

# Emperor mandarin

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NSW DPI Citrus Team



## Advantages

- ✓ fruit quality
- ✓ on-tree fruit storage
- ✓ extensive root system

## Disadvantages

- ✗ *Phytophthora* sensitive
- ✗ slow to crop

## Origin

Australia, from early Orient seed import. Possibly synonymous with Ponkan and Batangas. Still popular as a scion variety for the home garden trade.

## Tolerance to environmental and soil conditions

Sensitive to *Phytophthora* and nematodes and should not be used in replant situations. Emperor mandarin is tolerant of citrus tristeza virus and exocortis viroid.

## Field performance

Trees are supported by an extensive root system and develop into large trees with consistent cropping. However, they are somewhat slower to come into full fruit production. Experiments in Australia have produced mixed results with Emperor mandarin. It has been recommended as a rootstock for mandarin on sandy loam alkaline soils at Mildura in Victoria, but has performed poorly on heavier soils in New South Wales. In Queensland the rootstock did poorly in an experiment with Ellendale mandarin, but commercially it has been used successfully to enable late-season marketing of Imperial mandarin.

## Nursery performance

Emperor mandarin can be a slow growing rootstock in the nursery and is comparatively difficult to propagate. Sensitivity to *Phytophthora* and citrus nematodes, therefore requires a high level of nursery hygiene.

## Fruit quality

Fruit from trees on Emperor mandarin are high quality but maturity is generally later than fruit grown on Troyer and Carrizo citranges. Furthermore, fruit can sometimes be retained on the tree for longer, making it possible to market a variety at the end of its production season. In experiments with Ellendale mandarin, fruit size has been slightly reduced compared with citranges, sweet oranges and rough lemon rootstock selections.

## Scion compatibility

Emperor mandarin is compatible with all mandarin varieties. It is compatible with Imperial mandarin and does not show any

overgrowth or cincturing at the bud union, providing an alternative to *Poncirus trifoliata* and its hybrids.

### Extent of plantings

Emperor mandarin is a very minor rootstock in Australia. It is sometimes used on new orchards with light, shallow and/or alkaline soils.

### Overseas experience

Not an important rootstock internationally. Experimental results from an arid climate in Arizona indicated that yields on 'Batangas' (likely a synonym of 'Emperor') were low and fruit were poor quality.

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