

Development of a transportation package for banana

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Banana is the most popular and cultivated fruit in Sri Lanka. But post harvest losses of banana are recorded nearly 30% due to improper post harvest handling practices. Absence of suitable packaging system for bulk transportation of banana is a major reason for above situation. Therefore, a study was conducted to design and develop bulk packaging technique for banana transportation suitable to Sri Lankan condition.

A questionnaire survey was conducted to evaluate present situation of banana supply chain and to identify suitable packaging system, with farmers, transporters and retailers. Physical properties of Embul, Seeni and Kolikuttu banana varieties related to design of packaging. Two packaging systems were tested using a simulated vibration bed similar to road transport conditions which were 6 mm amplitude and 5 Hz frequency. One method was rapping of banana bunches with styrofoam sheets of 2mm, 3mm and 5mm thicknesses and second method was spreading styrofoam sheets as layers of four difference thicknesses 3mm,5mm,8mm and 10mm.

People preferred to transport banana as whole bunches due easy retailing and transportation as hands in plastic containers was rejected by farmers due to excess handling, and transporters, retailers because ripening cannot be controlled. Wrapping of whole bunches by styroform sheets of 5 mm thickness recorded the minimum mechanical damages during the experiment and this method did not much effect on capacity compared to the prevailing system. When packaging

cost and handling efficiency are considered, use of Styrofoam sheets of 8 mm as layers is the most suitable method for bulk transportation of banana.