

# BOOK OF ABSTRACTS

---

IV INTERNATIONAL SYMPOSIUM FOR AGRICULTURE AND FOOD

**ISAF 2022**

12-14 October 2022, Ohrid, North Macedonia



# BOOK OF ABSTRACTS

IV INTERNATIONAL SYMPOSIUM  
FOR AGRICULTURE AND FOOD  
ISAF 2022

ISBN - 10 9989-845-76X  
ISBN - 13 978-9989-76-5  
EAN 9789989845765

IV INTERNATIONAL SYMPOSIUM FOR AGRICULTURE AND FOOD  
40th Faculty-Economy Meeting  
Association of the Faculties for Agricultural Sciences of South Eastern  
Europe – Deans meeting  
13th International Conference of the Association of Agricultural  
Economists of the Republic of North Macedonia (AAEM) and  
celebrating 25th anniversary of AAEM  
9th Balkan Animal Sciences Conference BALNIMALCON 2022

IV МЕЃУНАРОДЕН СИМПОЗИУМ ЗА ЗЕМЈОДЕЛСТВО И ХРАНА ,  
40-та Средба Факултет-Стопанство  
Асоцијација на факултети за земјоделски науки и храна на  
Југоисточна Европа – средба на декани  
13-та Меѓународна конференција на Здружение на  
агроекономистите на Република Северна Македонија (ЗАЕМ) и  
одбележување на 25 години постоење на ЗАЕМ  
9th Balkan Animal Sciences Conference BALNIMALCON 2022

Organized by the  
Faculty of Agricultural Sciences and Food - Skopje  
Ss. Cyril and Methodius University in Skopje

### BOOK OF ABSTRACTS

In this Book of Abstracts you will find more than 250 abstracts classified in 10 thematic sections. The abstracts are published in their original form as provided by the authors. Double-blinded review will apply for the submitted full papers following the Instructions for Authors available at the ISAF 2022 web site. Looking forward to receive your full papers.

On behalf of the Secretariat of the 4th International Symposium for Agriculture and Food - ISAF 2022,

Ivana Janeska Stamenkovska  
President of ISAF 2022 Secretariat

# CONTENT

SECTION 1: Animal Biotechnology	3-23
SECTION 2: Agricultural Economics	25-63
SECTION 3: Agricultural Machinery	65-75
SECTION 4: Plant Protection - Phytomedicine	77-111
SECTION 5: Food Quality and Safety	113-149
SECTION 6: Fruit Growing, Viticulture and Wine Production	151-187
SECTION 7: Vegetable, Flower and Decorative Plants Production	189-207
SECTION 8: Natural Resources Management and Environment Protection	209-249
SECTION 9: Field Crop Production	251-279
SECTION 10: Genetics, breeding and genetic resources	281-301



### **ORGANIZING COMMITTEE**

Prof. Dr. Vjekoslav Tanaskovic, President  
Prof. Dr. Romina Kabranova  
Prof. Dr. Ivana Janeska Stamenkovska  
Prof. Dr. Mile Markoski  
Prof. Dr. Mirjana Jankulovska  
Prof. Dr. Koco Porcu  
Prof. Dr. Marjan Kiprijanovski  
Prof. Dr. Zvonko Pacanoski  
Prof. Dr. Silvana Manasievska  
Prof. Dr. Jovan Azderski  
Prof. Dr. Sonja Srbinska  
Prof. Dr. Dragi Dimitrievski  
Prof. Dr. Ordan Cukaliev  
Prof. Dr. Gordana Popsimonova  
Prof. Dr. Dane Boshev  
Prof. Dr. Dragoslav Kocevski  
Prof. Dr. Mihail Petkov  
Prof. Dr. Aleksandra Martinovska  
Stojceska  
Prof. Dr. Ljubica Karakashova  
Prof. Dr. Marija Vukelic Shutovska  
Prof. Dr. Petar Hristov  
Prof. Dr. Biljana Kuzmanovska

### **HONORARY ORGANIZING COMMITTEE**

Prof. Dr. Gjorgji Martinovski, North  
Macedonia  
Prof. Dr. Vidoja Trpevski, North  
Macedonia  
Prof. Dr. Natasha Poklar Ulrih, Slovenia  
Prof. Dr. Branko Kramberger, Slovenia  
Prof. Dr. Ilica Kisic, Croatia  
Prof. Dr. Krunoslav Zmaic, Croatia  
Prof. Dr. Muhamed Brka, Bosnia and  
Hercegovina  
Prof. Dr. Zlatan Kovacevic, Bosnia and  
Hercegovina  
Prof. Dr. Ivan Ostojic, Bosnia and  
Hercegovina  
Prof. Dr. Bozidarka Markovic,  
Montenegro  
Prof. Dr. Nedeljko Tica, Serbia  
Prof. Dr. Dusan Zivkovic, Serbia  
Prof. Dr. Tomo Milosevic, Serbia  
Prof. Dr. Mehmet Ihsan Soysal, Turkey  
Prof. Dr. Ning Duihu, China  
Prof. Dr. Velibor Spalevic, Montenegro  
Prof. Dr. Radovan Pejanovic, Serbia  
Prof. Dr. Dragan Gjosevski, North  
Macedonia  
Boban Ilic, North Macedonia  
Goran Damovski, North Macedonia  
Almak Pogorelc, Italy

### **SCIENTIFIC COMMITTEE**

Prof. Dr. Ivana Janeska Stamekovska, North Macedonia, Prof. Dr. Mile Markoski,  
North Macedonia, Prof. Dr. Romina Kabranova, North Macedonia, Prof. Dr. Mirjana  
Jankulovska, North Macedonia, Prof. Dr. Koco Porcu, North Macedonia, Prof. Dr. Emil  
Erjavec, Slovenia, Prof. Dr. Hossein Azadi, Belgium,, Prof. Dr. Mahito Mihara, Japan, Prof.  
Dr. Konstantinos Karantininis, Sweden, Prof. Dr. Andrej Ceglar, Slovenia, Dr. Claudia  
Zoani, Italy, Prof. Dr. Velibor Spalevic, Montenegro, Prof. Dr. Seyed Hamidreza Sadeghi,  
Iran, Prof. Dr. Goran Maksimovic, Serbia, Prof. Dr. Goran Skataric, Montenegro, Prof. Dr.  
Ronaldo Luiz Mincato, Brazil, Dr. Devraj Chalise, Australia, Prof. Dr. Rameshwar Kanwar,  
USA, Prof. Dr. Elzar Falik, Israel, Prof. Dr. Rodolfo Nayga, USA, Prof. Dr. Macdonald  
Wick, USA, Prof. Dr. Zoran Grgić, Croatia, Prof. Dr. Tomaž Langerholc, Slovenia, Prof.  
Dr. Miha Humar, Slovenia, Prof. Dr. Darko Voncina, Croatia, Prof. Dr. Zvonko Antunović,  
Croatia, Prof. Dr. Gabrijel Ondrasek, Croatia, Prof. Dr. Andrijana Filipović, Bosnia and  
Hercegovina, Prof. Dr. Branko Ćupina, Serbia, Prof. Dr. Zoran Jovović, Montenegro,  
Prof. Dr. Adriana F. Sestras, Romania, Prof. Dr. Thomas Haertle, France, Prof. Dr. Zoran  
Popovski, North Macedonia, Prof. Dr. Sylvie Dallot, France, Prof. Dr. Martin Banov,  
Bulgaria, Prof. Dr. Marko Petek, Croatia, Prof. Dr. Levent Ozduven, Turkey, Prof. Dr.  
Zoran Dimov, North Macedonia, Prof. Dr. Yuriy Kravchenko, Ukraine, Prof. Dr. Miho

Mihov, Bulgaria, Prof. Dr. Zorica Srdjević, Serbia. , Prof. Dr. Miljan Cvetkovic, Bosnia and Hercegovina, Prof. Dr. Nese Uzen, Turkey, Prof. Dr. Jadranka Frece, Croatia, Dr. Branislav Dudic, Slovakia, Prof. Dr. Jaka Zgajnar, Slovenia, Prof. Dr. Natalija Bogdanov, Serbia, Bosnia and Hercegovina, Prof. Dr. Gordana Đurić, Bosnia and Hercegovin, Doc. Dr. Kristina Kljak, Croatia, Prof. Dr. Marina Nacka, North Macedonia, Prof. Dr. Vladimir Puškaš, Serbia, Prof. Dr. Dragan Nikolic, Serbia, Prof. Dr. Evgeniy Kamaldinov, Russia, Prof. Dr. Zeljko Vasko, Bosnia and Hercegovina, Prof. Dr. Vladan Bogdanović, Serbia, Prof. Dr. Ana Kotevska, North Macedonia, Prof. Dr. Laima Taparuskiene, Litvania, Doc. Dr. Svetoslav Malchev, Bulgaria, Prof. Dr. Lence Velkoska-Markovska, North Macedonia, Prof. Dr. Jan Horak, Slovakia, Prof. Dr. Biljana Kuzmanovska, North Macedonia, Prof. Dr. Stefano Grego, Italy, Prof. Dr. Sezen Arat, Turkey, Doc. Dr. Andreas Drichoutis, Greece, Prof. Dr. Vlado Vukovic, North Macedonia, Prof. Dr. Zeljka Zgorelec, Croatia, Prof. Dr. Haiying Zhang, China, Prof. Dr. Tatjana Mitkova, North Macedonia, Prof. Dr. Rukie Agic, North Macedonia, Prof. Dr. Enisa Omanović-Miklićanin, Bosnia and Hercegovina, Prof. Dr. Milena Moteva, Bulgaria, Prof. Dr. Oksana Tonkha, Ukraine, Prof. Dr. Milic Curovic, Montenegro, Prof. Dr. Tosho Arsov, North Macedonia, Prof. Dr. Sonja Ivanovska, North Macedonia, Prof. Dr. Zivko Davcev, North Macedonia, Prof. Dr. Vladimir Kurcubic, Serbia, Prof. Dr. Gaël Thébaud, France, Prof. Dr. Ana Marjanović Jeromela, Serbia, Prof. Dr. Oner Cetin, Turkey, Prof. Dr. Skender Kaciu, Kosovo, Prof. Dr. Kemal Gurcan, Turkey, Prof. Dr. Emel Ozkan Unal, Turkey, Prof. Dr. Ilijana Krishkova, Bulgaria, Dr. Laura Smuleac, Romania, Prof. Dr. Irena Atanasova, Bulgaria, Prof. Dr. Adrian Maci, Albania, Prof. Dr. Krum Boshkov, North Macedonia, Prof. Dr. Emelj Tuna, North Macedonia, Prof. Dr. Jasmin Grahic, Dr. Stanko Kapun, Slovenia, Mahdad Pour, Germany, Prof. Dr. Darko Uher, Croatia

## **SECRETARIAT**

Prof. Dr. Ivana Janeska Stamenkovska, President

Prof. Dr. Romina Kabranova

Prof. Dr. Marina Nacka

Prof. Dr. Ana Simonovska

Prof. Dr. Katerina Belichovska

Prof. Dr. Dushica Santa

Prof. Dr. Elizabeta Miskoska Milevska

Prof. Dr. Mirjana S. Jankulovska

Prof. Dr. Zvezda Bogevska

Dr. Igor Iljovski

Prof. Dr. Ile Canev

Prof. Dr. Margarita Davitkovska

Doc. Dr. Frosina Babanovska Milenkovska

Doc. Dr. Zlatko Prculovski

Nikola Saraginovski, MSc

Biljana Ristakjovska Shirgovska, MSc

Aleksandra Silovska Nikolova, MSc



ID: 326

## THE INFLUENCE OF WINTER COVER CROPS ON YIELD AND YIELD COMPONENTS OF MAIZE

Vojnov, Bojan Đ<sup>1</sup>; Šeremešić, Srđan I<sup>1</sup>; Ćupina, Branko T<sup>1</sup>; Krstić, Đorđe B<sup>1</sup>; Vujić, Svetlana<sup>1</sup>; Vasiljević, Marjana B<sup>2</sup>; Marinković, Dragana D<sup>1</sup>; Radovanović, Dragan D<sup>1</sup>

<sup>1</sup>University of Novi Sad, Faculty of Agriculture, Serbia; <sup>2</sup>Institute of Field and Vegetable Crops; [bojan.vojnov@polj.uns.ac.rs](mailto:bojan.vojnov@polj.uns.ac.rs)

### Abstract

As a consequence of the absence of livestock production and animal manure, significant increase in input prices, especially mineral fertilizers, there is a growing need to find alternative ways of fertilization in modern agricultural production of field crops. The aim of this study was to determine the effect of cover crops (CC) and interactions on yield and yield components of maize in the semi arid conditions. Research was carried out in the production years 2020 at the Rimski Šančevi experimental station of the Institute of Field and Vegetable Crops in Novi Sad. The winter CC consisted of the combined intercrops: winter pea (*Pisum sativum* ssp. *Arvense* L.) + triticale (*Triticosecale*) (PT) and single-species CC winter pea (P) and control without CC (C), all with nitrogen fertilization 50 kg ha<sup>-1</sup> (N50) and without the use of fertilizer (N0). The sowing of winter CC was carried out in autumn in the first decade of November, and their mulching and plowing was done in the last week of May. After plowing and soil preparation, maize (NS4051) was sown in the first decade of June and harvested in October. The statistical significance ( $p < 0.05$ ) was found between different variants regarding the use of CC. The highest yield was achieved in a mixture of PT (N0) 8.54 t ha<sup>-1</sup>. Using CC as a green manure it is possible to provide plants with a certain amount of nutrients which would lead to a reduction of inputs with possible lower production costs.

*Keywords:* cover crops, green manure, maize, yield