NSW GOVERNMENT
Department of Primary Industries
primefact

FJ navel orange

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Figure 1. An FJ navel orange tree.

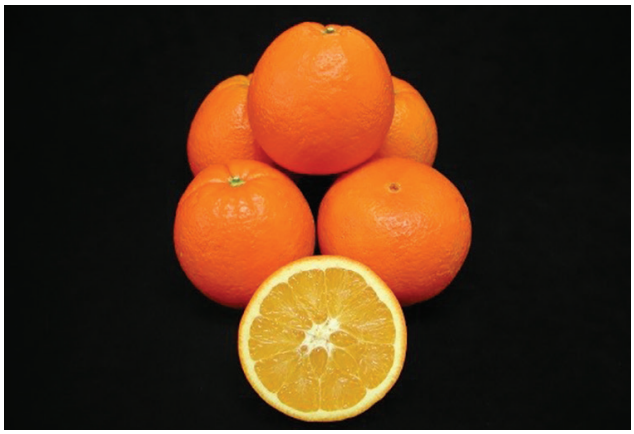

Figure 2. FJ navel oranges.

Estimated maturity period

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

Origin

The FJ navel is a limb mutation from a Navelina navel orange tree found at Leeton, NSW by a member of the Pacific Fresh citrus packing group. It has Plant Breeder's Rights (PBR) protection and is managed by Variety Access.

Fruit quality

Table 1. FJ navel orange fruit quality* characteristics.

Skin	Easy to peel when mature, intense orange–red colour, slightly pebbled. Mostly round fruit.
Average rind thickness (mm)	5.1
Internal quality	Acceptable eating quality reached in early May in Sunraysia. Juice content 44–50% with °Brix 10–11.
Average number of seeds	0
Juice per cent (%)	47
°Brix	10.2
Acid per cent (%)	0.93
Brix:acid ratio	11.0
Average fruit weight (g)	312
Average fruit diameter (mm)	84

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

Comments

- The FJ navel is a limb mutation selected from a Navelina navel orange tree in 2002 with commercial scale plantings established in the Riverina region of NSW. It was one of several limb mutations found on Navelina navel orange trees in southern Australia. Another Navelina mutation, M7, has rapidly gained commercial status in both Australia and internationally since its discovery in 2004 near Swan Hill, Victoria.
- Initial testing in 2014 showed a lower sugar content than the M7 navel, which is harvested in a similar maturity window.
- FJ navel has an intense red–orange skin colour at maturity and rounded fruit shape that helps to distinguish it from other early maturing navel oranges.
- Testing in the Riverina also suggests that it has a lower fruit acid content than the parent Navelina navel.

Table 2. Fruit quality of FJ navel orange top-worked to Valencia orange on Carrizo citrange rootstock, Dareton Primary Industries Institute, NSW, 2014-2017. See 'Estimated maturity period' to interpret this data.

Date	% Juice	°Brix	% Acid	Brix:acid ratio	BrimA
3.4.2014	34	8.3	1.09	7.6	65
10.4.2014	39	9.1	1.13	8.0	75
2.5.2014	44	10.1	1.02	9.9	99
12.5.2014	47	10.6	1.02	10.4	107
23.5.2014	47	10.2	0.93	11.0	107
3.6.2014	49	11.0	0.86	12.7	124
12.6.2014	50	11.2	0.86	13.0	128
26.6.2014	49	11.4	0.83	13.7	133
16.4.2015	47	9.8	1.06	9.2	92
28.4.2015	48	9.8	1.06	9.2	92
8.5.2015	49	10.3	0.95	10.9	107
18.5.2015	51	10.6	0.95	11.2	112
29.5.2015	47	10.9	0.91	12.0	120
11.6.2015	49	10.2	0.75	13.6	119
26.4.2016	42	10.5	0.93	11.3	112
6.5.2016	43	11.2	0.84	13.4	129
16.5.2016	47	11.4	0.83	13.7	133
27.5.2016	43	11.6	0.83	13.9	136
28.4.2017	37	10.7	1.09	9.8	105
9.5.2017	43	10.0	1.17	8.5	88
22.5.2017	50	11.5	1.05	11.0	120
5.6.2017	50	11.6	0.99	11.7	126
Orange minimum standard	38	9.0	–	9	90

The rapid commercialisation of the M7 navel in Australia could make it difficult for a second Navelina mutation to find a market niche in the same early navel maturity period.

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Variety Access

Reference number: PUB20/134

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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