



**UN FOOD  
CONFERENCE**  
University of Belgrade  
**210<sup>th</sup> Anniversary**  
OCTOBER 5-6 2018

**PROGRAM  
I  
ZBORNIK RADOVA**

*Programme  
&  
Book of Abstracts*

Beograd, 5 i 6 oktobar 2018  
Belgrade, Octobre 5-6, 2018

CIP-Kategorizacija u publikaciji  
Narodna biblioteka Srbije, Beograd

Univerzitet u Beogradu  
UNIFOOD CONFERENCE (2018; Beograd)  
Program; i zbornik radova= Programme; & Book of Abstracts/  
Beograd, 5 i 6 oktobar 2018 = Belgrade, Octobre 5-6 2018  
[organizator] Univerzitet u Beogradu; [organized by] University of Belgrade  
[urednici, editors Marina Soković, Živoslav Tešić] Beograd, Univerzitet u Beogradu

Radovi na srp i engl. jeziku – Tekst ćir i lat- Tiraž

ISBN 978-86-7522-060-2

UNIFOOD Konferencija, Beograd, 5-6 oktobar 2018  
PROGRAM I ZBORNIK RADOVA

UNIFOOD Conference, Belgrade Octobre 5-6 2018  
Programme and Book of Abstracts

**Izdaje / Published by**

**Univerzitet u Beogradu / University of Belgrade**

Studentski trg 1, 11000 Beograd

Tel/fax ; [www.bg.ac.rs](http://www.bg.ac.rs), email

**Za izdavača / For Publisher**

**Vladimir Bumbaširević, rektor**

**Urednici / Editors**

**Marina Soković**

**Živoslav Tešić**

**Dizajn korica i kompjuterska obrada teksta / Cover Design Layout**

**Tomislav Tosti**

**Tiraž / Circulation**

ISBN 978-86-7522-060-2

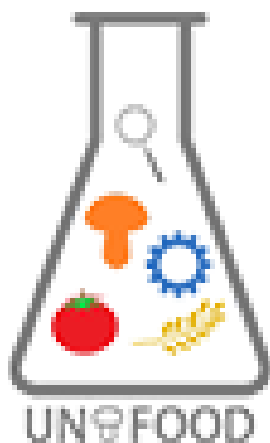
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# UNIFood Conference

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



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**MOLE SE SVI IZLAGAČI DA POSTAVE SVOJE POSTERE U PERIODU OD 8.30h-13h I SKINU SVOJE POSTERE U PERIOD OD 13h-13.30h**

**(PLEASE SET UP YOUR POSTERS IN THE PERIOD FROM 8:30 AM - 9:00 AM AND TAKE YOUR POSTERS IN THE PERIOD FROM 13h-13,30h)**



# UNIFood Conference

Posterska prezentacija u okviru sekcija / Poster presentation within sections  
BEZBEDNOST I KVALITET HRANA / FOOD QUALITY AND SAFETY



**BKHP83 / FQSP83**

## ***Dahlia mignon* as a source of soluble sugars and glycosylated flavonoids with bioactive properties**

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The recent preoccupation with healthier living conditions has increased consumer interest in products that have beneficial effects. Edible flowers have been reported since ancient times in Asia, ancient Greece and Rome, medieval France, England and in the Middle East region as a healthy alternative. The aim of this study was to determine the individual profile of soluble sugars and glycosylated flavonoids in dahlia petals and in its infusion, and also to evaluate the bioactive properties. The soluble sugars were determined by high performance liquid chromatography coupled to a refractive index detector (HPLC-RI), while the phenolic profile was determined by HPLC-DAD-ESI/MSn. Furthermore, the bioactive properties were evaluated through the antioxidant, antibacterial and antiproliferative activities. Fructose, glucose and sucrose were found in the petals and infusions, being fructose the main sugar present in petals ( $10.24 \pm 0.62$  g/100 g dw), and in the infusion ( $0.19 \pm 0.02$  mg/100 mL). The phenolic profile of dahlia sample presented a total of 21 compounds, being the main molecule naringenin-3-*O*-glucoside. Dahlia petals presented a higher antioxidant activity than the infusion for DPPH scavenging activity ( $0.63 \pm 0.01$  and  $1.17 \pm 0.05$  mg/mL, respectively) and  $\beta$ -carotene bleaching inhibition ( $0.48 \pm 0.02$  and  $2.01 \pm 0.07$  mg/mL, respectively), while for the reducing power the infusion revealed a higher potential ( $1.33 \pm 0.07$  and  $0.799 \pm 0.001$  mg/mL, respectively). Dahlia petals and infusion gave the lowest GI<sub>50</sub> values against HeLa ( $223.65 \pm 2.78$   $\mu$ g/mL) and MCF-7 ( $361.99 \pm 28.83$   $\mu$ g/mL,  $303.27 \pm 26.13$   $\mu$ g/mL respectively) cell lines. The samples were active against most of the tested microorganisms, however, the samples were found to be more active against Gram-positive bacteria with MICs ranging from 2.5 to 5 mg/mL. These results confirm the potential of *Dahlia mignon* as a source of bioactive compounds with interest for the pharmaceutical and food industries.

**Acknowledgments:** The authors are grateful to the Foundation for Science and Technology (FCT, Portugal) and FEDER under Programme PT2020 for financial support to CIMO (UID/AGR/00690/2013), L. Barros contract, and T. Pires grant (SFRH/BD/129551/2017); to FEDER-Interreg España-Portugal programme for financial support through the project 0377\_Iberphenol\_6\_E; GIP-USAL is financially supported by the Spanish Government through the project AGL2015-64522-C2-2-R.