

**NUTRITIONAL, PHYSICO-CHEMICAL AND SENSORY PROPERTIES
OF PROBIOTIC ENERGY DRINK PREPARED FROM MANGO
(*Mangifera indica*), WHEY PROTEIN POWDER AND SKIM MILK**

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Mango is a nutritionally rich and commonly found fruit in Sri Lanka, having huge postharvest losses due to seasonal nature. This study was conducted to develop a probiotic energy drink incorporated with whey protein powder and skim milk and to evaluate the suitability of mango juice as probiotic carrier medium. The trial and error method was used to develop the basic formula of the drink. In the main trial, four levels of mango puree (35%, 40%, 45% and 50%, v/v) were used with reconstituted whey powder at levels of 25%, 20%, 15% and 10% (v/v), respectively. All samples were inoculated with *Lactobacillus acidophilus* (LA-5) (10^8 cfu/ml) containing skim milk [40% (v/v)]. Probiotic drink prepared from 100% milk was used as the control. Treatments were arranged in Complete Randomized Design with three replicates. pH and titratable acidity of all samples were measured during the storage at 4 °C for 21 days. Sensory evaluation was conducted for fresh and stored products at the storage. LA-5 was enumerated from the control and the sample that was selected as the best treatment by the first sensory evaluation. There was a significant difference ($p < 0.05$) in overall acceptability in 40% and 50% mango containing sample compared to other treatments. The highest overall acceptability was recorded for 40% fresh and 50% mango containing stored samples. pH values of all samples were reduced with storage period while titratable acidity increased slightly for all treatments. Viability of LA-5 in the 40% mango and 20% whey protein containing treatment was increased up to 9th day of storage compared to the control and it was decreased afterwards. Rate of decrease of LA-5 was lower in the 40% mango and 20% whey protein containing treatment compared to that of the control, which may be due to the prebiotic effect of mango. Results clearly revealed that mango puree level at 40% and 50% (v/v), reconstituted whey protein powder and skim milk can be used to produce a probiotic energy drink with acceptable quality characteristics.

Keywords: *Lactobacillus acidophilus* (LA-5), Mango, Prebiotic, Sensory evaluation, Whey protein powder