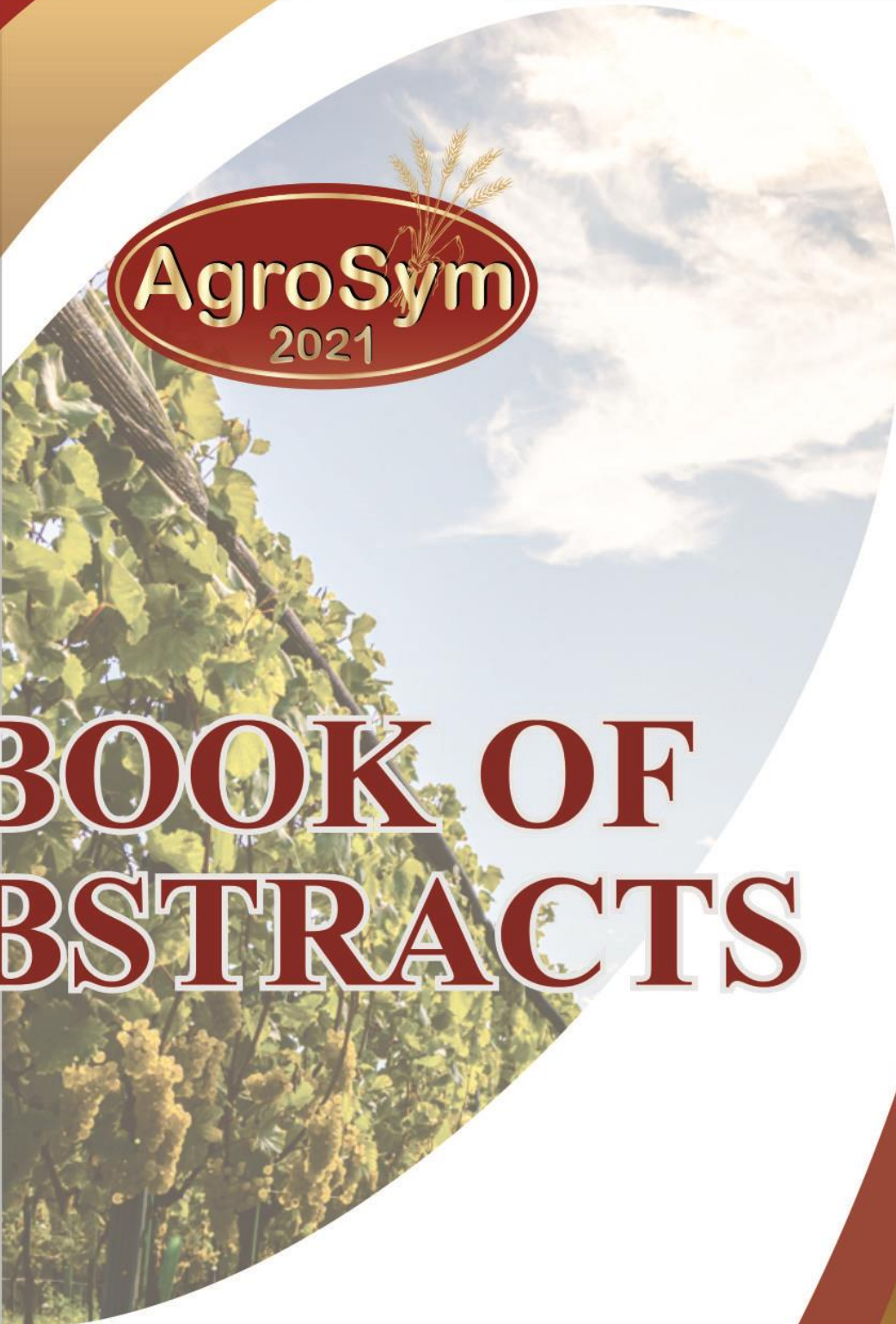




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2021



BOOK OF ABSTRACTS

*XII International Scientific
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"AGROSYM 2021"
October 7-10, 2021*



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PREFACE

Dear colleagues,

In your hands is the Book of Abstracts of the 12th International Scientific Agricultural Symposium "AGROSYM 2021", which I hope you will find useful in your work. As many as 700 contributions have been accepted for the Book of Abstracts. The themes of AGROSYM 2021 cover all branches of agriculture and are divided 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.

The multi-functionality of agriculture (viz. crop production, animal production and fisheries) and the central role it plays in food production, food security, rural development, bio-economy (e.g. production of fibres and raw materials for industries) and green economy (e.g. production of biofuels) determine its importance in all countries; especially nowadays, with the second year of the COVID-19 pandemic.

Many scholars and practitioners argue that technology will increase production and feed more people while reducing the variability as well as the environmental impacts of agricultural production. Technology has been particularly important for improving production in non-tree crops such as maize, rice, soybean, wheat and cotton. Because trees have longer cycles, they take longer to improve through traditional breeding programs. New techniques of plant breeding can improve productivity further, but there is a lively academic debate about their pros and cons.

While the focus has been in the past on the production side (cf. productivity, efficiency), more and more attention is nowadays paid to the consumption side as well as the intermediate stages (e.g. processing, distribution) of the food chain thus moving towards a 'farm to fork' approach. Globally, consumers are sending clearer signals than ever before about what they want on their tables i.e. higher quality as well as healthier, safer, and tastier products. Therefore, most companies in the food industry are currently exploring different ways to ensure that they have more control over the production processes for agricultural commodities as well as final products quality. Changes in investment strategy also have the potential to reduce the environmental and social costs of agriculture. It is now apparent to most investors that companies that pay more attention to sustainability and social responsibility, even with the same financial rating, will have better returns both in the short term and over time.

Agri-food systems have been central in the global debate on sustainable development and the achievement of the Sustainable Development Goals (SDGs) as shown by the recent United Nations' Food Systems Summit held in September 2021 in New York. Indeed, agri-food systems are at the center of various global challenges such as climate change, poverty, vulnerability, food insecurity, biodiversity loss, resource scarcity and ecosystem degradation. In this context, one of the goals of the sustainable agriculture movement is to create farming systems that mitigate or eliminate environmental harms associated with industrial agriculture.

Many thanks to all the authors, reviewers and colleagues for their help in editing the Book of Abstracts. Special thanks go to all co-organizers and partners for their unselfish collaboration and comprehensive support.

East Sarajevo, 07 October 2021

Prof. Dušan Kovačević, PhD

Editor in Chief, President of the Scientific Committee of AGROSYM 2021



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INTERACTION OF FERTILIZATION AND SOYBEAN GENOTYPE ON NUMBER OF PODS, WEIGHT OF 1000 GRAINS AND GRAIN YIELD

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Abstract

In the last few decades, new soybean varieties with different characteristics, grain quality and purpose have been created, contributing to its expansion and increase in the cultivation area. Thanks to good agronomic characteristics, soybean has found its place in sustainable production systems. In order to increase the yield and quality of grain in sustainable soybean growing systems, different foliar treatments with different active substances have been increasingly applied. The aim of the study was to determine the impact of the application of EM Aktiv with effective microorganisms on the number of pods per plant, weight of 1000 grains and grain yield of different soybean cultivars grown in an integrated cultivation system. The research was conducted in the period 2016-2019 in the experimental field of the Institute of Field and Vegetable Crops Novi Sad. Varieties from three maturing groups Galina (0 group), Sava (I group) and Rubin (II group) were grown. Variants of fertilization application were: T1 control, T2 EM Aktiv was applied to the soil before sowing 20 l.ha⁻¹, and later in vegetation 6 l.ha⁻¹ (the first foliar treatment in the phase of three to four trefoils and the second before flowering in the budding phase), T3 NPK 8:15:15 300 kg.ha⁻¹ in basic treatment and T4 combination of T2 and T3 treatments. On average for all three years of the study were found statistically significant differences between the variables in all properties. The highest values were determined when applying T4 treatment. The number of pods was 55.92, the weight of 1000 grains was 163.61 g and the yield was 4.240 kg.ha⁻¹. The cultivar Rubin (II maturing group) showed the highest values for all examined variables on average after all treatments.

Key words: *soybean, fertilization, effective microorganisms, yield.*