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I
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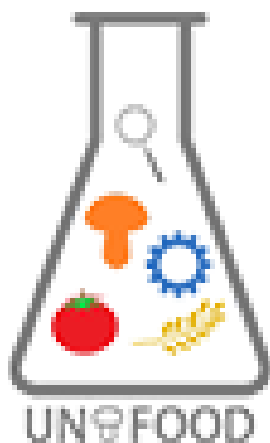
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UNIFood Conference

October 5-6 2018 University of Belgrade **210th Anniversary**



16:55-17:05	<p>Hemijska analiza i analiza botaničkog porekla medova iz Albanije</p> <p>Chemical analysis and evaluation of botanical origin of some Albanian honeys</p>	<p>Hoxha et al.</p> <p>Poljoprivredni Univerzitet u Tirani, Fakultet za biotehnologiju i hranu, Albanija</p> <p>Agricultural University of Tirana, Faculty of Biotechnology and Food, Albania</p>
17:05-17:15	<p>Eksploatacija antocijanina iz ekstrakta <i>Ficus carica</i> L.: optimizacija ekstrakcije, bioaktivnost i primena kao boje za životne namirnice</p> <p><i>Ficus carica</i> L. infructescence exploitation for anthocyanin-rich extracts preparation: optimized extraction, bioactivity, and application as food colorant</p>	<p>Perreira Carla</p> <p>Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Bragança, Portugal</p> <p>Laboratory of Separation and Reaction Engineering – Laboratory of Catalysis and Materials (LSRE-LCM), Polytechnic Institute of Bragança, Bragança, Portugal</p>
17:15-17:25	<p>Biološko profilisanje ekstrakata <i>Saccharina japonica</i> primenom planane hromatografije povezane sa biološkim esejima</p> <p>Bioprofiling of <i>Saccharina japonica</i> extracts by planar chromatography linked with bioassays</p>	<p>Ristivojevic et al.</p> <p>Inovacioni centar Hemijskog fakulteta u Beogradu, Studentski trg 12-16, Beograd, Srbija</p> <p>Inovation Centre of the Faculty of Chemistry Ltd, Studentski trg 12-16, 11000 Belgrade, Serbia</p>
17:25-17:35	<p>Funkcionalizacija ekstrakata <i>Agaricus bisporus</i> u jogurtu putem mikroenkapsulacije primenom “spray-drying” tehnike</p> <p>Functionalization of yogurts with <i>Agaricus bisporus</i> extracts microencapsulated through the spray-drying technique</p>	<p>Heleno et al.</p> <p>Politehnički institut Braganca i direktor Centra za istraživanje (CIMO), Braganca, Portugal. Direktor Mountain Research Centra (CIMO), Bragança, Portugalija</p> <p>Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal</p>



UNIFood Conference

Predavanje i usmene prezentacije u okviru sekcija/Lecture and oral presentation within sections
BEZBEDNOST I KVALITET HRANE / FOOD SAFETY AND QUALITY



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***Ficus carica* L. infructescence exploitation for anthocyanin-rich extracts preparation: optimized extraction, bioactivity, and application as food colorant**

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Given its coloration, the peel of the infructescence of *Ficus carica* L. a by-product of fruit processing and/or consumption, was considered as a potential source of anthocyanin compounds. In the present study, different extraction techniques (heat, ultrasound, and microwave), aiming to recover the anthocyanin pigments and optimize its extraction, were compared by response surface methodology using a circumscribed central composite design of three variables with five levels. The relevant tested and optimized variables were time, temperature, and solvent composition (ethanol/water ratio) for heat and microwave extraction methods. For ultrasound method, the variables were the ultrasonic power, time, and solvent composition. The anthocyanin profile of the extract was determined by HPLC-DAD-ESI/MS, and the used criteria responses were the quantification of cyanidin 3-rutinoside (C) in the extracted residue (R; mg C/g R) and in the dried fig peel (P; mg C/g P dw), and the extraction yield of the obtained residue (g R/g P dw). Ultrasound extraction was the most effective method, yielding 17.0 mg C/g R, 3.11 mg C/g P dw, and 0.19 g R/g P dw at the optimal global extraction conditions (21 min, 310 W, and 100% of ethanol). Regarding its bioactive properties, the fig peel optimized extract showed antioxidant activity with an EC₅₀ value of 2,447 mg/mL in the TBARS method and EC₈₀ values of 52 and 1.62 mg/mL, in 60 and 120 min, respectively, in the OxHLIA assay. The extract also revealed antimicrobial activity in different Gram-positive and Gram-negative bacteria and did not present cytotoxicity against non-tumour cells. Its application in a food product was carried out through the preparation of a donut topping. The obtained results highlight the potential application of *F. carica* peels as sources of anthocyanins to be considered in food industry, adding the benefits derived from its antioxidant and antimicrobial activity to the colorant power.

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