

Walnut virgin oil: a different but high quality vegetable oil

A. Cuesta¹
M. Álvarez-Ortí¹
A. Pardo-Giménez²
R. Gómez¹
A. Rabadán¹
J.E. Pardo^{1*}

¹ Escuela Técnica Superior de Ingenieros Agrónomos Universidad de Castilla-La Mancha Campus Universitario, Albacete, Spain

² Centro de Investigación, Experimentación y Servicios del Champiñón (CIES) Quintanar del Rey Cuenca, Spain

In this work an extensive bibliographic review on walnut is made, in particular, on the oil contained inside it (walnut virgin oil), with regard to its chemical composition, stability, nutritional and therapeutic aspects and technological process, with the aim of increasing its visibility as a different but high quality oil with great present and future perspectives. As regards walnut chemical composition, attention is given to proteins (mainly glutelins), carbohydrates, minerals (in particular potassium and phosphorus), phytochemicals (polyphenols) and, especially, lipids, formed mainly by triglycerides, with predominance of mono and polyunsaturated fatty acids, in particular, linoleic acid (more than 50%). Walnut oil is also characterized by its low thermal stability and for its positive nutritional and therapeutic aspects (regulate cholesterol metabolism, reduce heart diseases, beneficial effects on high blood pressure and cancer, etc.). This oil can be obtained by using solvent extraction, supercritical fluid extraction (CO₂) and pressure systems (hydraulic and screw press), being the last those that allow to obtain high quality oils at an affordable price.

Keywords: Oil, walnut, chemical composition, nutritional, extraction, quality.

(*) CORRESPONDING AUTHOR:
email: jose.pgonzalez@uclm.es