

chemically and by cultural means. Diseases such as Phytophthora foot rot can be better controlled by use of resistant rootstock, improving drainage and timely application of effective fungicides.

Uses

Oranges can be eaten fresh, used to make marmalade, to make juice, and when rotten they can be fed to animals.

Acknowledgement

Citrus production SA;

Citrus research international and SAfruitfarms.

References

The national agricultural handbook, 2009.

Kasirivu, J. B. K. 2009. *Horticulture: Fruit Production*. NW, South Africa.



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Scientific name: *Citrus aurantium*, *Citrus sinensis*

Common names: Bitter orange and sweet orange



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Department:
Agriculture, Forestry and Fisheries
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Background

Origin and distribution

The bitter orange (*Citrus aurantium*) originates from China, where it was documented in writing by 300BC and later spread to Europe, then throughout the western and southern regions. The sweet orange (*Citrus sinensis*) is native to the South East Asia (India, China and Indonesia). The orange fruit is among the oldest cultivated fruit in China and South East Asia.

Production areas

Limpopo contributes 30% of the citrus market, which is the highest, followed by the Eastern Cape with 23% and then Mpumalanga with 21%.

Soil and climatic requirements

Citrus trees require deep soil which has good surface and internal drainage.

Surface drainage refers to runoff to prevent water standing around the tree.

Internal drainage is the ability for water to percolate downward through the soil to avoid saturation of the root zone.

Cultural practices

Soil preparation

Soils are usually ripped or ploughed, or even both. Soil pH correction and other ameliorants (e.g. N, P, or K) are added in a double ploughing action. Ridging is considered to provide for added drainage or for instances where the soil is high in clay content.

Planting

Orange is bought from the accredited nursery as seedlings. In colder, windy areas the preferred



planting time is early spring (September/October). In hotter regions spacing of 7 X 3 meters or 6 X 3 meters is recommended, while in cooler regions spacing is as wide as 6 X 3 and as close as 6 X 2.5 metres is recommended.

Fertilisation

For satisfactory yields, fertilisers are added based on annual soil and leaf analysis data from soil and leaves of fruiting terminals and history of the orchard with respect to yield, fruit size, quality and previous fertilization records. Phosphorus and potassium are applied to the soil, and magnesium and micro-elements are applied to the leaves as foliar spray when required.

Irrigation and fertigation

It is very difficult to farm with citrus under dryland. Supplementary irrigation is required during dry or low rainfall seasons, and the drip irrigation system is best suited, with the use of drip fertigation where pH and electrical conductivity are controlled. The micro-sprinkler and overhead sprinkler irrigation systems are also commonly used.

Weed control

Weeds and grass beneath citrus trees should be controlled to reduce competition for water and fertiliser. Weeds and grass may harbour pests which can affect fruit. Herbicides or hand hoeing can be used to control weeds.

Pest and disease control

Pests and diseases may affect the health and vigour of trees or appearance of fruit. Insecticides and pesticides can be used to control insects and mites. Pests such as the red spider mite and the lowveld citrus mite can be controlled biologically and chemically, while the citrus rust mite is controlled biologically,