

IMPACT OF PACKAGING SYSTEMS AND USE OF CHEMICALS AT FARMERS LEVELS FOR MANGO PRODUCTION IN BANGLADESH

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Executive Summary

The main experiment was accomplished within two parts as postharvest quality assessment of mango and field level data collection through questionnaire survey and interviews. The first part of the experiment was conducted at the SAU postharvest Laboratory, Horticulture Department of Sher-e-Bangla Agricultural University, Dhaka and the second one was conducted in Shibgonj upazila, Chapainawabgonj during the period from June, 2017 to August, 2017. It was carried out due to study the shelf life of mango influenced by different postharvest treatments. This experiment was two factorial experiment with 3 replications where Factor A was bagging (both pre and postharvest) and Factor B was consisted of control, hot water treatment, Bavistin and Calcium chloride. There were total 40 treatment combination. Periodical data were taken at 2 days interval on color change, physiological weight loss and shelf life extent of mango. However, Langra was the selected variety where we have used two types of mango. In type one preharvest brown fruit bagging was used in field condition and another type was non bagging mango fruits. As postharvest treatment we applied hot water treatment at 55°C for 5 minutes, Bavistin 0.1% and Calcium chloride 1.5% with different treatment combinations. After treating the mango fruits each treatment was divided into two share where one was again kept in Low Density Polybag (LDP) as postharvest bagging treatment and the another one was kept without bag or non-bagging condition under room temperature. At the end of the shelf life Total Soluble Solids (TSS), Vitamin-C, Vitamin-A and Titrable acidity (TA) of mango was estimated from Bangladesh Agricultural Research Institute (BARI) Postharvest laboratory, Gazipur. The longest shelf life (15.67 days) was observed in Langra mango where both preharvest and postharvest bagging has been used and treated with bavistin 0.1% treatment. The higher vitamin C contents (28.49, 26.42 and 23.47 mg/100g at 3rd, 6th and 9th day of harvest, respectively) was found in Langra mango where both preharvest and postharvest bagging has been used and treated with bavistin 0.1% treatment. The better performance was observed as Langra, treated with bavistin 0.1% dips followed by hot water treatment with both pre and postharvest packaging materials as brown bag and low density polybag for long term storage quality control, transportation and marketing.

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