

MANGO AND CITRUS FOR HOME GARDENS.

BY

M.H. PANHWAR

MANGO

Mango can grow anywhere in Pakistan between 24° to 30°N. Local varieties of mango make no money due to all of them being mid season, low yielders, with a short post-harvest life and lacking the pink blush on the skin preferred by Europeans who also like spotless fruit, weighing between 350-600 grams with low turpentine flavour. Pink is going to replace yellow mangoes, which have already reduced green mangoes to minimum production.

We have developed some 30 new cultivars or varieties of mango of which 17 are being propagated on farmers' fields for the past 2 years. Their harvest dates are April 15 to October 1. Many of them are dwarf so that instead of the present 25 trees per acre, they are planted at 100-200 trees per acre and the density maintained by pruning.

The basis of selection of new varieties of mango are: size of tree, number of trees per acre, yield per tree, yield per acre, price per kg., returns per acre, local market acceptability, post harvest stability, foreign market acceptability, post harvest shelf life of at least 2 weeks from ripening, incidence of diseases, resistance to diseases etc.

Keeping all factors in view, we have developed the above 17 varieties of mangoes of which about 10 have skins with a red blush. We have so selected them, that their harvest season does not clash with Sindhri and Chaus and either they are harvested before May 20 or after July 20. Some of our new varieties can stay on the tree long after maturity and some even for a month. Their sizes vary but dwarf varieties will be best for household gardens in Karachi. They will need a space of 10x10 feet, will fruit in the 3rd year and by proper pruning the tree in the 6th or 7th year. The red skin of the fruit looks stunning in the landscape. Some four red skin varieties at household corners will be very attractive but only if the trees are properly trained and pruned regularly, otherwise they may ultimately grow too big and unmanageable.

CITRUS

Many varieties of citrus can grow in home gardens in areas north of Multan, but a few can also grow south of it in Punjab and Sindh, Karachi having low chill of only 100 hours below 7°C can still grow some citrus varieties, the most promising of which are: grapefruit, Tahiti lime, Key lime, Mexican lime and lemon ('Lisbon', 'Eureka' and 'Meyer'), The high heat of Sindh is no problem as it can stand temperatures even up to 50°C without damage.

Grapefruit (**Citrus xparadisi**) is high in acids and the high heat of southern Pakistan reduces its acid to a palatable level. In Sindh the grapefruit harvest season is mid August to mid October, a time when the Punjab grapefruit is about to be harvested. One advantage of early harvest is that sufficient flowering can take place in November, followed by a second flowering in February.

Although Valencia and Washington navel oranges can grow in northern Sindh, their cultivation south of Hyderabad and in Karachi may not be economically attractive. Those interested in mandarin like '**Century**', '**Imperial**', '**Dancy**' and '**Cellendale**', all of which suit the high heat of Sindh, can try them in Karachi. '**Cleopatra**' mandarin will be marginal except in areas north of Sehwan.

With regards to grapefruit, higher and warmer temperatures produce maturity in a short time and very early. Sugar to acid ratio is also high in Sindh. The only disadvantage is that the skin colour develops only when the night temperature is below 13°C and this does not occur until about mid November. Colour can be developed artificially by storage of 2 days, if temperatures are kept between 18-30°C

Fruit fly is a problem in grapefruit but any damage in Sindh has not been observed, as grapefruit skin is thick and the Indian fruit fly ovipositor is too small to deposit eggs in the pulp.

Grapefruit varieties

- '**Duncan**' was an old cultivar, now totally superseded. It was very seed having 50-80 seeds per fruit.
- '**March**' which was seedless, remained quite popular for many years, but is now superseded by pink colored varieties.
- '**Marsh Pink**' or '**Red Marsh**' also called '**Thompson Seedless**' has been superseded.
- '**Ruby Red**' or '**Red Blush**' has pink flesh, yellowish pink skin and is seedless, with only 2-3 seeds in the whole fruit.
- '**Shamber**' has thick and rough skin, large size, pink juice and good taste.
- '**Ray Ruby**' is similar to '**Ruby Red**' but a better yielder.
- '**Flame Seedless**' or '**Henderson**'. Its internal colour is darker than '**Ray Ruby**'.
- '**Nelruby**' or '**Nespruit Ruby**'. It is an African form of '**Ray Ruby**'.

Easy peelers

Presently easy peeler mandarins like '**Kinnow**' are more popular than oranges, but mandarins '**Kinnow**' of Pakistan is very seedy and a number of new mandarin like *Citrus xtangelo* '**Minneola**', '**Fairchild**', '**Novelty**' and '**Robinson**' are getting more popular.

Spacing

For citrus to fruit properly, the tree has to have at least 15 feet diameter area per tree.

Fertilizing

In organic farming sprays of urea, potassium chloride and phosphoric acid are allowed. By spraying, the quantity of fertilizers used can be saved by 33%. Organic matter improves soil fertility and composted lawn mowing, leaves etc., can be added to the soil. They yield will be high only if in addition to the above macro fertilizers small quantities of manganese, copper, zinc, iron, boron and molybdenum are also sprayed at least 3 times a year.

All citrus fruits suffer from a number of insects, pests and diseases. They need to be sprayed at least 6 times a week for good productivity.

Yield

Yields can be 100kgs. Per tree very easily there is scope for even 200kgs. Per tree, but with proper management of soils, fertilizers, irrigation and diseases control and it is only possible on advanced growers' farms.