

# THE 7<sup>TH</sup> INTERNATIONAL CONFERENCE ON FOOD AND APPLIED BIOSCIENCE 2024

🕒 February 8 - 9, 2024

## BOOK OF ABSTRACT FAB 2024

“ **FOOD AND BIOTECHNOLOGY**  
FOR A SUSTAINABLE & BIO-CIRCULAR-GREEN ECONOMY ”



# International Conference on Food and Applied Bioscience

February 8-9, 2024

Kantary Hills Hotel, Chiang Mai

## BOOK OF ABSTRACTS

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The International Conference on Food and Applied Bioscience 2024  
February 8-9, 2024 Kantary Hills Hotel, Chiang Mai, Thailand

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**P - 025**      **Total Phenolic Content and Antioxidative Potential  
of Serbian Old Wheat Local Landraces  
and Locally Adapted Varieties**

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**Abstract**

Content of total phenolics and antioxidative potential were determined in 33 local landraces and old locally adapted varieties grown in Serbia in 2021/2022, among them 3 varieties are modern. Wholemeal flour was analyzed. Total phenolics were determined according to spectrophotometric assay. Antioxidative potential was measured as DPPH radical scavenging activity and the results expressed as IC<sub>50</sub> values. The lower the IC<sub>50</sub> value, the more potent is the extract at scavenging DPPH and this implies a higher antioxidant activity. Total phenolics in 18 old locally adapted varieties and 12 local landraces were in the range of 351-963 µg GAE/g of flour, while average value of total phenolics in 3 modern varieties was 390 ± 7.3 µg GAE/g of flour and was lower than in majority of all local landraces and varieties. Only one third of 30 old local varieties and landraces showed lower IC<sub>50</sub> values (150-230 mg/mL) than modern varieties (232-280 mg/mL). Average IC<sub>50</sub> value for 30 tested wheat samples was 286 ± 104 mg/mL. Correlation of -0.616 was obtained for total phenolic content and scavenging activity expressed as IC<sub>50</sub>. Yield and thousand kernel weights for old local varieties and landraces were 5.5-8.1 t/ha and 270-480 g, respectively. Measurements significant in assessing the yield and quality of a wheat such as thousand kernel weight in correlation with the antioxidative potential can be an important consideration in selecting and improving crop varieties, according to the literature data, however this parameter was not measured in this study.

**Keywords:** Antioxidative potential; Old wheat landraces; Total phenolics; DPPH