



Faculty of Agriculture  
University of Banja Luka



**XIII INTERNATIONAL SYMPOSIUM ON AGRICULTURAL SCIENCES**



# **BOOK OF ABSTRACTS**

27-30 May 2024, Trebinje, Bosnia and Herzegovina

**XIII International Symposium on Agricultural Sciences "AgroReS 2024"**

**27-30 May 2024, Trebinje, Bosnia and Herzegovina**

**BOOK OF ABSTRACTS**

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# XIII INTERNATIONAL SYMPOSIUM ON AGRICULTURAL SCIENCES

AgroReS 2024



and

## XXIX CONFERENCE OF AGRICULTURAL ENGINEERS OF THE REPUBLIC OF SRPSKA

27-30 May 2024

Trebinje, Bosnia and Herzegovina

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# Symposium Program

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## SYMPOSIUM PROGRAM OVERVIEW

Monday, 27 May 2024		
12:00 – 19:00	Participant registration	Hotel <i>Leotar</i> , Lobby
16:00 – 17:00	Opening ceremony	HET Hall
17:00 – 18:30	Plenary lectures	HET Hall
19:30	Sports event	Sport Hall <i>Miloš Mrđić</i>
Tuesday, 28 May 2024		
08:30 – 17:00	Participant registration	Hotel <i>Leotar</i> , Lobby
09:00 – 13:30	Session 1: Horticulture	Hotel <i>Leotar</i> , Large Salon
09:00 – 13:00	Session 2: Agricultural economics and rural development	Hotel <i>Leotar</i> , Red Salon
14:00 – 16:00	Lunch break	
16:00 – 18:00	Homage: Agro-knowledge Journal - our 25 years Round table: Transfer of knowledge and innovations in agriculture – from individual cases to functional AKIS	Hotel <i>Leotar</i> , Large Salon
20:00 – 21:00	Cultural event: Concert of the City Choir <i>Tribunia</i>	Cultural centre Trebinje
Wednesday, 29 May 2024		
08:30 – 17:00	Participant registration	Hotel <i>Leotar</i> , Lobby
09:00 – 13:30	Session 3: Crop Science	Hotel <i>Leotar</i> , Large Salon
09:00 – 12:00	Session 4: Animal Science	Hotel <i>Leotar</i> , Red Salon
13:30 – 14:00	Promotion of the book: Memorial to Academician Vaskrsija Janjić	Hotel <i>Leotar</i> , Large Salon
14:00 – 16:00	Lunch break	
14:30 – 17:30	XXIX Conference of Agricultural Engineers of the Republic of Srpska: Youth in Agriculture	Hotel <i>Leotar</i> , Large Salon
20:00	Gala evening	Hotel <i>Leotar</i> , Restaurant
Thursday, 30 May 2024		
09:00 – 13:00	Excursion: Visit to Vjetrenica Cave and Tvrdoš Monastery	

## Monday, 27 May 2024

16:00 - 17:00	<b>OPENING CEREMONY</b>	HET Hall
	<ul style="list-style-type: none"><li>– Zlatan Kovačević, Dean of the Faculty of Agriculture, University of Banja Luka</li><li>– Radoslav Gajanin, Rector of the University of Banja Luka</li><li>– Savo Minić, Minister of Agriculture, Forestry and Water Management of the Republic of Srpska</li><li>– Željko Budimir, Minister of Scientific and Technological Development and Higher Education of the Republic of Srpska</li><li>– Mirko Ćurić, Mayor of the Trebinje City</li><li>– Boris Pašalić, President of the Organizing Committee</li></ul>	
	<b>PLENARY LECTURES</b>	HET Hall
17:00 - 17:30	<i>Patrizia Pugliese</i> ORGANIC AGRICULTURE FOR TERRITORIAL DEVELOPMENT: THE EXPERIENCE OF ORGANIC DISTRICTS	
17:30 - 18:00	<i>Daniel Falta</i> AGRICULTURE 4.0 IN LIVESTOCK PRODUCTION SYSTEMS	
18:00 - 18:30	<i>Adrian Asănică</i> CHALLENGES AND OPPORTUNITIES FOR PRODUCTION SYSTEM IN BERRY CROPS	

## Tuesday, 28 May 2024

<b>Session 1</b>	<b>HORTICULTURE</b>	Large Salon
	Chair: <i>Dragana Šunjka, Miljan Cvetković, Dejan Bošnjak</i>	
09:00 - 9:10 O1_01	<i>Gordana Đurić, Boris Pašalić, Saša Lalić, Nikola Mičić</i> REGIONIZATION – AN OPEN ISSUE OF DEVELOPMENT AND SUSTAINABLE INTENSIFICATION OF FRUIT PRODUCTION	
09:10 - 09:20 O1_02	<i>Dejan Bošnjak, Aleksandar Stanisavljević, Ivna Štolfa Čamagajevac, Dejan Agić, Marija Špoljarević, Antonija Strilić, Matej Horvat</i> EVALUATION OF THE INTERNAL QUALITY OF CONTEMPORARY APPLE VARIETIES SUITABLE FOR ORGANIC PRODUCTION	
09:20 - 09:30 O1_03	<i>Miljan Cvetković, Jelisaveta Seka Cvijanović, Jelena Topić</i> VARIETAL SPECIFICITIES OF DORMANT PRUNING OF TWO-DIMENSIONAL TRAINING SYSTEMS OF EUROPEAN PLUM ( <i>Prunus domestica</i> L.)	
09:30 - 09:40 O1_04	<i>Mira Milinković, Svetlana M. Paunović, Aneta Buntić, Magdalena Knežević, Jelena Pavlović, Dragana Vidojević</i> THE USE OF 1-METHYLCYCLOPROPENE (1-MCP) IN NECTARINE STORAGE	

09:40 - 09:50 O1_05	<i>Juan Luis Fernández Lorenzo, Ana Couso Viana, Rosa Mosquera Losada, Antonio Rigueiro Rodríguez, Svjetlana Zeljković</i> ESTABLISHMENT OF IN VITRO ACCESSIONS OF TWO GALICIAN MONUMENTAL CHESTNUT TREES
09:50 - 10:00 O1_06	<i>Dragana Bošković, Nuray Baser, Slavica Vuković, Sanja Lazić, Aleksandra Šušnjar, Dušan Čulum, Antonije Žunić, Jelena Ećimović, Dragana Šunjka</i> EVALUATION OF <i>Pimpinella anisum</i> ESSENTIAL OILS ON EGG-LAYING BEHAVIOR OF <i>Drosophila suzukii</i> : A MULTIPLE-CHOICE TEST APPROACH
10:00 - 10:40	POSTER PRESENTATIONS: P1_01 – P1_25
10:40 - 11:00	Discussion
11:00 - 11:20	Coffee break
	Chair: <i>Darko Jakšić, Miljan Cvetković, Juan Luis Fernández Lorenzo</i>
11:20 - 11:30 O1_07	<i>Bogoljub Kandić, Jelena Latinović, Nedeljko Latinović</i> INTENSITY OF SPREAD AND ECONOMIC IMPORTANCE OF ESCA DISEASE IN MONTENEGRO
11:30 - 11:40 O1_08	<i>Aleksandar Piperevski, Violeta Dimovska, Atanas Runchev, Dejan Milanov, Aleksandar Runchev</i> DETERMINATION OF FREE HYDROCYANIC ACID IN HOMEMADE PRODUCED FRUIT BRANDIES
11:40 - 11:50 O1_09	<i>Numan Ali, Amna Shoaib</i> VANILLIC ACID MEDIATED DISEASE TOLERANCE IN MUNGBEAN AGAINST <i>Macrophomina phaseolina</i> THROUGH THE ENHANCEMENT OF PLANT ANTIOXIDANT DEFENSE GENE
11:50 - 12:00 O1_10	<i>Hajar Bencheikh, Mohamed El-Aalaoui, Mohamed Sbaghi, Abdelaziz Yasri, Mohamed Dakir, Aziz Aboulmouhajir</i> BOTANICAL DESCRIPTION AND CHEMICAL PROFILE OF <i>Opuntia</i> spp. (Cactaceae)
12:10 - 12:50	POSTER PRESENTATIONS: P1_26 – P1_61
12:50 - 13:30	Discussion
14:00 - 16:00	Lunch break
<b>Session 2</b>	<b>AGRICULTURAL ECONOMICS AND RURAL DEVELOPMENT</b> <span style="float: right;">Red Salon</span>
	Chair: <i>Gordana Rokvić Knežić, Ivo Zdráhal, Anna Hajdu</i>
09:00 - 09:10 O2_01	<i>William H. Meyers</i> GLOBAL FOOD SECURITY CHALLENGES: OPPORTUNITIES AND THREATS
09:10 - 09:20 O2_02	<i>Ivo Zdráhal, Sebastian Stępień, Francois S. Lategan, Eliška Svobodová, Michal Borychowski, Agnieszka Sapa, Katarzyna Smędzik-Ambroży, Libor Grega</i> BARRIERS TO PARTICIPATE IN SHORT FOOD SUPPLY CHAINS: PRELIMINARY RESULTS FROM THE SURVEY AMONG FARMERS IN POLAND AND THE CZECH REPUBLIC

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09:20 - 09:30 O2_03	<i>Anna Hajdu</i> NAVIGATING PRESSURE: CORPORATE SOCIAL RESPONSIBILITY IN EASTERN EUROPEAN AGRICULTURE AMID GROWING CRITICISM AND PROTESTS
09:30 - 09:40 O2_04	<i>Željko Vaško</i> GREENING AGRICULTURE FROM THE PERSPECTIVE OF BOSNIA AND HERZEGOVINA
09:40 - 09:50 O2_05	<i>Hamidreza Solaymani Osbooei, Vesna Mrdalj, Milan Šipka</i> UNDENIABLE NECESSITY OF INNOVATIVE SYSTEMS AND NATURE BASED SOLUTION IN ADAPTATION TO CLIMATE CHANGE IN AGRICULTURAL SECTOR
09:50 - 10:00 O2_06	<i>Ranko Gantner, Zvonimir Steiner, Vesna Gantner</i> POTENTIAL ROLE OF LOW-INPUT FARMING IN SUSTAINABLE DEVELOPMENT OF AGRICULTURE AND MODERN SOCIETIES
10:00 - 10:10 O2_07	<i>Dragan Dokić, Vesna Gantner</i> THE IMPORTANCE OF ENSURING AGRICULTURAL PRODUCTION ON THE EXAMPLE OF THE REPUBLIC OF CROATIA
10:10 - 10:20 O2_08	<i>Marija Gjosheva Kovachevikj, Lazo Dimitrov, Despina Popovska Stojanov, Aleksandra Martinovska Stojcheska</i> FACTORS INFLUENCING RURAL YOUTH MIGRATION IN NORTH MACEDONIA
10:20 - 10:30 O2_09	<i>Milica Ilić, Zorica Srđević, Bojan Srđević, Jasna Grabić, Laslo Galamboš, Dušanka Cvijanović, Pavel Benka</i> ENHANCING ECOSYSTEMS' AND SOCIAL RESILIENCE: RESTORE4LIFE WETLAND RESTORATION INITIATIVE
10:30 - 10:40 O2_10	<i>Gordana Rokvić Knežić, Ljiljana Drinić, Jovana Lazendić</i> AGRICULTURE KNOWLEDGE AND INFORMATION SYSTEM IN REPUBLIKA SRPSKA
10:40 - 10:50 O2_11	<i>Nebojša Novković, Dragana Novaković, Blagoje Paunović</i> THE INFLUENCE OF YIELD AND PRICE OF SUGAR BEET FROM CURRENT YEAR ON SOWING AREA OF SUGAR BEET IN FOLLOWING YEAR
10:50 - 11:00 O2_12	<i>Nemanja Jalić, Jovana Antelj, Aleksandar Bačević, Milan Ivković, Nikolina Čerketa, Željko Vaško, Aleksandar Ostojić, Branko Drljača, Petar Nikolić</i> CONSUMER PREFERENCES ABOUT FRUIT BRANDIES
11:00 - 11:10 O2_13	<i>Ranko Sarić, Snežana Branković, Adiba Džudović</i> PRODUCTION OF WOOD ASSORTMENTS OF POPLAR CLONE POPULUS DELTOIDES AND CORN YIELD ON FLUVISOL
11:10 - 11:40	Discussion
11:40 - 12:00	Coffee break
12:00 - 12:20	POSTER PRESENTATIONS: P2_01 – P2_13
	Chair: <i>Željko Vaško, Marija Gjosheva Kovachevikj, Tamara Stojanović</i>
12:20 - 13:00	Discussion
14:00 - 16:00	Lunch break

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16:00 - 18:00	<b>HOMAGE: Agro-knowledge Journal - our 25 years *</b> <b>OMAŽ: Agroznanje – naših 25 godina</b> <b>ROUND TABLE: Transfer of knowledge and innovations in agriculture – from individual cases to functional AKIS *</b> <b>OKRUGLI STO: Transfer znanja i inovacija u poljoprivredi - od pojedinačnih slučajeva do funkcionalnog AKIS-a</b>	Large Salon
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*\* This part of the Symposium program is in Serbian.*

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Moderator: *Željko Vaško*, Faculty of Agriculture, University of Banja Luka  
Panelists: *Aleksandar Ostojić*, vice-rector for scientific research and development, University of Banja Luka;  
*Goran Bursać*, Assistant Minister, Department for providing professional services in agriculture, Ministry of Agriculture, Forestry and Water Management of the Republic of Srpska;  
*Veselin Dutina*, director, Agrarian Fund of the City of Trebinje;  
*Dušan Andrijašević*, president, Association of breeders of Gatačko cattle

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20:00 - 21:00	<b>CULTURAL EVENT: Concert of the City Choir <i>Tribunia</i></b>
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Cultural centre Trebinje (venue in the center of the city)

*Aleksandra Rajković*, prof., conductor  
*Anja Đurić*, performer of traditional music  
*Ratomir Mijanović*, artistic director of the program

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## Wednesday, 29 May 2024

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Session 3	CROP SCIENCE	Large Salon
	<i>Chair: Jan Turan, Ranko Gantner, Branimir Nježić</i>	
09:00-09:10 O3_01	<i>Giulio D'Amato, Luigi Capodici, Luigi Chiappinelli</i> BLULEAF®: A DECISION SUPPORT SYSTEM (DSS) FOR AGRICULTURAL WATER MANAGEMENT	
09:10-09:20 O3_02	<i>Mihajlo Marković, Đurađ Hajder, Milan Šipka, Mladen Todorović, Nery Zapata, Teresa A. Paço, Erminio E. Riezzo, Sabrija Čadro</i> SMARTWATER PROJECT IMPLEMENTATION IN THE PERIOD 2021-2024 AND SMART MANAGEMENT OF LAND AND WATER RESOURCES IN BIH AGRICULTURE	
09:20-09:30 O3_03	<i>Lazar Turšijan, Jan Turan, Aleksandar Sedlar, Filip Vasić</i> ENHANCING CORN YIELD THROUGH VARIABLE SOWING: INTEGRATING SATELLITE AND DRONE TECHNOLOGIES FOR PRECISION AGRICULTURE	

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09:30-09:40 O3_04	<i>Daniel Kalnin</i> SOIL NUTRIENT QUALITY IN ORGANIC SOY PRODUCTION IN TOGO - A SURVEY
09:40-09:50 O3_05	<i>Michal Pol, Florian Tröber, Knut Schmidtke</i> THE UNDERGROUND PROPERTIES OF RIBWORT PLANTAIN
09:50-10:00 O3_06	<i>Filip Vasić, Aleksandar Sedlar, Jan Turan, Lazar Turšijan</i> OPTIMIZATION OF PESTICIDE APPLICATION USING PRECISION AGRICULTURE TECHNOLOGIES AND MODERN NOZZLES
10:00-10:10 O3_07	<i>Darko Jovanović, Vera Rajčić, Bojana Gavrilović, Ivana Živković, Biljana Šević, Viliama Vasilieva, Jelena Stojiljković</i> GROWING SEASON CONDITIONS AND PLANTING DENSITY IMPACT ON SOME MORPHOLOGICAL CHARACTERISTICS ON DIFFERENT MAIZE ( <i>Zea mays</i> L.) HYBRIDS
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11:10-11:30	Coffee break
	Chair: <i>Željko Dolijanović, Vojka Babić, Biljana Kelečević</i>
11:30-11:40 O3_08	<i>Vojka Babić, Natalija Kravić, Zoran Jovović, Milosav Babić, Zlata Luthar, Violeta Anđelković</i> DIVERSITY AND REDUNDANCY ASSESSMENT OF MONTENEGRIN AND SLOVENIAN MAIZE LANDRACES CONSERVED IN MRIZP GENE BANK
11:40-11:50 O3_09	<i>Desimir Knežević, Danijela Kondić, Dragan Grčak, Milosav Grčak, Mirela Matković Stojšin, Dušan Urošević, Danica Mićanović, Aleksandar Paunović, Veselinka Zečević</i> VARIABILITY OF SPIKE SPIKELETS NUMBER IN BREAD WHEAT
11:50-12:00 O3_10	<i>Biljana Ristakjovska Shirgovska, Tatjana Prentovikj, Zoran Dimov, Snežana Katanski, Svetlana Vujić</i> INFLUENCE OF THE SEEDING RATE, ROW SPACING, AND CULTIVAR ON ALFALFA FORAGE YIELD IN THE FIRST PRODUCTION YEAR
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12:20-12:30 O3_13	<i>Mihajlo Voruna, Zorana Đekanović, Relja Suručić, Duška Delić</i> MYCOTOXIN DETECTION IN FUSARIUM SPECIES COMPLEX ISOLATES: TOWARDS UNDERSTANDING TOXIN PRODUCTION AND MANAGEMENT STRATEGIES
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13:30-14:00	<b>PROMOTION OF THE BOOK: Memorial to Academician Vaskrsija Janjić *</b> <b>PROMOCIJA KNJIGE: Spomenica akademiku Vaskrsiji Janjiću</b> <i>Novo Pržulj, Sava Vrbničanin, Biljana Kelečević, Siniša Mitrić</i>	Large Salon
<i>* This part of the Symposium program is in Serbian.</i>		
14:00 - 16:00	Lunch break	
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09:10 - 09:20 O4_02	<i>Dimitar Nakov, Aco Kuzelov, Slavča Hristov, Branislav Stanković, Jelena Miočinović, Marko Cincović</i> MASTITIS MAKES CHANGES IN THE BLOOD ANTIOXIDANT ENZYME ACTIVITY DURING THE TRANSITION PERIOD OF DAIRY COWS: PART II	
09:20 - 09:30 O4_03	<i>Branimir Vidović, Momčilo Šaran, Ljuba Štrbac, Dobrila Janković, Snežana Trivunović</i> POLYMORPHISM OF B-CASEIN IN HOLSTEIN COWS IN VOJVODINA	
09:30 - 09:40 O4_04	<i>Vesna Gantner, Zvonimir Steiner, Biljana Rogić, Ranko Gantner, Krešimir Kuterovac</i> THE POTENTIAL OF VARIOUS FATTY ACIDS FOUND IN MILK AND DAIRY PRODUCTS TO PREVENT CANCER	
09:40 - 09:50 O4_05	<i>Aleksandar Ignjatović, Blagoje Stojković, Stefan Stepić, Nikola Mihajlović, Predrag Perišić</i> IMPACT OF NON-GENETIC FACTORS ON REPRODUCTIVE TRAITS OF EWES AND LAMB WEIGHT UNTIL WEANING IN THE SJENICA PRAMENKA SHEEP	
09:50 - 10:00 O4_06	<i>Dušica Radonjić, Milan Marković, Božidarka Marković, Olga Jokanović, Milena Đokić</i> PLANT SPECIES RICHNESS AND BIOMASS CHEMICAL COMPOSITION OF THE PASTURES IN DIFFERENT AREAS OF MONTENEGRO	
10:00 - 10:10 O4_07	<i>Damir Rimac, Petar Marković, Dušan Gajić, Emir Mešanović</i> PRECISE FEEDING OF FATTENING PIGS AND ITS EFFECT ON BUSINESS ECONOMICS FOR THE EXAMPLE OF BOSNIA AND HERZEGOVINA	
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10:40 - 10:50 O4_09	<i>Neđo Stokanović, Sava Spiridonović, Lidija Perić, Mirjana Đukić Stojčić</i> EFFECT OF DIFFERENT PRODUCTION SYSTEMS ON QUALITY OF TABLE EGGS
10:50 - 11:00 O4_10	<i>Michael Oke</i> AN OVERVIEW OF THE FISH ISSUES FACING GWAGWALADA'S FISH FARMERS AND TRADERS NIGERIA'S ABUJA
11:00 - 11:10 O4_11	<i>Slađana Preradović, Biljana Rogić, Božo Važić, Milica Čutković</i> INFLUENCE OF LIPIZZAN STALLIONS ON BODY MEASUREMENTS OF FOALS
11:10 - 11:20 O4_12	<i>Matúš Džima, Miroslav Juráček, Branislav Gálik, Milan Šimko, Michal Rolinec, Ondrej Hanušovský, Mária Kapusniaková</i> FATTY ACID PROFILE OF COMMERCIAL DRY DOG FOODS WITH AND WITHOUT INSECT
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14:00 - 16:00	Lunch break

**XXIX CONFERENCE OF AGRICULTURAL ENGINEERS OF THE  
REPUBLIC OF SRPSKA: Youth in Agriculture \***

Large Salon

**XXIX САВЈЕТОВАЊЕ ИНЖЕЊЕРА ПОЉОПРИВРЕДЕ  
РЕПУБЛИКЕ СРПСКЕ: Млади у пољопривреди**

*\* This part of the Symposium program is in Serbian.*

14:30 - 14:45	Уводно обраћање	<i>Opening address</i>
14:45 - 15:00	<i>Бојан Ћикић</i> Пројектно позиционирање младих у пољопривреди	<i>Bojan Ćikić</i> Project Positioning of Young People in Agriculture
15:00 - 15:15	<i>Ђорђе Грујчић</i> Активизам младих у служби руралног развоја	<i>Đorđe Grujić</i> Youth Activism in the Service of Rural Development
15:15 - 15:55	Панел 1: Изазови и прилике за младе у агробизнису Модератор: <i>Маринко Векић</i> , Учесници: <i>Мара Пупчевић, Лука Врачар, Игор Дабић, Немања Јалић, Бојана Петровић, Драгана Дувњак Крндија, Милош Галић</i>	Panel 1: Challenges and Opportunities for Youth in Agribusiness Moderator: <i>Marinko Vekić</i> , Participants: <i>Mara Pupčević, Luka Vračar, Igor Dabić, Nemanja Jalić, Bojana Petrović, Dragana Duvnjak Krndija, Miloš Galić</i>
15:55 - 16:15	Пауза за кафу	Coffee break
16:15 - 16:30	<i>Виолета Лемић</i> Исходи I фазе кампање Млади у пољопривреди	<i>Violeta Lemić</i> Outcomes of Phase I of the Youth in Agriculture Campaign



16:30 - 17:15	Панел 2: Институционална подршка младима у пољопривреди Модератор: <i>Петар Николић</i> , Учесници: <i>Саша Лалић, Драган Вучковић, Гордана Роквић Кнежић, Драган Шена, Радомир Вукелић, Кристина Дутина, Живан Митровић</i>	Panel 2: Institutional Support for Young People in Agriculture Moderator: <i>Petar Nikolić</i> , Participants: <i>Saša Lalić, Dragan Vučković, Gordana Rokvić Knežić, Dragan Šepa, Radomir Vukelić, Kritina Dutina, Živan Mitrović</i>
17:15 - 17:30	<i>Петар Николић</i> Млади и пољопривреда – поглед у будућност	<i>Petar Nikolić</i> Youth and agriculture - a look into the future
20:00	Gala evening	Hotel <i>Leotar</i> , Restaurant

## Thursday, 30 May 2024

09:00 – 13:00 EXCURSION: Visit to Vjetrenica Cave and Monastery Tvrdoš

## LIST OF THE POSTER PRESENTATIONS

### SESSION 1: HORTICULTURE

LARGE HALL

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|-------|---|
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| P1_02 | <i>Miroslav Lisjak, Jelena Ravlić, Tomislav Vinković, Andrijana Rebekić, Tihana Teklić</i><br>EFFECT OF HEAT STRESS ON ANTIOXIDANT STATUS IN APPLE LEAVES GROWN IN TWO DIFFERENT MICROCLIMATES  |
| P1_03 | <i>Nada Zavišić, Jelena Davidović Gidas, Gordana Đurić</i><br>PRELIMINARY EVALUATION OF THE FRUIT VALUE OF SELECTED WILD PEAR ( <i>Pyrus communis</i> L.) SEEDLINGS IN THE <i>EX SITU</i> COLLECTION OF THE AGRICULTURAL INSTITUTE                            |
| P1_04 | <i>Sandra Bijelić, Borivoje Bogdanović, Draža Janković, Goran Jaćimović</i><br>PLANT PRODUCTION OF NEW CLONES OF HAZELNUT CULTIVARS BY GRAFTING ONTO TURKISH FILBERT ROOTSTOCK  |
| P1_05 | <i>Marina Mačukanović Jocić, Dragana Rančić</i><br>THE MORPHOLOGICAL FEATURES OF CORNELIAN CHERRY ( <i>Cornus mas</i> L., Cornaceae) POLLEN GRAINS  |
| P1_06 | <i>Dragana Rančić, Marina Mačukanović Jocić, Radenko Radošević</i><br>THE POSITION, MORPHOLOGY, AND STRUCTURE OF FLORAL NECTAR-SECRETING GLAND IN <i>Cornus mas</i> L. (Cornaceae)  |
| P1_07 | <i>Božana Odžaković, Vanja Čupina, Slavica Grujić, Staniša Latinović, Zoran Kukrić</i><br>DEVELOPMENT, QUALITY AND ANTIOXIDANT ACTIVITY OF CORNELIAN CHERRY FRUIT GELS  |
| P1_08 | <i>Danilo Vidović, Boris Pašalić</i><br>IMPACT OF BIOFUNGICIDES IN POSTHARVEST AND STORAGE OF CHERRY FRUITS   |

P1_09	<i>Snežana Stevanović, Ana Plečić, Tanja Petrović, Simo Stevanović, Aleksandar Leposavić, Milena Otović, Uroš Milovančević</i>
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	BIOACTIVE COMPOUNDS OF COLD-PRESSED RASPBERRY SEED OIL AND FUNCTIONAL PROPERTIES OF THE REMAINING OIL CAKE
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NATURAL ENEMIES OF *Bactericera trigonica* (Hodkinson) (Hemiptera, Psylloidea, Triozidae)
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- P1\_55 *Ilinka Pećinar, Dragana Rančić, Maja Terzić, Marina Mačukanović Jocić*  
CHEMICAL ANALYSIS OF POLLEN OF SELECTED TREE SPECIES BY RAMAN SPECTROSCOPY
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- P1\_56 *Stefan Gordanić, Dragoja Radanović, Snežana Mrđan, Jelena Golijan-Pantović, Sara Mikić, Željana Prijić, Tatjana Marković*  
INFLUENCE OF AGROTEXTIL FOIL ON *Arnica montana* FLOWER YIELD
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P1_57	<i>Marko Burić, Vera Popović, Aleksandar Filipović, Ivana Iličković, Saša Vujović</i> MEDICINAL PROPERTIES OF ESSENTIAL OILS LAVENDER AND BENEFIT FOR HUMAN HEALTH
P1_58	<i>Vladimir Filipović, Ljubica Šarčević-Todosijević, Vladan Ugrenović, Snežana Dimitrijević, Marko Popović, Snežana Mrđan, Vera Popović</i> APPLICATION OF YARROW BROTH IN ORDER TO REDUCE THE INTENSITY OF INFECTION OF POT MARIGOLD LEAF POWDERY MILDEW ( <i>Podosphaera xanthii</i> (Castagne) U. Braun & Shishkoff.)
P1_59	<i>Zlatan Kovačević, Biljana Kelečević, Siniša Mitrić, Sandra Petković</i> WILD MEDICINAL AND AROMATIC PLANTS IN THE MANJAČA REGION
P1_60	<i>Gligor Bojkov, Sasa Mitrev, Emilija Arsov</i> FOLIAR SYMPTOMS OF ESCA AS A SIGN OF VINE MORTALITY: A BINARY LOGISTIC REGRESSION APPROACH
P1_61	<i>Aleksandar Radović, Ivana Radović, Dragan Nikolić, Dejan Đurović, Ivana Bakić, Slađana Savić, Milena Marjanović</i> FRUIT CHARACTERISTICS OF SOME APPLE CULTIVARS AND THEIR CLONES

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**SESSION 2: AGRICULTURAL ECONOMICS AND RURAL DEVELOPMENT**    RED SALLON

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P2_01	<i>Ljiljana Drinić, Gordana Rokvić Knežić, Ema Jovičić</i> INDICATORS OF THE STATE OF SMALL AND MEDIUM ENTERPRISES IN THE REPUBLIC OF SRPSKA
P2_02	<i>Miha Curk, Matjaž Glavan</i> MODELING THE LONG-TERM ECONOMIC AND ENVIRONMENTAL EFFICIENCY OF AGRICULTURAL MEASURES WITH THE SWAT MODEL
P2_03	<i>Tamara Stojanović</i> CONTROLLER'S PERFORMANCE ANALYSIS OF THE LARGEST STONE FRUIT PRODUCER IN BOSNIA AND HERZEGOVINA IN LIGHT OF COVID-19 PANDEMIC
P2_04	<i>Miroslav Nedeljković, Milivoje Ćosić, Radivoj Prodanović</i> THEORETICAL ASPECTS OF THE SUPPLY CHAIN IN FOOD PRODUCTION
P2_05	<i>Đorđe Kotarac</i> ANALYSIS OF RICARDO'S DEVELOPMENT MODEL IN THE DIRECTION OF PRODUCTION FACTORS FROM THE PRIMARY TO THE INDUSTRIAL SECTOR
P2_06	<i>Dragana Vidojević, Darko Konjević, Pandi Zdruli, Ilir Salillari, Hamdija Civic, Mihajlo Marković, Afrim Sharku, Mirko Knezević, Dushko Mukaetov, Stanko Milic</i> ADVANCING SUSTAINABLE SOIL MANAGEMENT IN WESTERN BALKANS THROUGH PARTNERSHIP
P2_07	<i>Nemanja Jalić, Ivo Zdrahal, Aleksandar Ostojić, Željko Vaško</i> REGIONAL TRADE INTENSITY OF FOOD PRODUCTS AMONG WESTERN BALKAN COUNTRIES DURING PERIODS OF CRISIS
P2_08	<i>Vesna Mrdalj, Marija Gjosheva Kovachevikj, Despina Popovska Stojanov, Lazo Dimitrov</i> FOREIGN TRADE AND TRADE COMPETITIVENESS IN AGRI-FOOD PRODUCTS BETWEEN REPUBLIC OF SRPSKA (BOSNIA AND HERZEGOVINA) AND NORTH MACEDONIA
P2_09	<i>Nikolina Radaković, Vesna Mrdalj, Aleksandar Ostojić, Željko Vaško</i> IMPACT OF CEFTA AGREEMENTS IMPLEMENTATION ON FOREIGN TRADE IN AGRI-FOOD PRODUCTS OF THE REPUBLIC OF SRPSKA
P2_10	<i>Anastasija Grgić, Milana Šešum, Borut Bosančić</i> QUALITY OF LOCAL PRODUCTION OF FRUIT DISTILLATES IN WESTERN REPUBLIC OF SRPSKA – CURRENT STATE AND PROSPECTS

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P2_11	<i>Angelina Petković</i> ANALYSIS AND FORECASTING OF THE VOLUME OF TOMATO PRODUCTION IN THE REPUBLIC OF SERBIA USING THE ARIMA MODEL
P2_12	<i>Simo Stevanović, Snežana Stevanović, Radovan Živković</i> ECONOMIC CHARACTERISTICS OF SOLAR ENERGY PRODUCTION AND UTILIZATION
P2_13	<i>Ana Plečić, Ana Salević-Jelić, Snežana Stevanović, Senka Popović, Tanja Petrović</i> BIODEGRADABLE PACKAGING MATERIALS FOR SUSTAINABLE FUTURE

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**SESSION 3: CROP SCIENCE**

LARGE SALON

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P3_01	<i>Sanja Antić, Pavel Benka, Nikola Santrač, Boško Blagojević, Milica Stajić, Jovana Bezdan</i> AN EXAMPLE OF SELECTING A PROPER LOCATION FOR CONSTRUCTED WETLANDS INSTALLATION IN SOUTH BAČKA DISTRICT, SERBIA
P3_02	<i>Lazar Kaluđerović, Rada Đurović-Pejčev, Sjetlana Radmanović</i> ORGANIC MODIFICATION OF CLAY FRACTION USING HUMIC ACIDS AND PREPARATION OF CLAY–HUMIC ACID (HA) COMPOSITES
P3_03	<i>Radoš Zemunac, Andrea Salvai, Boško Blagojević, Milica Vranešević, Sanja Antić, Milica Stajić</i> CHANGES IN THE VALUES OF CLIMATIC ELEMENTS IN THE AREA OF THE SOUTH BAČKA DISTRICT (SERBIA)
P3_04	<i>Tihomir Predic, Stefan Jovanovic</i> LAND COVER/LAND USE OF LIJEVCE POLJE IN THE FUNCTION OF AGRICULTURAL LAND PROTECTION
P3_05	<i>Dragan Radovanović, Vladimir Ćirić, Bojan Vojnov, Dragana Marinković</i> SOIL QUALITY AS A BASIS FOR SUSTAINABLE INTENSIFICATION OF AGRICULTURAL PRODUCTION
P3_06	<i>Jelena Golijan Pantović, Aleksandar Ž. Kostić, Danijel D. Milinčić, Slavoljub Lekić</i> CONTENT OF PHYTOSTEROLS IN ORGANIC AND CONVENTIONAL PRODUCED MAIZE AND SPELT SEED
P3_07	<i>Jelena Golijan Pantović, Danijel Milinčić, Slavoljub Lekić, Aleksandar Kostić</i> CONTENT OF FREE POLYPHENOLS AND FLAVONOIDS IN ORGANIC AND CONVENTIONALLY PRODUCED BUCKWHEAT SEED
P3_08	<i>Jelena Golijan Pantović, Bojan Dimitrijević</i> ORGANIC SUNFLOWER PRODUCTION IN SERBIA
P3_09	<i>Bojan Dimitrijević, Jelena Golijan Pantović, Ljubiša Živanović</i> ANALYSING THE STATE OF ORGANIC TRITICALE PRODUCTION IN SERBIA
P3_10	<i>Ljubiša Živanović, Jelena Golijan Pantović, Aleksandar Pipović, Jasna Savić, Vladimir Aćin</i> INFLUENCE OF NITROGEN TOP DRESSING AND APPLICATION OF DIFFERENT FOLIAR FERTILIZERS ON WINTER WHEAT PRODUCTIVITY TRAITS
P3_11	<i>Željko Dolijanović, Milena Simić, Snežana Oljača, Dobrivoj Poštić, Snežana Đorđević, Zoran Jovović</i> THE EFFECT OF DIFFERENT MICROBIAL FERTILIZERS ON THE PRODUCTIVITY OF SOYBEAN
P3_12	<i>Marko M. Burić, Vera M. Popović, Aleksandar B. Filipović, Vesna Gantner, Saša Vujović, Danko Nikolić, Marko Popović</i> CONSUMING ORGANIC FOOD AND HUMAN HEALTH BENEFIT
P3_13	<i>Brankica Spaseva, Ivo Mitrushev, Danica Andreevska, Dobro Andov</i> EFFECT OF BIOSTIMULATOR FITOSTEMIN-WP® ON YIELD AND QUALITY CHARACTERISTICS OF RICE ( <i>Oryza sativa</i> L.)
P3_14	<i>Željko Lakić, Marina Antić, Gordana Babić</i> THE INFLUENCE OF DIFFERENT FERTILIZATION METHODS ON THE COMPONENTS OF YIELD AND THE GRAIN YIELD OF FABA BEAN ( <i>Vicia faba</i> ssp. <i>eufaba</i> var. <i>minor</i> )

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P3_15	<i>Jelena Pantović, Milan Brankov, Darko Jovanović, Natalija Pavlovic, Đorđe Moravčević</i> THE INFLUENCE OF FERTILIZATION ON THE QUALITY AND YIELD OF SWEET CORN
P3_16	<i>Ljiljana Prokić, Matija Krpović, Svetlana Antić Mladenović</i> EFFECTS OF FOLIAR APPLICATION OF <i>Ascophyllum nodosum</i> EXTRACT ON BEAN PRODUCTIVITY UNDER THE INFLUENCE OF SOIL REACTION AS A FACTOR OF ABIOTIC STRESS
P3_17	<i>Ivica Djalović, Aleksandar Paunović, Dragan Živančev</i> GENOTYPE AND FERTILIZATION EFFECT ON NITROGEN CONTENT IN MAIZE ( <i>Zea mays</i> L.)
P3_18	<i>Milena Popov, Bojan Konstantinović, Nataša Samardžić, Tijana Stojanović, Ljubomir Gluščević, Milka Konstantinović</i> THE WEED SEED BANK IN CABBAGE AND SOYBEAN CROPS
P3_19	<i>Biljana Kelečević, Zlatan Kovačević, Sava Vrbičanin, Siniša Mitrić, Danijela Petrović, Novo Pržulj</i> THE FRUIT MORPHOLOGY OF SOME <i>Xanthium</i> SPECIES
P3_20	<i>Vera Popović, Savo Vučković, Marko Popović, Ivana Iličković, Ljiljana Brbaklić, Vladimir Filipović, Danko Nikolić</i> PRODUCTIVITY OF LESS CULTIVATED SPECIES <i>Avena strigosa</i> Schreb. - BLACK OATS - AND HER HEALTH BENEFITS
P3_21	<i>Radovan Savić, Milica Stajić, Sanja Antić</i> THE CONCENTRATION OF HEAVY METALS IN SEDIMENTS OF DRAINAGE CANALS
P3_22	<i>Milica Stajić, Atila Bezdán, Boško Blagojević, Jovana Bezdán, Sanja Antić, Nikola Santrač, Radoš Zemunac</i> MODELING REFERENCE EVAPOTRANSPIRATION IN VOJVODINA PROVINCE USING ARTIFICIAL NEURAL NETWORKS
P3_23	<i>Ksenija Mačkić, Borivoj Pejić, Vladimir Sikora, Ivana Bajić, Vuk Đorđević, Marjana Vasiljević</i> RESPONSE OF SOYBEAN TO DEFICIT IRRIGATION
P3_24	<i>Jelena Bogosavljević, Aleksandar Đorđević, Urban Šilc, Zora Dajić Stevanović, Snežana Branković, Svetlana Aćić, Svjetlana Radmanović</i> WATER CHARACTERISTIC OF GRASSLAND SOILS (EASTERN SERBIA)
P3_25	<i>Jelena Jocković, Sonja Gvozdenac, Ana Paleš, Sandra Cvejić, Milan Jocković, Boško Dedić, Nemanja Ćuk</i> SCREENING OF ANNUAL WILD HELIANTHUS SPECIES FOR <i>Frankliniella occidentalis</i> TOLERANCE
P3_26	<i>Milan Jocković, Siniša Jocić, Sandra Cvejić, Nemanja Ćuk, Boško Dedić, Jelena Jocković, Vladimir Miklić</i> SUNFLOWER BREEDING FOR BIOTIC AND ABIOTIC CHALLENGES
P3_27	<i>Nada Grahovac, Zorica Stojanović, Ana Đurović, Jelena Jocković, Sandra Cvejić, Siniša Jocić, Vladimir Miklić</i> CHEMICAL AND ANTIOXIDANT ANALYSIS OF SUNFLOWER HYBRIDS IN SERBIA
P3_28	<i>Ivo Mitrushev, Brankica Spaseva, Mirjana Jankulovska, Danica Andreevska, Dobro Andov</i> PHENOTYPIC CHARACTERIZATION OF RICE GENOTYPES ( <i>Oryza sativa</i> L).
P3_29	<i>Dušan Urošević, Desimir Knežević, Mirela Matković Stojšin, Jelica Živić, Danica Mićanović, Danijela Kondić, Veselinka Zečević</i> VARIABILITY OF THOUSAND SEED WEIGHT IN BREAD WHEAT ( <i>Triticum aestivum</i> L.)
P3_30	<i>Vojo Radić, Dejan Vukičević, Ilija Komljenović, Borislav Petković</i> SPECIFICITIES OF GROWING SEED WHEAT IN AGROECOLOGICAL CONDITIONS OF BOSNIA AND HERZEGOVINA
P3_31	<i>Mirela Matković Stojšin, Sofija Petrović, Borislav Banjac, Bojan Jocković, Veselinka Zečević, Svetlana Roljević Nikolić, Desimir Knežević</i> ASSESSING THE IMPACT OF SOIL TYPE AND SEASONAL VARIATIONS ON WHEAT SPIKE INDEX
P3_32	<i>Dušan Stanisavljević, Aleksandra Nastasić, Jelena Ovuka, Miloš Krstić, Milivoj Radojčin, Ivan Pavkov, Milica Škorić, Sonja Gvozdenac</i> CHARACTERIZATION OF MAIZE GENOTYPES INCLUDED IN SAFESEED PROJECT BASED ON KERNEL HARDNESS AND COLOR

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P3_33	<i>Snezana Mladenović Drinić, Violeta Anđelković, Natalija Kravić, Vojka Babić, Nikola Grčić, Manja Božić, Ana Nikolić</i> UNRAVELING GENETIC DIVERSITY OF MAIZE INBRED LINES FROM MRI GEN BANK USING SINGLE-NUCLEOTIDE POLYMORPHISM MARKERS
P3_34	<i>Sanja Perić, Milan Stevanović, Slaven Prodanović, Nikola Grčić, Marko Mladenović, Aleksandar Kovačević, Aleksandar Popović</i> COMBINING ABILITIES AS A PREREQUISITE FOR CREATING HIGH-YIELDING MAIZE HYBRIDS ( <i>Zea mays</i> L.)
P3_35	<i>Milosav Babić, Dušan Stanisavljević, Aleksandra Nastasić, Tijana Kovačević, Vojka Babić</i> MULTI ENVIRONMENT MAIZE YIELD TRIALS: CLEANED VS RAW FIELD YIELD DATA
P3_36	<i>Irena Radinović, Sanja Vasiljević, Gordana Branković, Tomislav Živanović, Slaven Prodanović</i> THE PROPORTION OF SURVIVING GENOTYPES OF RED CLOVER IN RELATION TO THEIR ORIGIN
P3_37	<i>Borislav Petković, Vesna Milić, Ilija Komljenović, Vojo Radić, Novo Pržulj, Darko Aćimović</i> PRODUCTIVITY OF RED CLOVER ( <i>Trifolium pratense</i> L.) ON ACIDIC SOIL
P3_38	<i>Vesna Vidović, Mišaela Simeunović, Snježana Hrnčić, Branimir Nježić</i> NEW SPECIES OF SHIELD BUG <i>Perillus bioculatus</i> (Fabricius, 1775) IN BOSNIA AND HERZEGOVINA
P3_39	<i>Radijana Đekanović, Andrija Vasilić, Branimir Nježić</i> PRESENCE OF ENTOMOPATHOGENIC NEMATODES ON AGRICULTURAL FIELDS IN THE REPUBLIC OF SRPSKA
P3_40	<i>Andrija Vasilić, Branimir Nježić</i> CONTROL OF WHITE POTATO CYST NEMATODE ( <i>Globodera palida</i> ) WITH PLANT EXTRACTS
P3_41	<i>Jelena Golijan Pantović, Mile Sečanski, Stefan Gordanić, Aleksandar Popović, Ljubica Šarčević Todosijević, Ljubiša Živanović</i> ESSENTIAL OILS AS POTENTIAL ALTERNATIVE BIOCONTROL PRODUCTS AGAINST PLANT PATHOGENS
P3_42	<i>Miroslava Navrátilová, Kateřina Ignáčová, Ondřej Polák</i> IDENTIFICATION AND QUANTIFICATION OF FUSARIUM PATHOGENS IN WINTER WHEAT CROPS FROM SOUTH MORAVIA

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#### SESSION 4: ANIMAL SCIENCE

RED SALON

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P4_01	<i>Zvonimir Steiner, Stipo Benak, Ivan Babić, Ranko Gantner, Vesna Gantner</i> NUTRITION OF DAIRY COWS BY SUPPLEMENTING THE RATION WITH HYDROXY MINERALS COMPARED TO CHELATED MINERALS
P4_02	<i>Bratislav Pešić, Nikola Stolić, Nebojsa Zlatković, Aleksandra Jevtić</i> ANALYSIS OF THE METABOLIC PROFILE OF DAIRY COWS
P4_03	<i>Tamara Papović, Denis Kučević, Ksenija Čobanović, Mirko Ivković</i> MILK UREA NITROGEN AS AN INDICATOR OF AMMONIA EMISSION FROM DAIRY FARMS
P4_04	<i>Anja Duvnjak, Ksenija Čobanović, Marija Pajić, Saša Krstović, Tamara Papović, Denis Kučević</i> THE CHANGE IN THE NUMBER OF SOMATIC CELLS IN COW'S MILK DURING LACTATION
P4_05	<i>Draženko Budimir</i> RICOTTA, BY-PRODUCTS OR CHEESE OF THE NEW GENERATIONS
P4_06	<i>Olga Kopitovic, Dragana Tomic, Dusica Radonjic, Milena Djokic, Bozidarka Markovic, Milan Markovic, Slavko Mirecki</i> QUALITY OF SKORUP – TRADITIONAL MONTENEGRIN DAIRY PRODUCT

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- P4\_07 *Stoja Jotanović, Damir Rimac, Mirko Radak, Dušan Gajić*  
OPTICAL PROPERTIES AND PHYSICAL APPEARANCE OF PORK
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- P4\_08 *Marinko Vekić, Mirjana Đukić Stojčić, Snežana Trivunović, Belma Kalamujić Stroil, Naris Pojskić*  
GENETIC BOTTLENECK ANALYSIS IN POPULATIONS OF BANAT NAKED NECK BREED USING MICROSATELLITE MARKERS
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- P4\_09 *Biljana Rogić, Ljuba Štrbac, Slađana Preradović, Božo Važić*  
ESTIMATES OF GENETIC PARAMETERS FOR SOME MORPHOLOGICAL TRAITS OF THE LIPIZZAN HORSES
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- P4\_10 *Maja Gregić, Tina Bobić, Vesna Gantner*  
THE IMPACT OF CLIMATE CHANGE ON HORSE BREEDING
- 
- P4\_11 *Aleksandar Martinović, Božidarka Marković, Milena Đokić, Milan Marković, Slavko Mirecki*  
THE STATUS OF DONKEY POPULATION AND REARING PRACTICES IN MONTENEGRO
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- P4\_12 *Nebojša Savić, Jerko Pavličević*  
EFFECTS OF WATER TEMPERATURE AND DIFFERENT TYPES OF FEED ON SPECIFIC GROWTH RATE (SGR) AND THERMAL UNIT GROWTH COEFFICIENT (TGC) OF RAINBOW TROUT
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- P4\_13 *Duško Radanović, Goran Mirjanić, Borut Bosančić, Branimir Nježić*  
ANALYSIS OF MORPHOLOGICAL CHARACTERISTICS OF WINTER BEES FROM THE REPRODUCTIVE CENTERS OF THE REPUBLIC OF SRPSKA
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- P4\_14 *Rajko Roljić, Radoslav Dekić, Vera Nikolić, Sadbera Trožić-Borovac, Maja Šibarević*  
BIOLOGICAL AND ECOLOGICAL CHARACTERISTICS OF THE INVASIVE SPECIES *Dreissena polymorpha* FROM THE DRINA RIVER AND VIŠEGRAD LAKE
- 
- P4\_15 *Bojan Golić, Dragan Knežević, Dragan Kasagić*  
MICROBIOLOGICAL SAFETY OF FEED IN YEAR 2022
- 
- P4\_16 *Bojan Golić, Dragan Knežević, Biljana Pećanac*  
MICROBIOLOGICAL PURITY OF FOOD BUSINESS OPERATORS IN THE PERIOD 2022-2023
-

O4\_02

## **Mastitis makes changes in the blood antioxidant enzyme activity during the transition period of dairy cows: Part II**

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### **Abstract**

During the transition period in dairy cows, significant metabolic changes occur, potentially leading to oxidative stress. Early postpartum is also the riskiest period due to the increased susceptibility of dairy cows to mastitis. This study aimed to assess the enzymatic antioxidant status by analyzing the activity of superoxide dismutase (SOD) and glutathione peroxidase (GPX) in blood obtained from cows with mastitis and comparing it with samples from healthy cows. The two years prospective study was carried out to assess the changes occurring in the activity of antioxidant enzymes SOD and GPX in blood serum in three physiological periods: the dry period 21 days before calving, the period from the beginning of lactation until the 21st day in lactation and period from the 22nd to the 42nd day in lactation. All cows were allocated in groups regarding the season years of calving. Categorisation of the observed population was done following screening for mastitis using udder clinical examination, the California Mastitis Test, and bacteriological culturing. The groups included healthy cows, those with abnormal milk secretion (AMS), and cows with intramammary infection (IMI). Enzyme activity was assessed in blood serum using spectrophotometric methods. The physiological stages in the transition period when blood samples were taken, showed a statistically significant influence ( $p < 0.001$ ) on SOD and GPX activity in blood serum. There were statistically significant positive correlations between the activity of GPX and SOD in blood serum. Health disorders of the mammary gland showed a statistically significant influence on GPX activity in blood serum ( $p < 0.05$ ), but there wasn't a statistically significant influence on SOD activity in blood serum. The findings suggest that maintaining a balanced diet with sufficient antioxidants and managing environmental stressors can mitigate oxidative stress during the transition period, also reducing the risk of mastitis in early lactation.

*Key words:* dairy cows, oxidative stress, udder disorders