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## Prevalence analysis on probiotic stability in commercially available yogurts in Sri Lanka

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Probiotics have been defined as live food supplements which benefit the health of the consumer when administered in adequate amounts. Bacterial species *Lactobacillus bulgaricus* and *Streptococcus thermophilus* in fermented yogurts have been ingested by humans for thousands of years. However, the viability of these bacteria is important in order to gain health benefits. The probiotic stability of the commercially available yogurts has been investigated in this study. Yogurt samples were collected from the highly marketed different brands in different areas from Sri Lanka. The pH variation with the viability of bacteria and the bacterial count during its shelf life of yogurt were recorded. MRS and M17 agar were used to enumerate *L. bulgaricus* and *S. thermophilus* respectively. The pH values decreased significantly ( $P < 0.05$ ) from the production day to the end of storage period. Probiotic value has been evaluated by considering the counts of MRS and M17. International Dairy Federation (IDF) has suggested the viability of probiotic bacteria should be at least  $10^6$  cfu ml<sup>-1</sup> to get minimum therapeutic benefits. However, four out of eight products contained over  $10^6$  cfu ml<sup>-1</sup> of *Lactobacillus bulgaricus* on the production day to the seventh day. Only two of these products had  $10^6$  cfu ml<sup>-1</sup> viable counts of *Lactobacillus bulgaricus* till the end of the expiry. One did not reach  $10^6$  cfu ml<sup>-1</sup> until the seventh day but it reached to  $10^6$  cfu ml<sup>-1</sup> at the end of the expiry day. Conversely, all products showed the highest number of *Streptococcus thermophilus* (above  $10^8$  cfu ml<sup>-1</sup> within a week and two showed reduced viable counts up to  $10^7$  cfu ml<sup>-1</sup>. For optimum benefits, the probiotic yogurt products should be consumed within seventh to fourteenth day from its manufacturing date. Studies have shown low viability of probiotics in marketed preparations and out of eight yogurts only three brands maintained above  $10^6$  cfu ml<sup>-1</sup> viable count of both probiotics within its expiry.

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