



MINISTRY OF AGRICULTURE  
RESEARCH DIVISION – SIGATOKA RESEARCH STATION

## Guava (*Psidium guajava*)

Guava (*Psidium guajava*) is a tropical fruit that is found most often in tropical and subtropical areas, and is rarely grown in temperate climates. There are different varieties of guava but the “apple guava” is the common form found in most markets around the world. They are roughly the size of apples, or slightly smaller, and some features are more similar to plums in size and shape.

Guava helps to protect the immune system, regulate blood pressure and lowers risk of diabetes. It further helps to strengthen digestive system. Due to the unique and high concentrations of minerals and vitamins, guava can also help increase energy, relax the nerves and decrease the amount of stress hormones in the body. It is one of the best fruits that has low calories with only 38 calories in an average fruit. Given the impressive amount of minerals, vitamins and phytonutrients that are found in guava, this low calorie count is what so many people love about this fruit. It can provide energy and the nutrients needed to get through the day, without increasing amount of calories.

The Ministry of Agriculture in collaboration with Taiwan Technical Mission introduced a new variety of Guava from Taiwan in 2007. This variety has been under research for the last 10 years and is now recommended for commercial cultivation in Fiji. This variety has a lot of potential for local market to be supplied to supermarkets and hotels. It is a dwarf variety and can be harvested in 6 to 8 months after transplanting.

### Crop Details

Origin	Taiwan
Local name	Green Pearl
Yield	20 - 25 tonnes/ha/year
Fruit set	Good to excellent
Fruit weight	400 – 500 grams/fruit
Fruit shape	Round to Oval
Fruit length	9 – 11 cm
Fruit width	7 – 8 cm
Fruit color	Greenish orange
Soil type	Wide range of well drained soils
Maturity	6 to 8 months after transplanting
Time of planting	All year round
Fruiting time	All year round

### Spacing

- 4m between rows and 4m between plants.

### Water requirements

- Plants should be watered/irrigated as and when required.

### Fertilizer rate

- Poultry manure - 10-12 tonnes/ha. Broadcast two weeks prior to planting.
- N.P.K 13:13:21 – 50 grams per plant as basal application, 100 grams per plant at two months after transplanting thereafter 400 grams per plant per year.



**Weed control**

- Hand weed or use hoe for small plots.
- Practice mulching to control weeds and retain soil moisture.

**Insect Control and Management**

- White fly and Mealy bug - prune lower branches for more aeration and spray Sevin 27 grams in 15 litres of water or Lannate 15mls in 15 litres of water.
- Guava leaf and shoot webber - spray with Sevin 27 grams in 15 litres of water.
- *Thrips palmi* - spray with Confidor 54mls in 15 litres of water.
- Bag fruits to avoid insect damage.

**Disease Control and Management**

- *Colletotrichum gloeosporioides* (Fruit Rot) – practice good field sanitation.

**Harvesting**

Harvesting starts 6 to 8 weeks after transplanting. Fruits can be harvested weekly for more than 15 years.

**Yield** - 20 tonnes/ha.



**Table 1: Nutritional Facts**

Cholesterol	0%
Sodium	0%
Potassium	8%
Protein	0.9%
Total Carbohydrate	1%
Dietary fibre	6%
Brix	8.7%
Vitamin A	20%
Vitamin C	28%
Iron	6.6 mg/kg
Zinc	3.2 mg/kg
Manganese	2.9 mg/kg
Copper	4.9 mg/kg

**Gross margin**

Plant density: 625 plants per hectare.

**1.0 Income**

Estimated (Av) Yield 20 tonnes/ha (Range 20 to 25 tonnes/ha) for 3 year old crop  
 Farm gate (Av) price \$5.00/kg fresh  
 (Range from \$5.00 - \$12.00).....\$100,000.00  
 (Rejected unmarketable - 5% .....\$5,000.00  
 Marketable yield - 95% .....\$95,000.00

**2.0 Expenditure**

**2.1 Land preparation**

Ploughing (twice) at \$150.00/ha).....\$300.00  
 Harrowing (twice) at \$100.00/ha).....\$200.00  
 Ridging at \$80.00/ha.....\$80.00  
 Total \$580.00

**2.2 Material input**

625 seedlings at \$10.....\$6,250.00  
 7 bag N.P.K fertilizer at \$80/bag .....\$560.00  
 Poultry manure at \$3.50/25kg.....\$2,660.00  
 Fungicide (Kocide) - 3kg.....\$107.10  
 Insecticide (Sevin) - 3L.....\$120.00  
 Insecticide (Lannate) - 3L.....\$240.00  
 Total \$9,937.10

**2.3 Labour (Labour rate of \$20.00 per day)**

Planting - 4 man days = \$80.00  
 Fertilizer Application - 3 man days = \$60.00  
 Spraying -12 man days = \$240.00  
 Pruning - 12 man days = \$240.00  
 Weed Control - 12 man days = \$240.00  
 Irrigation - 26 man days = \$520.00  
 Harvesting - 52 man days = \$1040.00  
 Grading and sorting - 10 man days = \$200.00  
 Packing- 6 man days = \$120.00  
 Total \$2,740.00

**2.4 Transportation**

Transport = \$2,000.00  
 Total variable cost = \$15,257.10  
 Gross margin/ha = \$79,742.90  
 Return/labour inputs = \$29.10  
 Breakeven price/kg = \$0.76

**Table 2: Gross margin with change in yields**

Yield	15 tonnes/ha	25 tonnes/ha	30 tonnes/ha
Gross Income	\$75,000.00	\$125,000	\$150,00.00
Expenditure	\$15,257.10	\$15,257.10	\$15,257.10
Gross Margin	\$59,742.90	\$109,742.90	\$134,742.90