

## Orri Late mandarin

### Ownership

Cultivar rights of Orri mandarin belong to the Plant Protection Marketing Board of Israel. Orri mandarin is protected by the Plant Breeders' Rights Act, 1976 (as amended), and unlawful propagation is not permitted. PBR ZA20084101

### Origin and Use

Orri mandarin is an induced mutation of Orah mandarin (a Temple x Dancy hybrid) from Israel. Numerous numbered selections were evaluated, but there is little difference among selections. Or 1 is the main selection used in Israel, together with Or 3 and 4. Other selections are Or 5 to 9. The superior selection, Or 4, has been named Orri and is used for commercial production in South Africa.

### Vegetative Growth & Development

Orri trees are extremely vigorous with an upright growth habit similar to that of Mor. When in bearing, the top half of the tree comprises long, vigorous watershoots, which are thorny.

Orri shows delayed incompatibility symptoms on swingle citrumelo, whereas C-35 citrange is considered to be an excellent rootstock for Orri, as are Troyer and Carrizo citranges.

### Reproductive Growth & Development

Orri has very low pollen viability, but is not completely pollen sterile. Although Orri has low ovule viability, Orri cannot be used as a buffer cultivar, and orchard layout must account for the possibility of seed set. Orri has the ability to set seeds (0 - 2 seeds per fruit), although it is considered to be seedless.

Orri flowers are relatively small and inconspicuous. Therefore, during flowering and fruit set, it appears as though there will be no crop, but this observation can be deceiving.

Since Orri trees are vigorous they are unproductive in their early bearing years, but bear well (40 - 45 t/ha) when in production. However Orri does have a tendency for alternate bearing. Fruit size of Orri is generally good, but can be too small when trees crop excessively.

At maturity, rind colour is orange. Fruit shape is oblate, i.e. flat, with little or no ribbing at the stem-end of fruit. Orri fruit are susceptible to creasing, but not to splitting. The rind tends to be coarse when fruit are produced in relatively arid conditions, compared with more humid coastal conditions. Orri peels easily, easier than Mor, but leaves oil residue on one's hands.

Orri has the ability to hang well on the tree and harvesting can be delayed. The adverse effect of late harvesting on return bloom and the initiation of alternate bearing should be avoided. Orri is not susceptible to *Alternaria* brown spot.

### Climatic Suitability

Hot production regions should be avoided due to potential problems with fruit set and low acidity.

### Key Characteristics

Volkameriana and rough lemon rootstock should be avoided due to low acidity.

Vegetative vigour needs to be controlled and managed from planting.

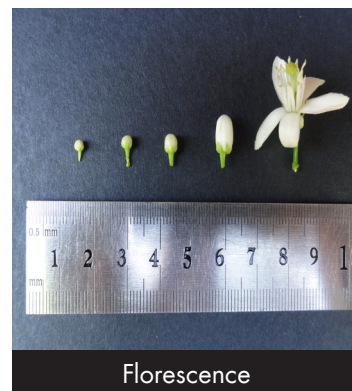
Forcing young trees into production by girdling is essential. Thereafter, crop manipulation will still be required.



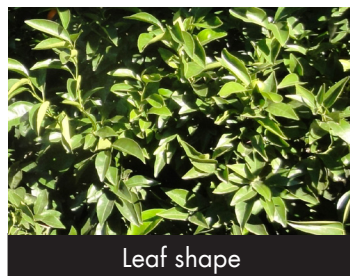
CITROGOLD



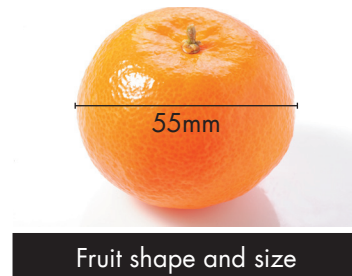
Tree with fruit



Florescence



Leaf shape



Fruit shape and size

## Orri Late Mandarin: Technical information

<b>Hybrid</b>	Induced mutation of Orah mandarin (a Temple x Dancy hybrid) from Israel
<b>Origin</b>	Israel
<b>Ownership</b>	Plant Protection Marketing Board of Israel
<b>PBR registration</b>	ZA20084101
<b>Status</b>	Commercial

Internal quality tests				
Test date	Juice %	Brix°	T.Acid %	Brix / TA Ratio
25.07.05	57	15.4	0.90	17.1:1
28.07.07	59	15.0	0.92	16.3:1
05.08.09	55	14.8	0.84	17.6:1

<b>Optimum ripening date</b>	Maturity is from mid July (mid to late January in the Northern Hemisphere) when internal quality and flavour are excellent.
<b>Alternate bearing or other problems</b>	Orri has a tendency for alternate bearing.
<b>Rootstocks used in evaluation</b>	Carrizo and Troyer Citrange

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<b>Tree characteristics</b>	Trees are very vigorous with an upright growth habit similar to that of Mor. The top half of the tree comprises long, vigorous watershoots, which are thorny.
<b>Fruit size</b>	Average of 120 g
<b>Fruit shape</b>	Fruit shape is oblate, i.e. flat although fairly round compared to Nadorcott. Little or no ribbing at the stem-end of fruit.
<b>External appearance</b>	At maturity, rind colour is orange.
<b>Internal appearance</b>	Dense juicy vesicle concentration
<b>Peelability</b>	Easy peeling, easier than Mor, but leaves oil residue on one's hands.
<b>Seed</b>	Low seed content (0 - 2 seeds per fruit).
<b>Flavour</b>	High sugars (10 - 12 % TSS) and moderate to low acidity (1.0 - 1.2 %), resulting in a well-balanced ratio and sweet flavour.

