

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



Joint meeting
5th International Vet-Istanbul Group Congress
&
8th International Scientific Meeting
Days of veterinary medicine - 2018

BOOK OF ABSTRACTS

23-27 September 2018
Ohrid, R. of Macedonia

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5th INTERNATIONAL VET-ISTANBUL GROUP CONGRESS AND
8th INTERNATIONAL SCIENTIFIC MEETING
DAYS OF VETERINARY MEDICINE - 2018**

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FOREWORD

Dear Colleagues,

It is my great pleasure to welcome you to the 5th International Veterinary Days of veterinary medicine - 2018, Ohrid, 23th to 27th September 2018.

This year, in cooperation with the Faculty of Veterinary Medicine, University of "Ss. Cyril and Methodius" in Skopje, we will be organizing an academic cooperation (VEE) partners, by the Faculty of Veterinary Medicine, University of "Ss. Cyril and Methodius" in Skopje, the public good.

The Faculty of Veterinary Medicine, University of "Ss. Cyril and Methodius" in Skopje, together with outstanding experts in the field of veterinary medicine, researchers, veterinarians, doctoral students, officers in the veterinary education system, are following topics: animal health and food safety.

The program for the 5th International Veterinary Days will retain its usual popularity and will include student papers and posters, invited authors, whose research papers will be selected for the 8th International Scientific Meeting Days of veterinary medicine - 2018, Ohrid, 23rd to 27th September 2018, followed by two poster presentations and invited speakers for the 8th International Veterinary Days talks.

A successful conference is a place, where ideas about veterinary medicine are debated, which will open new horizons for enjoyment.

On the behalf of the Faculty of Veterinary Medicine in Macedonia.

We look forward to your participation.

12.50-13.00	<i>Effects of Black Cumin addition to rations on the performance parameters in laying hens</i> Tahir Balevi , Uçkun Sait Uçan, Oğuzhan Kahraman, Abdullah Özbilgin
13.00-14.00	Lunch
Moderators: Prof. Zehra Hajrulai-Musliu and Prof. Ali Aydin	
Scientific papers – Oral presentations	
14.00-14.10	<i>Evaluation Of The Quechers Method And Gas Chromatography–Mass Spectrometry For The Analysis Fipronil And Its Metabolites In Egg Products</i> Aleksandra Tasic , Ksenija Nestic, Tijana Mitrovic, Nebojsa Vukovic
14.10-14.20	<i>Optimization And Validation Of Lc-Ms/Ms Method After Quechers Sample Preparation For Determination Of Fipronil And Its Metabolites In Eggs And Chicken Muscle</i> Elizabeta Dimitrieska-Stojkovič , Dushica Koceva, Aleksandra Angeleska, Biljana Stojanovska-Dimzosa, Gordana Ilievska, Risto Uzunov, Stefan Jovanov, Zehra Hajrulai-Musliu, Dean Jankuloski
14.20-14.30	<i>Determination Of B-Agonist Residues In Liver Using Lc-Ms/Ms Method</i> Risto Uzunov , Zehra Hajrulai-Musliu, Velimir Stojkovski, Elizabeta Dimitrieska-Stojkovic, Biljana Stojanovska-Dimzosa, Stefan Jovanov, Dean Jankuloski
14.30-14.40	<i>The Evaluation Of Histamine Levels In Carp (Cyprinus Carpio) Samples Collected From Afyonkarahisar, Turkey</i> Acaroz Ulas
14.40-14.50	<i>Detection Of Nitroimidazole Residues In Chicken Muscle Tissue And Egg Samples Using Competitive Enzyme Immunoassay</i> Duška Koceva , Elizabeta Dimitrieska-Stojkovič, Gordana Ilievska, Zehra Hajrulai-Musliu, Dean Jankuloski
14.50-15.00	<i>Development And Validation Of A P-35S, T-NOS, And P-Fmv Multiplex Real-Time PCR Screening Method To Detect Regulatory Genes Of Genetically Modified Organisms In Food</i> Katerina Blagoevska , Dean Jankuloski, Gordana Ilievska
15.00-15.10	<i>Determination Of Total Phosphorus Content In Complete Dog Foods And Its Part In The Nutritional Balance</i> Ana Angelovska , Radmila Chrcheva Nikolovska, Zehra Hajrulai Musliu

Parallel Session II

SCIENTIFIC
SESSION VSTUDENT SESSION

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9.30-10.00	<i>Harmonization of EU Veterinary Curriculum According To The New Skills And Knowledge</i> Prof. Alen Slavica, PhD , Faculty of Veterinary Medicine, University of Zagreb, Croatia
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**DETERMINATION OF β -AGONIST RESIDUES IN LIVER
USING LC-MS/MS METHOD**

Risto Uzunov^{1*}, Zehra Hajrulai-Musliu¹, Velimir Stojkovski², Elizabeta Dimitrieska-Stojkovic¹, Biljana Stojanovska-Dimzoska¹, Stefan Jovanov¹, Dean Jankuloski¹

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β -agonists in human and veterinary medicine are mainly used for treatment of asthma and broncho-pulmonary diseases. Moreover, these substances are used illegally as growth promoters in animal husbandry, because improve feed conversion, increase protein synthesis, increase muscle mass and decrease fat deposition in farm animals. After administration as growth promoters in farm animals, the residues from these substances are accumulated in animal tissues. The residues from β -agonists may be fatal after acute consumption. Several acute intoxication in human after consumption of liver or muscle with these substances are documented. Because of negative effect on human health the European Commission banned the use of this drug in animal feeding. According to the Council Directive 96/22/EC the use of these substances in animal production should be monitored. The aim of this study was determination of 10 β -agonists (clenbuterol, salbutamol, brombuterol, mabuterol, zilpaterol, cimbuterol, terbutaline, ractopamine, isoxxsuprine and clenpenterol) in liver from bovine, pigs and chickens using LC-MS/MS method. The method was validated according criteria stipulated under the Commission Decision 2002/657/EC and the following parameters were determined: linearity of the method, decision limit ($CC\alpha$), detection capability ($CC\beta$), accuracy, precision and reproducibility of the method. The accuracy, precision and reproducibility were determined at three different levels (0.25, 0.5 and 0.75 ng/g) by spiking the blank liver samples. A totals of 101 liver samples were analyzed (25 bovine, 29 pigs and 47 chicken liver samples). The sample preparation was performed according to the confirmatory method from the reference laboratory for β -agonists from Berlin, Germany, and the analyses were carried out on the LC-MS/MS. The coefficient of correlation (r^2) ranged from 0.9850 to 0.9992. The results from $CC\alpha$ varied from 0.160 ng/g to 0.315 ng/g and the results for $CC\beta$ ranged from 0.115 ng/g to 0.344 ng/g. The accuracy of the method for three concentration level ranged from 75.20-107.07 %. The precision and reproducibility were demonstrated by CV, % (coefficient of variation, %). The CV for precision varied from 3.430 % to 15.565 %, while for reproducibility CV varied from 5.231 % to 17.082 %. The results from validation study are in accordance with criteria from 2002/657/EC and the method is linear, accurate

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and precise. In the liver samples the β -agonists were not detected. In summary, the LC-MS/MS method for detection of ten β -agonists in liver was validated. The validation results showed that this method is applicable for routine analysis of bovine, pigs and chickens liver. Therefore, it is still necessary to monitor β -agonists in the future because the results of this study do not exclude the possibility of misuse of β -agonists.

Key words: β -agonists, liver, validation, LC-MS/MS