 1,200	\$1.200
Veed				1		φ <u>1,200</u>	Ş1,200
> č	Labour to apply weedicide	2 persons	Man day	2		\$ 6,000	\$12,000
							\$13,200
izer		12:12:12:17:2 (applied 2 bag/per application					400.000
Ē	Fertilizer	for 2 applications	Bags	4		\$ 9,500	\$38,000
Fe	Fertilizer	Urea	Bags	2		\$ 5,000	\$10,000
	Labour to apply fertilizer						.
			a			40.500	\$48,000
<u>lo</u>	Abamectin		Bottle - L	1		\$3,520	\$3,520
Cont	Caprid		Bottle - L	1		\$5,200	\$5,200
Pest	Labour to apply pest control chemicals	2 persons for 2 days	Man day	2	2	\$6,000	\$24,000

_____ **(** 71 **)**_____

							\$32,720
	Labour to harvest sweet peppers	Assume 2 persons for 12 days	Man day	2	12	\$6,000	\$144,000
	Transportation (carry supplies to farm)	Assume 2 trips in a crop cycle	Per trip	2		\$7,500	\$15,000
Ś							\$159,000
ost							
Ŭ			Sub-total va	riable cost			\$310,320
Othe	Contingency	10% of labour and material	Per annum				\$31,032
Ŭ		10% of labour and	_				624.022
	Supervision	material	Per annum				\$31,032
				<u> </u>			
	Total Cost - Material and Labour						\$372,384

Assumptions	Calculations	Total
Avg yield/ha	27,778	27,778
Avg marketable yield	90%	25,000
Revenue: \$132 per kg	\$132	3,300,000
Cost of Production		372,384
Gross Profit		2,927,616
Cost of Production/ha – Sweet Potatoes (Amjad)

Region	4
Soil type	Sandy loam
Terrain	Flat
Crop and variety	Sweet Potatoes - Amjad
Time to maturity	3 months
Productive life of plant	2 months

Planting distance(L * W)m	0.3m * 0.9m
Plant population per hectare	37037
Irrigation (rainfed, drip, manual, etc)	Rain fed
Expected yield	50 tons/ha
Cost of Tools and Equipment	
Marketable Yield	90%

		Assumptions (frequency, rate, etc)	Unit	No of Units	No. of Applications	Cost/ Unit	Total Cost
	Mechanical						
٦	Plough/rotovate	Tractor and implement	Job work	0		\$0	\$0
ioi	Make mounds/dig holes						
'at	Other (specify)						
Jai	Labour						
rep	Land Clearing	N/A					
Р	Levelling	N/A					
pu	Make drains	N/A					
La	Plough/rotovate	N/A					
	Make mounds/dig holes	N/A					
	Other (specify)						
							\$0
	Add limestone to soil	Assume 4 bags	Bags	4	2800		\$11,200

73

മ	Add organic matter to soil	Organic matter	Bag	12	\$350	\$4.200
lantir	Pre-treat slips	Vydate-L and carbendazim - half litre of each	Bottle - L	1	\$5,000	\$5,000
rep	Incorporate all into soil	15:15:15	Bag	3	\$6,000	\$18,000
4	Labour for preplanting activities	Manual	Man day	4	\$6,000	\$24,000
						\$62,400
ting	Potato Slips	Slips to cover 1 hectare		10000	\$1	\$10,000
Plan	Labour to plant/transplant	2 persons for 2 days	Man day	4	\$6,000	\$24,000
						\$34.000
<u>o</u>	Glyphosate	At time of planting	Bottle - 1 I	1	\$1 200	\$1 200
Veed Cont	Labour to apply weedicide	2 persons	Man day	2	\$6,000	\$12,000
>	Manual weeding	2 persons	Man day	2	\$6,000	\$12,000
ilizer	Only at time of planting					\$25,200
Ferti						
						ŚŊ
Control	Super Triazophos -insecticide	Once per crop as preventative measure and then as required	Bottle - L	1	\$3,520	\$3,520
Pest (Traps	Sweet potato lures - provided by NAREI		0	\$0	\$0

_____ **[** 74 **]**

	Labour to apply product and set						
	traps	2 persons for 2 days	Man day	3	2	\$6,000	\$36,000
							\$39,520
	Labour to harvest potatoes	Assume 2 persons for 5 days	Man day	2	5	\$6,000	\$60,000
6	Transportation (carry supplies to farm)	Assume 2 trips in a crop cycle	Per trip	2		\$7,500	\$15,000
sts							\$75,000
ပိ							
ler	Sub-total variable cost						\$236,120
5	Contingency	10% of labour and material	Per annum				\$23,612
Ŭ	Supervision	10% of labour and material	Per annum				\$23,612
Total Cost - Material and Labour						\$283,344	

Assumptions	Calculations	Total		
Number of slips/ha	37.037	37037		
0.68 - 0.9 kg/slip	0.68	25185		
Average Marketable Yield	90%	22667		
Revenue: \$66 per kg	\$66	\$1,495,999		
Cost of Production		\$283,344		
Gross Profit		\$1,212,655		