



913/B

The postharvest losses of vegetables through the normal transportation method in Sri Lanka

T.Vaikunthan,¹ D.M.C.M.K. Dasanayaka,¹ M.A. Wijewardane,² and C.V.L. Jayasinghe^{1*}

¹ Department of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka, Makandura, Gonawila, Sri Lanka.

² Department of Mechanical Engineering, Faculty of Engineering, University of Moratuwa, Katubedda, Sri Lanka.

Postharvest loss (PL) can be defined as the degradation, in both quality and quantity, of a food production from harvest to consumption. In a starving and increasing competitive world, reducing postharvest food losses is a major agricultural goal. In general, vegetables grown in different areas in Sri Lanka are packed in poly-sack bags, plastic trays, gunny bags, wooden boxes, cardboard boxes and woven sacks, and transported by lorries, open trucks, three wheelers, containers, tractors, canters, and motor bikes with no definite temperature and humidity. Thus, PL of vegetables ranges from 16-41% but data are not available on the losses of each vegetable through the normal transportation practices in Sri Lanka. In order to assess the PL of vegetables through the normal transportation methods, five types of vegetables, viz., cabbage, carrot, tomato, leeks, and brinjal, were selected based on the highest extent of production and highest perishability. The losses were calculated for vegetables that come from Nuwara Eliya to Pannala and Dambulla to Pannala via normal transportation methods. The mechanical damage percentage, physiological weight loss and Visual Quality Rating (VQR) of vegetables were measured at the loading and unloading stages of the selected nodes, namely Dambulla, Pannala, and Nuwara Eliya. Results indicate that the mechanical damage percentages for cabbage, carrot, tomato, leeks, and brinjal were 14%, 12%, 8%, 11%, and 9% respectively, while the physiological weight losses were 1.41%, 2.44%, 2.34%, 2.11%, and 1.23% for the same, respectively. The highest VQR change is showed by leeks (3.00) followed by cabbage (2.73). Observation further showed that transporting vegetables via cold chain transportation by packing in plastic crates will be a solution to reduce the postharvest loss of vegetables during transportation.

Keywords: Postharvest loss of fruit and vegetables, visual quality rating, mechanical damage