

AGROSYM

BOOK OF ABSTRACTS

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2024



*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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ANALYSIS OF FOREST DAMAGE: 20-YEAR STUDY IN SERBIA

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Abstract

Forest damage causes an alarming volume of affected trees. In this article we analyze the forest damage in the first 20 years of the XXI century on the territory of Serbia. The data are taken from the Statistical Yearbook. The results are presented according to the volume of damaged trees in five categories based on the main cause: by humans, by insects, weather disturbance, by plant diseases and forest fires. The results show that 1,8 million m³ were damaged in the period under observation. The lowest volume of damage was recorded in 2006 with a total of 29.505 m³ and the highest in 2016 with a total of 223.469 m³. The most common cause of damage was weather disturbance (39%), followed by man-made damage (22%) and insects, plant diseases and fire (13% each). A trend towards an increase in the volume of damage can be observed for all types of damage, with the exception of fire damage. The largest volume of damage caused by humans was recorded in 2011 (28.285 m³), by insects and plant diseases in 2016 (40.520; 37.249 m³), by weather disturbance in 2015 (116.431 m³), and by forest fires in 2012 (63.118 m³). Forest damage is a complex phenomenon in which natural and anthropogenic factors play a role and lead to a loss of forest trees of up to 0,08% of the total volume and up to 3,4% of the total volume increment. This conclusion must be taken into account in future forest management plans.

Keywords: *natural disturbance, climate change, biotic, abiotic.*