

Miho Wase Satsuma

Origin

Miho Wase Satsuma is a nucellar selection of Japanese origin, derived from the Miyagawa Wase using controlled pollination. The selection was introduced as seed by Dr Cameron McOnie in the late 1970s, i.e. prior to shoot tip grafting, and developed from nucellar selections by Dr Hannes de Lange in association with Outspan International. It was released in South Africa in 1983. This selection of Miho Wase is unique to South Africa.

Ownership

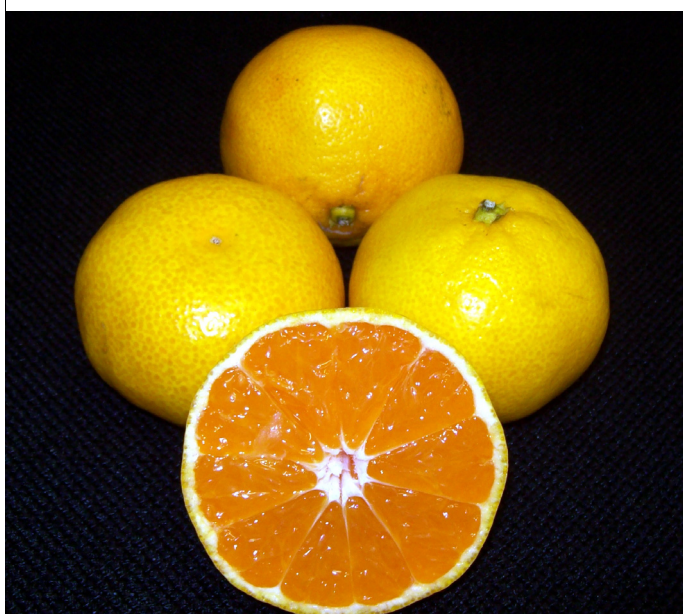
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General Description

The earliest maturing Satsuma selection currently available in South Africa in terms of colour and internal quality and matures towards the end of March in the cold citrus production areas. The trees are more vigorous than Owari and produce good yields of very good internal fruit quality. Fruit size is slightly smaller than Owari, fruit shape flatter and the neck not as pronounced. The selection matures earlier in South Africa than in Japan.

Tree Characteristics

The tree is fairly slow growing in comparison with other mandarin types, with a spreading open growth habit. Due to its nucellar origin, the trees are larger and more vigorous than Owari. The leaf colour is more olive green. There are occasional thorns. Yields are good.



Miho Wase Satsuma showing typical rind thickness, rind texture and colour after successful degreening, harvested mid March.

Rootstock Options

Rootstocks used for Satsumas in South Africa include Carrizo/Troyer citrange, depending on soil type and whether plantings are on new or replant ground. X639 has also performed well. Due to Satsumas having inherently low sugars, rootstocks inducing low sugars like Rough Lemon, Volckameriana and Rangpur lime are not recommended. Swingle citrumelo is not recommended due to delayed rind colour. Cleopatra mandarin is not recommended any more as precocity is delayed and also due to inverted benching (scion overgrowth), even on relatively young trees; no tree mortalities have yet been recorded. This phenomenon is not evident in Owari.

Fruit Characteristics

Fairly good fruit size, medium and sometimes small fruit (mainly counts 2-3 with some count 1 and larger as well) and smaller than Owari. The rinds tend to be smooth and thin. In South Africa, the rind has a pale orange colour and the fruit often matures internally prior to adequate colour development. Internal flesh colour is deep orange and the flavour is very good with adequate acid levels. The fruit is seedless and is easily and cleanly peeled. Brix levels are higher than Owari. Acid levels can be too low and rind colour poor in warmer areas. Miho Wase is the earliest selection to ripen, maturity in the cool Cape areas being mid to end March.

Production

Yields of 50 to 60 tons per hectare are normal for mature orchards.

General

Deficit irrigation may be necessary to enhance Brix levels. Degreening is necessary for the first harvest in mid March. Satsumas are degreened successfully. As with all Satsumas, nitrogen should not be applied too late. No specific pest and disease problems have been noted under South African conditions, except for fruit



Three year old Miho Wase Satsuma tree on Troyer citrange under micro sprinkler irrigation at the Citrus Foundation Block (height



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piercing moths (*Serrodes partita*) that occur erratically approximately every 10 years. The moths live in the semi desert regions and in years when abnormally high rainfall occurs in the late summer the moths breed profusely due to over abundance of vegetative growth on the indigenous wild plum trees (*Pappea capensis*). This causes a migration of the moths away from their breeding grounds and in so doing they pass through regions such as the East Cape citrus areas where they cause varying degrees of damage on early maturing cultivars such as Satsumas. Control options are limited and there is little that can be done to eradicate the moths once on the move. For further details refer to the section on Fruit Piercing Moths by S. D. Moore in the Production Guidelines.

Status, Area Suitability and Availability

Satsuma is the most cold hardy of all the mandarin selections. It appears to be especially suited to southern Africa's cooler coastal and cold inland climatic zones where it is planted commercially. Fruit quality and shape are marginal and can be unacceptable in the cool inland production areas. Commercial quantities of propagation material are available from the CFB.

Key References

The information in this fact sheet is based on evaluations by Citrus Research International.

Evaluation Data

Internal Quality - Miho Wase on Swingle citrumelo - Count 2 - East Cape Midlands						
Date	Juice %	Brix	Acid	Ratio	Seed	Colour
10/3/2010	62.7	10.7	1.44	7.4	0	6-7
18/3/2010	60.7	11.6	1.28	9.1	0	6
25/3/2010	61.2	12.4	1.18	10.5	0	5-6

Count Distribution

Count	1XX	1X	1	2	3	4	5
%	6	5	18	23	22	17	9

Production

105.8 Kg per tree and 57 tons per hectare at 5.75 x 3.25m spacing.

Export %

Grade	Percentage
1	68.0
2	10.0
3	6.0
4	16.0*

*Mainly sunburn

Note: These data are from 9 year old trees in the Patensie region of the Gamtoos Valley in the East Cape.

Comments

The Miho Wase has been the main Satsuma selection planted in South Africa. It matures earlier than all other citrus cultivars. It is a very good quality Satsuma amongst a series of selections that need special attention to produce good quality fruit.



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