

TDE 4 (Yosemite Gold) mandarin

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Figure 1. A TDE 4 (Yosemite Gold) mandarin tree.



Figure 2. TDE 4 (Yosemite Gold) mandarins.

Estimated maturity period

Region	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sunraysia												

Origin

The TDE 4 is a hybrid triploid selection of (Temple tangor × 4n Dancy mandarin) × Encore mandarin bred by the University of California, USA. TDE4 has Plant Breeder's Rights (PBR) protection and is managed in Australia by Nu Leaf IP Pty Ltd.

Fruit quality

Table 1. TDE 4 mandarin fruit quality* characteristics.

Skin	Easy peel, deep orange colour, slightly pebbled. Skin texture becomes coarser towards the end of the maturity period. Flattened fruit shape.
Average rind thickness (mm)	3.3
Internal quality	2011: Juice 43–47%, °Brix 11.2–12.1 and acid 0.88–1.0%. 2012: Juice 45%, °Brix as high as 12.8 on citrange rootstock and acid 1.1%.
Average number of seeds	1.7
Juice per cent (%)	46
°Brix	11.6
Acid per cent (%)	0.96
Brix:acid ratio	12.1
Average fruit weight (g)	258
Average fruit diameter (mm)	88

*Juice quality levels considered adequate for harvest and developed by sequential analysis of fruit from top-worked evaluation trees.

Comments

- Fruit size at harvest was large (84–89 mm diameter) and similar to TDE 2.
- Rind condition was less coarse than TDE 2 or TDE 3, especially at the beginning of the maturity period.
- In 2010, harvest °Brix levels exceeded 10 at the later end of maturity (10.3–11.2, depending on rootstock). In 2011, at the second harvest, trees top-worked to Valencia orange showed improved internal quality characteristics more in line with overseas quality data. The third harvest, during early August of 2012, had a °Brix range of 11.8–12.8, depending on rootstock and a °Brix:Acid ratio between 11.5–12.3.
- The thorniness of young trees also appears less than the other two TDE hybrids but is still a management issue for the commercialisation of the variety.
- TDE 4 was the selection thought to have the most commercial potential in Australia. Small trial plantings have been established, but large scale adoption of this variety is unlikely due to a maturity period which overlaps the Afourer mandarin, presence of thorns and possible low productivity of young trees.

Table 2. Average yield per tree* on trees top-worked to Valencia orange.

Rootstock	Average yield per tree (kg)		
	2010	2011**	2012***
Citrance	2	47	33
Cleopatra	6	39	18
Trifoliata	8	50	55

*Average yield per tree results are from a small number of evaluation trees and should only be used as a general indication of the variety's potential yield.

**In 2011, the improved yields of TDE 4 were still significantly lower than both TDE 2 and TDE 3 on all three rootstocks.

***In 2012, the yields were similar to TDE 2 and higher than TDE 3, but still not very productive for the third harvest from top-worked trees.

There is no commercial interest in TDE 4 in Australia.

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The information contained in this publication is based on knowledge and understanding at the time of writing (December 2019) and was generated from field and nursery trees at Dareton Primary Industry Institute, Sunraysia, NSW, unless otherwise stated. Where quantitative data are presented (e.g. % Juice or rind thickness) they are based on measured properties. Where qualitative data are presented (e.g. thorniness or tendency to split), they are based on observations or brief notes recorded in the field.

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