

**PLANT BASED STABILIZERS INSTEAD OF GELATIN IN
YOGHURT PRODUCTION**



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ABSTRACT

A research was conducted at the Department of Bio System Technology, Faculty of Technology, Eastern University, Sri Lanka to produce yoghurt with different plant based stabilizers such as kithul flour and agar instead of gelatin and to investigate physical, chemical and sensory parameters.

In my research, there was five treatments of yoghurt prepared to incorporate different levels of above mentioned Gelatin substitutes 6 gl^{-1} . The other ingredients were used in similar proportion in all treatments. The five treatment in this study were T1 –Yoghurt with Gelatin stabilizer (Control), T2- yoghurt with 10% kithul flour extract, T3- yoghurt with 30% kithul flour extract, T4- yoghurt with 10% agar extract, T5- yoghurt with 30% agar extract yoghurt.

The experiment was laid out with a completely randomized design with two replications. All five treatment of freshly prepared yogurts were analyzed for nutritional quality and organoleptic qualities. The nutritional qualities such as pH, Total Suspended Solid, Ash, Fat, Protein, Syneresis and tritatable acidity were analyzed according to AOAC (2002) method.

The nutritional qualities pH, Ash, Fat, Titratable Acidity, Protein, Total Suspended Solid and syneresis were significant differences ($P>0.05$) among the treatments. Based on the above result all treatment were kept for storage in a refrigerator for 21 days. There was a slight decrease in pH but slight increase in protein, titratable acidity, fat, ash, syneresis and total suspended solid. The Result of the organoleptic characteristics revealed that treatment T1- Yoghurt with gelatin stabilizer (Control) had the highest mean score of overall quality of all sensorial properties namely, color, taste, aroma, and overall acceptability and the treatment with T5- 30% Agar extract had the next best level after 21 days of storage in a refrigerator.

Based on these results during the storage study the T5 treatment with 30% agar extract was selected as the best treatment. Thus it can be concluded that Plant based stabilizer of 30% agar can be used to replace gelatin in yoghurt preparation completely.

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