



# CROP ENTERPRISE BUDGETS OF FRUITS & FLORICULTURAL CROPS



Socio Economics and Planning Centre  
Department of Agriculture, Peradeniya  
2017



# **CROP ENTERPRISE BUDGETS OF FRUITS & FLORICULTURAL CROPS**

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## **INTRODUCTION**

As a result of favorable policy measures introduced by successive governments from time to time, coupled with the technologies introduced by the Department of Agriculture, cultivation of fruits and floricultural crops in commercial level for domestic as well as export market is increasing, creating a demand for updated information on fruits and floriculture. In this context, updating the economic indicators and other information related to cultivation of fruits and floricultural crops in commercial scale and making them available for growers are paramount. This study conducted by Dr. R.M. Herath, Director, Socio Economics and Planning, Ms. P.S.R. Premarathna, Assistant Director of Agriculture (Agricultural Economics) together with Ms. W.M.S.K. Weerasinghe, Development Officer and Mr. J.A.P.N. Jayakodi, Technical Assistant fulfills this requirement.

Valuable assistance provided by Assistant Directors of Agriculture (Research) in Department of Agriculture providing data on fruit cultivation, the Director General (Acting) of Department of National Botanical Gardens, Peradeniya Dr. (Ms.) S.H. Krishnarajah and officers providing information on floriculture, the officers of Sri Lanka Cashew Corporation providing information on cashew cultivation, Ms. R.D. Chithranayana, Deputy Director (Acting), Natural Resources Management Centre for preparing maps in the publication, Mr. S. Periyasamy, Director, National Agriculture Information and Communication Center supporting for page processing and Mrs. J.K.A. Hettiarachchi, Additional Director (Agricultural Publication) and her staff at the Publication Unit for printing the book are gratefully acknowledged.

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# CROP ENTERPRISE BUDGETS

With agricultural trade liberalization and structural adjustments of the economy, the focus of agricultural policy has shifted towards commercial cultivation which oriented for domestic and export markets. As a result, it creates demand for updated technical and economic information of commercial cultivation of crops which give high return and export potentials. Even if, novel information on cultivating technologies is available, there is an issue on accessibility for economic facts such as costs and returns of commercial cultivation. This study was conducted to compile such information and make it available to farmers, entrepreneurs, policy makers, researchers and other stakeholders.

This publication presents basic technical information and enterprise budgets for selected fruits and floricultural crops on a single page in a simple and easy way to extract. Basic technical information on each crop was extracted from the various publications, published by the Department of Agriculture (DOA). Maps were prepared based on statistics of the Department of Census & Statistics. For each crop, the budget was prepared assuming that the enterprise has been undertaken in the given district. The district was selected based on agro climatic suitability and extent of the crop. In preparing the budgets, it was assumed that the DOA recommendations are adopted. Costs and returns were computed as follows;

## Physical inputs

Only major essential capital items such as water pump, drip irrigation system, agro wells and huts were taken in to account. The salvage value of capital items was included to final year income. Minor implements, such as mammoies and sprayers were excluded for ease of presentation in one page.

The levels of variable inputs (fertilizer and agrochemical) conform to DOA recommendations and prevailing market prices were used in costing.

## Cultural practices and crop variety

It was assumed that cultural practices recommended by the DOA were followed, supplementary irrigation was used when necessary and the most popular and latest variety suitable for the district was grown.

## Labor inputs

Labor requirements were estimated based on actual field level data collected from prominent cultivators in the district. The average wage rates were determined based on prevailing rates in the area.

## Level of productivity

The yield levels adopted each year in preparing budgets were based on DOA publication and yield data collected from the cultivators in the area. The average yield given was estimated based on whole economic life span of the crop.

## Producer prices

Producer price was based on the data collected in the field level.

Cost of crop establishment in first year is presented in detail, i.e. Quantity of material inputs and labor with the respective cost of inputs, labor and power separately. In case of maintenance cost, only the estimated total cost is given for each year. For the ease presentation, except first years the estimated cost and benefit for other years are aggregated in to the last columns.

## ABBREVIATIONS

ac	-	acre
g	-	grams
ha	-	hectares
kcal	-	kilo calories
kg	-	kilograms
m	-	meter
mcg	-	micro gram
Mds	-	Man-days
mg	-	milligrams
Qty	-	Quantity
Sq.ft.	-	Square feet
4WT	-	Four wheel tractor

Note:

- Planting season : Most suitable months  
Availability : Months in which products come to the market

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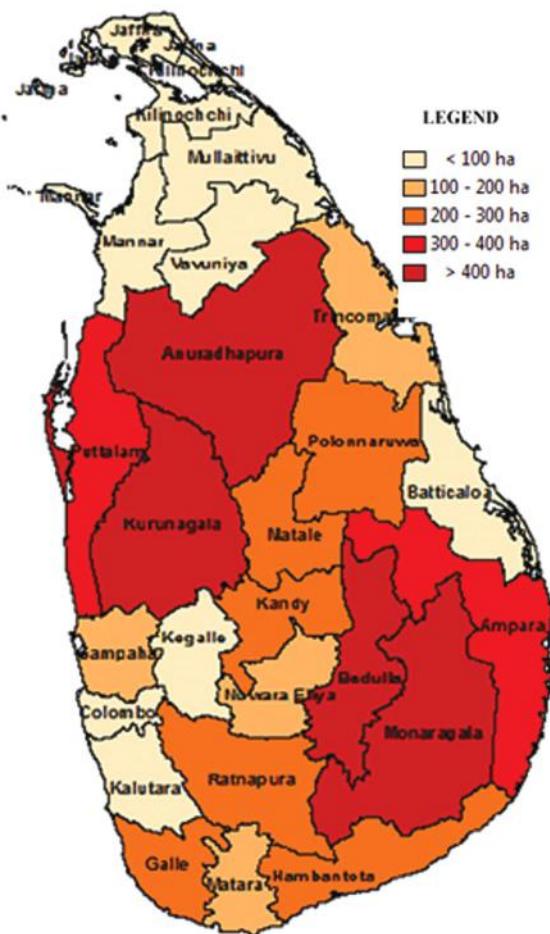
# FRUIT CROPS



# ORANGE

(*Citrus sinensis*)

Cultivated Areas of Orange



## Uses:

It contains high concentration of vitamin C and widely consumed as fresh juice. It is also used in traditional medicine.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

● Season ● Available ○ Not Available

## Ecological requirements:

Temperature : 22-32°C  
 Rainfall : 1000-1500mm/year  
 pH range : 5.0 - 6.0  
 Soil : Sandy loams or laterite soils

## Suitable Districts:

Moneragala, Badulla, Matale, Kurunegala, Puttalam, Jaffna, Anuradhapura, Ratnapura

## Recommended varieties & potential yield:

Bibile sweet	}	250-300 Fruits/Plant
Bibile seedless		

Arogya  
Sisila, MKD

**Spacing:** 4 - 4.5 m x 4 - 4.5m (500-625 plants/ha)

**Planting season:** October, November

## Nutritive values: (Per 100 g edible portion)

Moisture	87.6g
Energy	48kcal
Protein	0.7g
Fat	0.2g
Carbohydrates	10.9g
Calcium	26mg
Phosphorus	20mg
Iron	0.3mg
Carotene	1104mcg
Vitamin C	30mg

**Crop - Orange (Variety : Bibile Sweet)**  
**District - Monaragala**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)									
	Input		Power		Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> year	7 <sup>th</sup> year	8 <sup>th</sup> year	9 <sup>th</sup> -15 <sup>th</sup> years
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha										
Fencing				100	120,000	120,000									
Poles	140	84,000				84,000									
Barbed wire (kg)	250	51,500				51,500									
Nails (kg)	10	6,000				6,000									
Land preparation (4WT)			15,000	16	19,200	34,200									
Preparation of pits				20	24,000	24,000									
Planting (No. of plants)*	562	112,400		5	6,000	118,400									
Fertilizer application															
NPK (kg)**	531	26,555		6	7,200	33,755	35,019	42,606	45,135	45,135	45,135	45,135	45,135	315,945	
Compost (kg)	5,620	56,200		10	12,000	68,200	68,200	68,200	68,200	68,200	68,200	68,200	68,200	477,400	
Dolomite***	1,686	13,488				13,488									
Mulching				10	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000		
Irrigation	600,000	40,000	25	30,000	670,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	490,000	
Weed control		22,376	20	24,000	46,376	46,376	46,376	46,376	46,376	46,376	46,376	46,376	46,376	324,634	
Pest and disease control	22,425			5	6,000	28,425	28,425	28,425	28,425	28,425	28,425	28,425	28,425	198,975	
Pruning				10	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	193,200	
Watching														24,000	24,000
Harvesting														24,000	24,000
Land rent	30,000					30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	210,000
Total Labour (Mds)			227			86	86	156	160	163	163	176	176	1,199	
Total Cost (Rs.)	1,002,568	77,376		272,400	1,352,344	302,020	309,607	396,308	400,365	403,965	420,022	420,022	2,901,617		
Yield (kg/ha)									14,050	18,733	18,733	23,417	23,417	152,677	
Gross Income (Rs./ha)									1,405,000	1,873,333	1,873,333	2,341,667	2,341,667	15,405,667	

Present Value of Cost (Rs.)	3,761,074	* Budded plant
Present Value of Benefit (Rs.)	9,472,452	** NPK      1 <sup>st</sup> year
Net Present Value (Rs.)	5,711,378	Urea      214 kg
Benefit Cost Ratio	2.52	TSP      259 kg
		MOP      59 kg

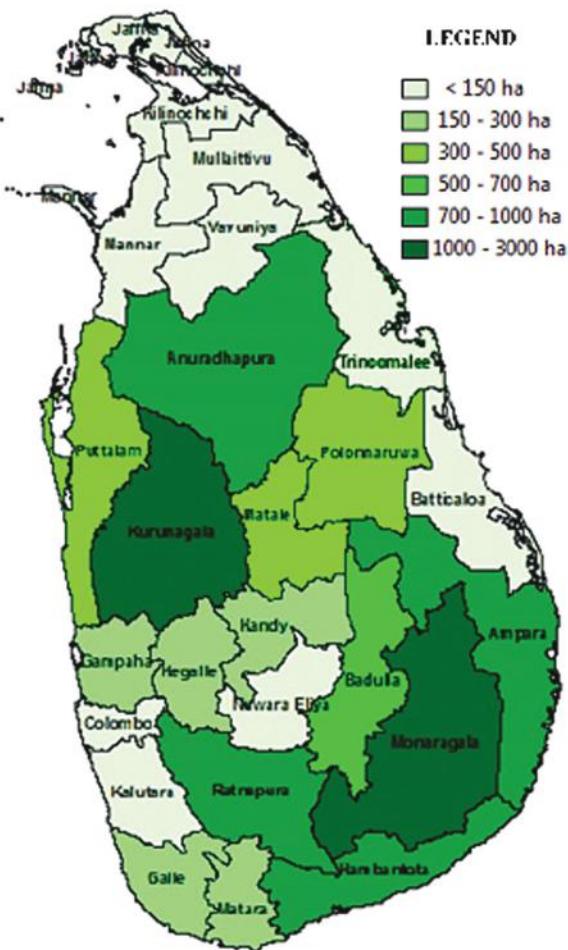
**Related Information**

Discount Rate	0.13	Dolomite	*** Apply only pH<5
Wage Rate (Rs./day)	1,200	<b>Life span:</b>	
Average Yield (kg/ha)	20,919	Agro well (years)	20 years
Average Price (Rs./kg)	100	Water pump (diesel)	15 years

# LIME

*(Citrus aurantifolia)*

Cultivated Areas of Lime



## Uses:

Lime enhances taste of regular foods. Its juice adds a tart flavor to soups, salads, vegetables. Also it used to prepare desserts, pickles, jams, jellies, snacks and candies.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●

● Season ● Available ○ Not Available

## Ecological requirements:

Temperature : 22-32 °C  
 Rainfall : 1000 - 1500 mm/year  
 pH : 5.0 - 6.0  
 Soil : Sandy loams or laterite soils

## Suitable Districts:

Monaragala, Badulla, Rathnapura, Kurunegala, Anuradhapura

## Recommended varieties & potential yield:

Local cultivar - 12,300(kg/ha)

**Spacing:** Dry zone - 6.0 x 3.5m (470 plants/ ha)  
 : Intermediate zone - 5.0m x 3.0m (660 plants/ ha)

**Planting season:** September, October

## Nutritive values: (Per 100 g edible portion)

Moisture	84.6g
Energy	59kcal
Protein	1.5g
Fat	1.0g
Carbohydrates	10.9g
Calcium	90mg
Phosphorus	20mg
Iron	0.3mg
Carotene	15mcg
Thiamine	20mcg
Riboflavin	30mcg
Niacin	0.1mcg
Vitamin C	63mg

**Crop - Lime  
District - Monaragala**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)						
	Input		Power Cost Rs./ha	Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> year	7 <sup>th</sup> -15 <sup>th</sup> years
	Qty/ha	Cost Rs./ha		Mds/ha	Cost Rs./ha							
Fencing				100	120,000	120,000						
Poles	140	84,000				84,000						
Barbed Wire (kg)	250	51,500				51,500						
Nails (kg)	10	6,000				6,000						
Land preparation (4WT)			15,000	16	19,200	34,200						
Preparation of pits				18	21,600	21,600						
Planting (No. of plants) <sup>a</sup>	470	23,500		4	4,800	28,300						
Fertilizer application												
NPK(kg)**	300	15,017		5	6,000	21,017	21,228	26,727	32,226	37,020	37,725	339,525
Compost (kg)	4,700	47,000		8	9,600	56,600	56,600	56,600	56,600	56,600	56,600	509,400
Mulching				8	9,600	9,600						
Irrigation	600,000	40,000	23	27,600	667,600	67,600	67,600	67,600	67,600	67,600	67,600	608,400
Weed control		22,376	25	30,000	52,376	52,376	52,376	52,376	52,376	52,376	52,376	471,386
Pest & disease control	22,425		5	6,000	28,425	28,425	28,425	28,425	28,425	28,425	28,425	255,825
Harvesting						60,000	84,000	108,000	132,000	132,000	132,000	1,188,000
Land rent	30,000				30,000	30,000	30,000	30,000	30,000	30,000	30,000	270,000
Total labour (Mds)			212			74	124	144	164	184	184	1,656
Total cost (Rs.)	879,442	77,376		254,400	1,211,218	256,229	321,728	351,227	380,021	404,726	404,726	3,642,536
Yield (kg/ha)							3,760	6,580	9,400	14,100	14,100	126,900
Gross Income (Rs./ha)							225,600	394,800	564,000	846,000	846,000	7,752,000

Present Value of Cost (Rs.)	3,513,358	* Seedling plants
Present Value of Benefit (Rs.)	3,636,641	** NPK      1 <sup>st</sup> year
Net Present Value (Rs.)	123,284	Urea      129 kg
Benefit Cost Ratio	1.04	TSP      139 kg
		MOP      32 kg

**Related information**

Discount Rate	0.13	<b>Life span:</b>
Wage Rate (Rs./day)	1,200	Agro well      20 years
Average Yield (kg/ha)	12,365	Water pump (diesel)      15 years
Average Price (Rs./kg)	60	

# PASSION FRUIT

*(Passiflora spp.)*

Cultivated Areas of Passion Fruit



## Uses:

Use for preparing cake icing, candy, ice cream, jelly, mousses, sauces, sherbets, syrups and pies. Tender leaves are consumed as a leafy vegetable.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

Jul	Aug	Sep	Oct	Nov	Dec
●	●	●	●	●	●

● Season ● Available ● Not Available

## Ecological requirements:

Temperature : 22-32 °C  
 Rainfall : 1000-1500mm/year  
 pH range : 6.0 -7.5  
 Soil : Sandy loams , laterite soils, clay loams

## Suitable Districts:

Kalutara, Gampaha, Kurunegala, Rathnapura, Monaragala, Colombo

## Recommended varieties & potential yield:

Yellow cultivar (Low country)  
 Purple cultivar (Up country)  
 Rahangala hybrid, Maani, Horana Gold, Bandarawela Purple } 15,800 kg/ha

**Spacing:** 2 x 4.5m or 2.5 x 4m (1125 plants/ha)

**Planting season:** September, October

## Nutritive values: (Per 100 g edible portion)

Moisture	89g
Energy	37kcal
Protein	1.2g
Fat	0.2g
Carbohydrates	7.7g
Calcium	10mg
Phosphorus	30mg
Iron	0.7mg
Carotene	1968mcg
Thiamine	10mcg
Riboflavin	20mcg
Vitamin C	13mg

**Crop - Passion fruit (variety : Yellow form )**  
**District - Kalutara**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)				
	Input		Power	Labour		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha	year	year	year	year	year
<b>Fencing</b>				100	120,000	120,000				
Poles	140	84,000				84,000				
Barbed wires (kg)	250	51,500				51,500				
Nails (kg)	10	6,000				6,000				
Land preparation (4WT)			30,000	19	22,800	52,800				
Planting (No.of plants)	1,125	84,375		62	74,400	158,775				
<b>Fertilizer application</b>										
NPK (kg) *	866	30,206		40	48,000	78,206	76,333	91,391	106,444	106,444
Compost (kg)	11,250	112,500				112,500	119,700	119,700	119,700	119,700
Kieserite (kg)	124	5,332				5,332	2,666	2,666	2,666	2,666
Dolomite** (kg)	563	4,504				4,504	4,504	4,504	4,504	4,504
Trellising and training				35	42,000	42,000				
Poles	1,125	163,125				163,125				
Wires	150	34,500				34,500				
Pruning							10,800	10,800	10,800	
Manual weeding				15	18,000	18,000	18,000	18,000	18,000	18,000
Pollination				30	36,000	36,000	36,000	36,000	36,000	36,000
Irrigation	366,000	15,000		20	24,000	405,000	39,000	39,000	39,000	39,000
Harvesting				20	24,000	24,000	48,000	48,000	36,000	30,000
Land rent		37,500				37,500	37,500	37,500	37,500	37,500
Total Labour (Mds)				341			154	154	144	130
Total Cost (Rs.)	979,542	45,000		409,200	1,433,742	392,503	407,561	410,614	393,814	
Yield (kg/ha)						7,125	28,000	25,000	14,000	5,000
Gross Income (Rs./ha)						427,500	1,680,000	1,500,000	840,000	571,500

Present Value of Cost (Rs.) 2,626,379 \* NPK - 1<sup>st</sup> year

Present Value of Benefit (Rs.) 4,021,619 Urea 202.5 kg

Net Present Value (Rs.) 1,395,240 ROP 360 kg

Benefit Cost Ratio 1.53 MOP 180 kg

**Related Information** Kieserite 124 kg

Discount Rate 0.13 Dolomite 563 kg \*\* Apply only if pH < 5

Wage Rate (Rs./day) 1,200 Life span

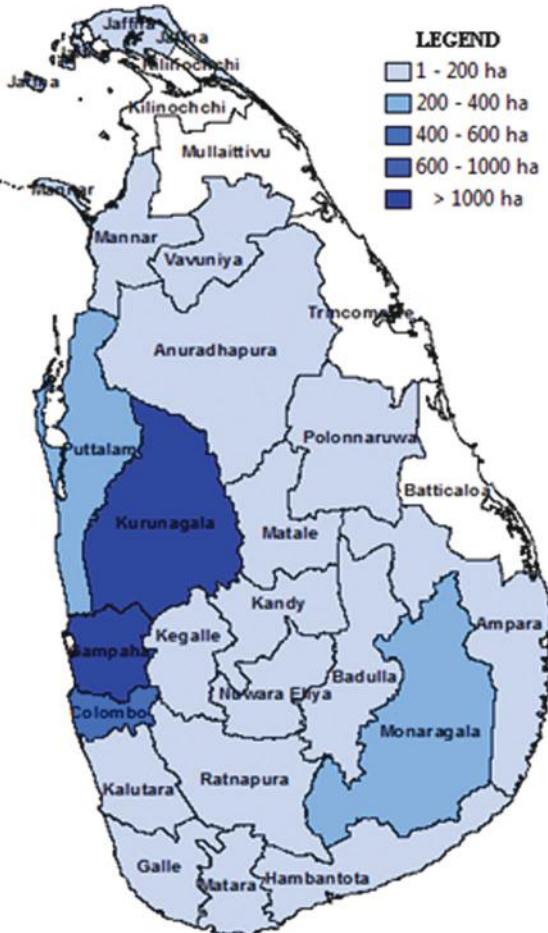
Average Yield (kg/ha) 15,825 Agro well 20 years

Average Price (Rs./kg) 60 Water pump (Diesel) 15 years

# PINEAPPLE

*(Ananas comosus)*

Cultivated Areas of Pineapple



## Uses:

Ripen fruit has a combination of sweet and tart taste. Fruit is eaten fresh, juiced, cooked, preserved drinks, Jams, confectioneries and canned fruit.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
Jul	●	●	●	●	●
Aug	●	●	●	●	●
Sep	●	●	●	●	●
Oct	●	●	●	●	●
Nov	●	●	●	●	●
Dec	●	●	●	●	●

● Season ● Available ● Not Available

## Ecological requirements:

Temperature : 24 -32 °C  
 Rainfall : 1500 - 3000 mm/year  
 pH : 5.5 - 6.0  
 Soil : Sandy loams or laterite soils

## Suitable Districts:

Gampaha, Kalutara, Galle, Kurunegala, Badulla, Monaragala, Puttalam

## Recommended varieties & potential yield:

Mauritius : 16 mt/ha      Kew : 25 mt /ha

**Spacing:** Single row: 30cm x 2.0m (16,650 plants/ha)  
 45cm x 2.0m (10,000 plants/ ha)

Double row: 30cm x 1.5m (37,500 plants/ha)  
 45cm x 1.5m (25,000 plants/ ha)

**Planting season:** October, November

## Nutritive values: (Per 100 g edible portion)

Moisture	87.8g
Energy	46kcal
Protein	0.4g
Fat	0.1g
Carbohydrates	10.8g
Calcium	20mg
Phosphorus	9.0mg
Iron	1.2mg
Carotene	18mcg
Thiamine	200mcg
Riboflavin	120mcg
Niacin	0.1mg
Vitamin C	39mg

**Crop - Pineapple (Variety : Mauritius)**

**District - Gampaha**

Operation	Crop Establishment				Crop Maintenance - Total Cost (Rs./ha)				
	Qty/ha	Input Cost Rs./ha	Power Cost Rs./ha	Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year
				Mds/ha	Cost Rs./ha				
Fencing				100	120,000	120,000			
Poles	140	84,000				84,000			
Barbed wire (kg)	250	51,500				51,500			
Nails (kg)	10	6,000				6,000			
Land Preparation (4Wt)			32,110			32,110			
Pre-treatment of planting material		7,233		18	21,600	28,833			
Planting (No. of suckers)	16,500	247,500		46	55,200	302,700			
<b>Fertilizer application</b>									
NPK (kg)*	1,980	99,000		13	15,600	114,600	114,600	114,600	
Compost (kg)	10,000	100,000		13	15,600	115,600			
Kieserite (kg)	248	10,643				10,643	14,190	14,190	
Dolomite (kg)**	2,000	16,000		5	6,000	22,000			
Earthing up and other operations				17	20,400	20,400	20,400	20,400	
Manual weeding/Mulching				25	30,000	30,000	30,000	30,000	
Chemical weeding		6,600		5	6,000	12,600	12,600	12,600	
Pest and Disease control		5,083		5	6,000	11,083	11,083	11,083	
Hormone application		2,883		6	7,200	10,083	10,083	11,813	
Watching				16	19,200	19,200	19,200	19,200	
Harvesting						34,800	34,800	39,600	
Land rent		25,000				25,000	25,000	25,000	25,000
Total Labour (Mds)			269			116	117	33	
Total Cost (Rs.)	661,442	32,110		322,800	1,016,352	291,957	293,687	64,600	
Yield (kg/ha)						16,500	16,500	26,400	
Income from Fruits (Rs./ha)							1,485,000	1,485,000	2,376,000
Income from Suckers (Rs./ha)							237,600	237,600	
Total Gross Income (Rs./ha)							1,722,600	1,722,600	2,376,000

Present Value of Cost (Rs.) 1,549,491

\* NPK - 1st year

Present Value of Benefit (Rs.) 4,520,160

Urea 660 kg

Net Present Value (Rs.) 2,970,669

TSP 330 kg

Benefit Cost Ratio 2.92

MOP 990 kg

**Related Information**

Discount Rate 0.13

Kieserite 247.5 kg

Wage Rate (Rs./day) 1,200

Dolomite 2000 kg \*\*Apply only if pH <5

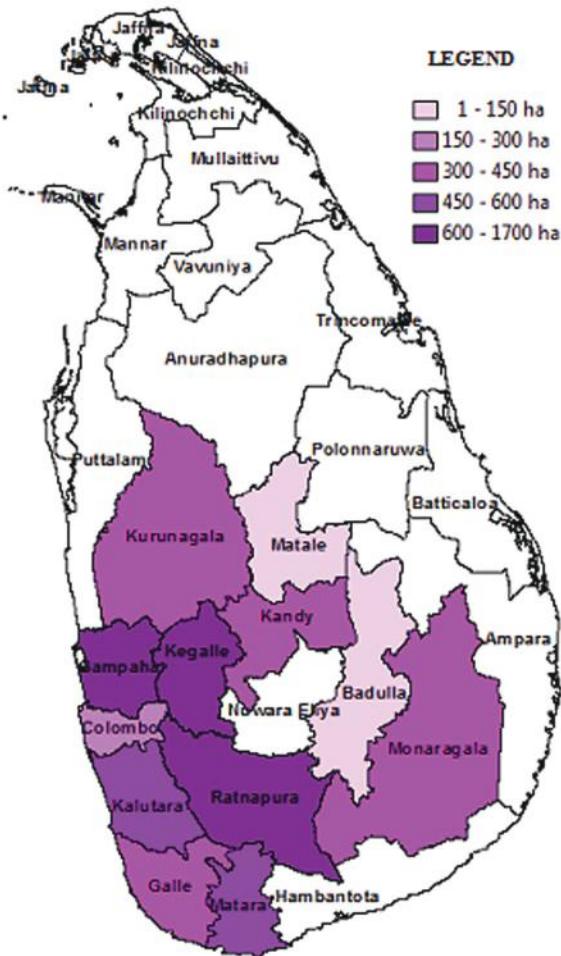
Average Yield (kg/ha) 19,800

Average Price (Rs./kg) 90

# RAMBUTAN

*(Nephelium lappaceum)*

Cultivated Areas of Rambutan



## Uses:

Fruit is eaten fresh or mixed with other fruits in syrups. It can also be used for decorating cakes and other sweet meats.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	○	○	○	●
Jul	Aug	Sep	Oct	Nov	Dec
●	●	○	○	○	○

● Season   ● Available   ○ Not Available

## Ecological requirements:

Temperature : 27-30 °C  
Rainfall : 1500 – 2000mm/year  
pH : 4.5 – 6.5  
Soil : Well drained loamy soil

## Suitable Districts:

Gampaha, Kegalle ,Kalutara, Rathnapura, Kandy, Galle, Matara

## Other potential area:

Monaragala (Medagama, Bibila, Badalkumbura)  
Badulla (Passara, Ella, Haliela, Haldummulla, Koslanda, Uva Paranagama)

## Recommended varieties:

Malwana Special, Malayan Red, Malayan Yellow  
**potential yield :** 200- 250 fruits/ Plant/ year

**Spacing:** 10 x 10m (100 plants/ ha)

**Planting season:** April, May and October, November

## Nutritive values: (Per 100 g edible portion)

Moisture	82g
Energy	64kcal
Protein	1.0g
Fat	0.1g
Carbohydrates	16.5g
Calcium	20mg
Phosphorus	15mg
Iron	1.9mg
Thiamin	10mcg
Riboflavin	60mcg
Niacin	0.4mcg
Vitamin C	53mg

**Crop - Rambutan (variety : Malwana Special)**  
**District - Gampaha**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)						
	Input Qty/ha	Cost Rs./ha	Power Cost Rs./ha	Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> - 9 <sup>th</sup> years	10 <sup>th</sup> - 15 <sup>th</sup> years
				Mds/ha	Cost Rs./ha							
Fencing				100	120,000	120,000						
Poles	140	84,000				84,000						
Barbed wire (kg)	250	51,500				51,500						
Nails (kg)	10	6,000				6,000						
Land Preparation (4Wt)			20,000			20,000						
Digging holes with excavator			11,400									
Planting (No.of plants)*	100	20,000		8	9,600	29,600						
<b>Fertilizer application</b>												
NPK (kg)**	91	3,020		3	3,600	6,620	6,720	7,980	13,360	13,360	58,520	95,400
Compost (kg)	1,000	10,000		8	9,600	19,600	19,600	19,600	19,600	19,600	78,400	117,600
Kieserite (kg)	10	430						430	430	430	1,720	2,580
Dolomite (kg)***	50	400		2	2,400	2,800	2,800	2,800	2,800	2,800	11,200	16,800
Mannual weeding				10	12,000	12,000	12,000	9,600	9,600	9,600	24,000	21,600
Irrigation	473,859	19,950		10	12,000	505,809	31,950					
Pest and disease control									11,520	11,520	46,080	69,120
Pruning & other operation									6,375	12,375	49,875	76,125
Watching (Inc. crackers, electricity)									93,400	80,400	321,600	482,400
Harvesting									36,000	54,000	1,352,400	4,023,771
Land rent	25,000					25,000	25,000	25,000	25,000	25,000	100,000	135,000
Total Labour (Mds)			141			33	21	21	219	251	1,127	3,353
Total Cost (Rs.)	674,209	51,350		169,200	882,929	98,070	64,980	218,085	229,085	2,043,795	5,040,396	
Yield (kg/ha)									400	2,000	31,000	240,000
Gross Income (Rs./ha)									38,000	190,000	2,945,000	22,909,465

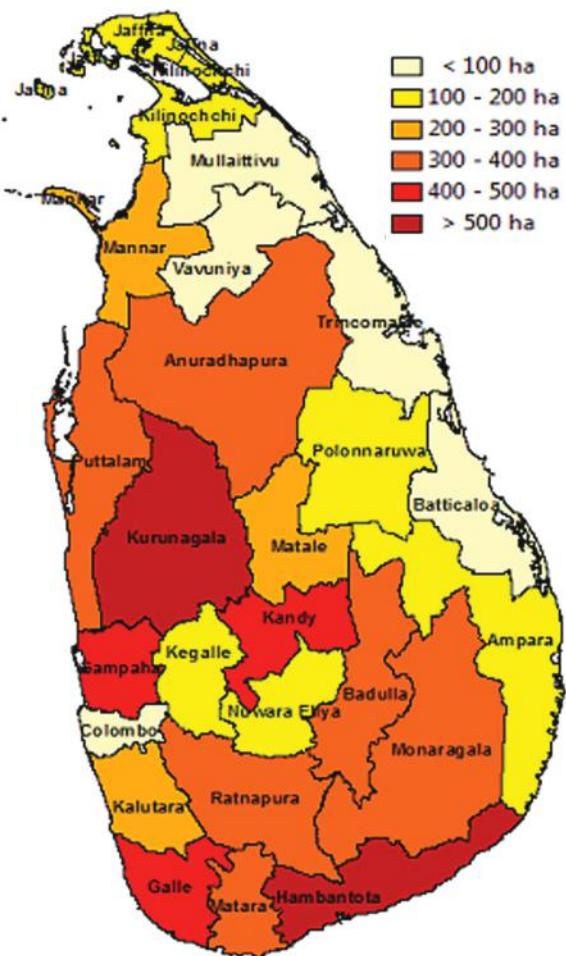
Present value of cost (Rs.)	2,635,725	* Budded plants
Present value of benefit (Rs.)	7,129,273	** NPK - 1st year
Net present value (Rs.)	4,493,549	Life span
Benefit cost Ratio	2.70	Urea 24 kg Agro well 20 years
		MOP 22 kg Water pump (Deisal) 15 years
		ROP 45 kg

<b>Related Information</b>		
Discount Rate	0.13	Kieserite 10 kg
Wage Rate (Rs./day)	1,200	Dolomite 50 kg *** Apply only if pH < 5
Average Yield (kg/ha)	22,800	
Average Price (Rs./kg)	95	

# PAPAYA

*(Carica papaya)*

Cultivated Areas of Papaya



## Uses:

Fruit rich in vitamin C. Eaten fresh, added in fruit salad, or used for making soft drink, jams and ice cream.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

● Season	● Available	● Not Available
----------	-------------	-----------------

## Ecological requirements:

Temperature : 28-35 °C  
 Rainfall : 1000 - 1500 mm  
 pH : 5.5 - 6.5  
 Soil : Sandy loams or laterite soils

## Suitable Districts:

Puttalam, Hambantota, Kurunegala, Jaffna, Mahaweli areas (H & Udawalawa)

## Recommended varieties & potential yield:

Variety	Average weight of fruit	No. of fruits per plant / year
Rathna	0.6 - 0.8 kg	30 - 40
Red Lady	1.5 - 2.0 kg	60 - 80
Horana Hybrid	1.2 - 2.0 kg	50 - 60

**Spacing:** 2.0m x 2.5m (2000 plants/ ha)  
 2.5m x 2.5m (1600 plants/ ha)  
 2.5m x 3.0m (1333 plants/ ha)

**Planting season:** September, October

## Nutritive values: (Per 100 g edible portion)

Moisture	90.8g
Energy	32.0kcal
Protein	0.6g
Fat	0.1g
Carbohydrates	7.2g
Calcium	17.0mg
Phosphorus	13.0mg
Iron	0.5mg
Carotene	666.0mcg
Thiamine	40.0mcg
Riboflavin	250.0mcg
Niacin	0.2mg
Vitamin C	57.0mg

**Crop - Papaya (Variety : Red lady )**  
**District - Puttalam**

Operation	Crop Establishment				Crop Maintenance - Total Cost (Rs./ha)			
	Input Qty/ha	Cost Rs./ha	Power Cost Rs./ha	Labour Mds/ha	Cost Rs./ha	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
Fencing				100	110,000	110,000		
Poles	140	84,000				84,000		
Barbed wires (kg)	250	51,500				51,500		
Nails (kg)	10	6,000				6,000		
Land preparation (4WT)			10,000			10,000		
Preparation of pits				21	23,100	23,100		
Planting (No. of plants)	1,600	80,000		14	15,400	95,400		
Fertilizer application								
NPK (kg)*	2,616	130,800		21	23,100	153,900	135,900	135,900
Compost (kg)	32,000	320,000		18	19,800	339,800	339,800	339,800
Manual weeding				20	22,000	22,000	22,000	22,000
Irrigation		565,200	120,000	90	99,000	784,200	219,000	219,000
Pest & Disease control		12,240		9	9,900	22,140	22,140	22,140
Fixing support (Wind break)**		100,000				100,000		
Harvesting				93	102,400	102,400	170,667	68,267
Land Rent		125,000				125,000	125,000	125,000
Total Labour (Mds)				386			313	220
Total Cost (Rs.)		1,474,740	130,000		424,700	2,029,440	1,034,506	932,106
Yield (kg/ha)						76,800	128,000	51,200
Gross Income (Rs./ha)						3,456,000	5,760,000	2,748,295

Present Value of Cost (Rs.)	3,674,908	* NPK - 1 <sup>st</sup> year
Present Value of Benefit (Rs.)	10,308,070	Urea
Net Present Value (Rs.)	6,633,163	TSP
Benefit Cost Ratio	2.80	MOP

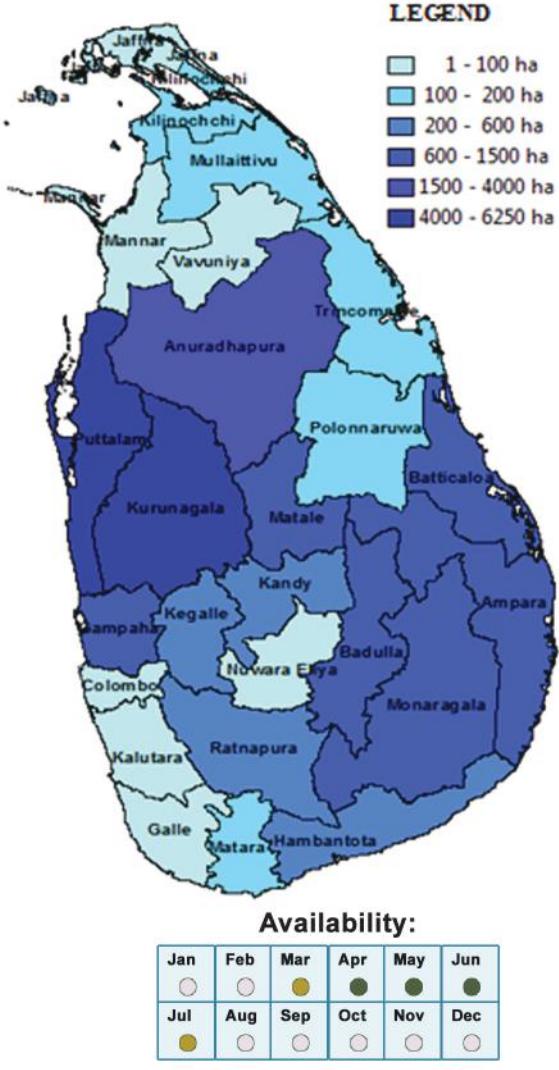
#### Related Information

Discount Rate	0.13	Life span:
Wage Rate (Rs./day)	1,100	Agro well
Average Yield (Kg/ha)	85,333	20 years
Average Price (Rs./kg)	45	Irrigation system
		10 years
		Water pump (Electric)
		15 years
		** Contract basis (Rs.62.50 per tree including material cost+labour cost)

# CASHEW

*(Anacardium occidentale)*

Cultivated Areas of Cashew



## Uses:

Matured seed kernels are eaten fresh, fried or roasted. Also it is added to ice cream, fruit salads and used for confectionery industry. Immature kernels are cooked as spiced curry.



## Ecological requirements:

Temperature : 28-35 °C  
Rainfall : 1000-2000mm/year  
pH range : 5.5-6.5  
Soil : Sandy loams or laterite soils

## Suitable Districts:

Puttalam, Kurunegala, Mannar, Hambantota, Anuradhapura

## Recommended varieties & potential yield:

Kondachchi, Mannar, Trinidad, Shanthigudu, Ulal, Vital

**Potential yield :** 2000kg/ha/year

**Spacing:** 6.0 x 6.0m (200 plants/ha)

**Planting season:** : September, October

## Nutritive values: (Per 100 g edible portion)

Moisture	40g
Energy	568kcal
Protein	18.4g
Fat	46.3g
Carbohydrates	28.7g
Calcium	28.0mg
Phosphorus	462mg
Iron	3.6mg
Carotene	5mcg
Thiamine	250mcg
Riboflavin	340mcg
Niacin	2.4mcg

**Crop - Cashew  
District - Puttalam**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)									
	Input		Power		Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> -10 <sup>th</sup> years	11 <sup>th</sup> -15 <sup>th</sup> years	16 <sup>th</sup> -20 <sup>th</sup> years	21 <sup>st</sup> -25 <sup>th</sup> years
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha										
Fencing				100	110,000	110,000									
Poles	140	84,000				84,000									
Barbed wire (kg)	250	51,500				51,500									
Nails (kg)	10	6,000				6,000									
Land preparation (4WT)			22,000			22,000									
Planting (No. of plants)	200	40,000		14	15,400	55,400									
Fertilizer application															
NPK (kg)*	40	1,361		3	3,300	4,661	5,678	6,702	7,719	8,743	55,310	87,090	87,090	87,090	
Compost (kg)	2,000	20,000		8	8,800	28,800									
Dolomite (kg)	60	480		2	2,200	2,680									
Manual weeding				15	16,500	16,500	16,500	16,500	16,500	16,500	82,500	82,500	82,500	82,500	
Irrigation		25,650		20	22,000	47,650	47,650								
Pest control	4,620			12	13,200	17,820	17,820	17,820	17,820	17,820	89,100	89,100	89,100	89,100	
Pruning						2,950	4,050	5,525	6,625	34,250	35,000	35,000	35,000		
Harvesting & drying							2,000	4,000	8,000	128,000	220,000	240,000	250,000		
Land rent	37,500				37,500	37,500	37,500	37,500	37,500	187,500	187,500	187,500	187,500		
Total Labour (Mds)			174			52	36	39	45	338	465	490	503		
Total Cost (Rs.)	245,461	47,650		191,400	484,511	128,098	84,572	89,064	95,188	576,660	701,190	721,190	731,190		
Yield (kg/ha)							100	200	400	6,400	11,000	12,000	12,500		
Gross Income (Rs./ha)							41,000	82,000	164,000	2,624,000	4,510,000	4,920,000	5,125,000		

Present Value of Cost (Rs.)	1,339,298	*NPK	1 <sup>st</sup> year
Present Value of Benefit (Rs.)	3,356,555	Urea	15 kg
Net Present Value (Rs.)	2,017,256	Rock Phosphate	19 kg
Benefit Cost Ratio	2.51	MOP	6 kg

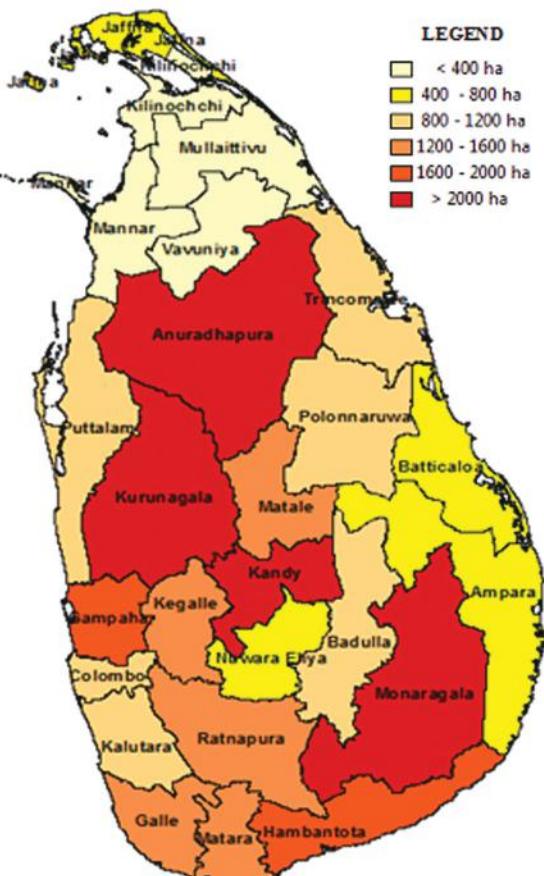
**Related Information**

Discount Rate	0.13
Wage Rate (Rs./day)	1,100
Average Yield (kg/ha)	1,852
Average Price (Rs./kg)	410

# MANGO

*(Mangifera indica)*

Cultivated Areas of Mango



Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●
Jul	Aug	Sep	Oct	Nov	Dec
●	●	●	●	●	●

● Season ● Available ○ Not Available

## Uses:

Eaten fresh or frozen, used in fruit salad, and to make ice cream, desserts, juice and jam.



## Nutritive values: (Per 100 g edible portion)

Moisture	81.0g
Energy	74kcal
Protein	0.6g
Fat	0.4g
Carbohydrates	16.9g
Calcium	14 mg
Phosphorus	16 mg
Iron	1.3mg
Thiamine	80mcg
Riboflavin	90mcg
Niacin	0.9mg
Vitamin C	16mg

## Ecological requirements:

Temperature	: 27 -30 °C
Rainfall	: 500 - 2500 mm/year
pH	: 5.5 - 7.5
Soil	: Well drainage - Deep soil

## Suitable Districts:

Kurunegala, Anuradhapura, Hambantota, Puttalam, Mahaweli H & C, Moneragala, Jaffna, Matale

## Recommended varieties & potential yield:

### Dry Zone:

Karuthakolomban, Willard, Vellaicolomban, Ambalavi, Chembatan, TOM EJC, Malwana (Underground)

### Intermediate Zone:

Karuthakolomban, TOM EJC, Vellaicolomban, Bettiamba, Willard, Malwana (Underground)

### Wet zone:

Vellaicolomban, Giraamba, Peterpasand, Dampara, Horana Hiru

Potential yield:	Year	Fruits/ Tree
	5-8	450
	9-10	800
	11-25	1250

### Spacing:

	Row	Inter row
Willard	7m - 8m	7m - 8m
Other	8m -10m	8m -10m (100 plant/ha)

Planting season: September, October

**Crop - Mango (Variety: Karuthakolomban)**  
**District - Kurunegala**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)						
	Input		Power		Labour	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> -9 <sup>th</sup> years	10 <sup>th</sup> -15 <sup>th</sup> years
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha							
Fencing				100	120,000	120,000						
Poles	140	84,000				84,000						
Barbed wire (kg)	250	51,500				51,500						
Nails (kg)	10	6,000				6,000						
Land preparation (Manual)				35	42,000	42,000						
Preparation of pits				10	12,000	12,000						
Planting (No. of plants)	100	20,000		2	2,400	22,400						
Fertilizer application												
NPK (kg)*	90	4,500		3	3,600	8,100	9,375	10,575	15,225	16,350	75,900	154,600
Compost (kg)	1,000	10,000		5	6,000	16,000	16,000	16,000	16,000	16,000	64,000	96,000
Mulching				5	6,000	6,000						
Irrigation	288,200	25,650	30	36,000	349,850	46,260	46,260	46,260	46,260	46,260		
Manual weeding				10	12,000	12,000	9,000	9,000	9,000	9,000	36,000	54,000
Pest and disease control											42,475	169,900
Pruning							3,750	6,750	10,125	10,125	41,250	63,000
Harvesting											39,600	190,800
Land rent	45,000					45,000	45,000	45,000	45,000	45,000	180,000	270,000
Total Labour (Mds)				200			50	53	58	98	299	735
Total Cost (Rs.)	509,200	25,650		240,000	774,850	129,385	133,585	141,610	224,810	224,810	757,850	1,522,450
Yield (kg/ha)											15,000	71,667
Gross Income (Rs./ha)											450,000	2,150,000
												7,110,050

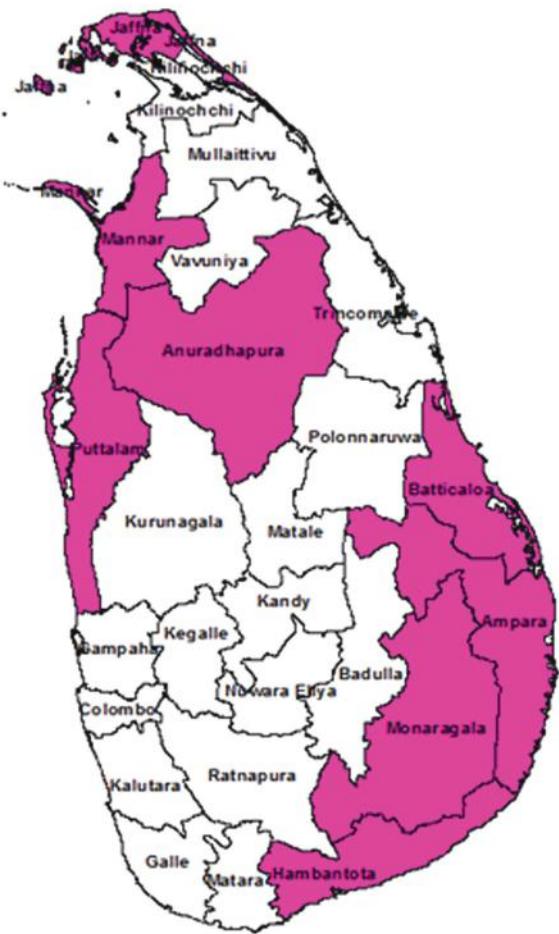
Present Value of Cost (Rs.)	1,957,182	* NPK - 1 <sup>st</sup> year
Present Value of Benefit (Rs.)	2,969,283	Urea 32 kg
Net Present Value (Rs.)	1,012,101	TSP 40 kg
Benefit Cost Ratio	1.52	MOP 18 kg

Related Information	<b>Life span</b>	
Discount Rate	0.13	Agro well 20 years
Wage Rate (Rs./day)	1,200	Water pump (Electric) 15 years
Average Yield (kg/ha)	29,242	
Average Price (Rs./kg)	30	

# POMEGRANATE

*(Punica granatum)*

Cultivated Areas of Pomegranate



Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

Jul	Aug	Sep	Oct	Nov	Dec
●	●	●	●	●	●

● Season ● Available ○ Not Available

## Uses:

Eaten fresh, garnished on sweet and desserts. Make into juice, drinks and mixed with ice cream and milk. It extensively use as a source of traditional medicines.



## Ecological requirements:

Temperature : 23 -30 °C  
Rainfall : 750 - 1000 mm/year  
pH : 5.5 - 7.0  
Soil : Sandy loams, laterite soil and clay loam

## Suitable Districts:

Puttalam, Hambantota, Monaragala, Anuradhapura, Jaffna, Mannar

## Recommended varieties & potential yield:

Nimali, Daya, Nayana, Kalpitiya Selection, Kalpitiya Hybrid

**Potential yield:** 100 - 150 fruits/ plant/year

**Spacing:** 3m x 3m (1100 plants/ ha)

**Planting season:** September, October

## Nutritive values: (Per 100 g edible portion)

Moisture	78g
Energy	65kcal
Protein	1.6g
Fat	0.1g
Carbohydrates	14.5g
Calcium	10mg
Phosphorus	70mg
Iron	0.3mg
Thiamine	60mcg
Riboflavin	100mcg
Niacin	0.3mg
Vitamin C	16mg

**Crop - Pomegranate (Variety : Nimalee)**  
**District - Puttalam**

Operation	Input	Crop Establishment				Crop Maintenance - Total cost (Rs./ha)							
		Qty/ha	Cost Rs./ha	Power Cost Rs./ha	Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> Year	5 <sup>th</sup> year	6 <sup>th</sup> year	7 <sup>th</sup> - 15 <sup>th</sup> years
					Mds/ha	Cost Rs./ha							
Fencing					100	110,000	110,000						
Poles	140	84,000					84,000						
Barbed wire (kg)	250	51,500					51,500						
Nails (kg)	10	6,000					6,000						
Land preparation (4WT)				16,250			16,250						
Preparation of pits					28	30,800	30,800						
Planting (No. of plants)	1,100	55,000			12	13,200	68,200						
Fertilizer application													
NPK (kg)*	803	40,150			14	15,400	55,550	66,550	78,100	90,805	122,650	122,650	1,103,850
Compost (kg)	11,000	110,000			20	22,000	132,000	242,000	242,000	242,000	242,000	242,000	2,178,000
Manual weeding					40	44,000	44,000	44,000	44,000	44,000	44,000	44,000	396,000
Irrigation	565,200	100,000			48	52,800	718,000	152,800	152,800	152,800	152,800	152,800	1,375,200
Pest control								20,481	20,481	20,481	20,481	20,481	184,325
Prunning and other practices					16	17,600	17,600	17,600	17,600	17,600	17,600	17,600	178,200
Harvesting								4,400	16,500	33,000	44,000	49,500	684,750
Land rent	50,000						50,000	50,000	50,000	50,000	50,000	50,000	450,000
Total Labour (Mds)					278			147	158	173	183	188	843
Total Cost (Rs.)	961,850				305,800	1,383,900	597,831	621,481	650,686	693,531	699,031	6,550,325	
Yield (kg/ha)								1,760	8,250	16,500	22,000	24,750	342,375
Gross Income (Rs./ha)								369,600	1,732,500	3,465,000	4,620,000	5,197,500	71,953,175

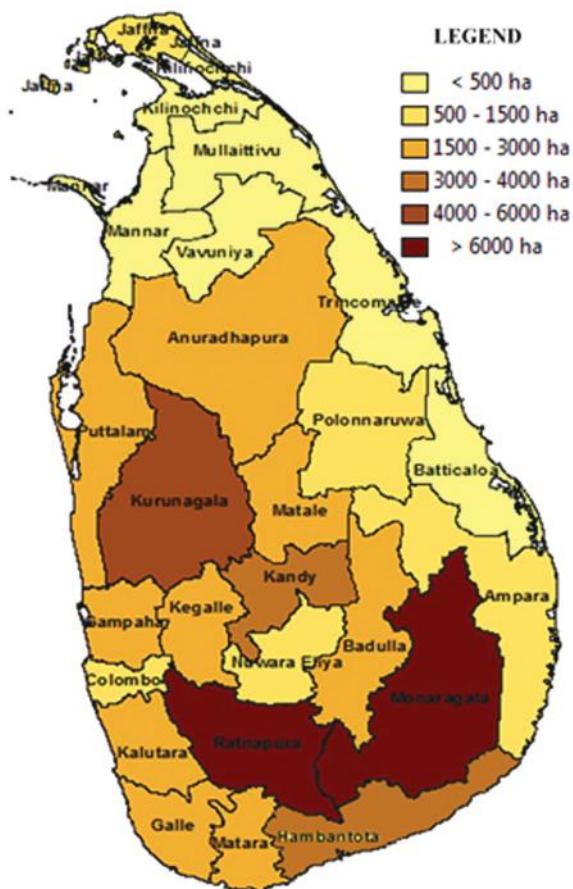
Present Value of Cost (Rs.)	5,679,362	*NPK	1 <sup>st</sup> year
Present Value of Benefit (Rs.)	31,667,672	Urea	264 kg
Net Present Value (Rs.)	25,988,310	TSP	297 kg
Benefit Cost Ratio	5.6	MOP	242 kg

Related Information	Life span
Discount Rate	Agro well 20 years
Wage Rate (Rs./day)	Irrigation system 10 years
Average Yield (kg/ha)	Water pump (Electric) 15 years
Average Price (Rs./kg)	

# BANANA

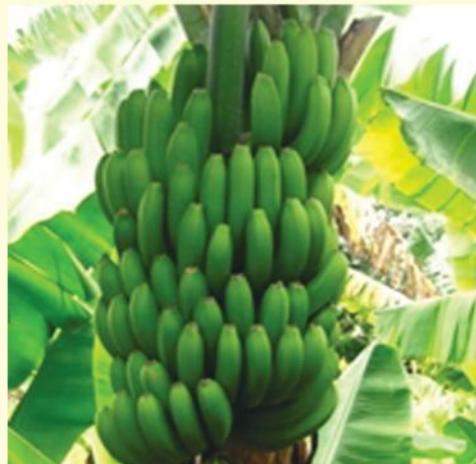
(*Musa spp.*)

Cultivated Areas of Banana



## Uses:

Ripen fruits are consumed, mixed in fruit salad. It is used as part of desserts such as pies, cakes, ice cream, and drinks or processed into chips, dried banana, deep fry and many more.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

Jul	Aug	Sep	Oct	Nov	Dec
●	●	●	●	●	●

● Season ● Available ● Not Available

## Ecological requirements:

Temperature : 24 - 29 °C

Rainfall : 1500-3000mm/year

pH range : 5.5-7.0

Soil : Sandy loams or laterite soils

Recommended varieties, spacing, potential yield & suitable agro ecological region:

Variety	Spacing	Potential Yield	Suitable Agro Ecological Region
Kolikuttu	2.4m x 2.4m	27,350kg/ha	Dry & Intermediate zone
Ambul	3.0m x 3.0m	26,300kg/ha	Except Up Country Wet zone
Seeni kesel	3.0m x 3.0m	22,000kg/ha	
Bimkehel	2.4m x 2.4m	26,000kg/ha	Wet zone
Anamalu	3.6m x 3.6m	25,100kg/ha	
Embon	3.6m x 3.6m	21,000kg/ha	Wet and Intermediate zone

**Planting season:** May, June, September, October

## Nutritive values: (Per 100 g edible portion)

Moisture	70.1g
Energy	116.0kcal
Protein	1.2g
Fat	0.3g
Carbohydrates	27.2g
Calcium	17.0mg
Phosphorus	36.0mg
Iron	0.9mg
Carotene	78.0mcg
Thiamine	50.0mcg
Riboflavin	80.0mcg
Niacin	0.5mg
Vitamin C	7.0mg

**Crop - Banana (variety - Ambul)**  
**District - Rathnapura**

Operation	Crop Establishment					Crop Maintenance -Total Cost (Rs./ha)				
	Input		Power	Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha					
Fencing				100	120,000	120,000				
Poles	140	84,000				84,000				
Barbed wires (kg)	250	51,500				51,500				
Nails (kg)	10	6,000				6,000				
Land preparation (4WT)			22,230			22,230				
Preparation of pits				30	36,000	36,000				
Planting (No.of plants)	1,100	71,500		15	18,000	89,500				
<b>Fertilizer application</b>										
NPK (kg)*	1,733	86,625		13	15,600	102,225	89,850	89,850	89,850	
Compost (kg)	11,000	110,000		20	24,000	134,000	128,000	128,000	128,000	
Crop maintenance				26	31,200	31,200	31,200	31,200	31,200	
Weed control (mechanical + manual)			14,255	23	27,600	41,855	33,484	26,787	21,430	
Pest control							20,058	20,058	20,058	
Irrigation	366,000	29,925		45	54,000	449,925	83,925	83,925	83,925	
Harvesting							105,600	126,000	108,000	72,000
Land rent		110,000				110,000	110,000	110,000	110,000	110,000
Total Labour (Mds)				272			210	224	206	60
Total Cost (Rs.)	885,625	66,410		326,400	1,278,435	602,117	615,820	592,463	182,000	
Yield (kg/ha)							25,500	38,250	28,679	17,000
Gross Income (Rs./ha)							1,351,500	2,027,250	1,519,987	1,172,500

Present Value of Cost (Rs.)	2,815,790	<b>*NPK - 1<sup>st</sup> year</b>
Present Value of Benefit (Rs.)	4,556,195	Urea            308 kg
Net Present Value (Rs.)	1,740,405	TSP            462 kg
Benefit Cost Ratio	1.62	MOP            962.5 kg

<b>Related Information</b>		<b>Life span</b>	
Discount Rate	0.13	Agro well	20 years
Wage Rate (Rs./day)	1,200	Water pump (Diesel)	15 years
Average Yield (kg/ha)	27,357	Cultivation is under irrigation	
Average Price (Rs./kg)	53		

**Crop - Banana (variety: Kolikuttu)**  
**District - Rathnapura**

Operation	Crop Establishment					Crop Maintenance -Total Cost (Rs./ha)				
	Input		Power	Labour		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha	year	year	year	year	year
Fencing				100	120,000	120,000				
Poles	140	84,000				204,000				
Barbed wire (kg)	250	51,500				51,500				
Nails (kg)	10	6,000				6,000				
Land Preparation (4WT)			22,500			22,500				
Preparation of pits				40	48,000	48,000				
Planting (No. of plants)	1,600	200,000		17	20,400	220,400				
Fertilizer application										
NPK (kg)*	2,520	126,000		14	16,800	142,800	124,800	124,800		
Compost (kg)	16,000	160,000		20	24,000	184,000	178,000	178,000	178,000	
Crop Maintenance				26	31,200	31,200	31,200	31,200	31,200	
Weed control (Mechanical +Mannual)			14,255	23	27,600	41,855	33,484	26,787	21,430	
Pest control						18,150	18,150	18,150	18,150	
Irrigation	366,000	29,925		45	54,000	449,925	83,925	83,925	83,925	
Harvesting						105,600	126,000	108,000	72,000	
Land rent	110,000					110,000	110,000	110,000	110,000	110,000
Total Labour (Mds)				285			211	225	207	60
Total Cost (Rs.)	1,103,500	66,680			342,000	1,632,180	685,159	698,862	675,505	182,000
Yield (kg/ha)							24,000	30,000	30,000	20,800
Gross Income (Rs./ha)							2,760,000	3,450,000	3,450,000	2,663,500

Present value of cost (Rs.)	3,365,610	*NPK - 1st year
Present value of benefit (Rs.)	9,168,931	Urea            480 kg
Net present value (Rs.)	5,803,322	TSP            320 kg
Benefit cost Ratio	2.72	MOP            1400 kg

Related Information		Life span	
Discount Rate	0.13	Agro well	20 years
Wage Rate (Rs./day)	1,200	Water pump (Diesel)	15 years
Average Yield (kg/ha)	26,200	Cultivation is under irrigation	
Average Price (Rs./kg)	115		

**Crop - Banana (variety : Seeni Kesel)**  
**District - Rathnapura**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)				
	Input		Power	Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha					
Fencing				100	120,000	120,000				
Poles	140	84,000				84,000				
Barbed wires (kg)	250	51,500				51,500				
Nails (kg)	10	6,000				6,000				
Land preparation (4WT)			22,230			22,230				
Preparation of pits				30	36,000	36,000				
Planting (No.of Suckers)	1,100	71,500		15	18,000	89,500				
<b>Fertilizer application</b>										
NPK (kg)*	1,733	86,625		13	15,600	102,225	89,850	89,850	89,850	
Compost (kg)	11,000	110,000		20	24,000	134,000	134,000	134,000	134,000	
Crop maintenance				26	31,200	31,200	31,200	31,200	28,600	
Weed control (mechanical + manual)			14,255	23	27,600	41,855	41,855	33,484	26,787	
Pest control						18,150	18,150	18,150	18,150	
Irrigation	366,000	29,925		45	54,000	449,925	83,925	83,925	83,925	
Harvesting						105,600	126,000	108,000	72,000	
Land rent	110,000					110,000	110,000	110,000	110,000	110,000
Total Labour (Mds)				272			215	229	211	60
Total Cost (Rs.)	885,625	66,410		326,400	1,278,435	614,580	626,609	599,312	182,000	
Yield (kg/ha)						19,800	25,200	23,800	19,000	
Gross Income (Rs./ha)						950,400	1,209,600	1,142,400	1,183,500	

Present Value of Cost (Rs.)	2,840,015	*NPK - 1st year
Present Value of Benefit (Rs.)	3,305,959	Urea 308 kg
Net Present Value (Rs.)	465,944	TSP 462 kg
Benefit Cost Ratio	1.16	MOP 962.5 kg

#### Related Information

Discount Rate	0.13	Life span:
Wage Rate (Rs./day)	1,200	Agro well 20 years
Average Yield (kg/ha)	21,950	Water pump (Diesel) 15 years
Average Price (Rs./kg)	48	Cultivation is under irrigation

**Crop - Banana (variety: Embon)**  
**District - Rathnapura**

Operation	Input Qty/ha	Crop Establishment			Crop Maintenance - Total Cost (Rs./ha)				
		Power		Labour Mds/ha	Cost Rs./ha	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year
		Cost Rs./ha	Cost Rs./ha	Mds/ha		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	5 <sup>th</sup> year
Fencing				100	120,000	120,000			
Poles	140	84,000				84,000			
Barbed wire (kg)	250	51,500				51,500			
Nails (kg)	10	6,000				6,000			
Land preparation (4WT)			22,500			22,500			
Planting pit preparation				38	45,600	45,600			
Planting (No. of plants)	740	92,500		10	12,000	104,500			
Fertilizer application									
NPK (kg)*	1,036	51,800		16	19,200	71,000	63,600	63,600	
Compost (kg)	7,400	74,000		16	19,200	93,200	86,000	86,000	
Kiserite (kg)	222	9,546				9,546	9,546	9,546	9,546
Dolomite (kg)**	370	2,960				2,960	2,960	2,960	2,960
Crop Maintenance				26	31,200	31,200	31,200	31,200	
Weed control (mechanical + manual)			11,404	20	24,000	35,404	35,404	28,323	22,659
Pest Control						18,150	18,150	18,150	
Harvesting						96,800	115,500	115,500	66,000
Land rent	30,000				30,000	30,000	30,000	30,000	30,000
Total Labour (Mds)			226			161	175	172	60
Total Cost (Rs.)	402,306	33,904		271,200	707,410	373,660	385,279	379,615	96,000
Yield (kg/ha)						19,800	25,200	23,800	14,800
Gross Income (Rs./ha)						1,683,000	2,142,000	2,023,000	1,258,000

Present Value of Cost (Rs.)	1,661,783	<b>*NPK - 1st year</b>	
Present Value of Benefit (Rs.)	5,340,476	Urea      285 kg	
Net Present Value (Rs.)	3,678,693	TSP      259 kg	
Benefit Cost Ratio	3.21	MOP      492 kg	

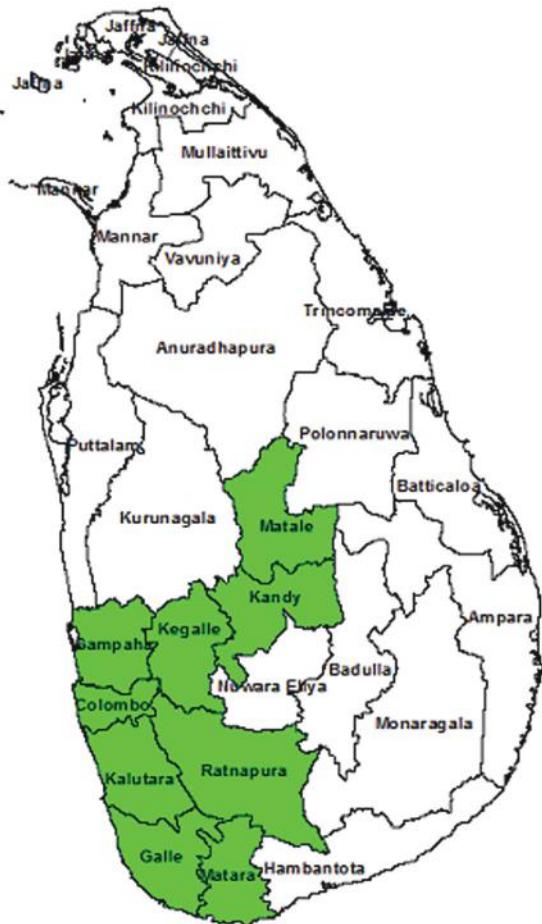
<b>Related information</b>	Kieserite	222 kg	
Discount Rate	0.13	Dolomite	370 kg    ** Apply only pH <5
Wage Rate (Rs./day)	1,200		
Average Yield (kg/ha)	20,900	Cultivation is under rain-fed.	
Average Price (Rs./kg)	85		



# DURIAN

*(Durio zibethinus)*

Cultivated Areas of Durian



Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	○	○	●

Jan	Feb	Mar	Apr	May	Jun
●	●	●	○	○	●

● Season ● Available ○ Not Available

## Uses:

Flesh or pulp of durian consumed. It is also used prepare jam, candy and mixed into ice cream. As well it takes as a flavoring agent of culinary and sweet preparations.



## Ecological requirements:

Temperature : 24 -30 °C  
 Rainfall : 1600 - 4000mm/ year  
 pH range : 5.0 - 6.5  
 Soil : Clay with sandy loamy aluvial soil

## Suitable Districts:

Kandy, Kegalle, Rathnapura, Gampaha, Kalutara, Matale

## Recommended varieties & potential yield:

Ambatenna, Kasun, Horana Gold, Horana Jambo, Gannoruwa Sweet

## Potential yield:

(10-15 years tree) 200 fruits/plant

**Spacing:** 210m x 10m (100 plants/ha)

## Nutritive values: (Per 100 g edible portion)

Moisture	66.8g
Energy	520.0kcal
Protein	2.5g
Fat	1.6g
Carbohydrates	23.8g
Fiber	1.4g
Potassium	601mg
Phosphorus	63mg
Calcium	20mg
Iron	0.9mg
Thiamine	0.27mg
Riboflavin	0.29mg
Carotene	10 mg
Vitamin C	57mg

**Crop - Durian (Variety : Ambatenna/Kasun)**  
**District - Kandy**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)						
	Input		Power	Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> - 9 <sup>th</sup> year	10 <sup>th</sup> - 16 <sup>th</sup> year
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha							
Fencing				100	120,000	120,000						
Poles	140	84,000				84,000						
Barbed wire (kg)	250	51,500				51,500						
Nails (kg)	10	6,000				6,000						
Land preparation (Manual)				20	24,000	24,000						
Preparation of pits				8	9,600	9,600						
Planting (No. of plants)*	100	20,000		15	18,000	38,000						
Fertilizer application												
NPK (kg)**	52	2,600		5	6,000	8,600	9,900	12,900	15,900	18,900	90,900	198,100
Kieserite (kg)	6	258				258		516		1,032	2,150	6,020
Compost (kg)	2,000	20,000		5	6,000	26,000	26,000	26,000	26,000	26,000	104,000	182,000
Dolomite (kg)***	50	400				400	400	400	400	400	1,600	2,800
Irrigation		25,650		30	36,000	61,650	46,260	46,260	46,260			
Manual weeding				30	36,000	36,000	36,000	36,000	36,000	30,000	60,000	105,000
Pest and disease control		25,500		8	9,600	35,100	35,100	35,100	35,100			
Pruning										10,725	43,650	79,950
Watching										108,000	432,000	756,000
Harvesting										12,000	48,000	120,000
Land rent		72,000				72,000	72,000	72,000	72,000	72,000	288,000	504,000
Total Labour (Mds)				221		78	78	78	78	173	642	1154
Total Cost (Rs.)	282,258	25,650		265,200	573,108	225,660	229,176	231,660	279,057	1,070,300	1,953,870	
Yield (kg/ha)										1,000	20,000	111,000
Gross Income (Rs./ha)										250,000	5,000,000	27,750,000

Present Value of Cost (Rs.) 2,236,479 \*Budded plants

Present Value of Benefit (Rs.) 9,028,723 \*\*NPK 1<sup>st</sup> year

Net Present Value (Rs.) 6,792,244 Urea 16 kg

Benefit Cost Ratio 4.0 TSP 24 kg

MOP 12 kg

Kieserite 6 kg

**Related Information**

Discount Rate 0.13

Wage Rate (Rs./day) 1,200 \*\*\* Apply only pH<5

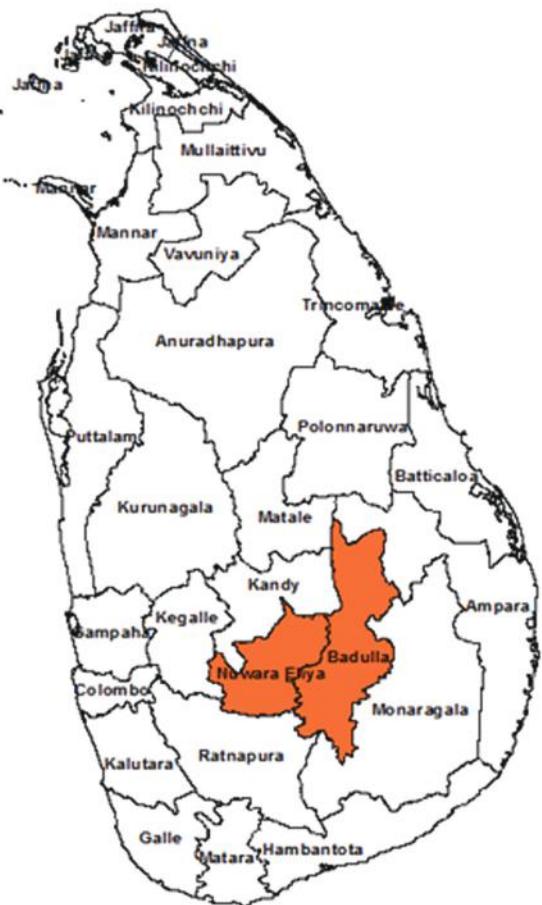
Average Yield (kg/ha) 11,000 Repeat dolomite and organic manure application in every year as the cultivation is under rain fed

Average Price (Rs./kg)\*\*\*\* 250 \*\*\*\* Price of medium size fruit

# PEARS

(*Pyrus pyrifolia*)

Cultivated Areas of Pears



## Uses:

Consumed fresh, canned as juice and dried. The juice can also be used for preparing jellies and jams.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	○	○	○	●	●

● Season ● Available ○ Not Available

## Ecological requirements:

Temperature : 15-25 °C  
Rainfall : 1500-3000mm  
pH range : 6.0 - 6.5  
Soil : Red Yellow Podsolic, Deep loamy soil

## Suitable Districts:

Nuwara Eliya, Badulla

## Recommended varieties & potential yield:

Rahangala pears : 300 fruits/plants/year (10-12yrs)  
Local (Ragala) : 250 fruits/plant/year (10-12yrs)

## Potential yield:

4.0 m x 3.5 m (625 plants/ha)  
4.5 m x 4.0 m (550 plants/ha)

Spacing: November, December, January

## Nutritive values: (Per 100 g edible portion)

Moisture	83.0g
Energy	61.0kcal
Protein	0.7g
Fat	0.4g
Carbohydrates	0.7g
Fiber	1.4g
Potassium	130.0mg
Phosphorus	11.0mg
Calcium	8.0 mg
Vitamin C	4.0mg

**Crop - Pears (Variety : Rahangala)**  
**District - Nuwara Eliya**

Operation	Crop Establishment				Crop Maintenance - Total Cost (Rs./ha)							
	Input Qty/ha	Cost Rs./ha	Power Cost Rs./ha	Labour Mds/ha	Cost Rs./ha	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> - 10 <sup>th</sup> years	11 <sup>th</sup> - 25 <sup>th</sup> years
Fencing				100	120,000	120,000						
Poles	140	84,000				84,000						
Barbed wire (kg)	250	51,500				51,500						
Nails (kg)	10	6,000				6,000						
Land preparation (Manual)				20	24,000	24,000						
Preparation of pits				43	51,600	51,600						
Planting (No. of plants)*	550	110,000		6	7,200	117,200						
Fertilizer application												
NPK (kg)**	319	10,665		10	12,000	22,665	24,942	31,393	37,845	35,848	179,240	537,720
Compost (kg)	5,500	55,000		10	12,000	67,000	67,000	67,000	67,000	67,000	335,000	1,005,000
Dolomite (kg)***	275	2,200		5	6,000	8,200	8,200	8,200	8,200	8,200	41000	123000
Manual weeding				10	12,000	12,000	12,000	12,000	12,000	12,000	60,000	180,000
Irrigation		22,500		8	9,600	32,100	32,100	32,100	32,100	32,100		
Pest and disease control											14,610	35,750
Pruning											12,188	18,188
Watching											22,500	97,125
Harvesting											16,500	337,500
Land rent	50,000				50,000	50,000	50,000	50,000	50,000	50,000	250,000	750,000
Total Labour (Mds)				212		43	43	48	48	107	740	3664
Total Cost (Rs.)	369,365				254,400	646,265	194,242	200,693	219,332	244,846	1,440,615	6,097,658
Yield (kg/ha)											4,583	91,667
Gross Income (Rs./ha)											550,000	11,000,000
												90,750,000

Present Value of Cost (Rs.)	2,773,539	*Budded plants
Present Value of Benefit (Rs.)	16,904,813	**NPK                    1 <sup>st</sup> year
Net Present Value (Rs.)	14,131,274	Urea                    77 kg
Benefit Cost Ratio	6.10	ROP                    170 kg
		MOP                    72 kg

#### Related Information

Discount Rate	0.13	Dolomite	275 kg	***Apply only pH<5
Wage Rate (Rs./day)	1,200			
Average Yield (kg/ha)	40,595			
Average Price (Rs./kg)	120			

# SOURSOP

(*Annona muricata*)

## Uses:

The edible white pulp provides carbohydrate, protein, fatty acids, fiber, minerals, and vitamins. Pulp is processed to make cordial, fruit juice, drinks, candies and ice cream flavorings. Unripe fruit used to prepare curry. And it has some medicinal merits



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

Jul	Aug	Sep	Oct	Nov	Dec
●	●	●	●	●	●

● Season ● Available ○ Not Available

## Ecological requirements:

Temperature : 18-30 °C  
Rainfall : above 1500 mm  
pH range : 5.5 - 6.5  
Soil : Deep soil with organic matter  
Well drain and aerated soil

## Suitable Districts:

Throughout the country except some areas in Nuwara Eliya

## Recommended varieties & potential yield:

Local cultivars: 35- 40 kg/tree (matured plant)

## Spacing:

5.0m x 5.0m (400 plants/ha)  
4.0 m x 4.0m (625 plants/ha)

## Nutritive values: (Per 100 g edible portion)

Moisture	73.0g
Energy	104.0kcal
Protein	1.6g
Fat	0.4g
Carbohydrates	23.5g
Calcium	17.0 mg
Phosphorus	47.0mg
Iron	1.5mg
Riboflavin	170.0 mcg
Thiamine	17.0 mcg
Niacin	0.8 mg
Vitamin C	37.0 mg

**Crop - Soursop**  
**District - Matale**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)							
	Input		Power		Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> - 9 <sup>th</sup> year	10 <sup>th</sup> - 15 <sup>th</sup> year
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha								
Fencing				100	120,000	120,000							
Poles	140	84,000				84,000							
Barbed wires (kg)	250	51,500				51,500							
Nails (kg)	10	6,000				6,000							
Land preparation			30,000			30,000							
Digging holes with excavator & Preparation of pits			37,500	13	15,625	53,125							
Planting (No. of plants)*	625	31,250		8	9,600	40,850							
<b>Fertilizer application</b>													
NPK (kg)**	553	27,650		8	9,600	37,250	27,188	35,156	35,156	35,156	140,625	210,938	176,906
Compost (kg)	6,250	62,500		10	12,000	74,500	74,500	74,500	74,500	74,500	298,000	372,500	1,490,000
Irrigation		536,000	33,790	44	52,800	622,590	58,094	58,094	58,094	58,094	232,378	348,566	290,472
Weeding (mechanical + manual)			3,500	27	32,400	35,900	35,900	35,900	35,900	35,900	114,880	137,856	91,904
Pest & disease control		5,126		10	12,000	17,126	17,126	17,126	17,126	17,126	68,504	102,756	85,630
Pollination							5,475	8,760	16,425	27,375	147,825	229,950	160,375
Training and pruning		417		4	4,800	5,217	5,217	5,300	5,300	5,300	16,402	24,602	20,502
Harvesting							12,500	20,000	37,500	62,500	337,500	525,000	362,500
Land rent		50,000				50,000	50,000	50,000	50,000	50,000	200,000	300,000	250,000
Total Labour (Mds)				224			104	113	134	164	735	1,117	810
Total Cost (Rs.)	854,443	104,790		268,825	1,228,058	286,000	304,837	330,002	365,952	1,556,113	2,252,168	2,928,289	
Yield (kg/ha)							4,688	7,500	14,063	23,438	126,563	196,875	135,938
Gross Income (Rs./ha)							421,875	675,000	1,265,625	2,109,375	11,390,625	17,718,750	12,234,375

Present Value of Cost (Rs.)	3,697,015	* Seedlings
Present Value of Benefit (Rs.)	14,278,117	**NPK - 1st year
Net Present Value (Rs.)	10,581,102	Urea 175 kg
Benefit Cost Ratio	3.86	TSP 222 kg
		MOP 156 kg

**Related Information**

Discount Rate	0.13	Agro well	20 years
Wage Rate (Rs./day)	1,200	Water pump (Diesel)	15 years
Average Yield (kg/ha)	26,800		
Average Price (Rs./kg)	90		

# GUAVA

*(Psidium guajava)*

Cultivated Areas of Guava



Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●
●	●	●	●	●	●

Jul	Aug	Sep	Oct	Nov	Dec
●	●	●	●	●	●

● Season ● Available ○ Not Available

## Uses:

Eaten fresh and good source of vitamin C. used in fruit salad and vegetable salad. Processed products are Juice, nectar, jelly, jam, and ice cream



## Ecological requirements:

Temperature	: 23-28 °C
Rainfall	: 1000-4000mm
pH range	: 4.5-9.0
Soil	: Light sandy loamy to clay soil

## Suitable Districts:

Puttalam, Kurunegala, Anuradhapura

## Recommended varieties & potential yield:

Local cultivars: 35- 40 kg/ tree (matured plant)

## Spacing:

5 m x 5 m/ 6 m x 6 m (270 - 400 plants/ha)

## Planting season:

October, November

## Nutritive values: (Per 100 g edible portion)

Moisture	81.7g
Energy	51kcal
Protein	0.9g
Fat	0.3g
Carbohydrates	11.2g
Calcium	10mg
Phosphorus	28mg
Iron	1.4mg
Thiamine	30mcg
Riboflavin	30mcg
Niacin	0.4mg
Vitamin C	212mg

**Crop - Guava (Variety : Bangkok Giant)**  
**District - Puttalam**

Operation	Crop Establishment					Crop Maintenance -Total Cost (Rs./ha)						
	Input		Power		Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> year
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha							
Fencing				100	110,000	110,000						
Poles	140	84,000					84,000					
Barbed wire (kg)	250	51,500					51,500					
Nails (kg)	10	6,000					6,000					
Land preparation (4WT)			15,000				15,000					
Preparation of pits				10	11,000	11,000						
Planting (No. of plants)	400	80,000		5	5,500	85,500						
Fertilizer application												
NPK (kg)*	294	14,700		8	8,800	23,500	33,300	38,900	79,100	59,500	59,500	
Compost (kg)	4,000	40,000		10	11,000	51,000	76,500	76,500	76,500	76,500	76,500	
Poultry manure (kg)**	40,000	288,000		40	44,000	332,000						
Manual weeding				25	27,500	27,500	27,500	27,500	27,500	27,500	27,500	
Irrigation	279,500	72,000	38	41,800	393,300	113,800	113,800	113,800	113,800	113,800	113,800	
Pest control	73,305			5	5,500	78,805	52,170	52,170	52,170	52,170	52,170	
Bagging and Pruning						13,560	40,680	107,200	197,000	197,000		
Harvesting						11,000	16,500	22,000	27,500	27,500		
Land rent		125,000				125,000	125,000	125,000	125,000	125,000	125,000	
Total Labour (Mds)			241			110	135	190	265	265		
Total Cost (Rs.)	1,042,005	87,000		265,100	1,394,105	452,830	491,050	603,270	678,970	678,970		
Yield (kg/ha)							6,400	19,200	48,000	80,000	80,000	
Gross Income (Rs./ha)							512,000	1,536,000	3,840,000	6,400,000	6,535,000	

Present Value of Cost (Rs.) 3,382,443  
Present Value of Benefit (Rs.) 11,789,499  
Net Present Value (Rs.) 8,407,057  
Benefit Cost Ratio 3.5

**\* NPK - 1<sup>st</sup> year**

Urea 96 kg  
TSP 110 kg  
MOP 88 kg

**Related Information**  
Discount Rate 0.13  
Wage Rate (Rs./day) 1,100  
Average Yield (kg/ha) 46,720  
Average Price (Rs./kg) 80

\*\*Poultry manure (kg) - special treatment for Nematodes

**Life span:**  
Tube well 20 years  
Irrigation system 10 years  
Water pump (Electric) 15 years

# AVOCADO

*(Persea americana)*

Cultivated Areas of Avocado



## Uses:

It contains lots of fiber and rich in vitamins C, K, and B and minerals. It is used to prepare fruit juice and ice cream. Extensively used for skin, hair and beauty care.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

Jul	Aug	Sep	Oct	Nov	Dec
●	●	●	●	●	●

● Season ● Available ○ Not Available

## Ecological requirements:

Temperature : 25-36 °C  
Rainfall : 1200-1300mm  
pH range : 5.0-7.0  
Soil : well drain loamy soil

## Suitable Districts:

Kandy, Badulla, Kegalle, Nuwara Eliya  
Matale, Kurunegala, Gampaha

## Recommended varieties & potential yield:

Pollock, Gottfried, Fuerte, Simmonds,  
Tower II, Booth – 7, Hass, Peradeniya Purple

## Spacing:

6.5m x 8.0m or 8m x 8m (150-190 Plants/ha)

Potential yield : 29800 kg/ha

## Planting season:

October, November

## Nutritive values: (Per 100 g edible portion)

Moisture	81.7g
Energy	51kcal
Protein	0.9g
Fat	0.3g
Carbohydrates	11.2g
Calcium	10mg
Phosphorus	28mg
Iron	1.4mg
Thiamine	30mcg
Riboflavin	30mcg
Niacin	0.4mg
Vitamin C	212mg

**Crop - Avocado (Variety:Pollock)**  
**District - Kandy**

Operation	Crop Establishment					Crop Maintenance - Total Cost (Rs./ha)							
	Input		Power		Labour	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> year	7 <sup>th</sup> year	8 <sup>th</sup> - 30 <sup>th</sup> years
	Qty/ha	Cost Rs./ha	Cost Rs./ha	Mds/ha	Cost Rs./ha								
Fencing				100	120,000								
Poles	140	84,000				84,000							
Barbed wire (kg)	250	51,500				51,500							
Nails (kg)	10	6,000				6,000							
Land preparation (Manual)				35	42,000	42,000							
Preparation of pits				15	18,000	18,000							
Planting (No. of plants)*	150	30,000		3	3,600	33,600							
Fertilizer application													
NPK (kg)**	134	4,215		4	4,800	9,015	9,255	10,920	15,840	15,840	15,840	15,840	364,320
Kieserite (kg)									645	645	645	645	14,835
Compost (kg)	1,500	15,000		3	3,600	18,600	18,600	18,600	18,600	18,600	18,600	18,600	427,800
Dolomite (kg)***	75	600				600	600	600	600	600	600	600	13,800
Irrigation			25,650	20	24,000	49,650	34,260	34,260	34,260				
Manual weeding				6	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	165,600
Pest and disease control									53,438	53,438	53,438	53,438	1,063,463
Pruning									5,288	5,288	5,288	5,288	145,800
Harvesting									4,500	7,200	9,000	13,500	1,023,300
Land rent		72,000				72,000	72,000	72,000	72,000	72,000	72,000	72,000	1,656,000
Total Labour (Mds)				186			33	33	46	28	30	33	1284
Total Cost (Rs.)	263,315	25,650		223,200	512,165	141,915	143,580	212,370	180,810	182,610	187,110	4,874,918	
Yield (kg/ha)									3,750	6,000	7,500	11,250	777,750
Gross Income (Rs./ha)									90,000	144,000	180,000	270,000	18,666,000

Present Value of Cost (Rs.)	1,933,275	* Budded plants
Present Value of Benefit (Rs.)	2,812,785	** NPK      1 <sup>st</sup> year
Net Present Value (Rs.)	879,509	Urea      36 kg
Benefit Cost Ratio	1.5	ROP      67 kg
		MOP      31 kg

#### Related Information

Discount Rate	0.13	Dolomite	75 kg	*** Apply only pH < 5
Wage Rate (Rs./day)	1,200			
Average Yield (kg/ha)	29,861			
Average Price (Rs./kg)	24			



# FLORICULTURAL CROPS

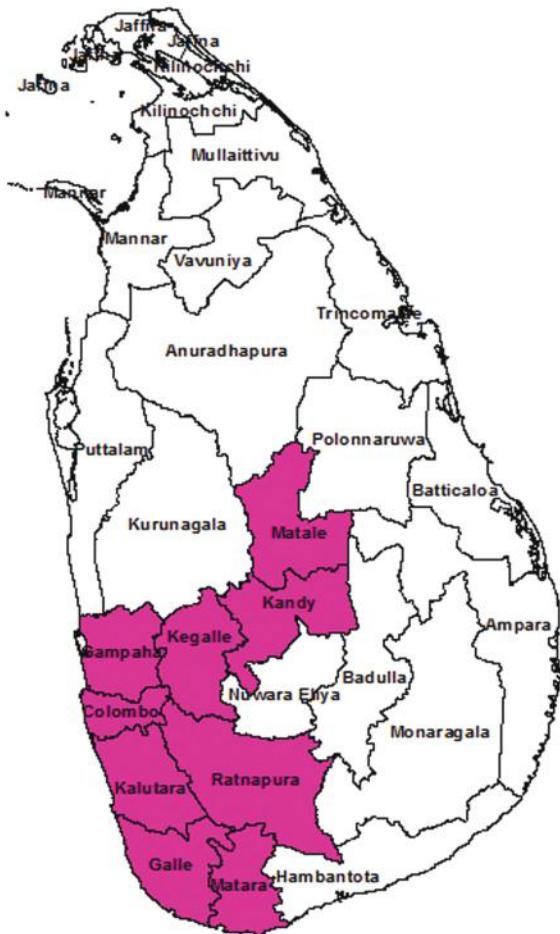




# ANTHURIUM

(*Anthurium andraeanum.*)

Cultivated Areas of Anthurium



## Uses:

It uses as a cut flower and potted plants. Anthurium flower has long shelf and available in a wide range of color.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
● Available					

Jul	Aug	Sep	Oct	Nov	Dec
● Available					

● Available    ○ Not Available

## Ecological requirements:

Temperature : 25-32 °C

(Not less than 15 °C at night)

pH range : 5.5 - 6.5

**Suitable Districts:** Matale, Kandy, Kegalle, Kalutara, Colombo, Galle, Rathnapura, Gampaha, Matara

## Recommended varieties:

Tropical, Midori, Phantasea, Casino, Sawmya, Royal flame, Lanka Beauty, Lanka Kumari

**Potential yield:** Tropical red - 5,225 flowers /1000/sq.ft

**Spacing:** 45 cm x 45 cm

**Planting season:** January, February



**Crop - Anthurium (Tropical Red)**  
**District - Matale**

**Extent = 1000 Sq.ft Net house**

Operation	Crop Establishment			Crop Maintenance -Total Cost (Rs./1000 Sq.ft)					
	Input Qty/ 1000 Sq.ft	Cost Rs./1000 Sq.ft	Power Cost Rs./1000 Sq.ft	Labour		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year
		Mds/ 1000 Sq.ft	Cost Rs./1000 Sq.ft	1 <sup>st</sup> year	2 <sup>nd</sup> year				
Construction of net house		225,000		20	20,000	245,000			8,000
Land preparation				4	4,000	4,000			
Leveling				3	3,000	3,000			
Planting (No.of plants)	550	165,000		2	2,000	167,000			
Fertilizer application				4	4,000	4,000	1,200	1,200	1,200
Liquid fertilizer (kg)*	0.48	682				682	230	230	230
Granular form (kg)**	8.25	4,950				4,950	4,950	4,950	4,950
Cattle manure (Cube)	1	12,400				12,400			
Sand (Cube)	1	12,000				12,000			
Pieces of coconut husks (kg)	200	12,000				12,000			
Irrigation		70,000	9,600	45	45,000	124,600	54,600	54,600	54,600
Crop maintenance		1,200		3	3,000	4,200	4,200	4,200	4,200
Pest Control		14,162		8	8,000	22,162	22,162	22,162	22,162
Harvesting						1,880	2,100	2,100	2,100
Land rent		3,500				3,500	3,500	3,500	3,500
Total Labour (Mds)				89		59	59	59	59
Total Cost (Rs.)		520,894		89,000	619,494	92,722.80	92,942.80	100,943	92,943
Yield (No. of Flowers/Sq.ft 1000)						4,400	5,500	5,500	5,500
(No. of Plants/Sq.ft 1000)						2,200	2,200	2,200	2,200
Income from Flowers (Rs.)						110,000	137,500	137,500	137,500
Income from Plants (Rs.)						440,000	440,000	440,000	440,000
Total Gross Income (Rs.)						550,000	577,500	577,500	728,667

Present Value of Cost (Rs.)	901,299	* Liquid fertilizer -	1 <sup>st</sup> year	Life span
Present Value of Benefit (Rs.)	1,786,134	N:P:K ratio		Structure 10 years
Net Present Value (Rs.)	884,835	Small plant	30:10:10	Shade net*** 3 years
Benefit Cost Ratio	1.98	Intermediate size plants	20:20:20 or 20:30:20	Irrigation system 10 years
		Adult flowering plants	13:27:27	Water pump (electric) 15 years

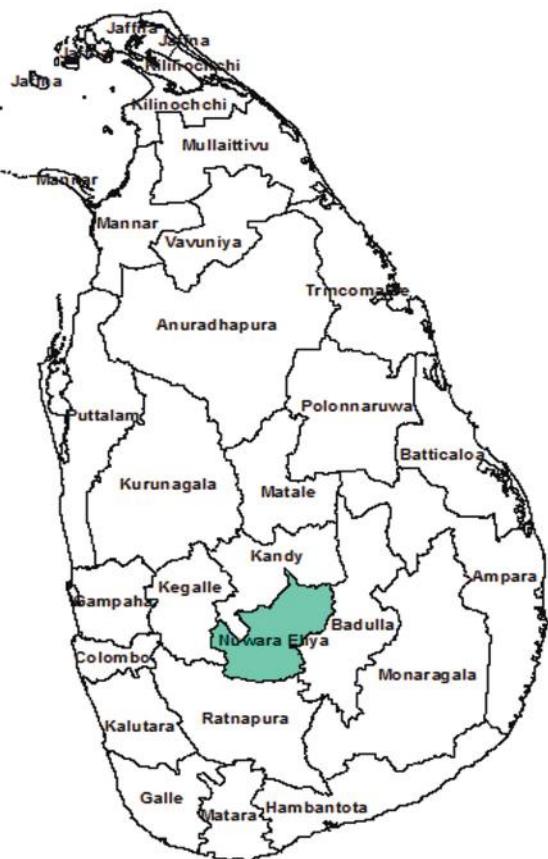
**Related Information**

Discount Rate	0.13	** Granular form	*** Shade net would be replaced at 4 <sup>th</sup> year
Wage Rate (Rs./day)	1,000	osmocote	5g/plant
Average Yield (Flowers/sq.ft 1000)	5,225	<b>Growing media ratio</b>	
Average Yield (Plants/sq.ft 1000)	2,200	Cattle manure	1
Average Price - (Rs./Flower)	25	Sand	1
(Rs./Plant)	200	Coconut husk pieces	1

# GERBERA

(*Gerbera jamesoni*)

Cultivated Areas of Gerbera



## Uses:

It is ideal for cut flowers as well as potted plant production. Flowers come in wide range of colors and widely used in different types of floral arrangements.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
● Available					

● Available ● Not Available

## Ecological requirements:

Temperature : Day- (22-27) °C  
Night - (16 -21)°C  
pH range : 5.5 - 6.0

**Suitable Districts:** Nuwara Eliya

## Recommended varieties:

Winter Queen, Pink sparklet, Adora, Little Ruby

**Potential yield:** 21,000 flowers/ 1000 sq.ft / yr

**Spacing:** 30cm x 40cm

**Planting season:** January, February



**Crop District - Gerbera  
Nuwara Eliya**

**Extent=1000 Sq. ft Poly house**

Operation	Crop Establishment				Crop Maintenance - Total Cost			
	Input Qty/ 1000 Sq. ft		Power Cost	Labour Mds/	(Rs./1000 Sq. ft)			
	Cost Rs./1000 Sq.ft	Rs./1000 Sq.ft	1000 Sq. ft	Cost Rs./1000 Sq. ft	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	
Construction of poly house		450,000		20	24,000	474,000		
Land preparation				7	8,400	8,400		
Tiles	500	22,500				22,500		
Fumigation (L)*	6	8,250				8,250		
Planting (No of plants)	700	105,000		3	3,600	108,600		
Fertilizer application				3	3,600	3,600		
TSP (kg)	2	100				100		
MgSO <sub>4</sub> (kg)	0.46	70				70	70	70
NPK (kg)	51.74	102,698				102,698	120,998	120,998
Ca(NO <sub>3</sub> ) <sub>2</sub> (kg)	1.26	189				189	189	189
Cattle manure (cube)	2.5	31,000				31,000		
Paddy husk (cube)	0.8	2,000				2,000	2,000	2,000
Irrigation		70,000	8,400	45	54,000	132,400	62,400	62,400
Weed control				6	7,200	7,200	7,200	7,200
Pest & disease control		32,315		8	9,600	41,915	41,915	41,915
Harvesting and packing		14,000		13	15,600	29,600	78,500	78,500
Land rent		8,000				8,000	8,000	8,000
Total Labour (Mds)				105			82	82
Total Cost (Rs.)		846,122			126,000	980,522	321,272	321,272
Yield (No. of Cut Flowers/1000 Sq. ft)						14,000	24,500	24,500
(No. of Plants /1000 Sq. ft)						1,400	2,100	2,100
Income from Cut Flowers (Rs.)						378,000	661,500	661,500
Income from Plants (Rs.)						245,000	367,500	367,500
Gross Income (Rs.)						623,000	1,029,000	1,377,100

Present Value of Cost (Rs.)	1,516,437	<b>Life span:</b>		<b>Growing media</b>
Present Value of Benefit (Rs.)	2,540,418	Structure	10 years	Top soil 60%
Net Present Value (Rs.)	1,023,981	UV polythene	3 years	Decomposed dried cow dung 30%
Benefit Cost Ratio	1.68	Irrigation system	10 years	Paddy husk 10%
		Water pump (electric)	15 years	

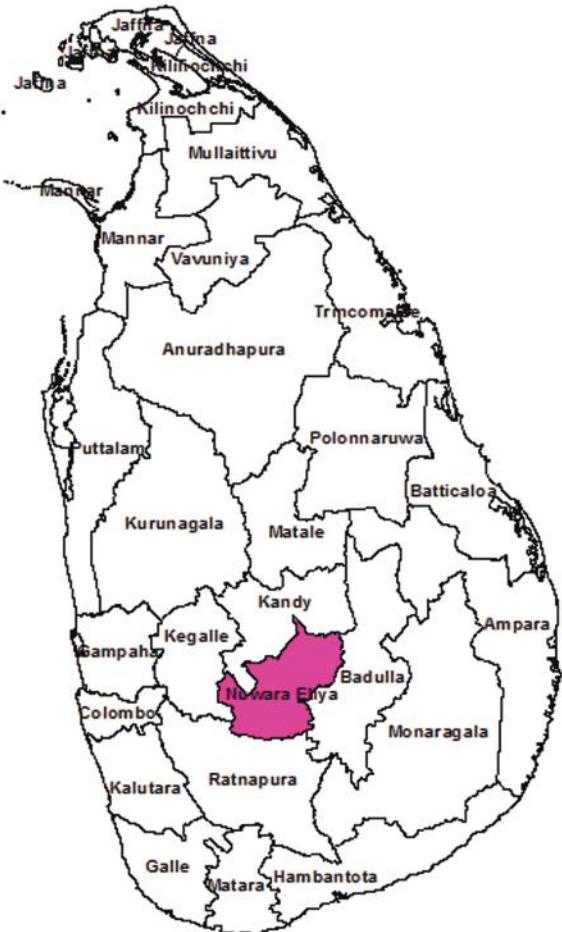
**Related Information**

Discount Rate	0.13	<b>*Fumigation</b>	
Wage Rate (Rs./day)	1,200	Metham Sodium	6 L
Average Yield (Flowers/sq.ft 1000)	21,000		
Average Yield (Plants/sq.ft 1000)	1,867		
Average Price - (Rs. /Flower)	27		
(Rs. /Plant)	175		

# ALSTROEMERIA

(*Alstromeria aurea*)

Cultivated Areas of Alstroemeria



## Uses:

Alstroemeria is a commercially important rhizomatous plant primarily grown for its beautiful cut flowers and also popular as potted and garden plants.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

Jul	Aug	Sep	Oct	Nov	Dec
●	●	●	●	●	●

● Available ● Not Available

## Ecological requirements:

Temperature : Day - 16 °C  
Night - 10 °C  
pH range : 5.5 - 6.0

**Suitable Districts :** Nuwara Eliya

**Recommended varieties:** Virginia (white), Diamond, Salmon bay (coral)

**Potential yield:** :196000 flowers/ 2 years/0.25 ac

**Spacing :** 40cm x 50cm  
60cm x 30cm



**Crop - Alstroemeria**  
**District - Nuwara Eliya**

**Extent = 0.25 ac**

<b>Operation</b>	<b>Input</b>		<b>Power</b>	<b>Labour</b>		<b>Total</b>
	<b>Qty</b> <b>/0.25ac</b>	<b>Cost</b> <b>Rs./0.25ac</b>	<b>Cost</b> <b>Rs./0.25ac</b>	<b>Mds</b> <b>/0.25ac</b>	<b>Cost</b> <b>Rs./0.25ac</b>	<b>cost</b> <b>Rs./0.25ac</b>
Land preparation				15	18,000	18,000
Planting (No. of Suckers)	2,000	500,000		15	18,000	518,000
Fertilizer application				10	12,000	12,000
Cattle manure (kg)	1,000	8,000				8,000
Dolomite (kg)	400	3,200				3,200
NPK (kg)	400	28,000				28,000
Irrigation			6,000	24	28,800	34,800
Weed control				50	60,000	60,000
Pest control		9,800		12	14,400	24,200
Harvesting				35	42,000	42,000
<b>Total Labour (Mds)</b>				<b>161</b>		
<b>Total Cost (Rs.)</b>		<b>549,000</b>	<b>6,000</b>		<b>193,200</b>	<b>748,200</b>
Yield (No.of Flowers /2 years/ 0.25acre)						196,000
(No.of Plants /2 years/ 0.25acre)						2,000
Income from Flowers (Rs.)						980,000
Income from Plants (Rs.)						600,000
<b>Total Gross Income (Rs.)</b>						<b>1,580,000</b>
<b>Net Income (Rs.)</b>						<b>831,800</b>

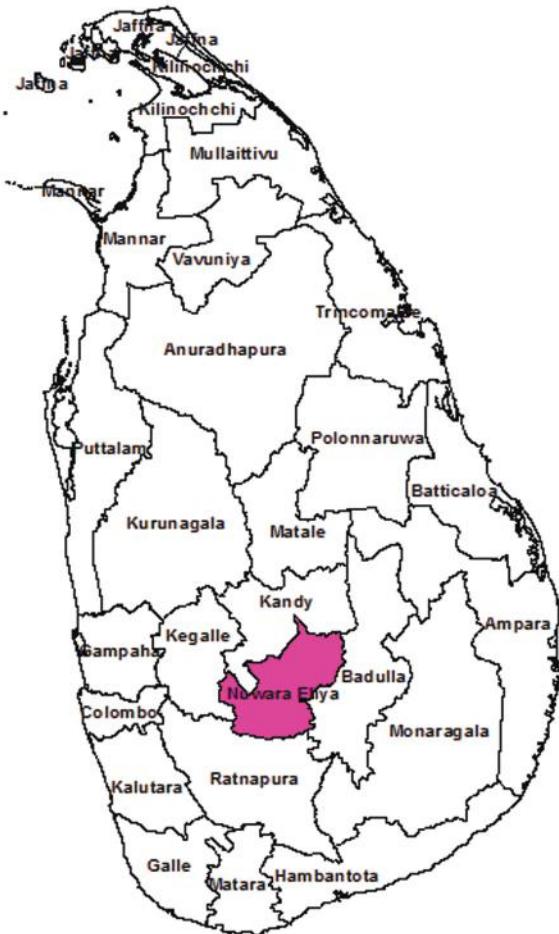
#### **Related Information**

Wage Rate (Rs./day)	1,200
Average Price - (Rs. /Flower) (Rs. /Plant)	5 300

# CHrysanthemums

(*Chrysanthemum indicum*)

Cultivated Areas of Cryshanthiums



## Uses:

Chrysanthemum used as a bedding plant in landscaping. They look best planted in a mass. Chrysanthemum cut flowers are also used for floral arrangements, due to the longevity of blooms. It can also be grown as potted ornamental plant.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●

Jul	Aug	Sep	Oct	Nov	Dec
●	●	●	●	●	●

● Available ○ Not Available

## Ecological requirements:

Temperature : Day 20-27 °C  
Night 12-20 °C  
pH range : 6.5- 6.7

## Suitable Districts:

### Chrysanthemums classes:

Reflex, Regular incurve, Intermediate, Pompon, Single, Semi-double, Anemone, Spoon, Quill, Spider and Brush or Thistle

**Potential yield:** :8000 flower clusters/1000 sq.ft /yr

**Spacing:** Normal plant - 46 cm – 61 cm  
Vigorous cultivars - 76 cm – 91 cm



**Crop - Chrysanthemums**  
**District - Nuwara Eliya**

**Extent - 1000sq ft. Poly house**

Operation	Crop Establishment and Maintenance Cost (Rs/ 1000 sq ft.)					
	Qty/ 1000 Sq. ft	Input Cost Rs./1000 Sq. ft	Power Cost Rs./1000 Sq. ft	Labour		Total Cost Rs./1000 Sq. ft
				Mds/	Cost	
				1000 Sq. ft	Rs./1000 Sq. ft	
Construction of poly house		450,000		20	24,000	474,000
Land preparation				7	8,400	8,400
Fumigation (Liter)*	6	8,250				8,250
Planting (No. of plants)	2,000	10,000		9	10,800	20,800
Fertilizer application				3	3,600	3,600
Liquid fertilizer (kg)	0.96	1,536				1,536
Sand (cube)	1	12,000				12,000
Cattle manure (cube)	1	12,400				12,400
Compost (cube)	2	20,000				20,000
Irrigation (Micro)		70,000	6,000	15	18,000	94,000
Weed Control				6	7,200	7,200
Pest & disease control		552		12	14,400	14,952
Harvesting				8	9,600	9,600
Total Labour (Mds)				80		
Total Cost (Rs.)		584,738	6,000		96,000	686,738
Yield (No.of Flower Clusters/Sq.ft 1000)						8000
(No.of Plants/Sq.ft 1000)						8000
Income from Flowers Clusters (Rs.)						240,000
Income from Plants (Rs.)						320,000
Total Gross Income (Rs.)						1,022,700
Net Income (Rs.)						335,962

**Related Information**

Wage Rate (Rs./day)	1,200
Average Price - (Rs./Flower Cluster) (Rs./Plant)	30 40

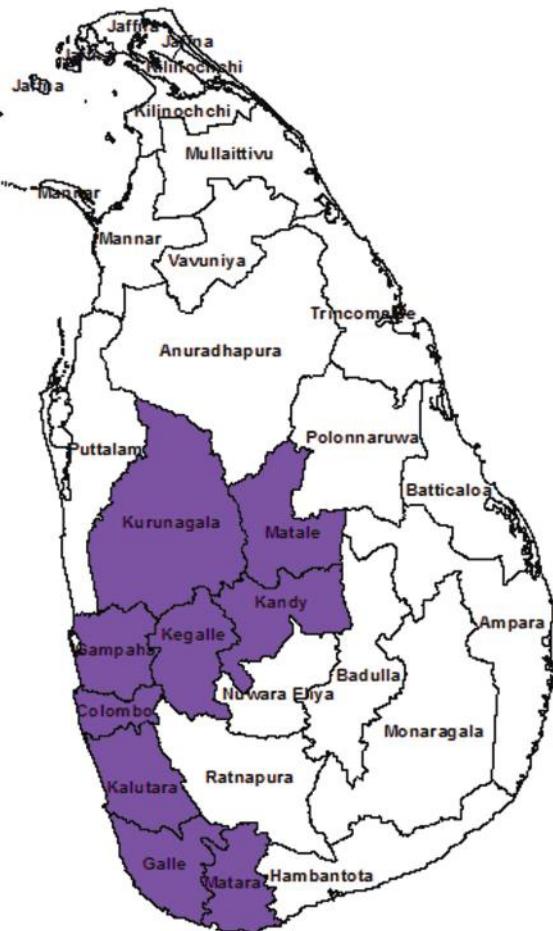
**\*Fumigation**  
 Metham Sodium

6L

# ORCHID

(*Orchidaceae* spp.)

Cultivated Areas of Orchid



## Uses:

Orchid plant grows as an indoor potted plant and widely used in cut flower industry.



## Availability:

Jan	Feb	Mar	Apr	May	Jun
●	●	●	●	●	●
●	●	●	●	●	●

● Available ○ Not Available

## Ecological requirements:

Temperature : Day 25-30 °C  
Night 15°C  
pH range : 5.5 – 6.5

**Suitable Districts :** Gampaha, Galle, Matara, Kalutara, Colombo, Kandy, Matale, Kegalle, Kurunegala

## Recommended varieties:

Dendrobium, Phalaenopsis, Vanda, Oncidium, Cattleya, Cymbidium

**Potential yield:** :113,200 spikes / 1000 sq.ft



**Crop - Orchid (Dendrobium)**  
**District - Gampaha**

**Extent=1000 Sq. ft Net house**

Operation	Crop Establishment					Crop Maintenance - Total Cost						
	Input		Power Cost	Labour		Rs./1000 Sq.ft		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year
	Qty/ 1000 Sq.ft	Cost Rs./1000 Sq. ft		Mds/	Cost Rs./1000 Sq. ft							
Construction of net house		225,000		20	20,000	245,000					8,000	
Land preparation				7	7,000	7,000						
Table (Iron barbed net)		115,000				115,000						
Planting - No. of plants	2,200	132,000		9	9,000	141,000						
- No. of pots	2,200	44,000				44,000						
Fertilizer application												
Liquid fertilizer (L)	1	1,288		3	3,000	4,288	4,344	4,344	4,344	4,344		
Charcoal (kg)	220	18,700				18,700						
Irrigation (micro)		70,000	6,000	45	45,000	121,000	51,000	51,000	51,000	51,000		
Crop maintenance				48	48,000	48,000	48,000	48,000	48,000	48,000		
Pest & disease control		5,606		16	16,000	21,606	21,606	21,606	21,606	21,606		
Harvesting and packing		66,000		26	26,400	92,400	92,400	92,400	92,400	92,400		
Land rent		3,000				3,000	3,000	3,000	3,000	3,000		
Total Labour (Mds)				174			138	138	138	138		
Total Cost (Rs.)		680,594	6,000		174,400	860,994	220,350	220,350	228,350	220,350		
Yield (No. of Flowers/1000 Sq.ft)						132,000	132,000	132,000	132,000	132,000		
Income from Flowers (Rs.)						660,000	660,000	660,000	660,000	660,000		
Gross Income (Rs.)						660,000	660,000	660,000	660,000	811,167		

Present Value of Cost (Rs.)

1,521,965

**Life span:**

Present Value of Benefit (Rs.)

2,639,935

Structure

10 years

Net Present Value (Rs.)

1,117,970

Net

3 years

Benefit Cost Ratio

1.73

Irrigation system

10 years

Water pump (electric)

15 years

**Related Information**

Discount Rate

0.13

\*\*\*Shade net would be replaced at 4<sup>th</sup> year

Wage Rate (Rs./day)

1,000

Average Yield (Flowers/1000 Sq.ft)

132,000

Average Price (Rs./Flower)

5

**Rs. 250.00**