

SUNFLOWER SEED CAKE AS A POTENTIAL BIORESOURCE FOR ISOLATION OF FLAVONOIDS

Zorica Stojanović¹, Snežana Kravić¹, Ana Đurović¹, Nada Grahovac², Ranko Romanić, Nada Hladni², Ana Marjanović Jeromela²

¹*University of Novi Sad, Faculty of Technology Novi Sad, Bulevar cara Lazara 1, Novi Sad, Serbia*

²*Institute for Field and Vegetable Crops, Maksima Gorkog 30, Novi Sad, Serbia
e-mail: zorica.stojanovic@uns.ac.rs*

Abstract

Sunflower seed cake is remaining after isolation of oil from sunflower seeds and practically represents a waste from production of cold pressed sunflower oils. This waste product is considered as a viable potential source of various natural compounds and can be exploited for the production of new products and isolation of valuable substances such as biologically active compounds and nutraceuticals. In addition, isolation of biologically active substances from food waste represents the way for recycling and may be economically attractive as well. Flavonoids represent a group of polyphenol compounds with a high antioxidant power. These phytochemicals are known to reduce many chronic diseases such as cardiovascular diseases, heart diseases, diabetes, obesity and certain cancer [1]. In this work we investigated the flavonoids content in seven sunflower seed cakes coming from cold pressed oil production. Flavonoids are extracted by using 80% ethanol and ultrasound-assisted extraction at 30°C for 10 minutes. Total flavonoid content is determined by a colorimetric method [2]. The results showed that sunflower seed cakes contained significant amounts of total flavonoids. The total flavonoids content is found to be in the range from 12.3 to 24.6 mg of catechin equivalent/g. The results proved that sunflower seed cakes obtained from cold pressed oil production represent valuable by-product and can be used as a raw material for isolation of bioactive flavonoids which could be further applied for development of various functional foods.

Acknowledgements

The authors are grateful to the Ministry of Education, Science and Technological Development of the Republic of Serbia for supporting this work by Projects TR31014 and III 46009.

References

- [1] S. Vijayalaxmi, S.K. Jayalakshmi, K. Sreeramulu, J. Food Sci. Technol. 52 (2015) 2761.
- [2] J.S. Bao, Y. Cai, M. Sun, G. Wang, H. Corke, J. Agric. Food Chem. 53 (2005) 2327.