

Value Addition of Litchi fruit Affected with Complete Pericarp Browning

Litchi (*Litchi chinensis* Sonn.) is a subtropical crop. It was originated in South-East Asia and has high commercial value in international trade. India is the second largest producer of litchi next to China with an annual production of 585 thousand metric tones from an area of 84 thousand hectares (2014). Major litchi producing states are Bihar, Jharkhand, Tripura, West Bengal, Uttarakhand, Assam and Punjab. In Uttarakhand, litchi is grown in Dehradun, Pithauragarh, Nainital and U.S. Nagar districts.

Litchi is known for its pleasant flavor and juicy pulp (aril) with attractive red color pericarp. It is also an excellent source of vitamins and minerals. The daily vitamin C requirement of an average adult can be met by consuming 14-17 litchi fruits. Besides, the fruit is also known medicinally for treatment of diseases like dyspepsia and smallpox.

Litchi fruit has good export demand and vast export potential, yet it is not a major commercial crop, mainly because of its seasonal availability and short shelf-life. It is a very delicate fruit and highly perishable in nature, with an average moisture content of about 84 %. The shelf life of litchi is never more than 24-72 hours at ambient conditions. The attractive bright red color may be lost within 48 hours. Desiccation during post harvest handling accompanied by loss of red color and pericarp browning has posed a major problem in its storage, transport and marketing of litchi. The skin browning is however the first and most important symptom to diminish the consumer appeals of this fruit dramatically.

Desiccation and browning of skin may not affect the fruit but greatly reduce the commercial value of litchi in domestic and western markets, nevertheless the arils still remain fit for consumption. Such fruits may have great potential in the processing industry because these may be converted into value added products with the purview that huge economic losses occurring to growers may be minimized.

Advantages:

Potential benefit of this investigation is that low valued litchi fruits that have lost their marketing value significantly do not get wasted as the developed technology may be successfully employed to convert them into value added litchi products. These products have great marketing potential due to their excellent consumer acceptability and prolonged shelf-life.