

Abstract

Capitalization of Vegetal Wastes for Industrial Application: A Method for Reducing the Associated Pollution and for Increasing the Quality of Life [†]

Radu Claudiu Fierascu ^{1,2} , Anda Maria Baroi ^{1,3,*}, Roxana Ioana Matei (Brazdis) ^{1,2}, Toma Fistos ^{1,2}, Irina Fierascu ^{1,3} , Alina Ortan ³ , Simona Spinu ³ and Daniela Ionescu ⁴

¹ National Institute for Research and Development in Chemistry and Petrochemistry—ICECHIM, 202 Spl. Independentei, 060021 Bucharest, Romania; fierascu.radu@icechim.ro (R.C.F.); roxana.brazdis@icechim.ro (R.I.M.); toma.fistos@icechim.ro (T.F.); irina.fierascu@icechim.ro (I.F.)

² Faculty of Chemical Engineering and Biotechnology, National University of Science and Technology Politehnica Bucharest, 1-7 Gh. Polizu Str., 011061 Bucharest, Romania

³ Faculty of Horticulture, University of Agronomic Sciences and Veterinary Medicine of Bucharest, 59 Marasti Blvd., 011464 Bucharest, Romania; alina_ortan@hotmail.com (A.O.); simonaspinu91@gmail.com (S.S.)

⁴ SC HOFIGAL EXPORT—IMPORT SA, Bucharest, 2 Intrarea Serelor, 042124 Bucharest, Romania; dionescu16@yahoo.com

* Correspondence: anda.baroi@icechim.ro

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Introduction: The recovery of plant waste material is an attractive approach within the framework of EU waste management policies and the development of a circular economy. Biowastes from side streams or other sources are underutilized as a potential resource of valuable compounds. The exploitation of vegetable byproducts rich in nutritious and bioactive compounds presents several advantages like obtaining important secondary metabolites with biological activity, reducing plant waste by recovering target compounds, increasing the potential of the phytopharmaceutical and food market and increasing the quality of life. The aim of the present study was to develop active extracts using technology that could be easily up-scaled for industrial applications. **Materials and Methods:** Among the several strategies evaluated, the recovery of secondary metabolites from *Arctium lappa* L. wastes seemed the most promising approach. **Results:** The natural extracts obtained presented simultaneous antioxidant and antimicrobial properties. The process applied for obtaining the extract was based on microwave-assisted extraction, followed by concentration on a rotary evaporator and freeze-drying. The results revealed a good extraction efficiency for the targeted active principles. **Conclusions:** The developed product is ecological and natural, showing antioxidant and antimicrobial actions while being readily available for application in natural treatments for topical use. The obtained results represent the subject of a patent application [1].

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Reference

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