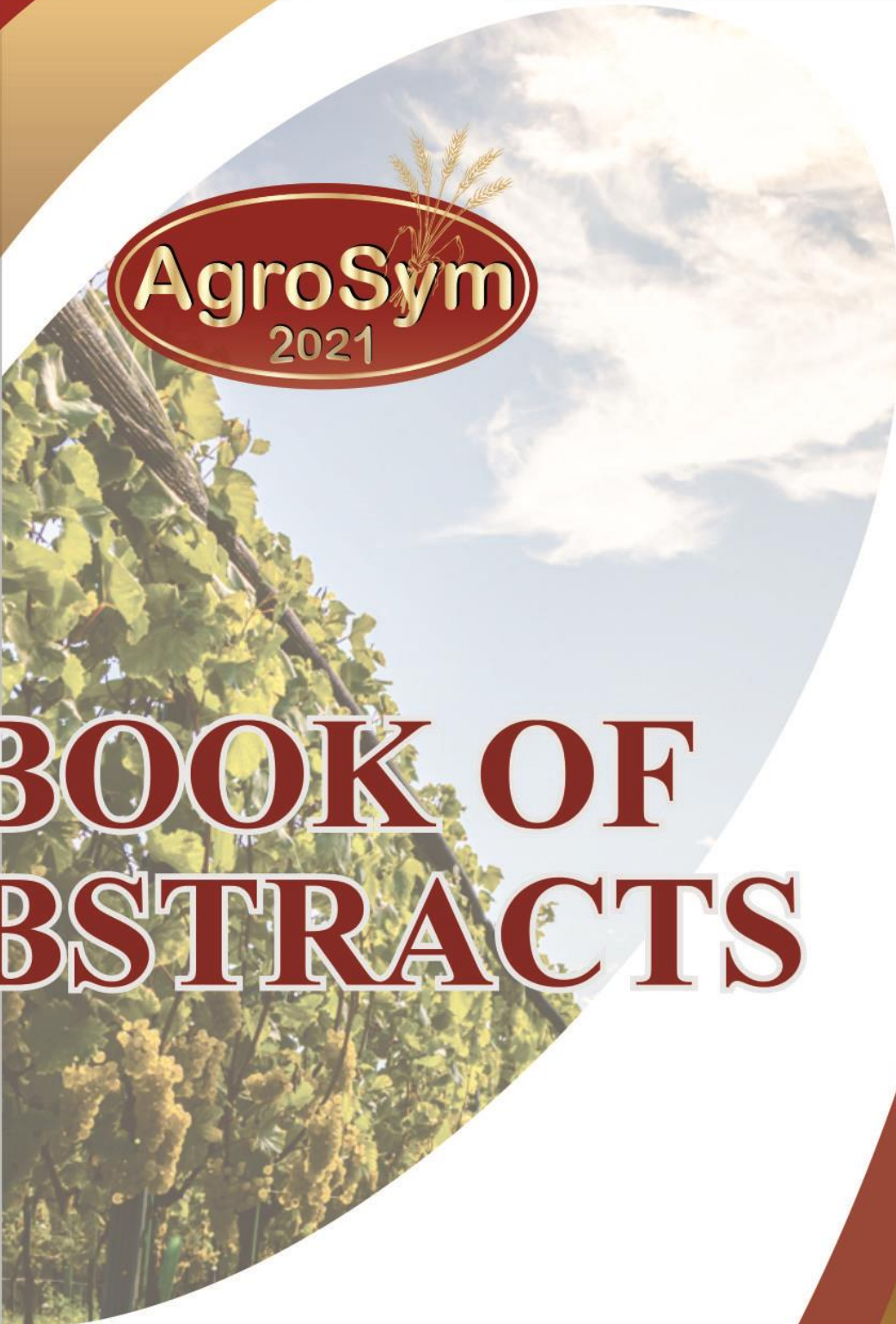




**AgroSym**  
2021



# **BOOK OF ABSTRACTS**

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



**AGRO** 2021  
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# **BOOK OF ABSTRACTS**

**XII International Scientific Agriculture Symposium  
“AGROSYM 2021”**



**Jahorina, October 07 - 10, 2021**

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## PREFACE

Dear colleagues,

In your hands is the Book of Abstracts of the 12<sup>th</sup> 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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## ASSOCIATION AMONG SUNFLOWER YIELD CONTRIBUTING TRAITS IN VARIOUS ECOLOGICAL CONDITIONS

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### Abstract

Sunflower (*Helianthus annuus*) is one of the most important oil crops in the world. The objectives of this study were to perceive the association between important oil yield related traits and to evaluate different types of sunflower genotypes on the basis of these selected traits. The experiment was carried out during three years at experimental field Rimski Šančevi. Testing included 30 different sunflower genotypes developed at Institute of Field and Vegetable Crops, Novi Sad, Serbia. The associations among the observed traits and genotypes evaluation were studied using genotype-by-trait biplot analysis. Associations between observed traits were very similar in all three years of testing. Biplot revealed strong positive association among oil yield, seed yield and head diameter, as indicated by the acute angles between their vectors. These vectors were perpendicular to vector of oil content, pointing to zero association. Oil yield was weakly positively associated with thousand seed weight, seed set efficiency and number of flowers. Total absence of association in all three years was recorded between number of flowers and thousand seed weight. Obtuse angle between vector of seed set efficiency and vectors of oil content and number of flowers pointed to negative association. Weak to strong positive association was detected between oil content and number of flowers, and also, between seed set efficiency and thousand seed weight. These associations could be very useful for better understanding oil yield and its complexity and for selecting appropriate genotypes for further breeding process.

**Keywords:** *Helianthus annuus*, Oil yield, Associations, GT biplot.