

**Faculty of Agriculture
Goce Delcev University - Stip**



**2nd INTERNATIONAL MEETING
AGRISCIENCE & PRACTICE
(ASP 2019)**

BOOK OF ABSTRACTS

**12th April 2019
Stip, Republic of North Macedonia**

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**2nd INTERNATIONAL MEETING AGRISCIENCE & PRACTICE
ASP 2019**

Organized by

**FACULTY OF AGRICULTURE
GOCE DELCEV UNIVERSITY - STIP, REPUBLIC OF NORTH MACEDONIA
12 April 2019, Stip, Republic of North Macedonia**

In the past twelve years the educational, research and applicative activities of the Faculty of Agriculture – Stip, Goce Delcev University – Stip, contributed to the development of agricultural sector in the country and abroad.

The Faculty of Agriculture organizes the 2nd International Meeting Agriscience & Practice (ASP 2019), giving an opportunity to the participants for presentation and discussion of original scientific and practical results in different fields of agriculture.

The 2nd International Meeting Agriscience & Practice (ASP 2019) is organized with 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 is to connect and promote scientific achievements and practical knowledge presented in different thematic areas.

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TABLE OF CONTENTS

| | |
|--|---------------|
| AGRICULTURAL ECONOMICS | 10 |
| INTEGRATING STUDIES AND ENTREPRENEURSHIP. CASE: ELOSA OSK. ANNIKA MICHELSON .. | 11 |
| PERSPECTIVES AND POSSIBILITIES FOR DEVELOPMENT OF TOBACCO PRODUCTION IN THE REPUBLIC OF MACEDONIA SILVANA PASOVSKA, TRAJKO MICESKI | 12 |
| PLACEMENT OF INFORMATION SYSTEMS IN AGRIBUSINESS GORAN MIHAJLOVSKI..... | 13 |
| THE IMPACT OF SOCIAL MARKETING ON IMPROVING CONSUMER AWARENESS OF THE IMPORTANCE OF SPICE IN FOOD MAJA ANGELESKA, KRISTINA J. GACOSKA (NO PARTICIPATION).. | 14 |
| PLANT BIOTECHNOLOGY | 15 |
| WASTE MATERIALS DERIVED BIO-EFFECTORS USED AS GROWTH PROMOTERS FOR STRAWBERRY PLANTS. AN AGRONOMIC AND METABOLOMIC STUDY BRANKICA SPASEVA, ZIAD AL CHAMI, SANDRA ANGELICA DE PASCALI, IVANA CAVOSKI, FRANCESCO PAOLO FANIZZI | 16 |
| GENETICALLY MODIFIED CROPS - CURRENT STATE, ISSUES AND PERSPECTIVES FIDANKA TRAJKOVA, LILJANA KOLEVA GUDEVA | 17 |
| MAIN MOLECULAR MARKERS IN PLANT GENETICS - MINI REVIEW MARIYA TODOROVA ZHELYAZKOVA, SVETLANA YORDANOVA GEORGIEVA, DEYANA GENCHEVA GENCHEVA (NO PARTICIPATION) | 18 |
| ASSESSMENT OF ANTIMICROBIAL AND ANTIOXIDANT ACTIVITIES OF <i>NEPETA NUDA</i> PLANT EXTRACTS DETELINA PETROVA, MILENA PETROVA, MARIA ROGOVA, MIROSLAVA ZHIPONOVA, PETIA HRISTOVA, GANKA CHANEVA | 19 |
| SPECTROPHOTOMETRIC DETERMINATION OF THE CONTENT OF PHOTOSYNTHETIC PIGMENTS IN SOME DECORATIVE SPECIES GROWN IN <i>IN VITRO</i> AND <i>IN VIVO</i> CONDITIONS IVANA VELESANOVA, FIDANKA TRAJKOVA, LILJANA KOLEVA GUDEVA | 20 |
| IMPROVING THE DOMINANCE OF SURFACE DUST ABSORPTION VS. BULK DEPOSITION IN MOSS TISSUE CROSS BIO-INDICATION PROCESS OF METALS DEPOSITION IN ENVIRONMENT BILJANA BALABANOVA, MAJA LAZAROVA, BLAZO BOEV | 21 |
| PLANT PRODUCTION | 22 |
| BREEDING OF ABIOTIC STRESS IN BARLEY - PROBLEMS, ACHIEVEMENTS AND PERSPECTIVES DRAGOMIR VALCHEV, DARINA VALCHEVA..... | 23 |
| A VIRTUAL PLANT PRODUCTION MANAGEMENT PLATFORM ANNIKA MICHELSON | 24 |
| USE OF SEAWEED EXTRACTS IN THE LETTUCE (<i>LACTUCA SATIVA</i> L.) PRODUCTION JOSÉ FILIPE GOMES LOPES; KIRIL BAHCEVANDZIEV, LEONEL PEREIRA | 25 |
| NEW PERSPECTIVE MALE STERILE HYBRID LINES OF BURLEY TOBACCO ILIJA RISTESKI KAROLINA KOCOSKA | 26 |
| THE SIZE AND NUMBER OF MIDDLE BELT LEAVES IN SOME VARIETIES OF WILD TOBACCO KAROLINA KOCOSKA, ILIJA RISTESKI | 27 |
| STUDY OF THE INFLUENCE OF LEAF FERTILIZER PANAMIN AGRO ON PLANT GROWTH, RESISTANCE TO BIOTIC AND ABIOTIC STRESS, PRODUCTIVITY AND QUALITY OF THE GRAIN IN WHEAT AND BARLEY DRAGOMIR VALCHEV, DARINA VALCHEVA..... | 28 |
| CHEMICAL COMPOSITION OF OATS GROWN IN CONDITIONS OF ORGANIC PRODUCTION ADRIJANA BUROVSKA, DRAGICA SPASOVA, BILJANA ATANASOVA, DUSAN SPASOV, MITE ILIEVSKI | 29 |
| THE INFLUENCE OF ORGANIC FERTILIZERS ON THE GROWTH AND YIELD OF BROCCOLI (<i>BRASSICA OLERACEA</i> L. VAR. <i>ITALICA</i>) DANIELA DIMOVSKA, LJUPCO MIHAJLOV, FIDANKA TRAJKOVA, LILJANA KOLEVA GUDEVA, IGOR ILJOVSKI..... | 30 |
| SPECIFICS OF SYMBIOTIC NITROGEN FIXATION IN LEGUMINOUS PLANTS - WITH A VIEW OF CHICKPEA (<i>CICER ARIETINUM</i> L.) MONIKA GLIGOROVA, LJUPCO MIHAJLOV | 31 |
| COMPARATIVE STUDY OF HYDROPONICALLY AND AQUAPONICALLY CULTIVATED PLANT SPECIES ALEXANDER TOMOV, DETELINA PETROVA, ANELIYA RAICHEVA, GANKA CHANEVA | 32 |
| ASSESSMENT OF AGRO-MORPHOLOGICAL VARIABILITY IN RICE BY MULTIVARIATE ANALYSIS VERICA ILIEVA, NATALIJA MARKOVA RUZDIK, LJUPCO MIHAJLOV, MITE ILIEVSKI..... | 33 |

| | |
|--|-----------|
| ARSENIC UPTAKE AND TRANSLOCATION IN SOYBEAN PLANTS IN NEUTRAL SOIL ENVIRONMENT LJUPCO MIHAJLOV, BILJANA KOVACEVIK, NATALIJA MARKOVA RUZDIK, VESNA ZAJKOVA PANEVA..... | 34 |
| IMPACT OF SOME HERBICIDES AND HERBICIDE COMBINATIONS ON SOWING CHARACTERISTICS OF CORIANDER (<i>CORIANDRUM SATIVUM</i> L.) GROZI DELCHEV (NO PARTICIPATION) | 35 |
| PLANT PROTECTION..... | 36 |
| FIRST REPORT OF HEALTH CONDITION OF POTATO SAMPLES FROM BORDER CROSSINGS IN THE REPUBLIC OF NORTH MACEDONIA MAJA PETRUSHEVA, SASA MITREV, EMILIJA ARSOV..... | 37 |
| THE IMPACT OF CLIMATE CHANGE ON SHIFT OF PREDOMINANT RUST PATHOGENS IN SERBIA RADOVOJE JEVTIĆ, VESNA ŽUPUNSKI, MIRJANA LALOŠEVIĆ | 38 |
| THE USE OF PREDATORS FOR THE CONTROL OF <i>FRANKLINIELLA OCCIDENTALIS</i> (THYSANOPTERA: THRIPIDAE) FOR PEPPER IN PROTECTED AREA DUSAN SPASOV, BILJANA ATANASOVA, DRAGICA SPASOVA, MITE ILIEVSKI | 39 |
| <i>PAENIBACILLUS ALVEI</i> DZ-3 WITH HIGH ANTIFUNGAL ACTIVITY PROTECTS APPLE FRUITS AGAINST <i>BOTRYTIS CINEREA</i> GRAY MOLD NATALIJA ATANASOVA-PANCEVSKA, DZOKO KUNGULOVSKI, VIOLETA BOSKOVSKA, IVAN KUNGULOVSKI | 40 |
| ONE STEP REAL-TIME POLYMERASE CHAIN REACTION USING FOR THE DETECTION OF <i>PLUM POX POTYVIRUS</i> CVETANKA KULUKOVSKA, EMILIJA ARSOV, SASA MITREV..... | 41 |
| PHYTOPLASMA INFECTION CAUSES PHYSIOLOGICAL CHANGES IN SYSTEMIC PEPPER LEAVES MIROSLAVA ZHIPONOVA, GALINA IVANOVA, EMILIJA ARSOV, DETELINA PETROVA, SASA MITREV, GANKA CHANEVA | 42 |
| GLOBAL WARMING AND INCREASED INFLUX OF PESTS ON TOBACCO VESNA KRSTESKA, STANISLAVA LAZAREVSKA, PETRE STOJANOSKI | 43 |
| PHENOTYPIC AND PATHOGENIC CHARACTERIZATION OF <i>COLLETOTRICHUM</i> SPP. ASSOCIATED WITH BITTER ROT ON APPLE FRUITS IN POST-HARVEST STORAGE BILJANA KOVACEVIK, MITREV SASA..... | 44 |
| EFFICACY OF SOME HERBICIDES AND HERBICIDE TANK MIXTURES IN DURUM WHEAT (<i>TRITICUM DURUM</i> DESF.) GROZI DELCHEV (NO PARTICIPATION) | 45 |
| QUALITY CONTROL AND FOOD SAFETY | 46 |
| INFLUENCE OF DEEP AUTOLYSIS ON THE QUALITY AND SHELF LIFE OF MEAT STEFAN G. DRAGOEV..... | 47 |
| THE INFLUENCE OF DIFFERENT CONCENTRATIONS OF PLANT ESSENTIAL OILS ON GROWTH AND REPRODUCTION OF <i>SALMONELLA ENTERITIDIS</i> JASMINA STOJILJKOVIC, METODIJA TRAJCHEV, MILENA PETROVSKA, DIMITAR NAKOV | 48 |
| THE EFFECT OF DIFFERENT STARTER CULTURES ON QUALITY AND SENSORY CHARACTERISTICS ON KASHKAVAL CHEESE GORDANA DIMITROVSKA, MARIJA PETKOVSKA, LJUPCE KOSHOSKI, ELENA JOSHEVSKA, KATERINA BOJKOVSKA..... | 49 |
| ANALYTICAL CHALLENGES IN CHEMICAL CHARACTERIZATION OF MEDICINAL AND AROMATIC PLANTS BILJANA BALABANOVA..... | 50 |
| NUTRITIVE AND SENSORY CHARACTERISTICS OF FERMENTED CUCUMBER VALENTINA PAVLOVA, GORDANA ŠEBEK, TATJANA BLAZHEVSKA, LJUBICA KOSTADINOVA..... | 51 |
| APPLICABLE GUIDELINES FOR THE EXISTING RULES FOR LABELLING FOOD PRODUCTS JULIJANA SAZDOVA, GORAN ANTONIEVSKI, DEJAN METODIJESKI, ACO KUZELOV | 52 |
| CONSUMER PREFERENCES AS DETERMINANT OF THE SUCCESSFUL QUALITY MANAGEMENT OF DAIRY PRODUCTS KATERINA BOJKOVSKA, NIKOLCHE JANKULOVSKI, GORAN MIHAJLOVSKI, ELENA JOSHEVSKA, GORDANA DIMITROVSKA..... | 53 |
| APPLICATION OF SPICES IN THE DAIRY INDUSTRY KRISTINA J. GACOSKA, MAJA ANGIJELESKA (NO PARTICIPTION)..... | 54 |
| SENSORY EVALUATION OF PROBIOTIC YOGHURT INOCULATED WITH DIFFERENT STARTER CULTURES ISMAILI MUHHAREM, MAKARIJOSKI BORCHE, PRESILSKI STEFCHE, TRAJCHEVSKI SASHO | 55 |
| STARTER CULTURES EFFECT ON pH AND SH DYNAMICS OF INOCULUM DURING FERMENTATION PERIOD OF PROBIOTIC YOGHURT ISMAILI MUHHAREM, MAKARIJOSKI BORCHE, PRESILSKI STEFCHE, TRAJCHEVSKI SASHO..... | 56 |

| | |
|--|---------------|
| STABILITY OF OIL FROM OILSEED RAPE WITH GARLIC UNDER VARIOUS CONDITIONS HRISTINA EFTINZIJOSKA, GORICA PAVLOVSKA | 57 |
| EVALUATION OF BACTERICIDAL ACTIVITY OF SELECTED WILD MACROFUNGI EXTRACTS AGAINST <i>ESCHERICHIA COLI</i> DANIELA NIKOLOVSKA NEDELKOSKA, TATJANA KALEVSKA, NATALIJA ATANASOVA-PANCEVSKA, MITKO KARADELEV, ZORA UZUNOSKA, DZOKO KUNGULOVSKI | 58 |
| COMPARISON OF THE RHEOLOGICAL CHARACTERISTICS OF BIO-FORTIFIED FLOUR OBTAINED FROM SOFT WHEAT VARIETIES TRESKA AND RADIKA MARIJA MENKINOSKA, TATJANA BLAZHEVSKA, VIKTORIJA STAMATOVSKA | 59 |
| HYGIENIC SANITATION IN THE DAIRY INDUSTRY IN THE PRODUCTION OF COW CHEESE AS A FACTOR FOR OBTAINING A HYGIENICALLY CORRECT PRODUCT ACCORDING TO THE EU STANDARDS FOR STANDARDIZATION AND CERTIFICATION VANGELICA JOVANOVSKA, DIMITRA JOVANOVSKA, DARKO VELJANOVSKI, MILA ARAPCHEVSKA, KATERINA SHAMBEVSKA | 60 |
| EFFECT OF EXTENDED AGING UPON TEXTURAL ASPECTS OF TRADITIONAL BULGARIAN DRY- CURED HAM DILYANA GRADINARSKA, DANIELA MITREVA, KATYA YALKOVA-YORGOVA, DESISLAVA VLAHOVA-VANGELOVA, ACO KUZELOV | 61 |
| INFLUENCE OF THE STERILIZATION PROCESS ON THE PHYSICOCHEMICAL AND NUTRITIONAL PROPERTIES OF MEAT VEGETABLE PATE MARIA MOMCHILOVA, DILYANA GRADINARSKA, DINKO YORDANOV, TODORKA PETROVA, IVAN BAKALOV, NIKOLAY PENOV, NADEZHDA PETKOVA | 62 |
| GAS CHROMATOGRAPHY ANALYSIS OF OMEGA-3 FATTY ACIDS CONTENT IN FISH OIL SUPPLEMENTS MILA ARAPCHESKA, ZEHRA HAJRULAI – MUSLIU, RISTO UZUNOV, JOVANKA TUTESKA, VANGELICA JOVANOVSKA..... | 63 |
| RAW MILK MICROBIOLOGICAL QUALITY INFLUENCE ON PROTEIN CONTENT DRAGAN ILIEVSKI, BILJANA TRAJKOVSKA, ALEKSANDRA GROZDANOVSKA, LJUPCHE KOCHOSKI | 64 |
| NON – DESTRUCTIVE STUDY OF ACID MILK COAGULATION PETYA BOYANOVA, PETAR PANAYOTOV, ATANASKA BOSAKOVA-ARDENSKA, VLADIMIRA GANCHOVSKA | 65 |
| EVALUATION OF THE QUALITY OF RAW MILK FOR YOGURT PRODUCTION TATJANA KALEVSKA, DANIELA NIKOLOVSKA NEDELKOSKA, VIKTORIJA STAMATOVSKA, ZORA UZUNOSKA, SASKO MARTINOVSKI, VEZIRKA JANKULOSKA..... | 66 |
| QUANTITATIVE CHARACTERISTICS OF RABBIT HYBRIDS DARKO ANDRONIKOV, ACO KUZELOV, JULIJANA SAZDOVA, KIRO MOJSOV, ACO JANEVSKI, SONJA JORDEVA, SASKA GOLOMEOVA | 67 |
| CHEMICAL COMPOSITION, ANTIRADICAL AND ANTIMICROBIAL ACTIVITY OF EXTRACTS AND COLD-PRESSED EDIBLE OILS FROM MACEDONIAN NUTTY FRUITS SANJA KOSTADINOVIC VELICKOVSKA, VIOLETA DIMOVSKA, FIDANKA ILIEVA, MIHAJLOV LJUPCO, BILJANA KOVACEVIK | 68 |
| SOIL SCIENCE AND HYDROLOGY..... | 69 |
| THE CONTENT OF INORGANIC NITROGEN IN THE WATER FROM THE FIFTH CHANNEL NEAR THE CITY OF BITOLA TATJANA BLAZHEVSKA, MARIJA MENKINOSKA, VALENTINA PAVLOVA, ZORA UZUNOSKA..... | 70 |
| VITICULTURE, ENOLOGY AND FRUIT PRODUCTION | 71 |
| SELECTION AND CHARACTERISATION OF WILD YEASTS OF WINERY INTEREST FROM DOG ROSE (<i>ROSA CANINA</i> L.) DZOKO KUNGULOVSKI, NATALIJA ATANASOVA-PANCEVSKA, MARIJA TODOROVSKA- IVKOVIC, IVAN KUNGULOVSKI | 72 |
| PROCESS AND DEVICE FOR IN VIVO PREPARATION OF GRAPE /WINE/ FOODSTUFFS FROM GRAPES GEORGE MICHEV (NO PARTICIPATION) | 73 |
| YIELD AND MINERAL COMPOSITION OF GRAPEVINE AS AFFECTED BY MAGNESIUM AND IRON FOLIAR NUTRITION HRISTINA POPOSKA, DUSKO MUKAETOV, DUSKO NEDELKOVSKI | 74 |
| INVESTIGATION OF THE CORRELATIONS BETWEEN QUANTITATIVE TRAITS WHICH DETERMINE YIELD IN THE VINE CULTIVAR BOLGAR AND THE HYBRID COMBINATION BOLGAR X RUSSALKA VENELIN ROYCHEV, DUSHKO NEDELKOVSKI | 75 |
| POTENTIAL AND POSSIBILITIES OF REBO - NEW GRAPEVINE VARIETY (<i>VITIS VINIFERA</i> L.) IN GROWING CONDITIONS IN REPUBLIC OF MACEDONIA DUSHKO NEDELKOVSKI, KLIME BELESKI, GORAN MILANOV, VENELIN ROYCHEV, VIOLETA DIMOVSKA..... | 76 |

| | |
|---|----|
| AGRO-BIOLOGICAL AND TECHNOLOGICAL CHARACTERISTICS OF RKATSITELI WINE GRAPE VARIETY, GROWN IN TIKVEŠ VINEYARDS KIRE PANOVSKI, VIOLETA DIMOVSKA, FIDANKA ILIEVA, DARKO MINDEV | 77 |
| VINEYARD IRRIGATION SYSTEMS CONTROLLED ONLINE THROUGH GMS MODULE EFREMCO NIKOLOV, DIMITRIJA ANGELKOV, VIOLETA DIMOVSKA, FIDANKA ILIEVA | 78 |

PLANT PROTECTION

BOOK OF ABSTRACTS
SECTION: PLANT PROTECTION

PHYTOPLASMA INFECTION CAUSES PHYSIOLOGICAL CHANGES IN SYSTEMIC PEPPER LEAVES Miroslava Zhiponova¹, Galina Ivanova², Emilija Arsov^{2*}, Detelina Petrova¹, Sasa Mitrev², Ganka Chaneva¹

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Abstract

Phytoplasmas are group of phytopathogens that are commonly transmitted by insects and reside in the phloem causing reduction of yield and good quality. Stolbur phytoplasma is associated with diseases of hundreds of plant species including pepper, tomato and potato from *Solanaceae* family, with great economic importance. Recent multilocus genetic analyses on leaves collected from pepper plants from localities on the territory of the Republic of North Macedonia, confirmed stolbur infection accompanied with decreased chlorophyll content and increased carotenoids level. Leaves of two pepper varieties from different localities were investigated - sweet red pepper, variety Kurtovska kapija *Capsicum annum* var. *annuum*, (Strumica region), and *Capsicum annum* var. *cerasiforme* (Kocani region). As a continuation of this research, in the present study asymptomatic leaves (without chlorosis) from the same plants were collected and analysed for systemic response in respect to pigment content, reducing sugars level and antioxidant parameters. Leaves from uninfected control plant from both pepper varieties, were compared with asymptomatic leaves from stolbur affected plants. In contrast to the control, the asymptomatic leaves proved to be with increased pigment content. On the other hand, their reducing sugars level were strongly reduced. The same negative tendency was observed for the total antioxidant activity and total quantity of phenolics, while the flavonoids content was more variable. The obtained data demonstrate correlation between the stolbur infection and inhibited plant physiological state with putative role of carotenoids rather than phenolics in the defence response. The analysed parameters can be applied in combination with the genetical approach for fast screening of phytoplasma infection and its impact on the plant development.

Key word: pigments, reducing sugars, phenolics, flavonoids, antioxidant activity

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