

Article Abstract

Title:	Controlled temperature grinding under modified atmosphere for Almond (<i>Prunus Dulcis</i>) paste production
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Abstract:	<p>The quality of the raw material and the processing conditions have a great influence on the nutritional properties of finished products. This research is focused on almond paste production and aims at developing a new production process to deliver the high nutritional content of the raw almonds into the finished product. Raw almonds are composed mainly of fats (approx. 50%) and proteins (approx. 25%), and are particularly rich in omega 6 fatty acids, and are hence exposed to denaturation and oxidation phenomena during the traditional grinding/homogenization process. The study involved the analysis of six different local cultivars based upon the main nutritional indicators (protein content, vitamins, and fatty acids) which resulted in the determination of the cultivar <i>tuono</i> as the one with the best nutritional properties. The further step consisted in establishing an innovative production process involving controlled atmosphere and refrigerated grinding with the aim of preserving the nutritional value of the raw material. Finally an experimental comparison of the product obtained with the proposed production process and the traditional method showed an average incremental gain of 27% and 21% in the protein and fat content, respectively.</p>
Keywords:	Almonds; Food Processing Aspects; Lipid Oxidation.