

Ss. CYRIL AND METHODIUS UNIVERSITY IN SKOPJE
FACULTY OF VETERINARY MEDICINE - SKOPJE



BOOK OF ABSTRACTS

*9th International Scientific Meeting
Days of Veterinary Medicine 2022*

22 - 25 September 2022
R. of North Macedonia

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**Skopje, 2022
R. N. Macedonia**

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9th INTERNATIONAL SCIENTIFIC MEETING
DAYS OF VETERINARY MEDICINE 2022**

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CONTENT
Scientific Session I:**FARM BIOSECURITY AND ENVIRONMENT***Plenary lectures*

- PL1 BIOSECURITY IN ANIMAL PRODUCTION, WHAT, WHEN AND HOW?**
Jeroen Dewulf 27

Oral presentations

- 01 BIOSECURITY ASSESSMENT AND CRITICAL IMPROVEMENT POINTS OF DAIRY CATTLE FARMS**
Miroslav Kjosevski, Vanja Kondratenko, Branko Angjelovski, Aleksandar Janevski, Milenko Simovikj, Igor Djadovski, Aleksandar Dodovski, Kiril Krstevski 28
- 02 COMPARISON OF THE TWO DIFFERENT PROTOCOLS FOR BIOSECURITY ASSESSMENT IN COMMERCIAL PIG FARMS**
Branko Angjelovski, Vanja Kondratenko, Milenko Simovikj, Jovan Bojkovski, Miroslav Kjosevski... 30
- 03 ASSESSMENT OF BIOSECURITY MEASURES ON THE BROILER FARMS IN THE REGION OF BELGARDE CITY**
Jelena Maletic, Ljiljana Spalević, Vesna Milićević, Bojan Milovanović, Branislav Kureljušić..... 32
- 04 BIOMONITORING OF WASTEWATERS FROM SLAUGHTERHOUSES IN MACEDONIA**
Marija Ratkova Manovska, Gordana Ilievska, Snezana Dimitrovska, Ena Dobrik, Miroslav Kjosevski, Biljana Stojanovska Dimzoska, Katerina Blagoevska..... 33
- 05 THE IMPACT OF SMALL HYDRO POWER PLANTS ON TROUT FISH FARMS IN NORTH MACEDONIA**
Aleksandar Trajchevski, Misho Hristovski..... 34
- 06 INITIAL FINDINGS OF TOTAL AIR DUST CONCENTRATION IN CATTLE AND POULTRY HOUSES IN MACEDONIA**
Ena Dobrikj, Aleksandar Janevski, Aleksandar Dodovski, Miroslav Kjosevski..... 35

Scientific session II**BASIC SCIENCES AND VETERINARY EDUCATION***Oral presentations*

- 07 RENAL MICROVASCULATURE IN THE CHICKEN**
Nedžad Hadžiomerović, Rizah Avdić, Faruk Tandir..... 39
- 08 FORMING NEW COLLECTION OF PHARYNGEAL TEETH FROM CYPRINID FISHES COLLECTED IN CROATIA AND NEIGHBORING COUNTRIES**
Denis Leiner, Srebrenka Nejedli, Snježana Ćurković, Damir Mihelić..... 40
- 09 RADIOLOGICAL DIAGNOSIS OF AN ECTOPIC URETER IN A POODLE – CASE REPORT**
Boris Dimitrievski, Aleksandar Janevski, Marko Mitrović, Dine Mitrov..... 41
- 010 SUPPRESSION EFFECTS OF EXCESSIVELY EXPRESSED GENE BCL-2 IN CELL LINES OF PROSTATE CANCER**
Igor Esmerov, Nikola Adamov, Aleksandra Angelevska, Radmila Chrcheva, Ljupco Mickov, Ljupco Angelovski, Nikolaj Markov, Branko Atanasov..... 42
- 011 DIGITAL VETERINARY EDUCATION (DEVET) – AN ERASMUS+ PROJECT FOR DEVELOPMENT/CREATING OF DIGITAL MATERIALS/TOOLS IN THE EDUCATION PROGRAM OF VETERINARY MEDICINE (OUTCOMES REVIEW)**
Igor Ulchar, Ksenija Ilievska, Lazo Pendovski, Zehra Hajruali Musliu, Alen Slavica, Lada Radin, Marko Poletto, Danijela Kirovski, Ljubomir Jovanovic, Ivan Jovanovic..... 43

Scientific session III

ANTIMICROBIAL RESISTANCE

Plenary lecture

- PL2 ANTIMICROBIAL RESISTANCE (AMR) PROBLEMS IN COMPANION ANIMALS**
Peter Damborg..... 47

Oral presentations

- O12 ANTIMICROBIAL RESISTANCE IN STAPHYLOCOCCI ISOLATED FROM DOGS IN THE REPUBLIC OF NORTH MACEDONIA**
Iskra Cvetkovikj, Ivana Arsovska, Marija Ratkova Manovska, Mirko Prodanov, Ljubica Rashikj, Zagorka Popova, Igor Djadjovski, Aleksandar Cvetkovikj..... 48
- O13 THE OCCURRENCE OF *bla*_{CTX-M}, *bla*_{SHV}, *bla*_{TEM} GENES IN EXTENDED-SPECTRUM β -LACTAMASE PRODUCING COMMENSAL *E. COLI* ISOLATES FROM DAIRY FARMS IN THE MUNICIPALITY OF DEBAR**
Maksud Kerluku, Marija Ratkova Manovska, Gordana Ilievska, Dean Jankuloski, Katerina Blagoevska..... 49
- O14 ANTIMICROBIAL SUSCEPTIBILITY OF *TRUEPERELLA PYOGENES* ISOLATES FROM VARIOUS CLINICAL SPECIMENS OF ANIMALS**
Dilek Öztürk, Sibel Yaman..... 50
- O15 ANTIMICROBIAL RESISTANCE IN COMMENSAL *ESCHERICHIA COLI* ISOLATED FROM PIGS' CECAL SAMPLES AT SLAUGHTER**
Dean Jankuloski, Marija Ratkova Manovska, Katerina Blagoevska, Gordana Ilievska, Biljana Stojanovska Dimzoska, Mirko Prodanov, Ljupco Angelovski, Sandra Mojsova, Snezana Dimitrovska..... 51
- O16 VETERINARIAN'S STANDPOINTS REGARDING ANTIMICROBIAL STEWARDSHIP IN SERBIA**
Zorana Kovačević, Mihajlo Erdeljan, Ivan Stančić, Dragana Tomanić, Zorana Ružić, Ivan Galić, Romel Velev..... 52

Scientific session IV

ANIMAL WELFARE AND BEHAVIOR

Oral presentations

- O17 ULTRASOUND – METHOD TO ASSESS KEEL BONE FRACTURES IN LAYING HENS**
Dimitar Bozinovski, Lazo Pendovski, Miroslav Kjosevski, Martin Nikolovski, Dimitar Terzievski, Vlatko Ilieski..... 55
- O18 STRAY DOG POPULATION SIZE TREND IN THE CITY OF SKOPJE BETWEEN 2010 AND 2020**
Dimitar Terzievski, Miroslav Kjosevski, Dimitar Bozinovski, Vlatko Ilieski..... 56
- O19 RECOGNITION AND ASSESSMENT OF PAIN IN DOGS AFTER ELECTIVE SURGERY IN ORDER TO IMPROVE ANIMAL WELFARE**
Dardan Pozhegu..... 57
- O20 WELFARE ASSESSMENT OF PIGS IN THE TIME OF SLAUGHTER - STUNNING QUALITY AS A WELFARE INDICATOR**
Emilija Murdjeva, Branko Angjelovski, Mirko Prodanov, Miroslav Kjosevski..... 58
- O21 WELFARE ASSESSMENT OF SPORT HORSES IN STABLES IN MACEDONIA**
Kristina Antovska, Lazo Pendovski, Vlatko Ilieski, Miroslav Kjosevski..... 59
- O22 SURVEY ON RECOGNITION OF PROBLEMS OF LOCOMOTION SYSTEM IN HORSES IN MACEDONIA**
Marija Solakova, Elena Atanaskova Petrov, Miroslav Kjosevski, Ksenija Ilievska..... 60

Scientific session V

VETERINARY CLINICAL MEDICINE

Plenary lectures

- PL3 THE PRACTICAL APPLICATION OF REGENERATIVE MEDICINE IN CANINE MUSCULOSKELETAL CONDITIONS**
Russell Chandler..... 63
- PL4 INTERVERTEBRAL DISC DISEASE – A MARKED ROAD OR A JUNGLE?**
Boris Pirkich..... 64

Oral presentations

- O23 TOPICAL APPLICATION OF HOMOLOGOUS SERUM FOR TREATMENT OF CORNEAL ULCER IN DOGS**
Ksenija Ilievska, Elena Atanaskova Petrov, Filip Trojachanec, Jane Vlahov, Plamen Trojachanec.. 65
- O24 DISEASE-STAGE RELATED THERAPEUTIC RESPONSE OF MESENCHYMAL STROMAL CELLS AFTER INTRA-ARTICULAR DELIVERY IN A MOUSE OSTEOARTHRITIC JOINT**
Ana Ivanovska, Patrizio Mancuso, Conor Hennessy, Swarna Raman, Steven McLoughlin, Jamie Reilly, Frank Barry, Mary Murphy..... 66
- O25 MESENCHYMAL STROMAL CELLS LYO-SECRETOME: PRELIMINARY CLINICAL APPLICATION IN DOGS AND HORSES WITH NATURALLY OCCURRING OSTEOARTHRITIS**
Priscilla Berni, Michela Mocchi, Virna Conti, Silvia Dotti, Dario Di Silvestre, Riccardo Villa, Roberto Ramoni, Giulia Passignani, Francesca Brambilla, Maurizio Del Bue, Gianpaolo Squassino, Laura Catenacci, Milena Sorrenti, Lorena Segale, Elia Bari, Pierluigi Mauri, Sara Perteghella, Maria Luisa Torre, Stefano Grolli..... 68
- O26 BENEFICIAL EFFECT OF ACEPROMAZINE ON INCIDENCES OF ADVERSE EFFECTS ASSOCIATED WITH MORPHINE PREMEDICATION IN DOGS**
Jane Vlahov, Plamen Trojacanec, Todor Novakov, Ksenija Ilievska, Filip Trojacanec..... 70
- O27 PRE-EMPTIVE MULTIMODAL ANALGESIA WITH MORPHINE-MEDETOMIDINE-KETAMINE AND ACEPROMAZINE- MORPHINE-KETAMINE FOR OVARIOHYSTERECTOMY IN DOGS**
Todor Novakov, Elena Atanaskova Petrov, Ksenija Ilievska, Irena Celeska, Jane Vlahov, Filip Trojacanec, Plamen Trojacanec 71
- O28 TRILOSTAN TITRATION DOSE TREATMENT IN DOGS WITH TERMINAL STAGE OF HYPERADRENOCORTICISM COMPLICATED WITH COMORBIDITY DISEASE**
Irena Celeska, Martin Nikolovski, Todor Novakov, Elena Atanaskova Petrov..... 72

Scientific session VI

ANIMAL REPRODUCTION

Plenary lecture

- PL5 REPRODUCTIVE MENAGEMENT IN GOAT BREEDING**
Juraj Grizelj, Branimira Špoljarić, Fernando Sánchez Dávila, Silvijo Vince..... 77

Oral presentations

- O29 THE EFFECT OF HOMOLOGOUS SEMINAL PLASMA AND REDUCED GLUTATHIONE ON THAWED RAM SPERM VIABILITY AND MOTILITY**
Martin Nikolovski, Monika Dovenska, Dimitar Bozhinovski, Ljupcho Mickov, Branko Atanasov, Nikola Adamov, Toni Dovenski, Vladimir Petkov..... 78

O30 KINETIC PARAMETERS OF CHILED BOAR SPERMATOZOA FROM DIFFERENT PORCINE BREEDS	
<i>Ljupco Mickov, Branko Atanasov, Martin Nikolovski, Monika Dovenska, Igor Esmerov, Nikola Adamov, Vladimir Petkov, Toni Dovenski.....</i>	79
O31 ASSESSMENT OF <i>IN VITRO</i> MATURATION RATE OF PORCINE OOCYTES SELECTED BY BRILLIANT CRESYL BLUE STAINING	
<i>Monika Dovenska, Ljupcho Mickov, Branko Atanasov, Vladimir Petkov, Martin Nikolovski, Toni Dovenski, Florina Popovska-Perchinikj.....</i>	80
O32 INTRODUCTION OF THE OVSYNCH-8 PROTOCOL IN SMALL DAIRY FARMS IN REPUBLIC OF NORTH MACEDONIA TO INCREASE THE REPRODUCTIVE EFFICIENCY FROM THE FIRST ARTIFICIAL INSEMINATION POSTPARTUM	
<i>Kristina Dojchinovska, Toni Dovenski, Ljupcho Mickov, Marina Toshevska, Zharko Mihaloski, Igor Taleski, Ljupcho Andreevski, Branko Atanasov.....</i>	81

Scientific session VII

FOOD SAFETY

Plenary lecture

PL6 UPDATE ON ACTIVITIES OF THE EUROPEAN REFERENCE LABORATORY FOR LISTERIA MONOCYTOGENES: FOCUS ON TYPING AREA	
<i>Sandrine Te, Benjamin Félix, Karine Capitaine, Arnaud Felten, Graziella Bourdin, Guillaume Gillot, Carole Feurer, Sabine Delannoy, Bertrand Lombard, Jean-Charles Leblanc, Sophie Roussel.....</i>	85

Oral presentations

O33 PREVALENCE OF SEROTYPES 1/2a AND 4b OF LISTERIA MONOCYTOGENES FROM READY-TO-EAT FOOD PRODUCTS IN KOSOVO	
<i>Besart Jashari, Katerina Blagoevska, Dafina Mehmetukaj, Dean Jankuloski.....</i>	86
O34 ENTEROTOXIGENIC STAPHYLOCOCCUS STRAINS ISOLATED FROM RAW MILK AND DAIRY PRODUCTS FROM R. N. MACEDONIA	
<i>Marija Ratkova Manovska, Mirko Prodanov, Dean Jankuloski, Pavle Sekulovski, Katerina Blagoevska.....</i>	87
O35 ANTIBACTERIAL ACTIVITY OF GOAT WHEY WITH ADDED KEFIR GRAINS	
<i>Sandra Mojsova, Vesna Levkov, Ljupco Angelovski.....</i>	88
O36 BACTERIAL CONTAMINATION IN DIFFERENT STAGES OF POULTRY SLAUGHTERING PROCESS	
<i>Mirko Prodanov, Marija Ratkova Manovska, Sandra Mojsova, Ljupco Angelovski, Dean Jankuloski.....</i>	89
O37 OCCURRENCE OF AFLATOXINS, OCHRATOXIN A AND ZEARALENONE IN POULTRY FEED	
<i>Ida Kucinoska, Biljana Stojanovska-Dimzoska, Aleksandra Angeleska, Katerina Blagoevska, Gordana Ilievska, Dushica Koceva, Elizabeta Dimitrieska-Stojkovic.....</i>	90
O38 PRESENCE OF HEAVY METALS IN ANIMAL FEEDS OF PLANT ORIGIN	
<i>Dushica Koceva, Elizabeta Dimitrieska-Stojkovic, Biljana Stojanovska-Dimzoska, Aleksandra Angeleska.....</i>	91
O39 PROPOSED CHEMICAL SUBSTANCES AS QUALITY PARAMETERS OF CHOCOLATE	
<i>Stefan Jovanov, Risto Uzunov, Tome Nestorovski, Zehra H. Musliu, Velimir Stojkovski.....</i>	92

Scientific session VIII**INFECTIOUS DISEASES IN ANIMALS***Oral presentations*

O40	DISCOVERY AND INTRODUCTION PATTERN OF PANZOOTIC NEWCASTLE DISEASE VIRUS IN CHICKENS IN MACEDONIA, 2020	
	<i>Aleksandar Dodovski, Renfu Yin.....</i>	95
O41	OVINE PARATUBERCULOSIS: INTRA-HERD INCIDENCE STUDY AND ASSESSMENT OF COMMERCIAL (ID.VET, FRANCE) INDIRECT MILK ELISA TEST PERFORMANCE IN DAIRY SHEEP	
	<i>Anna-Rita Attili, Eleonora Bonacucina, Martina Linardi, Luciana Pacifici, Vincenzo Cuteri.....</i>	96
O42	ZOONOTIC POTENTIAL OF EQUINE-ASSOCIATED VIRUSES	
	<i>Mihajlo Erdeljan, Tijana Kukurić, Ivan Stančić, Ivana Davidov, Miodrag Radinović, Annamaria Galfi Vukomanović, Nadežda Tešin.....</i>	98
O43	RE-EMERGENCE OF RABIES IN BOSNIA HERZEGOVINA AFTER THE OFFSET OF ORAL RABIES VACCINATION	
	<i>Eterović Toni, Lejla Velić, Oliver Stevanović, Amer Alić.....</i>	99
O44	DETECTION AND GENETIC CHARACTERISATION OF PORCINE CIRCOVIRUS TYPE 2 IN MACEDONIAN WILD BOAR AND DOMESTIC PIG POPULATION	
	<i>Zagorka Popova Hristovska, Kiril Krstevski, Ivan Matevski, Stefanija Markozanova, Dine Mitrov, Igor Djadjovski.....</i>	100
O45	PRESENCE AND PREVALENCE OF NON-REGULATED INFECTIOUS DISEASES WITH HIGH ECONOMIC IMPACT ON MACEDONIAN DAIRY FARMS	
	<i>Ivan Matevski, Igor Djadjovski, Kiril Krstevski.....</i>	101

Scientific session IX**METHODS AND MODELS***Plenary lecture*

PL7	VIRTUAL SLAUGHTERHOUSE SIMULATORS AS A COMPLEMENT, NOT A SUBSTITUTE OF ABATTOIR VISITS, IN VETERINARY PUBLIC HEALTH EDUCATION	
	<i>Andrej Kirbis, Brian Mather, Alessandro Seguíno.....</i>	105

Oral presentations

O46	EVALUATION OF THE PERFORMANCE OF A REAL TIME PCR METHOD FOR DETECTION OF <i>SALMONELLA</i> SPP. <i>invA</i> GENE IN CHICKEN MEAT	
	<i>Gordana Ilievska, Marija Ratkova Manovska, Dean Jankuloski, Katerina Blagoevska.....</i>	106
O47	IDENTIFICATION OF MEAT SPECIES BASED ON DNA HYBRIDIZATION, REAL-TIME PCR AND FATTY ACID PROFILE WITH GC-FID	
	<i>Dafina Mehmetukaj, Vlora Zogëjani, Armend Cana, Xhavit Bytyçi, Besart Jashari, Zehra Hajrullai Musliu, Katerina Blagoevska, Dean Jankuloski.....</i>	107
O48	DIAGNOSTIC PERFORMANCE OF EIGHT PCR PROTOCOLS AND ONE INDIRECT ELISA IN NATURALLY SMALL RUMINANT LENTIVIRUSES INFECTED EWES IN GREECE	
	<i>Aphrodite I. Kalogianni, Ioannis Bossis, Ilias G. Bouzalas, Athanasios I. Gelasakis.....</i>	108

O49	SUITABILITY OF THE ISO 13730:1996 METHOD FOR TOTAL PHOSPHOROUS QUANTIFICATION IN MILK AND MILK PRODUCTS <i>Tome Nestorovski, Stefan Jovanov, Riste Uzunov, Ana Angelovska, Zehra Hajrulai Musliu, Radmila Crceva Nikolovska.....</i>	109
O50	VERIFICATION OF A SAMPLING METHOD FOR ANIMAL FEED FROM DIFFERENT ORIGINS INTENDED FOR CHEMICAL ANALYSIS <i>Ana Angelovska, Radmila Crceva Nikolovska, Aleksandra Angeleska, Tome Nestorovski, Dean Jankuloski, Mirko Prodanov, Zehra Hajrulai Musliu.....</i>	110
O51	CONTRIBUTION OF ANIMAL MODEL IN THE DEVELOPMENT OF RADIOPHARMACEUTICALS AND SUCCESSFUL TRANSLATIONAL MOLECULAR IMAGING AND THERAPY <i>Emilija Janevik-Ivanovska, Icko Gjorgoski, Lajos Balogh.....</i>	111
O52	EVALUATION OF ANTIOXIDATIVE ENZYMES IN RATS TREATED WITH <i>ORIGANUM VULGARE</i> ESSENTIAL OIL DURING ACUTE INTOXICATION WITH DEOXINIVALENOL AND FUMONISIN B1 <i>Gordana Ilievska, Katerina Blagoevska, Biljana Stojanovska-Dimzoska, Elena Rafailovska, Biljana Miova.....</i>	113

Scientific session X**PARASITIC DISEASES IN ANIMALS***Oral presentations*

O53	CLINICOPATHOLOGICAL ALTERATIONS IN PET DOGS NATURALLY INFECTED WITH EHRLICHIA CANIS AND LEISHMANIA INFANTUM IN MACEDONIA – CASE STUDY <i>Elena Atanaskova Petrov, Ksenija Ilievska, Todor Novakov, Ljubica Rashik, Igor Djadjovski, Miroslav Kjosevski, Irena Celeska.....</i>	117
O54	INVESTIGATION OF GASTROINTESTINAL HELMINTH INFECTIONS OF HORSES IN THRACE REGION, TÜRKİYE <i>Fatma Nur Dal, Şakir Pehlivan, Kerem Öter, İbrahim Kurban, Aynur Gülanber.....</i>	119
O55	PREVALENCE AND GENETIC CHARACTERIZATION OF <i>ECHINOCOCCUS GRANULOSUS</i> IN DOMESTIC RUMINANTS IN NORTH MACEDONIA <i>Ljubica Rashikj, Aleksandar Cvetkovikj, Ivana Arsovska, Iskra Cvetkovikj, Jovana Stefanovska.....</i>	120
O56	INVESTIGATION OF PARASITIC DISEASES IN WILD ANIMALS IN THE FEDERATION OF BOSNIA AND HERZEGOVINA <i>Jasmin Omeragić, Naida Kapo, Darinka Klarić Soldo, Vedad Škapur, Saša Kunovac, Ermin Šaljić, Šejla Goletić, Adis Softić, Sabina Šerić-Haračić, Teufik Goletić.....</i>	121
O57	GASTROINTESTINAL HELMINTHS OF GOATS BREEDING IN MOUNTAIN AREAS IN CENTRAL SERBIA <i>Ivan Pavlović, Oliver Radanović, Nemanja Zdravković, Božidar Savić, Aleksandra Tasić, Marija Pavlović.....</i>	122
O58	IDENTIFICATION OF LICE SPECIES OF WATER BUFFALOES IN THE MARMARA REGION OF TÜRKİYE <i>Şakir Pehlivan, Fatma Nur Dal, Kerem Öter, Aynur Gülanber.....</i>	123
O59	PATHOGENICITY OF <i>TRIAENOPHORUS NODULOSUS</i> (CESTODA: OTHRIOCEPHALIDEA) IN NORTHERN PIKE (<i>ESOX LUCIUS</i>) FROM THE MREŽNICA RIVER, CROATIA <i>Valerija Benko, Krešimir Matanović, Snježana Kužir, Zrinka Dragun, Emil Gjurčević.....</i>	124

POSTER PRESENTATIONS

Poster No.	Poster	
P1	Biosecurity in freshwater aquaculture <i>Vladimir Radosavljevic, Dimitrije Glisic, Oliver Radanovic, Jelena Maksimovic-Zoric, Jelena Maletic, Ksenija Nesic, Vesna Milicevic</i>	127
P2	Antimicrobial susceptibility pattern of Staphylococcus aureus isolates from bovine mastitis in Bulgaria <i>Nikolina Velizarova Rusenova, Nasko Yovchev Vasilev, Anton Georgiev Rusenov, Aneliya Milanova Milanova, Ivo Nikolaev Sirakov</i>	128
P3	Detection of Bartonella henselae in an asymptomatic cat <i>Ivana Arsovska, Aleksandar Cvetkovikj, Ljubica Rashikj, Zagorka Popova Hristovska, Igor Djadjovski, Iskra Cvetkovikj</i>	130
P4	Emerging diseases in Serbian freshwater aquaculture - <i>Vladimir Radosavljevic, Dimitrije Glisic, Jelena Maksimovic-Zoric, Oliver Radanovic, Nemanja Zdravkovic, Vesna Milicevic</i>	131
P5	Gastrointestinal parasites of captive animals in the zoo in Skopje, North Macedonia, 2020-2022 <i>Ljubica Rashikj, Jovana Stefanovska, Iskra Cvetkovikj, Ivana Arsovska, Vesna Levajkovikj-Trajkov, Aleksandar Cvetkovikj</i>	132
P6	A laboratory procedure for characterization of EAE positive Escherichia coli and genetic determination of the intimin toxin types - <i>Bilyana Sirakova, Tanya Strateva, Nikolina Rusenova, Raina Gergova, Ralitsa Popova-Ilinkina, Ivo Sirakov, Ivan Mitov</i>	133
P7	Co dominant genetic marker at gray wolf population in Osogovo and Sarplaninian mountain region <i>Igor Esmerov, Nikola Adamov, Aleksandra Angelevska, Radmila Chrcheva, Ljupco Mickov, Ljupco Angelovski, Nikolaj Markov, Branko Atanasov</i>	134
P8	The kidney vascular zones in domestic animals <i>Rizah Avdić, Verica Mrvić, Faruk Tandir, Nedžad Hadžiomerović, Pamela Bejdić</i>	135
P9	Histology of the digestive tract in the European hake (merluccius merluccius) <i>Lucija Bastiančić, Krešimir Matanović, Emil Gjurčević, Nikolina Škvorc, Valerija Benko, Marin Lovrić, Damir Valić, Snježana Kužir</i>	136
P10	Engineered extracellular vesicles from mesenchymal stromal cells as potential nano-shuttles of therapeutic bio-molecules <i>Gabriele Scattini, Luca Avellini, Olimpia Barbato, Antonello Bufalari, Stefano Capomaccio, Patrizia Casagrande Proietti, Maria Rachele Ceccarini, Rodolfo Gialletti, Samanta Mecocci, Laura Musa, Giulia Pianigiani, Tommaso Beccari, Luisa Pascucci</i>	137
P11	GISMVet: A model for Veterinary Regenerative Medicine Education <i>Stefano Grolli, Silvia Dotti, Maurizio Del Bue, Eleonora Iacono, Ana Ivanovska, Anna Lange Consiglio, Luisa Pascucci</i>	139
P12	Local and systemic application of autologous mesenchymal stromal cells in cats suffering from Chronic Gingivostomatitis: A pilot study <i>Priscilla Berni, Tommaso Magni, Maurizio Del Bue, Virna Conti, Valentina Andreoli, Rosanna Di Lecce, Anna Maria Cantoni, Roberto Ramoni, Stefano Grolli</i>	141
P13	Mesenchymal stromal cells and cranial cruciate ligament injury: Friends or foes? <i>Luisa Pascucci, Gabriele Scattini, Alessandro Fruganti, Fabrizio Dini, Aurora Barbetta, Piero Boni</i>	143
P14	Metastatic pancreatic adenocarcinoma <i>Trpe Ristoski, Mehmet Fatih Bozkurt, Ivica Gjurovski, Spiro Bozinoski, Aleksandar Janevski</i>	144

Poster No.	Poster	
P15	A comparative study of classical smear examination and cell block method in the diagnosis of effusions in the body cavities of dogs and cats – preliminary results <i>Valerija Benko, Lucija Bastiančić, Marin Torti, Siniša Faraguna.....</i>	145
P16	Chemotherapy treatment protocols used in multicentric lymphoma in golden retriever: A case report <i>Elena Mitrevska, Irena Celeska, Sara Gjorgjievska, Elena Atanaskova Petrov.....</i>	146
P17	Displacement of the medial fabella in west highland white terrier – Case report <i>Aleksandar Janevski, Boris Dimitrievski, Marko Mitrović, Dine Mitrov.....</i>	148
P18	Schirmer tear test values in dogs with atopic dermatitis <i>Tajna Kovač, Nejra Subašić, Lidija Medven Zagradišnik, Boris Pirkić, Nikša Lemo, Valentina Plichta, Marija Mamić, Petra Dimitrović</i>	149
P19	Strategy for diagnosis, treatment and long term management of canine atopic otitis externa <i>Ivelina Vacheva, Tandzhu Mehmedov, Krasimira Genova.....</i>	150
P20	Surgical ligation of patent ductus arteriosus in a dog <i>Nihan Dikbaş, Oktay Düzgün.....</i>	151
P21	Is fP12 a reliable biochemical marker for diagnosing feline pancreatitis? A case report <i>Larisa Shakjiri, Elena Atanaskova Petrov, Irena Celeska, Goce Atanasovski, Sara Gjorgjievska.....</i>	152
P22	Hematological and biochemical parameters of blood in sports and work horses at rest and after physical activity <i>Ermin Šaljić, Maja Varatanović, Ratko Ralević.....</i>	153
P23	Influence of sex, age and season on lymphocyte subpopulations in pheasants <i>Tandzhu Mehmedov, Krasimira Genova, Ivelina Vacheva.....</i>	154
P24	Determination of pesticide residues in sterilized milk using QuEChERS sample preparation followed by GC/MS <i>Aleksandra M. Tasić, Ivan Pavlović, Tanja Šolovic Knudsen.....</i>	155
P25	Nitrites in smoked meat products <i>Tanja Č Bijelić, Aleksandra M Tasić, Djordje D Radojičić.....</i>	156
P26	Effect of muscle type on fatty acid profile of roe deer meat <i>Marija Pavlović, Aleksandra Tasić, Ksenija Nešić, Mihajlo Vićentijević, Vladimir Radosavljević, Ivan Pavlović.....</i>	157
P27	Evaluation of hepato-renal toxic hazards of glutamate and sulfite sodium in broiler chickens <i>Eman E. Elsharkawy, Doaa S. Abd El-Maguid.....</i>	158
P28	The impact of the ukraine war on food prices in Macedonia <i>Blagica Sekovska, Radmila Crceva Nikolovska, Aleksandra Angeleska, Katerina Blagoevska, Viktor Denkovski, Vasilka Poposka Trenevka.....</i>	159
P29	Validation of the rapid ELISA method for determination of methyltestosterone in urine and muscle based on the new regulation (EU) 2021/808 <i>Risto Uzunov, Zehra Hajrulai-Musliu, Stefan Jovanov, Elizabeta Dimitrieska-Stojkovikj, Aleksandra Angeleska, Biljana Stojanovska-Dimzoska, Velimir Stojkovski.....</i>	160
P30	Validation of UHPLC-MS/MS method after modified quechers sample preparation for monitoring of pesticide residues in bovine milk according to EC/2018/555 <i>Elizabeta Dimitrieska-Stojkovikj, Aleksandra Angeleska, Dushica Kocceva, Biljana Stojanovska-Dimzoska, Goran Stojković, Gordana Ilievska, Risto Uzunov, Zehra Hajrulai-Musliu.....</i>	161
P31	Validation protocol for determination of fumonisins in corn <i>Biljana Stojanovska Dimzoska, Elizabeta Dimitrieska Stojkovic, Zehra Hajrulai-Musliu, Risto Uzunov, Katerina Blagoevska, Aleksandra Angeleska.....</i>	163

Poster No.	Poster	
P32	Small animal model in the development of radiopharmaceuticals - the step forward to clinical studies <i>Emilija Janevik-Ivanovska, Icko Gjorgoski, Boris Aleksovski, Toni Tripunovski, Marija Darkovska Serafimovska, Katarina Smilkov, Darinka Gjorgieva Ackova, Marija Arev, Paulina Apostolova, Lajos Balogh.....</i>	164
P33	Establishment of safer animal rescue capacity: ERASMUS+ project <i>Cezmi Türkmen, Lazo Pendovski, Jože Starič, Halil Selcuk Biricik, Zehra H. Musliu, Yücel Türk, Osman Karabulut, Sedat Bilgiç, Miroslav Kjosevski.....</i>	166
P34	Let animals breathe easier in fire <i>Halil Selçuk Biricik, İbrahim Durmuş.....</i>	167
P35	Reviving of farriery disappearing profession: ERASMUS+ project <i>Halil Selçuk Biricik, Lazo Pendovski, Kaspars Kovalenko, Ksenija Ilievska, Aija Malniece, İbrahim Durmuş.....</i>	168
P36	Genetic data from 19 microsatellite markers for individual identification and parentage analyses of canines raised in Republic of North Macedonia <i>Nikola Adamov, Zagorka Popova, Igor Esmerov, Branko Atanasov, Ljupco Mickov, Monika Dovenska, Martin Nikolovski, Toni Dovenski.....</i>	170
P37	Modified sampling methods for mycoplasma bovis detection in dairy cattle <i>Lelde Titmane, Aija Malniece, Margarita Terentjeva, Kaspars Kovalenko.....</i>	171
P38	Morphometric parameters of the mandible of Deltari Ilir dog in Kosovo <i>Tefik Jashari, Oya Kahvecioğlu, Sokol Duro, Ozan Gündemir.....</i>	172
INDEX OF AUTHORS.....		173

O2

COMPARISON OF THE TWO DIFFERENT PROTOCOLS FOR BIOSECURITY ASSESSMENT IN COMMERCIAL PIG FARMS

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Biosecurity is one of the most important aspects concerning animal health in pig farms. It is associated with measures and actions taken on the farm to reduce the risk of entering and spreading infectious diseases. There are many different protocols for biosecurity assessment in pig farms. Biocheck.UGenttm is the most commonly used biosecurity protocol, while the biosecurity of Macedonian pig farms is assessed by the protocol implemented by the Macedonian Food Veterinary Agency (FVA). The objective of this study was to compare and identify differences between the two different protocols for biosecurity assessment in commercial pig farms. Thirteen farrow-to-finish commercial pig farms were included in the study. The mean number of sows in the herds was 364 (range 50 to 1550). The biosecurity level of the herds was assessed by both Biocheck.UGenttm scoring system and “score index” system for biosecurity assessment adopted by the FVA. The two assessment protocols were synchronized for score comparison. Descriptive statistical analysis (Mean, SD) was used for the data obtained by both biosecurity protocols, and mean scores were compared by non-parametric tests. Total scores on farm level gained from protocols were subjected to non-parametric correlation analyses. The level of agreement between both protocols was also calculated. The mean synchronized biosecurity score was detected by Biocheck.UGenttm for all farms was 44.6 ± 13.4 (range 19 to 64), while 32.4 ± 3.8 score (range 26.4 to 40.45) was obtained by the “score index” system. A significant difference ($p=0.006$) between the mean scores of both protocols was found. Regarding farm categorization, according to the “score index” system developed by FVA, 92.3% of the farms were considered with low biosecurity risk and one farm had medium biosecurity risk. In contrast to the categorization based on the Biocheck.UGenttm 38.5 % farms were classified as low biosecurity risk category and 61.5% of the farms belonged to the medium biosecurity risk category. The level of biosecurity agreement between the two scoring systems was 46%. Correlations analysis gave a low non-significant correlation

between total farm scores obtained by the two assessment protocols (Spearman $R=0.36$; $p=0.23$). The results of this study indicate significant differences between scores detected by two biosecurity protocols. In addition, Biocheck.UGenttm has higher and more rigorous criteria for biosecurity assessment compared to the FVA protocol due to the more detailed approach during evaluation.

Key words: biosecurity assessment, pig farm, protocol