

# Bintangcheng Renbin No 5 orange

March 2020, Primefact 1737, First edition

Dave Monks and Graeme Sanderson, Research Horticulturists, Dareton



Figure 1. A Bintangcheng Renbin No 5 orange tree.

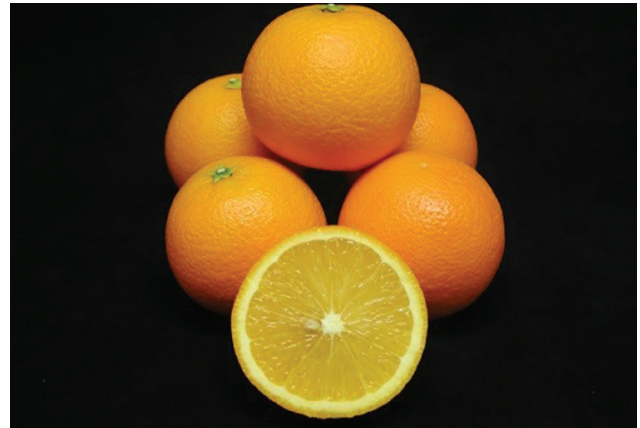


Figure 2. Bintangcheng Renbin No 5 oranges.

## Estimated maturity period

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

## Origin

The Bintangcheng Renbin No 5 orange is an early maturing processing orange from China. It was introduced into Australia by Auscitrus as two selections; Bintangcheng No 2 (first PEQ release) and Bintangcheng Renbin No 5 (second PEQ release). It was introduced to Australia as a Public variety.

## Fruit quality

Table 1. Bintangcheng Renbin No 5 orange fruit quality\* characteristics.

Skin	Achieves full orange skin colour late in the maturity period. Fruit with a 'green tinge' is often internally mature and suitable for harvest. Colour development superior to Bintangcheng No 2 in the 2012 and 2013 seasons.
Average rind thickness (mm)	4.3
Internal quality	2012: Bintangcheng Renbin No 5 fruit top-worked to Valencia on trifoliata rootstock was later maturing than Bintangcheng No 2 due to higher juice acid content. 2013: Top-worked trees of Renbin No 5 had an average of 0.88% acid at harvest; Bintangcheng No 2 had a much lower average of 0.55%. °Brix levels were similar ranging from 10.0 – 11.7.
Average number of seeds	1.5
Juice per cent (%)	50
°Brix	10.4
Acid per cent (%)	0.9

Skin	Achieves full orange skin colour late in the maturity period. Fruit with a 'green tinge' is often internally mature and suitable for harvest. Colour development superior to Bintangcheng No 2 in the 2012 and 2013 seasons.
Brix:acid ratio	11.5
Average fruit weight (g)	160
Average fruit diameter (mm)	68

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

## Comments

- The Bintangcheng processing orange was initially imported into Australia as seed. After germination and seedling selection, trees were propagated on trifoliata rootstock and planted at Dareton Primary Industries Institute and in the Riverina region of NSW during 1997.
- Bintangcheng was re-introduced as budwood by Auscitrus with China providing two selections: Bintangcheng No 2 and Bintangcheng Renbin No 5. Bintangcheng No 2 has been confirmed as an early maturing selection, but the second selection required sequential fruit quality testing in 2013 to confirm its characteristics and maturity period. Bintangcheng Renbin No 5 spent two additional years in PEQ to 'clean up' and guarantee its plant health status prior to release.
- The first field fruit was produced in 2012 but only a small number of fruit was available to carry out quality testing.
- The first harvest occurred in 2013 from top-worked trees (Table 2).
- The later maturity of Bintangcheng Renbin No 5 is advantageous for juice processing as it can extend the harvest period for Bintangcheng orange. The role for the two Bintangcheng orange selections would be as a blend into late season Valencia juice to impart sweetness and fresh juice characteristics.

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

Rootstock	Average yield per tree (kg)
	2013
Citrango	26
Cleopatra	40
Trifoliata	35

\*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 role for the two Bintangcheng orange selections would be as a blend into late season Valencia juice to impart fresh juice characteristics.**

## Acknowledgements

Auscitrus  
 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](http://horticulture.com.au)

Reference number: PUB20/143

State of New South Wales through the Department of Planning, Industry and Environment ("Department") 2020. The content has been developed by the Department using funds provided by Horticulture Innovation Australia Limited ("Hort Innovation").

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.