

## Pre-harvest Application of Nutrients on Quality and Storability of Litchi CV Bombai

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**Abstract :** Food loss and waste have become critical global issues, with approximately one-third of the world's food production being wasted. Among the various food products, horticultural fruits and vegetables are especially susceptible to loss due to their relatively short shelf lives. Litchi (*Litchi chinensis*) is one of Bangladesh's most important horticultural fruits. But the problem with this fruit is its short shelf life by losing weight faster after harvest. The experiment was carried out at Hajee Mohammad Danesh Science and Technology University, Dinajpur-5200 Bangladesh during 2020-2021. The objective of this experiment was to see the impact of nutrients viz., urea (1%), calcium chloride (1%), borax (1%), and their combinations on fruit quality and shelf life of litchi cv. Bombai. The experiment was laid out in a randomized block design with 7 treatments and 3 replications. Two sprays of each treatment were applied from the last week of May to June (at 20-day intervals). The results indicated that all the treatments significantly improved the quality parameters of litchi fruits as compared to the control. In terms of physicochemical characteristics fruit weight (20.30g), fruit volume (20ml), and pulp percent (17.14) were found maximum with minimum stone percent (11.09) with the application of urea 1% + borax 1%+ calcium chloride 1%. Maximum TSS (19.62oBrix), TSS/acidity ratio (24.57), maximum ascorbic acid (45.19 mg/100 g pulp), and minimum acidity (0.80%) were reported with the application of T6 (Urea 1% + borax 1%+ calcium chloride 1%) treatments whereas fruits treated with urea 1% + borax 1% gave maximum total sugars (26.64%) and reducing sugars (19.19%) as compared to control. In the case of storage characters, application of Urea 1% + borax 1%+ calcium chloride 1% resulted in a minimum physiological loss in weight (6.11%), (8.41%), and (10.65%) for 2 days, 4 days, and 6 days respectively. In conclusion, to obtain better quality and increased storage period of litchi fruits, two sprays of urea, borax, and calcium chloride (1%) could be used during the fruit growth and development period at fortnightly intervals.

**Keywords :** litchi chinensis, preharvest, quality, shelf life, postharvest

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