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Physicochemical and sensory properties of a dairy product fortified with vegetables and dietary fiber

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Vitamin A and dietary fiber are nutrients of public health concern, because a deficiency in their consumption could increase the morbidity or mortality. Deficiency of vitamin A is a major problem in the child population of the developing countries. It is the main cause of the preventable childhood blindness, and contributes to various health problems during pregnancy and lactation. Moreover, the dietary fiber intake is still lower than that recommended by the FAO/WHO, although it is well known that it contributes to lowering the risk of weight gain, diabetes, cardiovascular disease, and colon cancer; diseases that now-a-days affect an important percentage of the world population. The purpose of this study was to investigate the physicochemical and sensory properties of a Petit-Suisse fortified with carrot and fructo-oligosaccharides. Various concentrations of both functional ingredients were evaluated, in an effort to develop a product that could be labeled as “good source of vitamin A and dietary fiber”. The obtained products were characterized in terms of their proximate composition, pH, acidity, syneresis index, total fructans, color, texture, vitamin A, mineral content, and fatty acids composition during 28 days of storage at 4°C. The sensory properties were evaluated with a trained panel, through the score tests. It was found that products elaborated with 35% carrot puree, and fructo-oligosaccharides at a concentration equivalent to 20% of the daily recommended intake, displayed adequate physicochemical and sensory properties. These results indicate that fortification of dairy products with vegetables and dietary fiber has high potential to improve the nutritional value and health promoting effects of the dairy goods, since they can enhance the intake of nutrients of public health concern. From the market point of view, this study contributes to the development of new value-added dairy products, as a response of the current consumers’ demands.

Biography

Amira-Liliana Rodríguez-Amaya is a Chemical Engineer specialized in Food Process Engineering and Biomaterials, with a PhD in Food Science and Technology and a Master's degree in Agri-Food Engineering. He is a Full Professor at the Instituto de Ciencia y Tecnología de Alimentos of the Universidad Nacional de Colombia Sede Bogotá, since 2008. He is the Leader of the research group in Food Biomolecules. He has his research interests in the extraction and purification of bioactive molecules for their application in nutraceutical products and functional foods, as well as, on the design of processes for a profitable utilization of food industry by-products. In the last five years, he has carried out research studies in the development of functional dairy products.

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