

## 1. Varieties

### *Orange*

- Late Valencia
- Washington Navel

### *Mandarin*

- Satsuma
- Emperor

### *Lemon*

- Meyer lemon

### *Lime*

- Seedless Lime (Tahitian Lime)
- West Indian Lime
- Rangpur Lime

### *Kamquat*

## 2. Yield

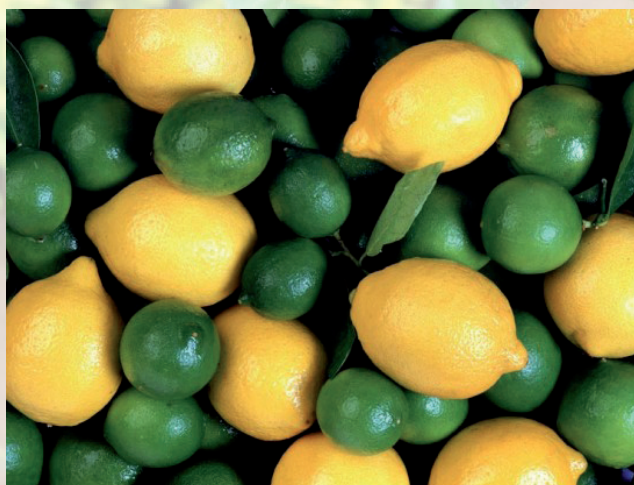
An average yield of 20 - 30 tonnes/ha can be obtained from 5 – 7 year old trees.

## 3. Planting time

Plant during the wet season from November to March. can be planted all year round with irrigation.

## 4. Planting material

Propagated by grafting/budding on seedling



rootstocks to initiate early fruiting, high production and maintains the variety's true characteristics. The above varieties can be grown throughout Fiji and grafted seedlings are available at research stations at \$5.78 each.

## 5. Planting

Planted in straight rows on flat land for ease of cultivation and triangular spacing can be used for varieties like oranges for more plant density per hectare (555 plants). Citrus can be planted along the contour to prevent soil erosion. Planting distance is 6m x 6m which gives about 277 trees/ha.

Dig holes about the size of the seedling pot along the row, NPK 13:13:21 at 100gms/hole or use manure compost in the hole. Remove seedling from the pot with soil intact to the roots and place carefully into the hole. The roots should fall freely down into hole and not twisted. Firm the soil around the plant by adding soil into the hole. Each plant should be thoroughly watered after transplanting.

## 6. Land preparation

For orchard establishment, the field should be cleared, weeded and adequate drainage provided. On relatively flat land, ploughing is recommended to loosen the soil. For backyard planting, choose and clear an appropriate site away from building and fences.

## 7. Irrigation

Citrus trees can withstand drought for 4 months if grown on deep soil with good water holding

capacity. Irrigation is necessary if the dry season lasts longer than months. Citrus needs 2 months water stress to have good flowering and fruit set before flowering season.

## 8. Fertilizer

A continuous supply of nutrients to maintain optimum growth is recommended. Important to test the soil before planting to know the nutrient content of the soil. It is difficult to recommend one detailed fertilizer programme due to different soil types throughout Fiji. However the general recommendation is NPK 16:16:16, 90g/plant at planting, and 230g/tree at every 6 months for first year, 300g/tree at 6 months interval in the second year, 375g/tree at 6 months interval in third year. For established trees, 375g/tree at 4 months interval. Urea is also applied to encourage vigorous growth of shoots and branches. Application rate is 250g/tree/year (2 split applications every six months).

## 9. Weed Control

Weeds must be controlled during the entire life the trees in an orchard. This is particularly





important during the first few years of growth. Ring weed around young seedlings and carefully spray Glyphosate between the plants at 150ml to 200ml/15L of water (Sold as Round up, Champion 450, Rainbow & Rambo) and interrows. For established orchards, spray herbicides between the trees. Mulching can be done around the trees to control weeds and hold moisture when the seedlings are transplanted and up to one and half year tree.

#### 10. Pest Control

**Fruit Flies** – The adult female punctures the skin of fruits to lay eggs and the injury ripens prematurely or rots.

*Control:*

Harvest fruits at colour break; set up protein bait traps, pick all fallen fruits on the ground and good field sanitation.

**Fruit piercing moth** – The adult moth sucks on mature fruits causing premature fruit fall.

*Control:*

Harvest fruits early and allow it to ripe in storage.

#### 11. Diseases Control

**Citrus Canker** – a serious disease of citrus in Fiji. Brown lesions appear on young leaves and as leaves mature, lesions enlarge in irregular shapes.

*Control:*

The disease is difficult to control, therefore infected plants should be removed.

**Citrus Scab** - Practice good sanitation in orchard. Spray white oil or spray Copper Oxychloride at 60g/15L of water (Sold as KOPI) or use Kocide at

30g/15L of water to prevent fungal infection.

#### 12. Pruning

To be carried out during the first two years of growth to shape the plant and to ensure strong tree structure and branching to support fruiting. Prune all shoots arising from lower trunk above the ground. Prune off shoots poorly growing or irregular lateral branches. Further pruning can be done on established trees after the fruit season. Severe pruning is done on declining trees in order to rejuvenate the tree. Remove any dry branches and water shoots to get more yield.

#### 13. Harvesting

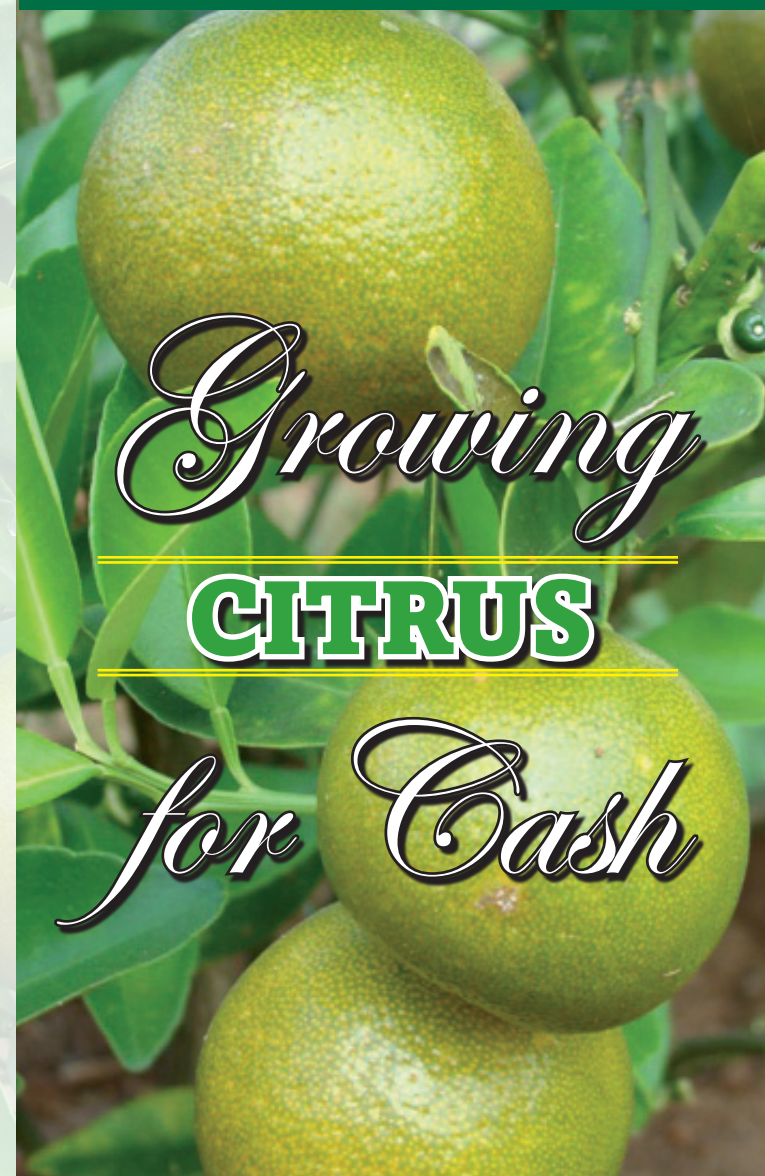
Grafted and budded plants bear fruits in 2 - 2 1/2 years. Flowering season starts September to October and fruits harvested from February to April. Fruits maturity is judged by fruit size and colour. Sweet oranges and mandarins are harvested at colour break (yellow or orange) while the lime and lemons are harvested at colour break from green to light green. Harvesting is normally done either by picking the fruits with hands or using plugs.



For more information contact: Ministry of Agriculture, Private Mail, Raiwaqa.  
Phone: (+679) 338 4233 Fax (+679) 338 7157 / Website: [www.agriculture.gov.fj](http://www.agriculture.gov.fj)  
Facebook: Ministry of Agriculture Fiji Twitter: Fiji Agriculture  
Email: [agrihelp@govnet.gov.fj](mailto:agrihelp@govnet.gov.fj)



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Farmer's Leaflet 2015