

**SELECTION OF A SUITABLE STABILIZER
PERCENTAGE THAT CONTRIBUTES TO
THE MAXIMUM ORGANOLEPTIC
PROPERTIES TO THE PELWATTE SET
YOGHURT**

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ABSTRACT

This investigation is mainly focused on the Pelwatte set yoghurt. There is a major problem associated with gelatin (which is used as a stabilizer) percentage in the final product. The factory has received number of consumer complaints that the gelatin percentage is high in Pelwatte yoghurt. Excess gelatin has given an unpleasant nature to the taste, aroma and also to the texture of yoghurt. Therefore this investigation was conducted to determine the best percentage of stabilizer to be added in the yoghurt that contributes to the maximum organoleptic characters.

Four different concentrations of gelatin, pectin and carrageenan were incorporated to prepare set yoghurt. During the preliminary studies, by subjecting these samples to an experienced tasting panel, the concentration series (gelatin 0.6%, pectin 0.5% and carrageenan 0.5%) was narrowed down to one level [preliminary study I (a)]. The selected three concentration levels from each three stabilizer types were subjected to an inexperienced tasting panel which consisted of thirty (30) panelists to select the most suitable stabilizer type (Experiment I). According to the analysis of final results the suitable stabilizer was gelatin [preliminary study I (b)].

Experiment II was carried out to select the best two concentration levels of gelatin for set yoghurt. Out of seven treatments two selected concentration levels (0.6% and 0.65%) were compared with a control (0.8%, existing yoghurt) by subjecting it to an inexperienced tasting panel of thirty (30) to select the most suitable gelatin concentration (Experiment III). All the sensory data were analyzed using MINITAB and SAS statistical packages.

Samples were taken at a regular 5 day interval for a period of 30 days. Analysis of variance procedures shown by Duncan group/ SAS was used for measuring samples which were not significantly different ($P > 0.05$) from among treatments T_1 (0.6%), T_2 (0.65%) and T_3 (0.8%, control) with relevance to protein, fat, ash and the total solid percentage. pH, titratable acidity and Brix value, TBA value and viscosity didn't show a significant difference ($P > 0.05$) with the time of storage.

Colform, yeast and mould counts did not exceed the specifications in Sri Lankan Standards for the yoghurt during 30 days. The shelf life of set yoghurt prepared is within the specified standards when stored at $14 \pm 1^\circ\text{C}$ for 30 days of time.