



Production & Processing

Calamansi



CALAMANSI

Calamansi or calamondin (*Citrofortunella microcarpa*) is a fruit tree native to the Philippines. It is the most commonly grown backyard tree among the citrus species because it can thrive in a wide variety of environmental conditions.

It is a small tree with a height ranging from 2 meters to 7 1/2 meters at maturity. Its broad egg-shaped leaves are dark green in the upper surface and pale green underneath. The fruit is round, about 2cm to 4.5cm in diameter, and greenish-yellow in color.

Like its relatives, such as the mandarin, pomelo, and sweet orange, the calamansi is rich in phosphorous, calcium, iron, and Vitamin C or ascorbic acid. Its juice is nutritious and traditionally made into a fruit drink that helps strengthen the bones and stimulate growth especially among growing children.

It can be used as a flavoring ingredient in desserts, e.g. leche flan, or as an additive in various food preparations, such as fish steak. Its pulp is used as a major ingredient in beverages, syrups, concentrates, and purees. The peel is made into jams, candies, and marmalade. With its alkalizing effect on the body, calamansi helps circulate blood evenly and facilitates normal digestion.

Filipinos can have a year-round supply of this versatile citrus fruit by growing the plant right in their front yards or backyards or even in big plant boxes.

Soil and Climate Requirements

It is easy to cultivate calamansi. This plant grows well in cool and elevated areas and in sandy soils rich in organic matter. Waterlogged areas are not suitable for cultivation because calamansi plants cannot tolerate too much moisture.

Propagation

Calamansi can be propagated by seeds, still, it is much better to grow this citrus crop using its vegetative parts. It is best to buy planting materials from reliable sources, particularly from the Bureau of Plant Industry (BPI), or government agency under the Department of Agriculture.





Planting

Establish the planting materials at the start of the rainy season. Dig a hole, at least 40cm wide and 40cm deep. Set the seedling into the hole and put back the dug soil mixed with compost. Water the plant daily, at least every morning.

Spacing

The usual distance for planting calamansi is five meters between plants.

Fertilization

To produce big, luscious fruits, it is recommended to fertilize the plants regularly. Apply 50g to 100g ammonium sulfate or urea, around each tree one month after planting.

Do this every four (4) months but on the second year, increase the amount of fertilizer to 200g or 300g. Use the same kind of fertilizer per tree every four months thereafter.





The tree bears fruit on the fourth year, it is best to apply complete fertilizer, like ammophos and potash, to increase fruit yield at rate of 500g per tree. At 8 to 10 years old, apply more fertilizers to the trees, from two to three kg per tree, three times a year.

First, during the rainy season before the flowering stage; next, two months after flowering, and last, after harvesting.

To properly apply the fertilizer mix it with the soil. It is also good to cover the soil around each tree with dry leaves to conserve moisture. Weed from time to time.



Pests and their Control

To keep the trees healthy and allow them to attain maximum yield, it is always best to protect them from pests and diseases.

Pests in calamansi are easy to spot. Zigzag marks, savoyed cuts, and rugged edges on the bark indicate that the tree is infested with citrus bark borers. These are light brown or bluish-black beetles that lay their eggs in the cuts and cavities of the calamansi bark.

When the eggs hatch, the larvae feed on the bark and leaves. To control the citrus bark borers, spray the trees with pesticides recommended for citrus trees. To prevent the pest from spreading, cut off the infected parts and burn them.

Another harmful insect pest is the aphid. This greenish or brownish insect not only retards the plant's growth, but also acts as a disease carrier. To control, spray the trees with pesticides recommended for aphids. But if the pests have already attacked, cut off the infected parts of the plants and burn them.

Other harmful pests of the calamansi are the Purple Scale and Glover's Scale. These pests suck the tree's sap until its leaves and fruits wither and fall, and the tree finally dies.



Diseases and their Control

Aside from pests, the calamansi is also prone to diseases, such as gummosis, citrus canker, and citrus scab.

Gummosis is caused by either a lack of, or an excess of fertilizer, or damage from insect pests or machinery.

The disease is marked by a dark sticky substance or gum oozing out of the infected branches and trunk.

As the disease worsens, gum secretion increases. It is recommended that as soon as this gum-like substance is noticed, spray the trees with chemicals especially recommended for gummosis control. Apply the chemical directly to the diseased bark.

Citrus canker, a disease caused by a bacteria, is characterized by raised lesions and glazed margins, with an oily appearance.

It affects the leaves, twigs, branches, and the fruits. To control the canker, spray the trees with fungicide solutions when the trees are at dormant stage. Consult the dealers of fungicides for proper application of the chemicals.

Citrus scab is a disease caused by a fungus. It starts as a small pale- orange, somewhat circular, elevated spot on the leaf. A severely infected leaf becomes so distorted, crinkled and stunted that whatever remains has very little semblance to a normal leaf.

To control this disease, spray with a copper fungicide solution. Follow the manufacturer's recommended application or formula.

Spray when new flushes of growth have developed, or during blooming stage when two-thirds of the petals have fallen and, also two weeks thereafter until the fruits are half mature.



Harvesting

Calamansi trees will start to bear fruit one or two years after planting.

To harvest, pick the fruits from the branch, either by hand or by using a pair of scissors. Take extra care to prevent damage to the branches or to the leaves. To keep the fruit fresh, leave a portion of the stem attached to the fruit and avoid injury to the skin when harvesting.





Processing of Calamansi

Calamansi Nip (Syrup)

1. Use freshly harvested, mature calamansi.
Wash and drain.
2. Cut across the upper portion to avoid cutting the seeds.
3. Squeeze out the juice by hand or use a fruit juice squeezer. Strain.
4. For every part of the juice, add 1 3/4 parts sugar.
5. Stir to dissolve the sugar.
6. Allow to stand undisturbed for three (3) days, preferably in a refrigerator.
7. When the fruit pulp and other fruit sediments have floated and the clear calamansi juice has settled, this clear solution is called the calamansi nip.
8. Siphon the nip into a dry, sterile, narrow mouth glass bottle with a stopper.
9. Fill containers completely.
10. Refrigerate at (50°F) or below.

Calamansi Preserve

1. Select big, green calamansi fruits.
2. Cut slits in the lower end of the fruit to extract the seeds and the juice.
3. Soak the de-juiced fruit in water overnight.
4. Boil in a copper vat with enough water.
5. Remove from the fire when the natural green color of the fruit has set.
6. Soak again in water for three (3) days but change the water often.
7. Boil in plenty of water three or 4 times but change the water after every boiling.
8. Drain.
9. Cook in syrup (2 parts sugar to 1 part water) for 15 minutes. Soak overnight.
10. Boil in the same syrup until it begins to thicken.
11. Drain syrup.
12. Pack calamansi in jars and pour strained syrup.
13. Remove bubbles, refill, half-seal, and sterilize 12 oz. jars for 20 minutes in boiling water.



References

1. How to Grow Calamansi, Bureau of Plant Industry.
2. The Citrus Industry (Calamansi), Phil Council for Agriculture, Forestry and Natural Resources Research Development, DOST, June 1999.
3. Preservation of Fruits and Vegetables, Bureau of Plant Industry.





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