

AGROSYM

BOOK OF ABSTRACTS



*XV International Scientific Agriculture Symposium
"Agrosym 2024"
Jahorina, October 10-13, 2024*

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PREFACE

Dear colleagues,

It is with great pleasure that we present the Book of Abstracts for the 15th International Scientific Agricultural Symposium, "AGROSYM 2024." This collection features nearly 800 contributions, reflecting a diverse array of research and insights across the full spectrum of agricultural disciplines. The themes of AGROSYM 2024 are organized into seven sessions: 1) Plant production, 2) Plant protection and food safety, 3) Organic agriculture, 4) Environmental protection and natural resources management, 5) Animal husbandry, 6) Rural development and agro-economy, and 7) Forestry and agroforestry.

In today's rapidly evolving agricultural landscape, technology plays a pivotal role in enhancing production, improving food security, and minimizing environmental impacts. Particularly in the cultivation of annual crops like maize, rice, soybean, wheat, and cotton, technological advancements have proven essential. While breeding programs for trees may require longer timelines, new plant breeding techniques are emerging to enhance productivity, sparking important discussions within the academic community about their benefits and challenges.

Historically, agricultural research has predominantly focused on the production side of the food chain. However, there is a growing recognition of the importance of the consumption side and the intermediate stages such as processing and distribution. This shift towards a "farm to fork" approach reflects consumers' increasing demand for higher-quality, healthier, safer, and more flavorful products. Consequently, agri-food companies are actively exploring innovative strategies to gain better control over production processes and ensure the quality and safety of final products. Additionally, evolving investment strategies are emphasizing sustainability and social responsibility, as investors recognize the long-term benefits of supporting environmentally and socially conscious practices.

Agri-food systems are integral to the global discourse on sustainable development and the pursuit of the Sustainable Development Goals (SDGs) by 2030. These systems face numerous challenges, including climate change, poverty, food insecurity, biodiversity loss, and ecosystem degradation. One of the primary objectives of the sustainable agriculture movement is to develop farming systems that mitigate or eliminate the environmental harms associated with industrial agriculture. Enhancing the resilience of food systems in the face of crises, shocks, and pandemics is also crucial for future stability.

We extend our heartfelt gratitude to all the authors, reviewers, and colleagues who contributed to the preparation of this Book of Abstracts. Special thanks go to our co-organizers and partners for their unwavering support and collaboration. We hope this compilation serves as a valuable resource for all participants and contributes to the ongoing dialogue in the agricultural sector.

Welcome to AGROSYM 2024!



East Sarajevo, 07 October 2024

Prof. Dušan Kovačević, PhD

Editor in Chief, President of the Scientific Committee of AGROSYM 2024

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Abstract

The research was conducted in the Timok Forest Area after a natural disaster in winter 2015, causing ice breaks and uproots and leading to extensive clear-cutting. To assess ecological changes five years after, sample plots were established in areas where natural beech stands and artificially established conifer stands within beech sites (*Fagetum moesiace submontanum* (Rudski 1949) B. Jovanović 1976) existed before clear-cutting. Based on the inventory of vascular flora, plants were distributed by plant indicator values. A total of 176 plant species were recorded on the sample plots. Although submesophytes and mesophytes predominated on the clearings (70%), there was a noticeable increase in subxerophytes and xerophytes, suggesting moderate site xerothermization. The substantial occurrence of mesotrophic and transitional groups between oligotrophic and mesotrophic plants (77%) implied that soil fertility was not significantly diminished. Moreover, the relatively high share of transitional groups between hemi-sciophytes and heliophytes (29%) indicated the ecosystem openness, whereas the share of typical sciophytes decreased (< 2%). These species were notably more abundant in natural beech forests, particularly in artificially established conifer stands within beech sites. Limited typical heliophytes (<1%) could be attributed to vigorous colonization by spontaneous shrub vegetation, which restricted light penetration to herbaceous heliophytes. The occurrence of extremely frigophilic and thermophilic species underscores the climatic extremes of eastern Serbia. Transitional groups between frigophilic and mesothermic plants (65%) were more prevalent than typical mesothermic representatives of South European beech forests (30%) indicating stronger cold manifestation in open forest ecosystems. These findings confirm plants role as bioindicators of site conditions.

Keywords: *ecological groups, ecological factors, Timok Forest Area.*