

MD.17**Title****Beverage emulsion from walnuts *Juglans regia* L.****Authors**

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Current research is devoted to develop technology of walnut beverage emulsion production and to analyse its chemical composition, basic quality properties as well as microstructure and rheological behavior in terms of storage. Potentially walnuts were selected to obtain beverage emulsion, not only able to exert health benefits, but also as an alternative to dairy based products.

The technology of walnut beverage emulsion included following main steps: primary walnut preparation, extraction procedure and homogenization. ISO (Official Methods of Analysis of AOAC International) standard methods of analysis have been applied for evaluation of walnut beverage emulsion.

**Description
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Research gives a detailed analysis of the fatty acid composition of the product by GC-chromatography; 20 fatty acids were found. 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 beverage emulsion microstructure showed that dimensions of oil drops in walnut emulsion are distributed in normal mode, the major part of oil volume is formed by drops with an average diameter of 2.70 microns.

Research results showed high potential and positive view on walnut beverage emulsion production, in agreement with the current demand of healthy products. Results offer new interesting expectations to continue with this research line and demand the application of advanced technologies to provide better quality of the product, being the main challenge to be faced in future studies.

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