mandarin variety fact sheet

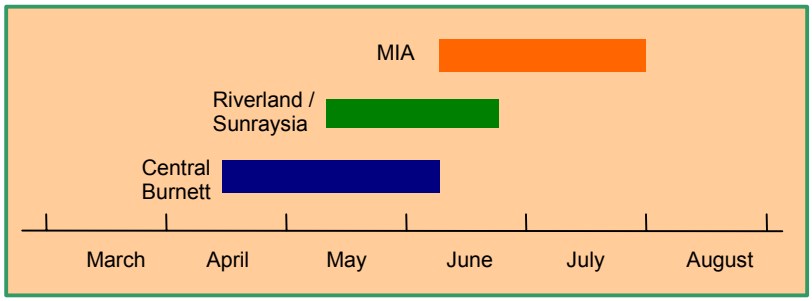
Fremont

Origin
Florida, USA, selected in California 1959: a Clementine X Ponkan hybrid released by the US Department of Agriculture in 1964. Imported into Australia as seed in 1968.

Type
Early to mid season maturity, seedy.

Market
Fresh, domestic and export.

Marketing season (estimated)



Internal quality
Fremont has a sweet, rich flavour, which makes it one of the most highly palatable mandarins. The high seed numbers, combined with small size detract from the variety's internal quality. Importantly, the variety is highly resistant to granulation even in hot dry environments. Juice content is commonly around 55 percent. The internal flesh and juice is deep orange in colour. Over-runs of fruit could readily be utilised by the juice industry.

External quality
Fruit size is small to medium, and heavy thinning is required to achieve an acceptable increase in fruit size. External colour is deep orange to red, while skin texture is moderately smooth. The skin is firmly attached and breaks-up during removal, making the variety difficult to peel. The skin is around 3mm in thickness. On tree storage is good: fruit can be harvested over a 4 to 6 week period without any significant deterioration in external or internal quality. Degreening significantly improves external colour in early season fruit.

Postharvest performance
Fruit can be hand "snapped" from the tree, though clipping may be preferable under most conditions. The fruit has a long postharvest life and the firm skin makes it well suited to handle the rigours of export.

Field performance
Trees are moderately vigorous with an upright growth habit. Young trees commence fruiting early, and are prolific in terms of flowering and fruit set. To date, performance on a range of rootstocks has been adequate. The high internal quality and resistance to granulation may enable this variety to be

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successfully grown on a wider range of rootstocks than used for some other mandarin varieties. It may be possible to utilise vigorous rootstocks that promote increased fruit size without significant negative impacts on fruit quality. The variety flowers prolifically even in warm environments, and requires extensive thinning. Losses to sunburn can be appreciable on young trees, but more mature trees tend to carry a lot of crop within the canopy.

The small fruit size of this variety may make it unsuitable for cooler production areas where achieving large fruit size can be difficult. Arboretum trees in the Sunraysia area produced small fruit even when heavily thinned. It is an ideal variety to evaluate in hot environments not normally associated with mandarin production in Australia.

The high eating quality, attractive external and internal colour and good postharvest performance have stimulated interest in this variety particularly for export to Asian markets. Small fruit size, high seed numbers, and difficult peeling detract from the usefulness of this variety for some markets. The attractiveness of the tree and bright coloured fruit may offer possibilities for the nursery trade.

Pest and disease

No specific pest and disease problems have been noted to this point, although they may emerge as the current large number of young trees come into bearing.

Extent of plantings

Commercial: Approx. 2,000 bearing, with 38,000 non-bearing, almost exclusively in Queensland.

Research: Arboretum trees in most states with no other trial work.

State of knowledge

Increased quantities of this variety will be available for marketing in the next few years as existing trees mature. It is likely to be a variety requiring high management input, and suited to particular market niches.

Disclaimer:
Information contained in this publication is provided as general advice only.
For application to specific circumstances, professional advice should be sought.

Growers should ensure that trees are propagated from Approved Budwood obtained from AusCitrus.

Last Revised: September 2002