

# Prospects for Export of Indian Fresh Alphonso Mangoes

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India has emerged as the largest producer of fruits in the world, with an annual production of 57.60 million tonnes over an area of 5.2 million hectares, as against world production of 300 million tonnes. India produces around 50% of the world's mango, 8% of the world's banana and pineapple, 3% of the world's citrus and apple. However, her share in global exports is less than 1%. In India, less than 2% of the fruits produced are processed, while comparable figures for Brazil are 70%, USA 60%, Malaysia 40% and Thailand 30%. Brazil is the world leader in processed products like citrus and pineapple juice concentrates.

## Mango Production and Export

Mango, a native fruit of India, is now grown in over 87 countries. India is the largest producer of mango, with an annual production of about 10 million tonnes. More than 1000 varieties are grown in India, of which only 20 are commercially cultivated.

Even though India is the largest producer of the choicest varieties of mango, the country is not a major player in the export market for either fresh mango or processed mango products. Out of 10 million tonnes, around 40,000 tonnes of mango is exported as fresh fruit, accounting for about 0.4% of production.

Other major producers of mango are China, Mexico, Thailand, Indonesia, Pakistan, Philippines, Nigeria, Brazil, Peru, Australia, South Africa, Malaysia and Venezuela.



## Interesting facts about world mango trade

- ◆ While India's major mango marketing season is April to July, production is round the year in Brazil, Columbia, Kenya and Venezuela.
- ◆ The season is also quite long in Burkino Faso, Costa Rica, Indonesia, Jamaica, Mexico, Nicaragua and Puerto Rico.

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- ◆ Brazil, Venezuela, Costa Rica, Israel, Mexico, Pakistan, South Africa and U.S.A. have emerged as competitors of India in the international market. However, these countries do not enjoy the comparative advantage of choicest Indian varieties like Alphonso.
- ◆ India and Philippines were major producers of mango during the 70s, but our share is gradually decreasing due to other countries like Brazil, Mexico, Chile, Peru, South Africa, Kenya, Israel and Australia having taken up mango cultivation on a large scale and built up strong base for exports. Very big mango orchards of a single variety ranging from 2000 to 10000 hectares have come up in those countries, keeping an eye on the export market requirement of bulk supply of uniform quality.
- ◆ Many African and Latin American countries have become major suppliers to the European market. India's share in the European market is only 2.5%.
- ◆ Philippines is the largest supplier to Japan, Singapore and Hong Kong. Philippines retains 70% of Japanese market, having invested heavily in vapour heat treatment technology to ensure that export variety, viz. the 'Manila Super', could be certified as fruit-fly free by Japanese quarantine inspectors.
- ◆ Australia also exports its Kensington Pride variety to Japan after winning Japanese health authorities' approval of its vapour heat treatment programme.
- ◆ Mexico supplies mangoes to the US market, having a share of 85% of US imports of mango. Varieties include Haden, Kent, Tommy, Atkins, Irwin, Sensation, Van Dick and Palmar.
- ◆ Pakistan, which produces hardly one million tonnes of mango, exports about 40000 tonnes annually, accounting for 4% of its production. Higher subsidies, low freight charges, proximity to the Gulf have given Pakistan's Rataul Mango a permanent place on the eating table in Dubai.

### Export of fresh mangoes from India

Alphonso, Kesar, Banganapalli, Totapuri and Chausa are the varieties in great demand abroad. The export of fresh mangoes has been showing an increasing trend, with earnings from export of fresh mangoes in 2000-01 being Rs.68.61 crore, and from processed mango products (mainly pulp, juice, slice in brine, pickles and jams) Rs.263.83 crore. Major export destinations for our mangoes are Gulf countries (51%), Bangladesh (33%), European Union (10%). Among the Indian varieties, Alphonso is most-liked abroad.

### Special features of Alphonso mango

Alphonso is the leading commercial variety of Maharashtra and Goa, and one of the excellent varieties of the country. The fruit is medium in size,

ovate, oblique in shape and apricot yellow in colour. Slightly acidic, unique flavour, long shelf life to withstand transport and early bearing, have enhanced its competitiveness over other varieties. However, it is susceptible to a physiological disorder called spongy tissue.

The North American and European Markets are primarily for varieties of Haden and Tommy Atkins, which are not grown in India. Though Alphonso has excellent taste, the size and colour do not match varieties of Israel and Latin American countries.

### Why our Alphonso mango does not go to US and Japan ?

The dreaded fruit-fly infestation has led to a ban of Indian mangoes to the US and Japanese markets. A pest of the ripening mango fruits, it is almost of the size of the common house-fly. The fly lays eggs under the rind of the fruit when it is about to ripen. Within a few days, the eggs hatch and young white maggot or worms start feeding deep into the soft pulp. The affected fruits drop to the ground and maggot pupate in the soil, and emerge as flies after a week or ten days. So, in generation after generation, these flies persist in the orchard. Fruit-fly control consists of preventive measures only.

Fruit-fly infestation has wreaked havoc in California in the USA, causing billions of dollars in damage to fruit farmers. The outbreak in California resulted in a federal quarantine on most California fruits, higher prices for fruits and massive increase in pesticides use. The ban is understandable, when one considers the fruit-fly client list. It attacks over 230 different fruits; including apples, avocados, bananas, cucumbers, grapes, lemons, peaches and plums.

### Efforts made by India to export mangoes to US and Japan

Japan had placed an embargo on the import of mangoes from India till Vapour Heat Treatment (VHT) facilities are in place. The



required facilities are now installed at Vashi-Mumbai so export to Japan can commence. The related infrastructure pertaining to washing, drying, pallet, pre-cooling and cold storage facilities have been sponsored by the Maharashtra State Agricultural Marketing Board. Agricultural & Processed Food Products Export Development Authority (APEDA), New Delhi, is trying for market access in the U.S. for sell our Alphonso mangoes. It is understood that the U.S. authorities want the fruit-fly inside the mango to be sterilised, to prevent multiplication and not killed. This can be done using irradiation, and India has such a facility. India needs to strengthen its quarantine and pest risk analysis process so that our mangoes are accepted by U.S., Japan and China.

### Issues to be tackled to increase export of Alphonso Mangoes

◆ **Production related :** India has been endowed with a wide range of agro-climatic conditions, good soil, water and plenty of sunlight. What is required is new technologies through which farmers can produce mangoes acceptable in the international market. Every operation in the farm-planting, fertilizer application, irrigation, plant-protection, pre-harvesting, spraying and harvesting-should be as per the recommendations of the expert so that phyto-sanitary certificate could be obtained easily. This will enable getting big volume by pooling the produce of

different farmers for export. This will also lead to uniform quality. Use of right variety and disease-free planting material should be the main concern. Best hygiene should be maintained in the orchard. Use of fertilisers and pesticides should be minimum so that residue problems do not occur later. Integrated disease and pest management should be followed.

- ◆ **On farm storage :** In a tropical country like India, tremendous amount of quality deterioration takes place immediately after harvesting due to lack of on-farm storage facilities. Various sizes of low cost environment friendly cool chambers using locally available materials like brick, sand, bamboo, etc. should be constructed.
- ◆ **Logistics Management :** Essential elements of business logistics are movement and storage. Inadequate cold-chain facilities, refrigerated warehouse capacity constraints, insufficient air cargo space, improper handling of perishable cargo in storage and transit and exorbitant freight rates are adversely affecting our export performance.
- ◆ **Market intelligence on mango :** Collecting global market information, price trends, and participation in food fairs and festivals in important cities in the US and Japan could be thought of. Since Europeans had tasted our Alphonso mangoes, they do not insist on such stringent health safety certificates for our mangoes, unlike Japan and US. But, people in the U.S. do not know the best qualities of our Alphonso variety, hence, special efforts are needed to promote them in North America and Japan.
- ◆ **Capacity building of Mango growers :** The global information on Alphonso mango should reach the farmers and hence, training of these growers assumes great importance. They should know quality standards of mango and packaging standards of importing countries.
- ◆ **Agri-Export Zone for Alphonso :** The area under Alphonso mango has been increasing very fast in recent years due to implementation of Employment Guarantee Scheme of the Government of Maharashtra. MAHAMANGO, a growers cooperative in Sindhudurg district has one pre-cooling and cold storage unit for Alphonso mango. Agri-Export infrastructure could be strengthened in mango growing regions.

### Conclusion

Quality parameters of fresh fruit are decided on the basis of appearance factor (i.e. size, shape, pattern, gloss, colour and physical defects), Kinesthetic factor (feel and sense) and sensory measurements (subjective methods).

Adequate infrastructure, efficient logistic management, human resources development and multidisciplinary research are essential to enhance quality of export of fresh horticulture produce. Only integrated and concerted efforts of growers, suppliers, shippers, transporters and exporters can bring about satisfactory results. ■