

# **Citrus Fiber® Enhances the Physicochemical and Sensory Attributes of Set-yoghurt**

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Yoghurt is the most popular fermented milk product in the world. Stabilizers are used to enhance physicochemical and rheological properties of yoghurt. Aim of this study was to find out suitable “vegetable-based” stabilizers for set-yoghurt production. Preliminary studies were conducted to select the most suitable types and the level of stabilizer (% w/v). Set-yoghurts were developed by adding four selected stabilizers (gelatin, citrus fiber®, xanthan gum and carrageenan) at the rate of 0.3% (w/v). The pH, titratable acidity, viscosity and syneresis were analyzed weekly at 4 °C ±1 during the 21-day storage period. The viscosity of yoghurt samples were measured using a Brookfield viscometer while syneresis was measured using suction filtration. Proximate and microbial analyses were carried out to determine suitability of products according to the CODEX and SLSI standard. Sensory evaluation was conducted to select the best yoghurt sample. Proximate composition results were not significantly different among all set-yoghurt samples (P>0.05). The pH, acidity, syneresis and viscosity values were not significantly different (P>0.05) between citrus fiber and gelatin added set-yoghurt samples. Citrus fiber® and gelatin added set-yoghurt samples obtained, significantly (P<0.05) lower pH values and higher acidity values. Carrageenan added set-yoghurt samples obtained, significantly (P<0.05) higher viscosity value while xanthan gum added set-yoghurt samples obtained the lowest value. Citrus fiber® and gelatin added set-yoghurt samples obtained, significantly (P<0.05) lowest syneresis value. Citrus fiber® added set-yoghurt samples recorded highest sensory scores for appearance, aroma and taste while gelatin added set-yoghurt samples recorded highest value for texture. These results indicate that citrus fiber added set-yoghurts have similar characteristic of gelatin added set-yoghurt. Therefore, citrus fiber® can be used to replace gelatin in set-yoghurt industry.

*Keywords:* Stabilizers, Set-yoghurt, Citrus fiber®, Gelatin, Syneresis, Viscosity