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. Probiotics in the form of *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 market hit different brands i.e. A, B, C, D, E, F, G and H in different areas from Sri Lanka. The pH variation with the viability of probiotic bacteria and the bacterial count during its shelf life of yogurt were recorded. MRS and M17 agar were used to enumerate *Lactobacillus bulgaricus* and *Streptococcus 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 been suggested the viability of probiotic bacteria should be at least 10^6 cfuml^{-1} to get its minimum therapeutic benefits. However, four out of eight products were contained over 10^6 cfuml^{-1} of *Lactobacillus bulgaricus* on the production day to the seventh day. Only two of these products were maintained 10^6 cfuml^{-1} viable count of *Lactobacillus bulgaricus* till the end of the expiry. One was not reached 10^6 cfuml^{-1} until the seventh day but it has reached to 10^6cfuml^{-1} at the end of the expiry day.

Conversely, all products showed the highest number of *Streptococcus thermophilus* (above 10^8 cfuml^{-1}) within a week and two were reduced it is viable count up to 10^7cfuml^{-1}. For optimum benefits, in general the probiotic yogurt products should be consumed within fourteen days from its manufacturing date. Studies have shown low viability of probiotics in marketed preparations and out of eight yogurt brands only three were maintaining above 10^6 cfuml^{-1} viable count of both probiotics within their expiry.