

Management of Lenticel Browning in Mango

R.R. Sharma and K. Prasad

Division of Food Science and Postharvest Technology
ICAR-Indian Agricultural Research Institute, New Delhi-110 012
(Email:rrs_fht@rediffmail.com)

Mango (*Mangifera indica* L.), commonly called as the ‘King of fruits’ in India, is being cultivated on an area of over 2.5 million ha in India and contributes a production of about 18 million tonnes annually. Indian mango production accounts for over 56% of the global mango production. Although mango export is more than Rs. 210 crores annually from India, but post-harvest losses of fruits are still very high. Not only India but several south Asian countries and other mango producing countries of the world want to reduce the postharvest losses significantly and to increase the export of fresh mangoes to other countries. There are several inherent problems which affect quality and export of mango. Of the several factors limiting the export of mango, one which has limited it to great extent and which affects the appearance of mango fruits, is the lenticels browning (LB) or lenticels discolouration (LD). LB has now become as one of the main reasons of quality loss in mango cultivars grown in India and abroad. LB not only decreases the shelf-life of the mango fruits but also affects the appearance of fruits, which has become a point of hindrance in export of mango from several countries. Several efforts have been made in the past to reduce factors which affect the mango fruit quality including appearance and ultimately the export.

Lenticels are macroscopic porous openings, consisting of cells with large intercellular spaces in the periderm of the secondarily thickened organs, especially fruits of mango. These openings play significant role in transpiration and exchange of gases. Lenticels act as a necessary evil as

they are required for several physiological functions in the plant, but their discoloration leads to the loss in quality, and thus it is considered as one of the main problems in post-harvest management of mango. Lenticel browning has been reported to be serious postharvest problem in mango.

Several efforts have been made to reduce factors which affect the quality, appearance and ultimately the export of mango fruits. Of the several factors limiting the export of mango, one which has limited it to great extent and which affect the appearance of mango fruits, is the lenticels browning (LB). It is one of the main reasons of quality loss in mango fruits predominant both in indigenous and exotic varieties grown in India and abroad. Lenticels browning (LB) not only decreases the shelf-life of the mango fruits but also affects the appearance which has become a point of hindrance in export of mango from several countries. Hence, an attempt was made for the first time in India to manage this problem using farmer-friendly technique in famous north India varieties (Langra and Dashehari), which are worst affected by this malady.



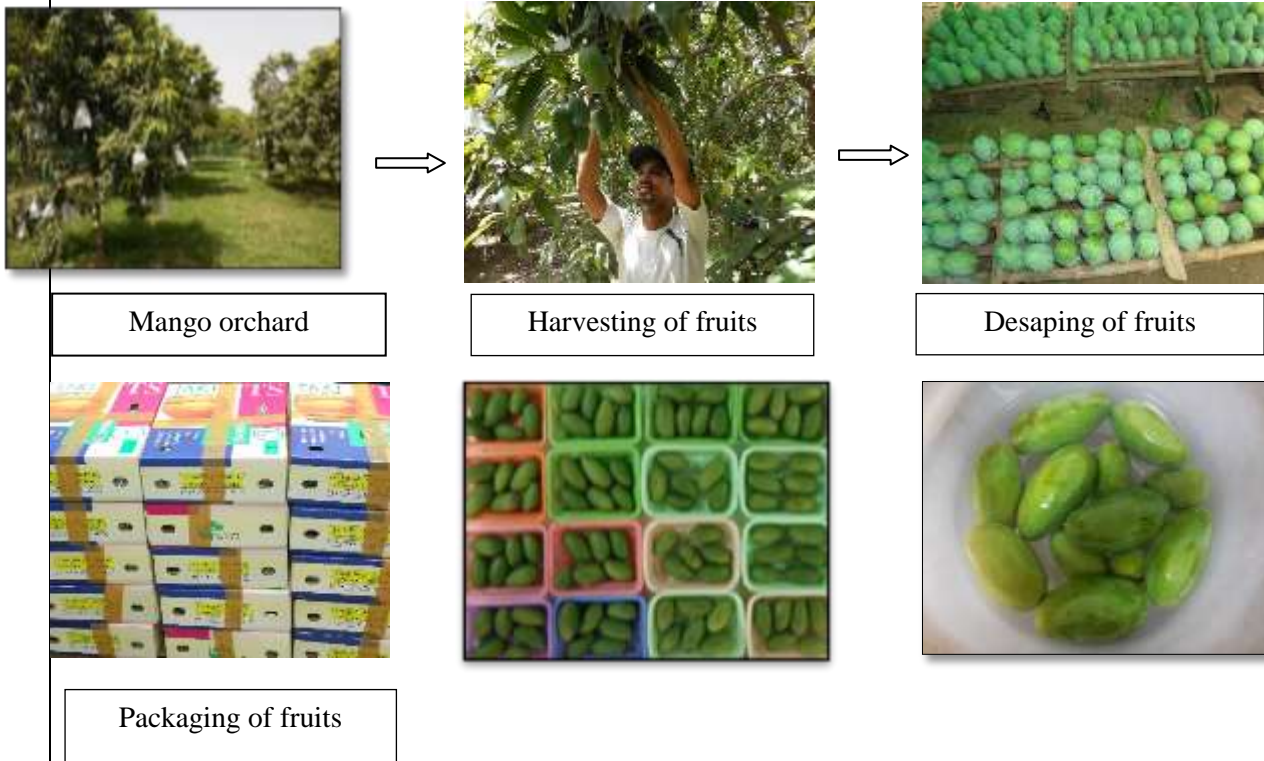
Lenticels on harvested mango fruit

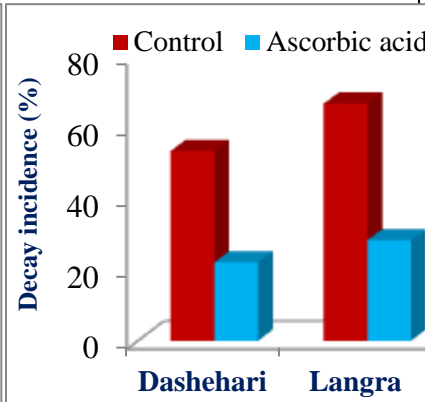
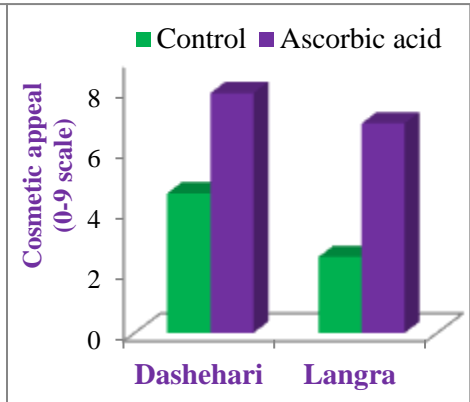
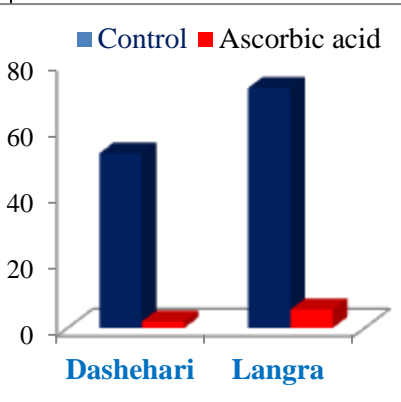
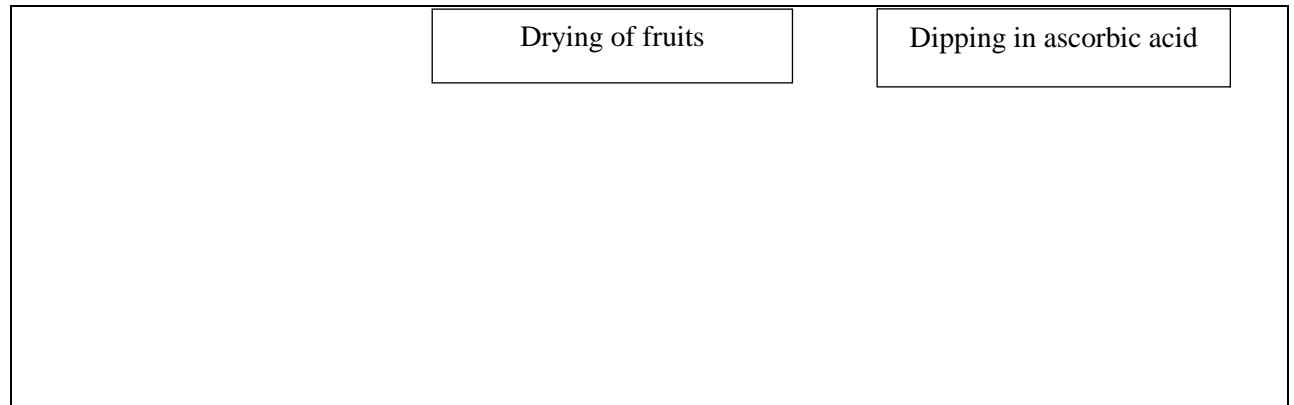


Lenticels browning in ripened mango fruit

The technology

The mango fruits are harvested at full maturity. Fruits are de-sapped using standard technique and then dipped into 150 ppm solution of ascorbic acid for 5-10 minutes. After removal from the solution, fruits are dried under ordinary ceiling fan and then packed in corrugated fiber board boxes for transport, marketing or storage.





Advantages of the technology

- The problem of lenticels browning during storage is reduced to 90-95%.
- The cosmetic appeal of the fruits is significantly improved.
- The colour of fruits is significantly improved
- This treatment helps to reduce fruit decay considerably.
- It is a farmer-friendly technique and even illiterate farmer can use it.
- It is a cost-effective technique and involves merely Rs 0.50/kg fruits.
- Fruits free from lenticels browning attract consumers.
- Produce gets high prices in the market.
- The incidence of storage diseases like anthracnose or stem end rot is also reduced.

- The quality of fruits is either improved or remains unaffected.

Terms - Do not remove or change this section (It should be emailed back to us as is)

- This form is for genuine submissions related to biotechnology topics only.
- You should be the legal owner and author of this article and all its contents.
- If we find that your article is already present online or even containing sections of copied content then we treat as duplicate content - such submissions are quietly rejected.
- If your article is not published within 3-4 days of emailing, then we have not accepted your submission. Our decision is final therefore do not email us enquiring why your article was not published. We will not reply. We reserve all rights on this website.
- Do not violate copyright of others, you will be solely responsible if anyone raises a dispute regarding it.
- Similar to paper based magazines, we do not allow editing of articles once they are published. Therefore please revise and re-revise your article before sending it to us.
- Too short and too long articles are not accepted. Your article must be between 500 and 5000 words.
- We do not charge or pay for any submissions. We do not publish marketing only articles or inappropriate submissions.
- Full submission guidelines are located here: <http://www.biotecharticles.com/submitguide.php>
- Full Website terms of service are located here: <http://www.biotecharticles.com/privacy.php>

As I send my article to be published on BiotechArticles.com, I fully agree to all these terms and conditions.
