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Formulation of a yoghurt enriched with vitamin A

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Vitamin A deficiency is widespread in the early stage of life in developing countries due to number of causes that include limited dietary sources. The recommended safe level of daily intake of vitamin A for children of age 1-6 years is reported as 400 Retinol equivalent. Guidelines for eradication of vitamin A deficiency include fortification of commonly eaten foods with vitamin A preparations to those at risk. Fortification of yoghurt with vitamin A is one of the effective methods for overcoming such a situation due to its popularity as a low cost snack food. Hence, a study was carried out to introduce vitamin A fortified yoghurt with the assistance of manufacturing industry. Vitamin A content of yoghurt before and after fortification was determined by reverse phase HPLC at wavelength of 330 nm. Level of Vitamin A fortification that is 200 μg /100 mL was decided by adding different levels of Retinyl palmitate and studying the stability of vitamin A in fortified yoghurts on the day 1, 7 and 15 after fortification. Results revealed that vitamin A content of unfortified set yoghurt was 29.2 ± 5.04 μg/100g and the addition of 200 μg of Retinyl palmitate per 100 ml gave a satisfactory recovery rate of 186.1 μg±3.25 on the day 14 with a stability of 96.5%. Sensory evaluation was done with a 20-member panel (including both taste specialist and consumers) using five-point scheme and results showed that the fortified yoghurts scored an average of 21 point out of 25 indicating that Retinyl palmitate 200 μg /100 mL could be used successfully without changing the appearance, texture, smell or flavour of yoghurt.

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