

**FACULTY OF AGRICULTURE
GOCE DELCEV UNIVERSITY, STIP**



**4th INTERNATIONAL MEETING
AGRISCIENCE & PRACTICE
(ASP 2024)**

BOOK OF ABSTRACTS

**July 2024
Stip, Republic of North Macedonia**

**FACULTY OF AGRICULTURE
GOCE DELCEV UNIVERSITY, STIP**

**4th INTERNATIONAL MEETING
AGRISCIENCE & PRACTICE
(ASP 2024)**

BOOK OF ABSTRACTS

**July 2024
Stip, Republic of North Macedonia**

BOOK OF ABSTRACTS
4th International Meeting AGRISCIENCE & PRACTICE
(ASP 2024)

Publisher:
Faculty of Agriculture, Goce Delcev University, Stip

Editor
Liljana Koleva Gudeva, PhD

Technical editors
Biljana Kovacevik, PhD
Fidanka Trajkova, PhD

English language editor
Biljana Petkovska Ivanova (MA, Senior lecturer)

The abstracts are technically edited according to the Template for Abstracts, without additional editing of the main text. The results and writing style are presented in the original form provided by the authors.

CIP - Каталогизација во публикација
Национална и универзитетска библиотека "Св. Климент Охридски", Скопје

631/635(062)(084.3)

INTERNATIONAL meeting agriscience & practice (ASP 2019) (4 ; 2024 ;
Stip)

Book of abstracts : Електронски извор / 4th International meeting
agriscience & practice (ASP 13 June 2024, Stip – Republic of North
Macedonia) ; [editor Liljana Koleva Gudeva]. - Stip : Goce Delcev
University, Faculty of agriculture, 2024

Начин на пристапување (URL):

<https://zf.ugd.edu.mk/index.php/mk/agronauka-i-praksa>. - Текст во PDF
формат, содржи VI, 48, илустр. - Наслов преземен од екранот. - Опис на
изворот на ден 02.07.2024

ISBN 978-608-277-064-2

а) Земјоделство -- Собири -- Апстракти

COBISS.MK-ID 64003845

**4th INTERNATIONAL MEETING AGRISCIENCE & PRACTICE
ASP 2024**

Organized by

**FACULTY OF AGRICULTURE
GOCE DELCEV UNIVERSITY, STIP, REPUBLIC OF NORTH MACEDONIA
13 June 2024, Stip, Republic of North Macedonia**

Faculty of Agriculture organizes the 4th International Meeting Agriscience & Practice (ASP 2024), giving an opportunity to the participants for presentation and discussion of original scientific and practical results in different fields of agriculture.

The 4th International Meeting Agriscience & Practice (ASP 2024) is organized with an intention to bring together all agricultural stakeholders for sharing their knowledge, experience and obstacles. One of the main aims is to link research and field work in agricultural sector in the country and abroad, giving it an international dimension.

The main goal of the Meeting was to connect and promote scientific achievements and practical knowledge presented in different thematic areas.

The scientific and applicative presentations are conducted in sections:

1. Agricultural economics, 2. Plant biotechnology, 3. Plant production, 4. Plant protection, 5. Quality control and food safety, 6. Soil science and hydrology 7. Viticulture, enology and fruit production

with a possibility for poster presentation. Nevertheless, the needs of the agricultural sector entail organization of plenary presentation on the most actual topic in the field of agriculture and panel discussions, where invited speakers and panellists have a possibility to share their experience with the Meeting participants.

Dear colleagues, let's again gather together in one place with one joint idea - to combine agricultural science and practice with a purpose to share information, knowledge, experiences and solutions to exceed the problems. The main objective of this Meeting is successful establishment of continuous and valid communication and collaboration among scientific, research and practical activities in agriculture sector in our country, neighboring countries and on broader international level. We will achieve the main goal of the Meeting as well as our common objective only by virtue of synergic connections on which we have been working intensively in the past years.

Every science has its significance and value in the given social context, but agricultural production has a special place of vital significance.

With great joyfulness we thank you for your active participation in the Meeting!

Emilija Arsov, PhD

**Dean of the Faculty of Agriculture
&
Chair of the Organizing Committee**

July, 2024, Stip, Republic of North Macedonia

SCEINTIFIC AND EDITORIAL COMMITTEE

Emilija Arsov, PhD, North Macedonia (Chair)
Aco Kuzelov, PhD, North Macedonia
Biljana Balabanova, PhD, North Macedonia
Liljana Koleva Gudeva, PhD, North Macedonia
Ljupco Mihajlov, PhD, North Macedonia
Sasa Mitrev, PhD, North Macedonia
Violeta Dimovska, PhD, North Macedonia
Alen Mujčinović, PhD, Bosnia and Hercegovina
Dragomir Vlčev, PhD, Bulgaria
Stefan Georgiev Dragoev, PhD, Bulgaria
Velichka Nikolova Rodeva, PhD, Bulgaria
Marijan Bubola, PhD, Croatia
Sanja Radeka, PhD, Croatia
Musaj Pacarizi, PhD, Kosovo
Goran Škatarić, PhD, Montenegro
Danijela Raičević, PhD, Montenegro
Kiril Bahčevandziev, PhD, Portugal
Dejan Pljevljakusić, PhD, Serbia
Dragan Nikolić, PhD, Serbia
Jordana Ninkov, PhD, Serbia
Jovica Vasin, PhD, Serbia
Radivoje Jetvić, PhD, Serbia
Slavča Hristov, PhD, Serbia
Hatice Gülen, PhD, Turkey
Maryna Mardar, PhD, Ukraine
Taras Levsiukov, PhD, Ukraine

ORGANIZING COMMITTEE

1. Emilija Arsov, PhD (Chair)
2. Biljana Balabanova, PhD
3. Biljana Kovacevik, PhD
4. Biljana Atanasova, PhD
5. Daniela Todevska, PhD
6. Dimitar Nakov, PhD
7. Fidanka Ilieva, PhD
8. Fidanka Trajkova, PhD
9. Natalija Markova Ruzdik, PhD
10. Sanja Kostadinovik Velickovska, PhD
11. Elizabeta Davitkovska Barbareeva, BSc
12. Ivan Donev, BSc

English language editor

Biljana Petkovska Ivanova (MA, Senior lecturer)

TABLE OF CONTENTS

PLENARY PRESENTATIONS.....	8
DIGITAL TECHNOLOGIES – A STEP TOWARDS THE NEW ERA OF AGRICULTURAL PRACTICES IN THE BALKAN COUNTRIES Blagoj Mukanov.....	9
PROFITABILITY OF INVESTMENT IN FIELD PRODUCTION AND EVALUATION OF SPONTANEOUS RESOURCES OF MEDICINAL PLANTS IN SERBIA Dejan Pljevljakušić.....	10
AGRICULTURAL ECONOMICS.....	11
THE APPLICATION OF CORPORATE SOCIAL RESPONSIBILITY IN THE TACTICS OF THE TOBACCO INDUSTRY Silvana Pashovska, Trajko Miceski.....	12
PLANT BIOTECHNOLOGY.....	13
THE USAGE OF MODIFIED ATMOSPHERE PACKING (MAP) AS A USEFUL METHOD IN MAINTAINING THE QUALITY OF AGRICULTURAL PRODUCTS Liljana Koleva Gudeva, Fidanka Trajkova.....	14
ASSESSMENT OF GENETIC DIVERSITY AMONG BARLEY VARIETIES WITH DIFFERENT ORIGIN USING SIMPLE SEQUENCE REPEAT (SSR) MARKERS Natalija Markova Ruzdik, Ljupco Mihajlov, Verica Ilieva, Sasa Mitrev, Emilija Arsov, Biljana Kovacevik, Mite Ilievski.....	15
PLANT PRODUCTION.....	16
PRODUCTION CHARACTERISTICS OF SOME <i>CAMELINA SATIVA (L) CRUNTZ</i> VARIETIES IN THE PRILEP REGION Daniela Pelivanoska – Dameska, Ljupco Mihajlov.....	17
ANALYSIS OF SUB-SECTOR HERBS & SPICES: A CASE STUDY FROM NORTH MACEDONIA Fidanka Trajkova, Liljana Koleva Gudeva.....	18
WEATHER CONDITIONS AS A FACTOR AFFECTING THE SEED WEIGHT OF TOBACCO VARIETY PRILEP 66 9 IN THE YEAR 2023 Karolina Kocoska, Valentina Pelivanoska, Natasha Zdraveska, Silvana Pashovska, Jane Aleksoski, Marjana Glusheska, Kristina Hristovska, Stefan Tosheski.....	19
COMPARATIVE TESTING OF BUTTERHEAD AND COS (ROMAINE) LETTUCE GROWN BY THE HYDROPONICS METHOD Plamena Yankova, Pavlina Naskova.....	20
INFLUENCE OF THE NON-WOVEN COVER CLOTH – AGRIL ON THE DEVELOPMENT OF SPRING CABBAGE IN THE OPEN FIELD Mite Ilievski, Daniela Todevska, Dragica Spasova, Dusan Spasov, Biljana Atanasova, Natalija Markova Ruzdik, Boris Chapanov.....	21
PLANT PROTECTION.....	22
OCCURRENCE AND DAMAGES IN RICE CAUSED BY RICE WATER WEEVIL LISSORHOPTRUS ORYZOPHILUS KUSCHEL (COLEOPTERA: CURCULIONIDAE) Biljana Atanasov*, Ilija Karov, Dusan Spasov, Dragica Spasova, Mite Ilievski	23
SUSTAINABLE USE OF MODERN BIOPREPARATIONS IN TOBACCO SEEDLINGS PROTECTION Biljana Konsuloska Gveroska	24
DEVELOPMENT OF HYPOTHETICAL INFECTION MODEL BASED ON ENVIRONMENTAL VARIABLES FOR <i>PLASMOPARA VITICOLA</i> (Berk. & M.A. Curtis) Berl. & De Toni Gligor Bojkov, Emilija Arsov, Sasa Mitrev.....	25
THE ROLE OF ESSENTIAL OILS IN PLANT PROTECTION: EFFECTIVE BIOPESTICIDES OR JUST A MYTH? Biljana Kovacevik, Sasa Mitrev, Emilija Arsov, Natalija Markova Ruzdik, Daniela Todevska.....	26
STROBILURINS – QUINONE OUTSIDE INHIBITORS: DEVELOPMENT, APPLICATIONS, AND RESISTANCE Biljana Kovacevik, Sasa Mitrev, Emilija Arsov, Natalija Markova Ruzdik, Daniela Todevska.....	27
BIOLOGICAL CONTROL OF <i>PYTHIUM</i> SPP., THE CAUSAL AGENT OF TOBACCO ROOT ROT BY BACTERIAL STRAINS ISOLATED FROM COMPOST SAMPLES Marija Todorovska Ivkovikj, Marija Karbeska, Teodora Dimova, Igor Pavlovski, Dzoko Kungulovski.....	28
<i>IN VITRO</i> EVALUATION OF SOIL <i>BACILLUS</i> STRAINS ISOLATED FROM THE BUCIM COPPER MINE FOR BIOCONTROL AGAINST GRAPEVINE DOWNY MILDEW Natalija Atanasova-Pancevska, Dzoko Kungulovski, Denica Angelovska, Lina Mirkovik, Martina Stojanoska, Ognen Boskovski,	

Sofija Kostandinovska.....	29
QUALITY CONTROL AND FOOD SAFETY.....	30
SHADE NETTING ON RASPBERRY AND BLACKBERRIES PRODUCED FROM SOUTH-EAST REGION OF NORTH MACEDONIA: EFFECT ON MORPHOLOGICAL CHARACTERIZATION, CHEMICAL COMPOSITION AND ANTIOXIDANT ACTIVITY Sanja Kostadinović Veličkovska, Daniela Todevska, Zorica Temelkova, Dejan Pljevljakušić, Jelena Živković, Živko Davčev, Petar Davčev and Fidanka Ilieva.....	31
DETERMINATION OF ANTIOXIDANT ACTIVITY OF COLD-PRESSED EDIBLE OILS FROM REPUBLIC OF NORTH MACEDONIA BY HEMOGLOBIN ASSAY Sanja Kostadinović Veličkovska, Saša Mitrev, Emilija Arsov, Daniela Todevska, Fidanka Ilieva, Augustin C. Mot and Radu Silaghi-Dumitrescu.....	32
MONITORING OF ACTIVE AND TITRATABLE ACIDITY IN WHITE BRINED CHEESE DURING RIPENING PERIOD Borce Makarijoski.....	33
INVESTIGATING SILAGE-DERIVED MICROBIAL ISOLATES FOR PROBIOTIC APPLICATIONS IN ANIMAL NUTRITION Igor Pavlovski, Emira Zekiri, Natali Angeleska, Marija Todorovska Ivkovikj, Dzoko Kungulovski, Natalija Atanasova-Pancevska.....	34
THE IMPORTANCE OF MACRO AND MICRONUTRIENTS IN THE DIET Milena Magerovska, Kristina Tomska, Elena Joshevska.....	35
FRESH HOMEMADE SAUSAGES WITH ADDED STABILIZERS OF NATURAL ORIGIN Nevena Gruevska, Tatjana Kalevska, Slavjanka Dimitrova, Tanja Stojanovska.....	36
A RESEARCH ON THE COMPOSITION OF MADŽUN (GRAPE MOLASSES) PRODUCED FROM TABLE GRAPE VARIETIES Violeta Dimovska, Biljana Vitanovska, Fidanka Ilieva, Aleksandar Piperevski.....	37
BIOACCUMULATION OF HEAVY METALS IN FRUIT OF SOME NEW TOMATO HYBRIDS Daniela Todevska, Sanja Kostadinovik Velickovska, Marjan Crvenkovski, Mite Ilievski, Biljana Kovacevik, Natalija Markova Ruzdik, Sanja Ristova, Krste Tasev.....	38
ANTIFUNGAL ACTIVITY OF COMPOST-DERIVED BACTERIA AGAINST CHALKBROOD FUNGUS ASCOSPHAERA APIS Igor Pavlovski, Teodora Dimova, Marija Karbeska, Marija Todorovska Ivkovikj, Dzoko Kungulovski.....	39
SOIL SCIENCE AND HYDROLOGY.....	40
SOIL ELEMENT ANALYSIS IN TOBACCO CULTIVATION AREAS OF THE PRILEP REGION: ENVIRONMENTAL AND AGRICULTURAL PERSPECTIVES Bojana Dimovska Gonovska, Biljana Jordanoska Shishkoska, Trajce Stafilov, Valentina Pelivanoska.....	41
ANALYSIS OF GROUNDWATER QUALITY IN SHALLOW WELLS BEFORE AND AFTER DISINFECTION WITH PERACETIC ACID Ankica Anastasova, Dimitar Nakov, Aleksandra Angelevska, Aco Kuzelov, Fidanka Ilieva.....	42
ECO-TOXICOLOGICAL RISK ASSESSMENT OF E-WASTE SOIL POLLUTION Biljana Balabanova.....	43
DATA EXTRACTION OF SIGNIFICANT SOIL CHEMISTRY MARKERS FOR SUSTAINABLE VITICULTURE Aleksandar Piperevski, Biljana Balabanova.....	XX
VITICULTURE, ENOLOGY AND FRUIT PRODUCTION.....	44
COMPARATIVE STUDIES OF SOME QUALITY FACTORS THAT AFFECT THE PLACEMENT OF SOME TABLE VARIETIES ON THE MARKET IN THE R. N. MACEDONIA Biljana Korunoska, Krum Boškov, Zlatko Prculovski.....	45
ISOLATION AND CHARACTERIZATION OF NATIVE YEAST STRAINS FROM THE MACEDONIAN INDIGENOUS GRAPE VARIETY STANUSINA Marija Todorovska Ivkovikj, Igor Pavlovski, Dzoko Kungulovski, Elena Petrovska.....	46
FOURIER-TRANSFORM INFRARED SPECTROSCOPY FOR ANALYSIS OF STANUŠINA WINES PRODUCED BY HONEY ADDITION BEFORE FERMENTATION Elena Bogva, Štefan Ailer, Silvia Jakabová, Violeta Dimovska, Sasa Mitrev, Violeta Ivanova-Petropulos.....	47
MALDI-TOF-MS DETECTION OF PIGMENTS IN WINES DURING MACERATION Zorica Temelkova, Marko Stojakovic, Violeta Ivanova-Petropulos, Ferenc Kilar, Klemen Lisjak, Laslo Mark.....	48

BOOK OF ABSTRACTS
SECTION: PLANT PROTECTION

**OCCURRENCE AND DAMAGES IN RICE CAUSED BY RICE WATER WEEVIL
LISSORHOPTRUS ORYZOPHILUS KUSCHEL (COLEOPTERA: CURCULIONIDAE)** Biljana
Atanasova^{1*}, Ilija Karov¹, Dusan Spasov¹, Dragica Spasova¹, Mite Ilievski¹

¹Faculty of Agriculture, Goce Delcev University – Stip, Krste Misirkov, 10 A, 2000 Stip, Republic of North Macedonia

*Corresponding author: biljana.atanasova@ugd.edu.mk

Abstract

The rice weevil *Lissorhoptrus oryzophilus* Kuschel (Coleoptera: *Curculionidae*) is an important and destructive pest of rice. Comes from the United States of America and remained confined to North America until 1976, when it was spread to Asia. In Europe, it was first detected in Italy in 2004, and in 2016 it was also observed in Greece. Throughout 2023, during the control of the rice fields in the Kochani region, Republic of North Macedonia, rice damages similar to that caused by the rice weevil were observed. The presence of the pest was established after a detailed examination. The identity of the pest was determined through the morphological characteristics of the larva and imago. Damages to the rice plants were both on the roots and the leaves. Further researches should be carried out to determine the prevalence of the pest, its abundance, the damage it causes and the protective measures need to be taken.

Key words: Rice weevil, *Oryza sativa*, occurrence, damages, pests.

BOOK OF ABSTRACTS

**4th INTERNATIONAL MEETING
AGRISCIENCE & PRACTICE (ASP 2024) (13th June 2024, Stip)
Faculty of Agriculture, Goce Delcev University - Stip
July, Stip, Republic of North Macedonia**

BOOK OF ABSTRACTS

**4th INTERNATIONAL MEETING
AGRISCIENCE & PRACTICE (ASP 2024)
(13th June 2024, Stip)**

**Faculty of Agriculture, Goce Delcev University - Stip
July 2024, Stip, Republic of North Macedonia**