

INNOVATION STRATEGIES FOR CREATING ADVANTAGE OF WALNUTS (*JUGLANS REGIA L.*) BIOACTIVE COMPOUNDS IN FOODS

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Walnut kernel (*Juglans regia* L.) is one of the most profitable domestic products with high demand in the EU countries. It is highly appreciated nut because of its unique organoleptic characteristics, biological and nutritional value. Potentially walnuts were used to obtain vegetable milk, not only able to exert health benefits, but also as an alternative to dairy based products. Processing steps and conditions to ensure chemical composition, physical and oxidative stability, microbiological safety and sensory properties of walnut milk were analysed. Recipes and technologies of obtaining beverages based on walnut milk with fruits, berries and grains are proposed. Study gives a detailed analysis of the fatty acid composition of the product by GC-chromatography. The highest content is in the mono- and polyunsaturated fatty acids, namely the linoleic, linolenic and arachidonic acids, which are of great nutritive and biological value. Analysis of walnut milk microstructure showed that sizes of oil drops in walnut milk are in the range of 0.45...5.40 microns (an average diameter of 2.70 microns). The results of this research showed high potential and positive view on walnut milk production, in agreement with the current demand of healthy products. These results offer new interesting expectations to continue with this research line and demand the application of innovation strategies of walnut bioactive compounds processing, being the main challenge to be faced in future studies.

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