NSW GOVERNMENT Department of Primary Industries

primefact

Tacle mandarin

March 2020, Primefact 1750, First edition

Dave Monks and Graeme Sanderson, Research Horticulturists, Dareton

Figure 1. A Tacle mandarin tree.

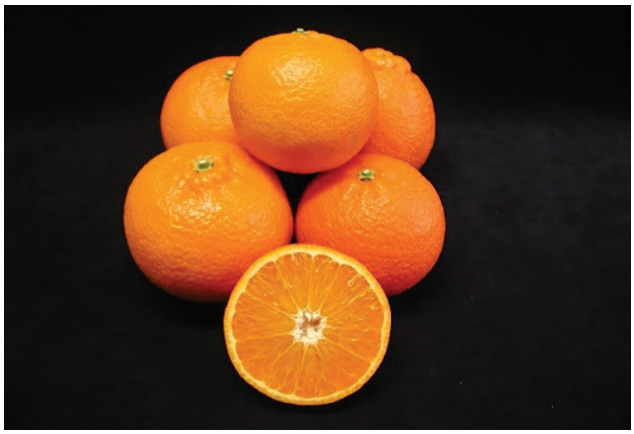

Figure 2. Tacle mandarins.

Estimated maturity period

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

Origin

The Tacle mandarin is a hybrid of the Monreal clementine × Tarocco orange bred in Italy. The Tacle has Plant Breeder's Rights (PBR) protection and is managed in Australia by the Australian Nurserymen's Fruit Improvement Company (ANFIC).

Fruit quality

Table 1. Tacle mandarin fruit quality* characteristics.

Skin	Easy peel, orange-red, slightly pebbled.
Average rind thickness (mm)	3.9
Internal quality	Rich, juicy, mildly acidic flavour.
Average number of seeds	<1
Juice per cent (%)	53
˚Brix	11.7
Acid per cent (%)	1.2
Brix:acid ratio	9.8
Average fruit weight (g)	178
Average fruit diameter (mm)	80

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

Comments

- The Tacle mandarin is a high quality eating fruit with good size and visual appeal.
- There was no internal or external development of anthocyanin pigment in the field.
- The fruit is round, some with a small 'neck' similar to the Tarocco parent.
- Trees are prone to leaf drop with high nutrient application.
- It is sensitive to Cit-tite® growth regulator sprays.
- A negative aspect of the variety is the thorny nature of the tree. Harvest activities are difficult due to the canopy having thorns of various sizes from the trunk to the outer limbs. Canopy management and tree shaping have been applied to the Tacle in Italy to help overcome the thorny nature of the tree and allow harvest access.
- Fruit production began at Year 4 (2009) on grafted and field-grown trees.
- Cool storage of Tacle mandarins did induce internal anthocyanin pigment development but it was not as intense as the colour development in Early Sicily (C1867).
- Field planted seedling trees have generally been low yielding in comparison to the more advanced top-worked trees at the Sunraysia site. Yield from the other national sites has been low.

Table 2. Average yield per tree* on trees top-worked to Valencia orange in 2005.

Rootstock	Average yield per tree (kg)		
	2009	2010	2011
Citrange	35	21	69
Cleopatra	No harvest	11	65
Trifoliata	59	25	93

Table 3. Average yield per tree* on nursery propagated field trees (Sunraysia).

Rootstock	Average yield per tree (kg)	
	2009 (4-y-old trees)	2011 (6-y-old trees)
C35 Citrange	–	56
Citrange	29	12
Trifoliata	15	–

*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.

The thorny nature of the tree has affected commercial interest in Australia.

Acknowledgements

Australian Nurserymen's Fruit Improvement Company (ANFIC)
Citrus Australia Ltd (CAL)
Department of Primary Industries and Regional Development, WA
Hort Innovation Australia

Hort Innovation Strategic levy investment | CITRUS FUND

This project has been funded by Hort Innovation using the citrus research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit horticulture.com.au

Reference number: PUB20/156

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.

Because of advances in knowledge, users are reminded of the need to ensure the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the Department and the user's independent advisor. Any reliance on the contents of the publication (or any part thereof) will be entirely at the user's own risk and neither Hort Innovation nor the Department will be responsible or liable for any loss, damage, cost or expense allegedly arising from any use or non-use of this publication.

Whilst care has been taken in the preparation of this publication, Hort Innovation and the Department make no representations and (to the extent permitted by law) expressly exclude all warranties regarding the accuracy, completeness or currency of the information, recommendations and opinions contained in this publication.