

## DEPARTMENTAL NOTES

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### NOTES ON FRUIT CULTURE—I. CULTIVATION OF LEMONS

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**T**HE lemon (*Citrus limonum* Risso) is an important member of the citrus family which is highly esteemed for its characteristic acid flavour. It is grown on a commercial scale chiefly in Southern California and the Mediterranean region bordering Italy where the soil and climatic conditions are extremely favourable for the production and curing of the fruit. Both these regions together produce enough lemons to supply most of the world markets.

*Varieties.*—The varieties of commercial importance are Eureka, Lisbon, Villafranca and Genoa, all of which bear fruit throughout the year although the peak of production may occur in early summer or mid-winter depending on the variety. Eureka is the leading variety grown in California. It is prolific and the fruit is of excellent quality. The tree is thornless, comes into bearing early and its production reaches the peak during the summer months when lemons are in demand. An undesirable characteristic of this variety is its tendency to produce fruit on the tips of long canes which drop their leaves as they bend over, thus exposing the fruit and branches to sun-scorch. Except for a few strains which are known to be somewhat vigorous and productive, the others tend to decline after a few years when budded on sour orange stock. For this reason many growers prefer to use trees budded on sweet orange or rough lemon stock.

Lisbon is a vigorous grower having heavy foliage which protects the fruit from sunburn, but the tree is thorny and produces most of its crop during the winter. The fruit does not keep long in storage as the skin is somewhat loose and the centre hollow.

Of the two remaining varieties Villafranca is intermediate in type between Eureka and Lisbon and is the variety commonly grown in Florida. Genoa is nearly thornless and produces fruit of good quality which keeps well in storage.

*Picking and Grading.*—Lemon trees have lighter green foliage than the orange and may grow to a height of 10 to 20 feet. A single tree may produce as many as 3,000 fruits a year under favourable conditions. The fruit is picked by size rather than by colour. The best grades are picked green when the fruit has the maximum of acidity. Each picker carries a ring in his left hand which he slips over the fruit to test its size. The rings commonly used vary from  $2 \frac{6}{32}$  to  $2 \frac{9}{32}$  inches in diameter. Every green fruit that does not pass through the ring is picked together with yellow or tree ripe fruit. The latter is picked regardless of size.

After picking, the fruits are taken to the packing house where they are left for a day or two to wilt, then washed and graded according to colour into green, light green, silver and tree ripe, silver being yellow fruit with a touch of green at the blossom end. These fruits are then cured by placing in storage rooms in which the temperature is maintained at 55°F and humidity at 90 per cent. In the process of curing which may take from 8 weeks for the green fruit to a week or two for "silver", the skin of the fruit turns glossy yellow and becomes thinner, thus making it easy to extract the juice. No fruit is kept in storage for over six months. After curing, the fruits are again graded by appearance and size, and shipped to the markets.

Sometimes when the demand for lemons is heavy, curing is hastened by treatment with ethylene but such fruits do not ship well.

*Local Production.*—In recent years the cultivation of lemons has received some attention in Ceylon where the semi-dry areas up-country at an elevation of 3,000 to 4,500 feet appear to be suitable for them. Elsewhere in the low-country they do not grow so well as the lime and are hardly known. The trees shown in Plates I. and II. are imported South African budgrafts of the Genoa variety grown at Uva Orange Farm, Diyatalawa, at an elevation of 4,300 feet. They were supplied by Messrs. H. E. V. Pickstone & Brothers, Simondium, Cape of Good Hope, and planted in May, 1941. Their rootstock is believed to be rough lemon which is the stock used almost exclusively for citrus in South Africa. Except for occasional hand watering for the first six months after planting, the trees have not received much irrigation but have depended on the rainfall which averages 63 inches annually with a drought period of about  $3\frac{1}{2}$  months. Recently with the increase in size of the trees it has been found necessary to apply irrigation water during the drought period in furrows running along the contour about three feet from the main stem.

The trees are planted on contour terraces each nine feet wide. They were given a liberal dressing of well-rotted horse manure



PLATE I.

IMPORTED SOUTH AFRICAN BUDGRAFT OF LEMON (GENOA VARIETY) GROWN AT UVA ORANGE FARM, DIYATALAWA.



PLATE II.

IMPORTED SOUTH AFRICAN BUDGRAFT OF LEMON (GENOA VARIETY) GROWN AT UVA ORANGE FARM, DIYATALAWA.

soon after planting and have since then received a top dressing of sulphate of ammonia every six months and an yearly application of dolomitic lime and compost made of coir dust. Just before drought sets in, the main stem and lower branches are lime-washed with ordinary lime to which is added zinc sulphate at the rate of one tablespoonful per gallon of lime wash.

The trees average 9 feet 8 inches in height, and have a good spread of foliage, which is kept sprayed as a routine measure with Sulfinette, Kerala fish oil soap and nicotine sulphate (Black Leaf 40). They have already come into bearing and promise to be highly productive in years to come.