Comparative analysis of physical properties and fatty acid composition of set-yogurt manufactured from different milk types

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Abstract	The increasing consumption of fermented milk products such as yogurt can be attributed to their health benefits as it contains milk-derived essential nutrients and probiotic lactic acid bacteria added as a starter culture. Yogurt is made from different varieties of fresh and reconstituted milk. The unique characteristics of goat milk provide an opportunity to produce yogurt that meets consumers' preferences. This study determined, evaluated and compared the physical properties, fatty acid composition and the nutrient/health index based on the fatty acids profiles of goat's and cowÃ¢Â€Â™s milk set yogurt. The yogurt was made from different milk varieties, which were goat's milk, cow's milk, a combination of goat's and cow's milk, commercial pasteurized full-fat cow's milk, and low-fat cow's milk. Physical properties evaluated were spontaneous or free whey, syneresis, water-holding capacity, viscosity, and texture. The composition of fatty acids was determined, grouped, and used to assess the nutrient/health index. The physical differences between yogurt prepared from goat's milk and cow's milk were established. This study revealed 21 different fatty acids in set yogurt made from goatÃ¢Â€Â™s and cow's milk, and the goatÃ¢Â€Â™s milk yogurt contained 6 fatty acids in the highest proportion. The yogurt contained an average of 62.3% saturated fatty acids and 37.7% unsaturated fatty acids. This study demonstrated the effect of milk varieties on the variation of yogurt's physical properties and fatty acid composition. This information is valuable to establish the ways to enhance the product's quality.
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