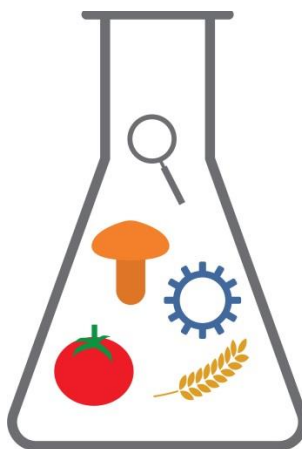




**University of Belgrade
Faculty of Agriculture**

The 3rd International UNIFood Conference
UNIFood2024 Conference

Book of Abstracts



UNIFOOD

Belgrade, June 28-29, 2024.

UNIFood2024 Conference - Book of Abstract

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Prof. Dr Mirjana Pešić
Prof. Dr Slađana Stanojević

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THE WORD OF WELCOME

Dear colleagues,

We warmly welcome you to the **3rd International UNIFood Conference – UNIFood2024** organized by the Faculty of Agriculture, University of Belgrade and University of Belgrade. This event engages not only academics, but also stakeholders from all relevant industries and business sectors, and will serve as a meeting point and platform for the dissemination of new ideas and the development of new partnerships. Food scientists, technologists, researchers, nutritionists, engineers and entrepreneurs will share their knowledge on the latest advances in all aspects of food production, processing, sustainability, safety and quality, nutrition and health, and knowledge transfer supporting environment.

The first UNIFood conference, organized as a national, was launched in 2018. as one of the events in honor of the **210th anniversary** of the **University of Belgrade** which was ranked 35th on the 2017 Shanghai list in Food Science and Technology. More than 250 proceedings from thirteen countries including 83 oral presentations (including three plenary lectures, eight invited lecturers and three section lecturers) and a round table dedicated to better cooperation between academia and industry highlighted the importance of food research in various fields of science and technology that require multidisciplinary and multistakeholder approaches. The second UNIFood conference was organized as an international in 2021. and gathered 273 participants from 23 countries, with 52 oral presentations (including four plenary lectures, five key note speakers, seven invited lectures and three section lecturers) as well as round table and workshops.

We are delighted that you have choosen to participate in this collaborative conversation, where authors from 19 countries will present their recent work in 99 poster presentations and 60 oral communications (including four plenary lectures, four keynote lectures, nine invited lectures and seven section lecturers). You will have the opportunity to participate in three educational workshops, round table and discuss current EU project results.

Belgrade, one of the oldest cities in Europe, always young, at the confluence of the Sava and Danube rivers, will be your host. At the confluence of new ideas and experiences we welcome you again and wish you a fruitful discussion and the establishment of new collaborations.

Sincerely,



*Prof. Dr Mirjana Pešić
President of the Scientific Committee
of UNIFood2024*

The conference organizers gratefully acknowledge the generous support provided by the following:



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UNIFood2024 Conference
28th-29th June 2024 University of Belgrade
3rd International UNIFood Conference



Section
FOOD PRODUCTION, PROCESSING, SUSTAINABILITY,
ADDED-VALUE FOOD



INTRODUCING ALFALFA SEED TO BREAD PRODUCTION – EVALUATION OF TECHNOLOGICAL QUALITY AND SENSORY ACCEPTANCE

Marijana Djordjević¹, Miljana Djordjević¹, Ewa Pejcz², Radosław Spychaj³, Olivera Šimurina¹, Biljana Cvetković¹, Bojana Filipčev¹

¹University of Novi Sad, Institute of Food Technology in Novi Sad, Novi Sad, Serbia

²University of Economics and Business, Faculty of Production Engineering, Department of Biotechnology and Food Analysis, Wrocław Wrocław, Poland

³Wrocław University of Environmental and Life Sciences, Faculty of Biotechnology and Food Science, Department of Fermentation and Cereals Technology, Wrocław, Poland

*Corresponding author: olivera.simurina@fins.uns.ac.rs

The increasing efforts to use legumes in bread production triggered the search for a novel ingredient that would meet consumers' needs not only in terms of macronutrients such as proteins, but also dietary fibres, minerals, vitamins and phytochemicals. It is precisely these compounds that are found in alfalfa seeds, which are an underutilised food source with great potential for use in staple foods such as bread. Nevertheless, the disadvantages of using alfalfa seeds are mainly the presence of anti-nutrients and the grassy flavour which can be successfully reduced by using bioprocessing method such as germination.

Therefore, this study investigates the substitution of white wheat flour with 5 and 10% flours of ungerminated and germinated alfalfa seeds subjected to convective drying in the conventional bread formulation and the resulting effects on the specific volume, crumb texture and sensory properties of the bread.

The addition of alfalfa seed flour significantly increased the specific volume of the bread, regardless of the level of addition and the type of flour (2.96 ± 0.02 to 3.16 ± 0.38 cm³/g). At the same time, a significant decrease in crumb hardness was observed compared to the control (from 3.82 ± 0.67 to 2.10 ± 0.42 N), especially with a 10% substitution with alfalfa flour, while minor variations were observed for cohesiveness and springiness.

Sensory acceptability, as assessed by 12 respondents using the 5-point hedonic scale, was highest for bread with 5% ungerminated alfalfa flour (4.3 points) and was characterised by good flavour, soft crumb texture with uniform medium sized air voids, and high specific volume. A 10% substitution with germinated alfalfa flour resulted in the lowest bread acceptability score (3.7 points). The reported results showed improvements in specific volume, softness of the crumb and good sensory acceptability of the breads suggesting that both ungerminated and germinated alfalfa flour are promising baking ingredients.

Keywords: legumes, germination, bread, sensory assessment, technological quality

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