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## Comparative study of lactose, galacto-oligosaccharides, volatile profile and physicochemical parameters in reduced-lactose and traditional yogurts

Claudia Ines Venica, IrmaVeronica Wolf, Carina Viviana Bergamini and Maria Cristina Perotti  
Universidad Nacional del Litoral, Argentina

Lactose intolerance affects about 70% of the world population; its incidence in South America is very high. Consume of reduced-lactose dairy products is recommended to avoid the uncomfortable gastrointestinal symptoms. In the Argentinian market, reduced-lactose fermented milks are not available. The purpose of this study was to compare acidity, lactose and galacto-oligosaccharides (GOS) concentrations, volatile profile and fat, total solids and proteins contents of stirred hydrolyzed yogurts made with added  $\beta$ -galactosidase enzyme with traditional ones. Yogurts with different fat contents, sweeteners (aspartame, sucrose) and with and without *Lactobacillus acidophilus*/inulin were studied during storage. Acidity increased from fresh yogurts to 21 days and was lower in hydrolyzed yogurts than in traditional ones. Lactose decreased approximately 78% during fermentation for hydrolyzed products; slight changes were observed during storage. In traditional products the reduction was 20% during yogurt preparation which continued decreasing up to 27% at 21 days. Thus, the lactose content was 1.20 g/100 g and 4.90 g/100 g in hydrolyzed and traditional yogurts respectively at 21 days. The presence of GOS was only detected in the hydrolyzed yogurts (approximately 0.70 g/100 g); the values remained constants in some varieties while in others they decreased 15% at 21 days. Chemical composition was similar between hydrolyzed and traditional yogurts for each variety. The volatile profiles were characterized by the predominance of ketones and acids. Overall, acetaldehyde, diacetyl, 2, 3-pentanodione, acetoin and volatile acids were the most abundant components. Differences between hydrolyzed and traditional products were more pronounced at 21 days. The changes observed were dependent on the type of matrix.

### Biography

Claudia Ines Venica has completed her PhD in Chemical Technology from Universidad Nacional del Litoral in Santa Fe, Argentina. She is a Postdoctoral fellow at Instituto de Lactología Industrial (Universidad Nacional del Litoral-CONICET).

[clauvenica@fiq.unl.edu.ar](mailto:clauvenica@fiq.unl.edu.ar)

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