Psyllium Husk as a Plant-Based Stabilizer to Produce High Fiber Low Syneresis Yoghurt

Oh, Boon Yee (School: Heng Ee High School)

Stabilizers such as gelatin is usually added to yogurt to improve the texture of the yogurt by increasing its viscosity and preventing syneresis. However, gelatins used in yogurt are derived from collagen taken from animal body parts which are not suitable for vegans and the muslim community. In this study, we investigated the use of psyllium husk, a soluble dietary fibre, as a substitute for gelatin. Eight samples of yogurt namely, plain yogurt, commercial yogurt (with 0.6% gelatin) and psyllium husk-yogurt at 0.1%, 0.2%, 0.3%, 0.4% 0.5% and 0.6% of psyllium husk were prepared for experimentation. A comparison of the viscosities, degree of syneresis and the change in pH of the yogurt samples over time were analysed. The experiment results showed that when the percentage of psyllium husk increased, the viscosity of the yogurt also increased. The 0.37% psyllium husk-yogurt showed the equivalent results with the commercial (0.6% gelatin). It has the lowest syneresis value in comparison to the plain yogurt and commercial yogurt (0.6% gelatin). By statistical analysis with a correlation coefficient (R2= 0.9941), the change in pH value over 7 days between the 0.37% psyllium husk-yogurt and commercial yogurt (0.6% gelatin) is almost the same. Therefore, it can be concluded that it is viable to substitute gelatin with psyllium husk as a stabilizer for making yogurt. Psyllium husk in yogurt provides dietary fibre and other health benefits. As psyllium husk is from plants, the production of this psyllium husk-yogurt would be low cost and suitable for the community's consumption including vegans and the muslim community.