



The Tahiti Lime¹

S.E. Malo and C.W. Campbell²

Description

Tree. The 'Tahiti' lime is small, reaching 20 ft (5 m) in height, with a round canopy hanging to the ground. It is easily pruned to any shape.

Leaves. The leaves are dark green, oval, 3.5 - 5 in (9-13 cm) long, and persist up to 3 years on the tree. The wing on the petiole is usually narrow, but can vary.

Flowers. Flowers are white, fragrant, 1 in (2.5 cm) diameter, and borne in clusters of 5 to 10 on new shoots at the tip and several nodes back. Some bloom occurs all year, with the heaviest bloom from February to April in Florida.

Fruit. 'Tahiti' limes are oval, 2 1/4 - 2 3/4 in (5.5 - 7 cm) length, and 1 7/8 - 2 1/2 in (4.7 - 6.3 cm) diameter. The fruit are medium to dark green at commercial maturity, becoming yellow before dropping from the tree. When grown in solid plantings, the fruit is seedless. Acids are 5 - 6%, solids 8 - 10%, and juice content 45 - 55% by volume. Flavor and aroma are good. Requires 100 - 120 days from bloom to maturity.

Season of bearing. Tahiti limes bear all year with the greatest production in June, July and August in Florida.

Selection of planting stock. Several selections or clones free of important diseases are available to nurserymen through the Florida Department of Agriculture Citrus Budwood Program. These are sold in nurseries as registered trees, and we highly recommend them over any other type for either backyard or grove planting.

Yields. With good planting stock and good care, groves can be in production in 3 years after planting. Isolated mature trees are capable of producing 400 to 3500 lb of fruit per year. Trees planted close together in the grove produce less fruit. Good groves will produce 30,000 - 40,000 lb of fruit per acre per year.

Propagation

Shield budding is the preferred method and can be done at any time of year when suitable buds and rootstocks are available. Buds should be selected from mature, round wood on which leaves are still present. Rootstocks should be in active growth. If condition of rootstock is not suitable for shield budding, chip budding is the best alternative.

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2. Simon E. Malo, Courtesy Professor, Fruit Crops Department; C. W. Campbell, Emeritus Extension Horticulturist, Tropical Research and Education Center, Homestead, FL, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.

Trees can be propagated easily by air layering (marcottage).

Rootstocks

Rough lemon. Seedlings are highly nucellar and grow fast in nurseries, are easily budded, and produce vigorous, productive trees and fruit of good quality. Susceptible to foot rot and will not tolerate flooding.

Marcots (own-rooted trees). Made by air layering (marcottage). Come into bearing quickly. More susceptible to injury from flooding and to wind damage than rough lemon.

Citrus macrophylla. Limited commercial plantings in Florida are growing and bearing well. Produces a very high number of nucellar seedlings. Extremely vigorous and fast growing in nursery, produces vigorous tree, good quality fruit. More resistant to foot rot than rough lemon. Reported to be susceptible to tristeza disease.

Climate

'Tahiti' lime has more cold hardiness than 'West Indian' lime, but less than grapefruit. It grows best in lowland tropical and warm subtropical areas of the world.

Water

'Tahiti' lime is not tolerant of drought. Irrigation is essential for commercial fruit production in areas with a dry season. Trees which wilt by midday on a sunny day should be irrigated.

Soils

Can be grown successfully in a variety of soils. Well-drained locations essential for good fruit production and growth. Susceptible to minor element deficiencies in calcareous soils.

Fertilizer

Nitrogen. Requirement varies according to soil fertility, but is invariably needed for commercial fruit production. Research has shown that in infertile soils of Florida, 200 - 250 lb per acre per year is necessary for good fruit production, and under some conditions

applications of 300 - 350 lb per year yields enough extra fruit to be economically justified.

Phosphorus. Application of phosphorus for the first 3 - 4 years is advisable where analysis indicates a low level in the soil. Once a reasonable level is attained, continued application is not necessary. Excess phosphorus may decrease availability of other elements in soil.

Potassium. Less limiting than nitrogen but usually required in regular fertilizer program, amount depending upon exchange capacity of soil. Where leaching losses are great, amounts equal to nitrogen rate may be needed.

Magnesium. Availability is closely related to levels of potassium and calcium. Deficiency usually can be determined by leaf symptoms. In Florida, apply at about one-half the potassium rate in sandy soils, higher in calcareous soils.

Minor elements. In calcareous soils, manganese and zinc deficiencies are likely and are prevented by 2 - 3 annual foliar sprays containing 1.0 lb and 1.5 lb respectively of elemental manganese and zinc for 100 gallons. Copper deficiency occurs in highly organic and infertile soils, but fungicidal sprays containing this element will correct it. Iron deficiency can be troublesome in either acid or alkaline soils, and can be corrected only by soil applications of chelates specific for each type of soil.

Spacing and Pruning

Trees can be grown satisfactorily without pruning except for occasional removal of suckers and dead branches. However, in closely spaced groves it is desirable to limit size of trees by regular pruning. Annual topping to a height of 8 - 12 ft. (2.5 - 3.7 m) and hedging to a width of 6 - 8 ft. (2 - 3 m) are practical, make trees resistant to wind damage, and facilitate spraying and harvesting operations.

'Tahiti' lime groves are planted in rows 20 to 25 ft. (6 - 7.6 m) apart. Tree spacing in the row varies from 10 to 20 ft. (3 - 6 m), depending upon grower preference.

Diseases and Pests

`Tahiti' lime may be grown in home gardens with no disease and pest control program. However, commercial groves almost always require some control measures. Local conditions vary greatly, so only generalized control measures are given below. Please contact your local Agricultural Extension Agent for current pest control recommendations.

Virus diseases. `Tahiti' limes are susceptible to severe tristeza virus strains regardless of rootstock, and less severe strains when propagated on *Citrus macrophylla* (macrophylla) and rough lemon (*C. jambhiri*) rootstocks. Currently, severe tristeza virus strains are not found in Florida. Propagation of tristeza infected material can be avoided by using virus-free budwood from available clones and the Florida Budwood Registration Program.

Lime blotch disease. Next to foot rot the most serious disease of `Tahiti' lime in Florida. Symptoms include chlorotic blotching of leaves, chlorotic sectoring of skin of fruit, dieback of branches, formation of gummy lesions on branches and trunk, eventually death of tree. Cause and cure unknown. Avoided by planting trees of clones available under Florida Citrus Budwood Program.

Stylar end breakdown (Stylar end rot). Begins as breakdown of tissues at stylar end of fruit, eventually causing decay of entire fruit. Usually occurs during hot weather (July through September in Florida). Apparently caused by water stress or mechanical stress in fruit tissues. Large, mature fruit most susceptible. Incidence increased by rough handling. Minimized by harvesting before fruit is too mature and by careful handling of fruit.

Fungus disease. Foot rot (Figure 1, Figure 2) kills more lime trees than any other disease in Florida. Caused by *Phytophthora* species. Prevention is by use of healthy nursery stock grafted on citrus species resistant to the fungus, high planting of trees and fumigation of planting sites in land previously in citrus. Planting sites should be well drained. Greasy spot (*Mycosphaerella horii*), melanose (*Diaporthe citri*) and scab (*Elsinoe fawcetti*) can be prevented by regular fungicidal spraying and good grove sanitation.



Figure 1. Foot rot disease.



Figure 2. Another example of foot rot disease.

Algal disease. Caused by *Cephaleuros virescens*. Infects leaves and bark, and can cause girdling of branches. Control is by copper sprays.

Mites. Severe red mite (Figure 3) infestations cause defoliation of trees. Russetting of fruit is often caused by rust mite (Figure 4) and broad mite . Control is by timely spray application of miticides.



Figure 3. Red mite.



Figure 4. Rust mite.

Scale insects. Various species may develop damaging infestations on bark, leaves or fruit. Control with sprays of scalicides and oil. For more

information, see Fact Sheet ENY-814, *Scale Pests of Florida Citrus*, at <http://edis.ifas.ufl.edu/ch059>.

White fly. Can be occasionally troublesome in southern Florida. For more information, see Fact Sheet ENY-815, *Whitefly Pests of Citrus*, at <http://edis.ifas.ufl.edu/ch058>.

Uses for the Fruit

Fresh fruit is used as garnish for meats and drinks. Fresh juice is used in beverages, marinating fish and meats and seasoning many foods. Frozen and canned juice is used in similar ways. Lime oil is widely used in flavorings and cosmetics.