

# Cleopatra mandarin

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NSW DPI Citrus Team



## Advantages

- ✓ good fruit quality
- ✓ suitable for shallow soils
- ✓ tolerates salinity
- ✓ tolerates soil alkalinity

## Disadvantages

- ✗ nematode sensitive
- ✗ Phytophthora sensitive
- ✗ slow to crop
- ✗ smaller fruit size
- ✗ sensitive to waterlogging
- ✗ large tree size

## Origin

Cleopatra mandarin originated in India and was introduced into Florida from Jamaica in the mid-19th Century. Cleopatra mandarin has been widely distributed and trialled as a rootstock throughout the world. It is used in Florida, Spain and Australia for shallow alkaline soils.

## Tolerance to environmental and soil conditions

Trees on Cleopatra mandarin are tolerant of shallow alkaline soils due to a relatively shallow root system. Cleopatra mandarin is sensitive to waterlogging and performs best in well drained soils. Cleopatra has good salinity tolerance due to its ability to exclude chloride.

## Pest and disease

Cleopatra mandarin is highly sensitive to *Phytophthora* and should only be used for plantings where citrus has not been planted previously. Trees on Cleopatra mandarin are also sensitive to citrus nematodes. It is tolerant of citrus tristeza virus and exocortis.

## Field performance

Cleopatra mandarin produces large trees that are characterised by low early cropping. Trees are long lived and produce consistent crops of high-quality fruit between 10–30 years.

## Nursery performance

Cleopatra mandarin is a slow growing rootstock in the nursery and is difficult to propagate. Budded trees tend to remain dormant and fail to shoot. Sensitivity to *Phytophthora* and citrus nematodes requires a high level of nursery hygiene.

## **Fruit quality**

Fruit from trees on Cleopatra mandarin are of high quality but maturity is generally later than fruit grown on Troyer and Carrizo citranges. In trials with oranges in South Australia, maturity times were similar to the citranges. Trees on Cleopatra tend to produce slightly smaller fruit and fruit thinning is recommended to achieve good fruit size. Cleopatra mandarin has been used to extend harvest for Imperial mandarin in Queensland due to its late maturity.

## **Scion compatibility**

Cleopatra mandarin is compatible with mandarin varieties and does not show any overgrowth or cincturing at the bud union, providing an alternative to the Poncirus trifoliata and the citranges.

## **Extent of plantings**

Cleopatra mandarin is a minor rootstock in Australia, accounting for less than 5% of total citrus plantings. It is used mainly for Imperial mandarins in Queensland and some navel oranges in shallow alkaline soils in southern Australia.

## **Overseas experience**

Cleopatra mandarin has been an important rootstock in Spain for growing mandarins in shallow alkaline soils, but its popularity has declined in favour of Carrizo citrange. Cleopatra mandarin is the major rootstock used for mandarins in Florida. It is also a minor rootstock for oranges and grapefruit in Florida, but its popularity is declining due to poor disease tolerance in replant sites and susceptibility to citrus blight.

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