

# ICA ST

II INTERNATIONAL CONGRESS ON ADVANCES  
IN VETERINARY SCIENCES & TECHNICS

## BOOK OF ABSTRACTS 2017

[www.icavst.com](http://www.icavst.com)

October 4-8 2017 Skopje Macedonia



Edited by

İlker Camkerten & Güzin Camkerten

Published, 28/11/2017 (Last Edit)

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned. Nothing from this publication may be translated, reproduced, stored in a computerized system or published in any form or in any manner, including, but not limited to electronic, mechanical, reprographic or photographic, without prior written permission from the publisher.

The individual contributions in this publication and any liabilities arising from them remain the responsibility of the authors.

The publisher is not responsible for possible damages, which could be a result of content derived from this publication.

[www.icavst.com](http://www.icavst.com)

([info@icavst.com](mailto:info@icavst.com))

**ISBN: 978-605-67206-2-8**

*medipres*  
YAYINCILIK LTD. ŞTİ.

<http://www.medipres.com.tr/>



Dear Scientist,

The second International Congress on Advances in Veterinary Sciences & Technics (icavst) was organized in Skopje / Macedonia. We are very happy for organizing this congress in such a beautiful city and country that we have strong historical ties.

We wanted to make this conference little bit special by bringing scientist together from different disciplines of veterinary area and also to open new research and cooperation fields for them. In this sense, we desired to bring the distinguished scientist together to get know each other and to develop and implement new joint projects.

The scientist joined the congress was from different country and mostly from Turkey. Total over the two hundred scientist were registered in the congress. The total number of submission were 254 and after a careful evaluation 205 submissions were accepted by our scientific committee and 76 of them were accepted as poster presentation and 129 of them were accepted as oral presentation and all those presentation was taken place in the conference booklet.

We would like to send our special thanks to Mr. Musa Köse and Mr. İsmet Uzun, ZENITH Group workers for their special efforts. and finally the most importantly I would like to thank to all the participants individually who came from far away to join this conference.

Prof Dr. Kerem Ural  
Chairman

İlker Camkerten  
Editor

## **ORGANIZATION COMMITTEE**

### **Congress Chairman**

Prof. Dr. Kerem URAL

### **Chair of Organization Committee & Editor**

Assoc. Prof. Dr. İlker CAMKERTEN

#### **Secretaries of Congress**

Dr. Mehmet GÜLTEKİN  
*Academical Affairs*

Canberk BALIKÇI Academical Affairs

Musa KÖSE Organizational Affairs

#### **Members of the Committee**

Prof. Dr. Ebru YALÇIN

Assoc. Prof. Dr. Deniz ALIÇ URAL

Asst. Prof. Dr. Güzin CAMKERTEN

Dr. Erkan PEHLİVAN

İsmet UZUN, Zenith Group

Alma LIGATA, Europe Congress

#### **Advisory Board**

##### **Buiatrics**

Assoc. Prof. Dr. Serkal GAZYAGCI  
President of Turkish Buiatrics Association

Prof. Dr. Nuh KILIÇ

Assoc. Prof. Dr. Göksen ÇEÇEN

##### **Equine Medicine**

Prof. Dr. Rene VAN DEN HOVEN

Assoc. Prof. Dr. Ali Cesur ONMAZ  
President of Turkish Equine Veterinary  
Association

##### **Fisheries and Aquatic Studies**

Prof. Dr. Suat DİKEL

#### **Advisory Board**

##### **Small Animal Medicine**

Prof. Dr. Şükrü KÜPLÜLÜ

Prof. Dr. Rifat VURAL

Assoc. Prof. Dr. Zeynep PEKCAN

Assist. Prof. Dr. Ali Evren  
HAYDARDEDEOĞLU

##### **Wild Life Medicine**

Assoc. Prof. Dr. Erdoğan UZLU

Head of Wildlife and Ecology, Kafkas  
University

##### **Zootechnics and Animal Breeding**

Prof. Dr Fatin CEDDEN

Prof. Dr Mehmet ERTUĞRUL

Assoc. Prof. Dr. Muhamed KATICA

## SCIENTIFIC COMMITTEE

Zbigniew ADAMIAK, Assoc. Prof. Dr. at Warmia-Mazury University, Olsztyn, POLAND

İbrahim AKIN, Asst. Prof. Dr. at Adnan Menderes University, TÜRKİYE

Melih AKSOY, Prof. Dr. at Adnan Menderes University, TÜRKİYE

Sinan AKTAŞ, Assoc. Prof. Dr. at Atatürk University, TÜRKİYE

Deniz ALIÇ URAL, Assoc. Prof. Dr. at Adnan Menderes University, TÜRKİYE

Gökhan ASLIM, Asst. Prof. Dr. at Aksaray University, TÜRKİYE

Mehmet AVCI, Prof. Dr. at Harran University, TÜRKİYE

Duygu BAKİ ACAR, Assoc. Prof. Dr. at Afyonkocatepe University, TÜRKİYE

Jovan Aleksandar BOJKOVSKI, Full profesor at University of Belgrade, SIRBIA

Şaziye Canan BÖLÜKBAŞI AKTAŞ, Assoc. Prof. Dr. at University of Atatürk, TÜRKİYE

Gaye BULUT, Asst. Prof. Dr. at Aksaray University, TÜRKİYE

Güzin CAMKERTEN, Asst. Prof. Dr. at Aksaray University, TÜRKİYE

İlker CAMKERTEN, Assoc. Prof. Dr. at Aksaray University, TÜRKİYE

Fatin CEDDEN, Prof. Dr. at University of Ankara, TÜRKİYE

Irena CELESKA, Assist. Prof. Dr. at Ss. Cyril and Methodius University, MACEDONIA

Çenker Çağrı CINGİ, Assoc. Prof. Dr. at Afyonkocatepe University, TÜRKİYE

Suat DİKEL, Prof. Dr. University of Çukurova, TÜRKİYE

Hasan ERDOĞAN, Asst. Prof. Dr. at Adnan Menderes University, TÜRKİYE

Erdal EROL, Assoc. Prof. Dr. at University of Kentucky, USA

Mehmet ERTUĞRUL, Prof. Dr. at Ankara University, TÜRKİYE

Ulvi Reha FİDANCI, Prof. Dr. at Ankara University, TÜRKİYE

Serkal GAZYAGCI, Assoc. Prof. Dr. at Kirikkale University, TÜRKİYE

Mehmet GÜLTEKİN, Dr. at Adnan Menderes University, TÜRKİYE

Ali Evren HAYDARDEDEOĞLU, Asst. Prof. Dr. at Aksaray University, TÜRKİYE

Ramazan İLGÜN, Asst. Prof. Dr. at Aksaray University, TÜRKİYE

Ümit KARADEMİR, Asst. Prof. Dr. at Adnan Menderes University, TÜRKİYE

Hilal KARAGÜL, Prof. Dr. at Ankara University, TÜRKİYE

Muhammed KATICA, Assoc. Prof. Dr. Sarajevo University, BOSNIA&HERZOGOVINA

Nuh KILIÇ, Prof. Dr. at Adnan Menderes University, TÜRKİYE

Şükrü KIRKAN, Prof. Dr. at Adnan Menderes University, TÜRKİYE

Koycho KOEV, Asst. Prof. Dr. at Stara Zagora University, BULGARIA

Zehra Hajrulai-Musliu, Prof. Dr. at Ss. Cyril and Methodius University, MACEDONIA

Erman OR, Prof. Dr. at İstanbul University, Türkiye

Mustafa ÖZ, Asst. Prof. Dr. at Aksaray University, TÜRKİYE

Başak ÖZGERMEN, Asst. Prof. Dr. at Aksaray University, TÜRKİYE

Caner ÖZTÜRK, Asst. Prof. Dr. at Aksaray University, TÜRKİYE

Serdar PAŞA, Prof. Dr. at Adnan Menderes University, TÜRKİYE

Erkan PEHLİVAN, Dr. at Ankara University, TÜRKİYE

Mert PEKCAN, Assoc. Prof. Dr. at Ankara University, TÜRKİYE

Lazo PENDOVSKI, Prof. Dr. at Ss. Cyril and Methodius University, Skopje, MACEDONIA

Tevhide SEL, Prof. Dr. at Ankara University, TÜRKİYE

Hail SELCUKBİRİCİK, Prof. Dr. at University of Aksaray TÜRKİYE

İlker SERİN, Prof. Dr. at University of Adnan Menderes, TÜRKİYE

Przemysław SOBIECH, Assoc. Prof. Dr. at University of Warmia-Mazury, Olsztyn, POLAND

Nihat ŞINDAK, Prof. Dr. at Siirt University, TÜRKİYE

Umut TAŞDEMİR, Assoc. Prof. Dr. at Aksaray University, TÜRKİYE

Ilia TSACHEV, Prof. Dr. at Stara zagora University, BULGARIA

Kerem URAL, Prof. Dr. at Adnan Menderes University, TÜRKİYE

Hikmet ÜN, Assoc. Prof. Dr. at University of Aksaray, TÜRKİYE

Rene VAN DEN HOVEN, Prof. Dr. at Veterinary Medicine University, Vienna, AUSTRIA

Buğrahan Bekir YAĞCI, Assoc. Prof. Dr. at Kırıkkale University, TÜRKİYE

İlknur Pir YAĞCI, Assoc. Prof. Dr. at Kırıkkale University, TÜRKİYE

Orhan YAVUZ, Asst. Prof. Dr. at University of Aksaray, TÜRKİYE

Murat YILDIRIM, Prof. Dr. at University of Kırıkkale & President of Veterinary Microbiology Association, TÜRKİYE

Karolina WRZEŚNIEWSKA, Dr. at University of Life Sciences, Lublin, POLAND

PROGRAM OVERVIEW	
<b>4.Eki.17</b>	
	Airport transfers (Only for BLUE - GREEN - ORANGE PARTICIPANTS ID HOLDERS)
16:00-21:30	Skopje City Tour (Only for BLUE PACKAGE ID HOLDERS) MEETING IN THE HOTEL LOBBY
<b>5.Eki.17</b>	
08:00-09:30	Registration
09:30-10:20	Opening Ceremony
10:10-10:30	Break Coffea & Tea
10:30-11:20	Session 1
11:30-11:40	Break Coffea & Tea
11:40-12:20	Session 2
12:30-13:30	LUNCH IN THE HOTEL RESTAURANT (Only for BLUE - GREEN - ORANGE Package ID Holders)
13:30-14:10	Session 3
14:20-15:30	Break Coffea & Tea
14:30-15:10	Session 4
15:20-15:30	Break Coffea & Tea
15:30-16:10	Session 5
19:30-20:30	Dinner in the Hotel Restaurant (Only for BLUE PACKAGE ID HOLDERS)
<b>6.Eki.17</b>	
08:00-09:00	Breakfast (Only for Blue and Green Package ID Holders)
09:50-10:40	Session 6
10:50-11:00	Break Coffea & Tea
11:00-11:50	Session 7
12:00-12:10	Break Coffea & Tea
12:10-13:00	Session 8
13:10-14:10	Lunch (Only for BLUE - GREEN - ORANGE PARTICIPANTS ID HOLDERS)
20:00-22:00	Gala Dinner (Only for BLUE - GREEN - ORANGE PARTICIPANTS ID HOLDERS) MEETING IN THE HOTEL LOBBY
<b>7.Eki.17</b>	
<b>Social Cultural Tour to Kosovo - Prizren (Only for BLUE PACKAGE ID HOLDERS)</b>	
08:00	Breakfast (Only for Blue and Green Package ID Holders)
08:30	Departure from the Hotel
13:00	Lunch
19:00	Dinner
21:30	Departure to the Hotel
<b>8.Eki.17</b>	
08:30	Breakfast (Only for Blue and Green Package ID Holders)
	Departures to Airport (Only for BLUE - GREEN - ORANGE PARTICIPANTS ID HOLDERS)



# ORAL PRESENTATIONS OCTOBER 05 2017

in memory of Prof. Dr. ULVİ REHA FİDANCI		in memory of Prof. Dr. ALİ ZİYA KARAKILÇIK		in honour of Prof. Dr. GÜRBÜZ AKSOY	
SESSION I					
A-1. Session Chairman: Prof. Dr. Serdar PAŞA		B-1. Session Chairman: Assoc. Prof. Dr. Serkan ERAT		C-1. Session Chairman: Prof. Dr. Suat DİKEL	
10:30	505 - The Relationships Among Serum Biochemical Parameters and Milk Yield of Holstein-Friesian Cows in Bozdogan, Turkey- <b>Deniz Aliç Ural</b>	434 - Glucose-6-Phosphate Dehydrogenase Activity in The Ovaries of Healthy and Ischemia-Reperfusion Injury in Theranekron Administered Rats - <b>Tolunay Kozlu</b> , Fatma Güler, Pınar Peker Akalın, Filiz Kazak, Yaşar Ergün	413 - Antimicrobial and Antibiofilm Activity of Laurus Nobilis L. Essential Oil Against Stenotrophomonas Maltophilia: A Biogenic Amine-Producer For Fish - <b>Tuba Baygar</b> , Aysel Uğur, Nurdan Saraç		
10:40	610- Correlation Between Ruminal Ph and Body Condition Score in Cows With Subacute Ruminal Acidosis - <b>Deniz Aliç Ural</b> , Kerem Ural, Onur Örtlek	416 - The Investigation of Protective Effect of Resveratrol on Oxidative Stress Induced By Malathione in Rats - <b>Erten Akbel</b> , İsmail Küçükkurt, Sinan Ince, Hasan Hüseyin Demirel, Damla Arslan Acargöz	516 - Comparison of Factors Affecting Seafood Purchase According To Demographic Characteristics - <b>Levent Sangün</b> , O. İnanç Güney, İlgin Özşahinoğlu		
10:50	611 -Interpretation of Plasma Amino Acid Profile in Healthy Lams During Neonatal Period - <b>Hasan Erdoğan</b> , Mehmet Gültekin	496 - An Observation of Fine Structure of Umbilical Cord Stroma Derived Mesenchymal Stem Cells - Ahmet Ceylan, <b>Özge Özgenç</b> , Korhan Altunbaş, Petek Korkusuz, Asuman Özen	369 - Effect of Gelatin Coating Incorporated With Chitosan on The Chemical, Physical, Microbiological and Sensory Quality of Sea Bream (Sparus Aurata L.1758) Fillets - <b>Çiğdem Dikel</b> , Yasemen Yanar, Suat Dikel		
11:00	612 - Low Vitamin D Levels in Association With Neonatal Diarrhea in Calves - <b>Hasan Erdoğan</b> , Kerem Ural, Deniz Aliç Ural, Serdar Paşa, İlker Camkerten, Ali Evren Haydardedeoğlu, Deniz Aliç Ural, Mehmet Gültekin, Songül Erdoğan, Canberk Balıkçı	447 - Apoptosis and Cell Proliferation During Postnatal Development of The Testis in The Rat - <b>Fusun Erhan</b> , Mehmet Özbek, Ahmet Ceylan, Emel Ergün, Feyzullah Beyaz, Levent Ergün, Nuh Yıldırım, Özge Özgenç	457 - Young Asian Catfish Pangasianodon Hypophthalmus Under Different Conditions of Feeding Frequency Applied To The Determination of Some Blood Parameters in Individuals - <b>İlgın Özşahinoğlu</b> , Suat Dikel, Levent Sangün, Hasan Gökboğa		
11:10	628-Postpartum 25-Oh-D3 and Nefa Correlations Among Cattle and Offspring- <b>Songül Erdoğan</b> , Kerem Ural, İlker Camkerten, Güzin Camkerten, Hasan Erdoğan, Deniz Aliç Ural, Ali Evren Haydardedeoğlu	503 - Investigation of Anti-Inflammatory and Antioxidant Activity of Colon Targeted Boswellic Acid and Ellagic Acid By Drug Delivery System: in Vitro Part (Colon Targeting, Physicochemical Characterization, Swelling / Release Tests) - <b>Mustafa Yipel</b> , İbrahim Ozan Tekeli, Fulya Altınok Yipel, Neslihan Beyazıt	370 - Effect of Size Sorting and Different Size Combination on Growth Performance of Asian Catfish (Pangasianodon Hypophthalmus) in Cage Culture System - <b>Suat Dikel</b> , İlgin Özşahinoğlu, Mustafa Öz		
11:20	482 - Practical Ecg Device For Measuring Heart Frequency in British Horses - <b>Cenker Çağrı Cıngı</b> , Abdullah Ruhi Soylu-	534 - Diameter of Follicles and Corpus Luteum, Serum Progesterone Levels, Oestrus and Pregnancy Rates in The Anatolian Buffalo Heifers - <b>Muhammed Kürşad Birdane</b>	389 - The Inhibition Effects of Eugenol and Pulegon on Stenotrophomonas Maltophilia: An Opportunistic Pathogen - <b>Tuba Baygar</b> , Nurdan Saraç, Aysel Uğur, Taçnur Baygar, Uydu Balcı		
11:30	BREAK COFFEE / TEA				



SESSION II			
A-2. Session Chairman: Dr. Seyed A. GHORASHI		B-2. Session Chairman: Assoc. Prof. Dr. Umut TAŞDEMİR	C-2. Session Chairman: Assoc. Prof. Dr. Levent SANGÜN
11:40	469 - Investigation of The Effects of Quercus Spp (Oak) on Cutaneous Wound Healing and Epithelialisation in Rats: A Histopathological, Immunohistochemical and Biochemical Evaluations - <b>Ahmet Uyar</b> , Turan Yaman, Gwlshan Mohammed Jhangir, Ömer Faruk Keleş, Zabit Yener	594 - The Effects of Hypericum Perforatum and Polihexanide on Tersiyer-Degree Burn Wound Healing in Rats - <b>Selvinaz Yakan</b> , Yusuf Kenan Dağlıoğlu, Kivılcım Erdoğan, Ruhay Aldık	456 - Effect of Alternate Phases of Canola Oil and Fish Oil Level on The Growth Performance and Fatty Acid Profiles of Juvenile European Seabass (Dicentrarchus Labrax L. 1758) - <b>İlgin Özşahinoğlu</b> , Pınar Mumoğullarında Doyanç, Suat Dikel
11:50	542 - Diagnosis of Neonatal Diarhea With Rapid Test Kits and Hematological Comparison - <b>Durmuş Fatih Başer</b> , Fatih Mehmet Birdane	588 - The Report About Ecthyma Contagiosum Infection in Small Ruminant Herds From Turkey- <b>Tuba Çiğdem Oğuzoğlu</b> , Onur Ülgenalp, Bahattin Taylan Koç	515 - Comparison of Factors Affecting Seafood Consumption According To Demographic Characteristics - <b>Levent Sangün</b> , O. Inanç Güney
12:00	495 - Three Cases of Equine Vasculitis- <b>Ali Cesur Onmaz</b> , Alexandra Pavaloıu, Ayhan Atasever, Rene Van Den Hoven	399 - Effect of Thymoquinone on Gdnf (Glial Cell Line-Derived Neurotrophic Factor) Expression in Testis of Rats Fed on High Fat Diet With Cholesterol - Hasan Asker, <b>Ebru Karadağ Sarı</b>	390 - Camallanus Spp. in Aquarium Fish (Poecilia Reticulata) - <b>Mahmut Sinan Erez</b> , Ahmet Göksu, Esma Kozan
12:10	561 - The Determination of Sentivities of Various Microorganisms To Gamitromycin - <b>Fatih Mehmet Birdane</b> , Ali Uslu, Ecem Oğalakçı; Hasan Hüseyin Hadımlı	468 - Antidiabetic Effects of Laurus Nobilis (Daphne) Extract in Streptozotocin Induced Diabetic Rats: Histopathological, Immunohistochemical and Biochemical Investigations. <b>Ahmet Uyar</b> , Turan Yaman, Rebin Rafaat Mohammed, Ömer Faruk Keleş, Zabit Yener	391 - A Case of Dispharynx Nasuta (Rudolphi, 1819) in A Long-Eared Owl (Asio Otus) <b>Mahmut Sinan Erez</b> , Mehmet Fatih Bozkurt, Mustafa Volkan Yaprakçı, Ahmet Göksu, Esma Kozan
12:20	545 - Comparison of Effect of Intraperitoneal and Incisional Bupivacaine Or Levobupivacine on Postoperative Analgesia in Dogs Undergoing Ovariohysterectomy - <b>Musa Korkmaz</b> , Oktay Yılmaz, Zülfikar Kadir Sarıtaş, Ibrahim Demirkan	427 - Evaluating Silage Quality of Potato Pulp Silage Prepared With Ground Wheat Straw, Ground Alfalfa Hay and Wheat Bran- <b>Mehmet Akif Karslı</b> , Hasan Hüseyin Şenyüz	559 - The Treatment of The Immuplus Afs (Polyherbal Formulation), Effects Some Hematological Parameters in Goat Kids - <b>Fatih Mehmet Birdane</b> , Durmuş Fatih Başer
12:30	LUNCH IN THE HOTEL RESTAURANT (Only for BLUE - GREEN - ORANGE Package ID Holders)		
SESSION III			
A-3. Session Chairmans: Assoc. Prof. Dr. Deniz ALIÇ URAL - Asst. Prof. Dr. Ali Evren HAYDARDEDEOĞLU		B-3. Session Chairmans: Assoc. Prof. Dr.Nuran AYSUL - Asst. Prof. Dr. Hasan ERDOĞAN	C-3. Session Chairman: Prof. Dr. Vehbi GÜNEŞ
13:30	491 - The Protective Role of Silibinin Against Nickel Toxication in Rats- <b>Fusun Temamoğulları</b> , Ahmet Ateşşahin, Çiğdem Şebi Şen, Nihat Yumuşak, Mustafa Selim Doğru	453 - Supplementation of Rosmarinic Acid Has Reduced Oxidative Stress on Bull Semen After Freeze Thawing - <b>Umut Taşdemir</b> , Deniz Yeni, Muhammed Enes Inanç, Fatih Avdatek, Beste Çil, Ruhi Türkmen, Barbaros Tuncer	511 - The Combination of Il-1 and Tnf-A Antagonists Can Treat Experimental Type 2 Diabetes Mellitus in Rats: A New Treatment in Type 2 Diabetes - <b>Burak Dik</b> , Emre Bahcivan, Hatice Eser Faki, Kamil Üney
13:40	616-Hemolacria and More: Spectacular Case of Bleeding in A Calf - <b>Songül Erdoğan</b> , Hasan Erdogan, Kerem Ural, Ismail Günal, Tahir Özalp	452 - Supplementation of Quercetin Has Advanced DNA Integrity on Bull Semen Cryopreservation - <b>Umut Taşdemir</b> , Fatih Avdatek, Deniz Yeni, Muhammed Enes Inanç, Beste Çil, Ruhi Tükmen, Pürhan Barbaros Tuncer	377 - Investigation of The Effects of Experimental Amyloidosis on Immune System in Mice - <b>Aykut Ulucan</b> , Alper Sevimli

13:50	613- <i>Curcuma Longa</i> and <i>Nigella Sativa</i> From Kitchen To Veterinary Clinics: A Novel Treatment- <b>Kerem Ural</b> , Emre Yanik	420 - Preliminary Results of Comparison of Some Body Measurements Taken on Bafra Lambs With The Ones Taken on The Digital Images of The Same Lambs Using Imagej Program- <b>Serkan Erat</b> , Bora Özarslan, Evren Erdem	513 - Cytotoxicity, Antiviral and Antioxidant Activities of Panax Gingseng - <b>Irmak Dik</b> , Oğuzhan Avcı, Burak Dik,
14:00	614-Melatonin For Treatment of The Good, The Bad and The Ugly Dermatological Disorders in Dogs and Cats: Pratical Clues- <b>Kerem Ural</b> , Serdar Paşa, Hasan Erdoğan, Mehmet Gültekin, Songül Erdoğan	586 - Sarcoptic Scabies in A Rabbit: Clinical Findings, Diagnosis and Treatment - Arif Kurtdede, <b>Nafiye Koç</b> , Erdal Kara, Serpil Nalbantoğlu	501 - Fungal Flora of Traditional Turkish Moldy Cheese: Occurrence of Mycotoxins and Molecular Characterization of The Isolates - <b>Nurhan Ertaş Onmaz</b> , Harun Hizlisoy, Yeliz Yıldırım, Serhat Al; Fulden Karadal, Zafer Gönülalan
14:10	595 - Genetic Characterization of The Mite Varroa Destructor (Family: Varroidae) Collected From Honey Bees Apis Mellifera (Hymenoptera, Apidae) in The in The Province of Van in Turkey - <b>Adnan Ayan</b> , Kerem Ural, Osman Selçuk Aldemir	494 - An Investigation on Some Silage Quality Characteristics of Some Hybrid Sorghum X Sudangrass (Sorghum Bicolor X Sorghum Sudanense Stapf.) Cultivars - <b>Bulent Budak</b> , Şükrü Sezgi Özkan, Gülcan Demiroğlu Topçu, Behçet Kir, Ali Salman	Effects of Dietary Supplementation of Pistacia Terebinthus (Terebinth) Seed in Layer Diet on Internal Egg Quality Parameters During different Storage Time- -Ismail Bayram, Eyüp Eren Gültepe, Cangir Uyarlar, Aamir Iqbal, Abdur Rahman, Süleyman Hacisalihoğlu, <b>Ümit Özçınar</b> , Ibrahim Sadi Çetingül
14:20	BREAK COFFEE / TEA		
SESSION IV			
A-4. Session Chairman: Assoc. Prof Ali Cesur ONMAZ		B-4. Session Chairmans: Prof. Dr. Suna CEBESÖY Asst. Prof. Dr. Nural EROL	C-4. Session Chairman: Assoc. Prof. Dr. Przemyslaw SOBIECH
14:30	568 - Molecular Diagnosis of <i>Giardia Duodenalis</i> in Dogs and Calves in Izmir Province: Preliminary Results - <b>Adnan Ayan</b> , Mehmet Gültekin, Kerem Ural, Nuran Aysul, Songül Erdoğan, Hidayet Tutun	510 - Sulfasalazine Treatment At Different Times Can Have A Positive Effect on Lps-Induced Endotoxic Rats- <b>Burak Dik</b> , Hatice Eser Faki, Emre Bahçıvan	593 - Evaluation of Surgical Nurses’ Attitudes Concerning Patient Safety- <b>Ali Şahin</b> , Fatma Ayhan, Şerife Kursun
14:40	597 - Assessment of Ejection Fraction and Fractional Shortening During Different Stages of Canine Visceral Leishmaniasis - <b>Canberk Balıkcı</b> , Kerem Ural	437 - Expression of Toll Like Receptors in Rat Testicular and Epididymal Tissues - <b>Mehmet Özbek</b> , Emel Ergün, Feyzullah Beyaz, Levent Ergün, Füsün Erhan, Nuh Yıldırım, Özge Özgenç	384 - Effect of Dietary Coenzyme Q10 Supplementation on The Growth Performance, Carcas Yield, Organ Weights and Oxidative Stress in Quails Exposed To Cold Stres - <b>Tahir Bayril</b> , Fatih Akdemir, Hasan Akşit
14:50	533 - Investigation on The Relationship Between Effective Oxidative Stress and Hematological Values of Anaplasma Phagocytophilum, Borrelia Burgdorferi, Dirofilara Immitis Infections in Aksaray Malaklı Dogs- <b>Ali Evren Haydardedeoğlu</b> , Olga Büyükleblebici, Tahir Karaşahin, Neşe Hayat Aksoy	493 - Investigation of Transmissible Venereal Tumor in Male Dogs By Cytological Examination - <b>Mehmet Uçar</b> , Tuğba Akbaş Çine, Cenker Çağrı Cingi, Deniz Yeni, Ebubekir Yazıcı	486 - Comparison of Hepatoprotective Activity of Coriander (Coriandrum Sativum) and Its Major Component Linalool in An Experimental Rat Model - <b>Fulya Altınok Yipel</b> , Ibrahim Ozan Tekeli, Şule Yurdagül Özsoy, Mehmet Güvenç, Alpaslan Kaya, Mustafa Yipel
15:00	615-A Serological Investigation of Bovine Enterovirus-1, Bovine Herpesvirus-1, Bovine Viral Diarrhoe Virus and Parainfluenza-3 Virus Infections in Camels (Camelus Dromedarius) in Western Turkey - <b>Nural Erol</b> , Sibel Gür, Bahattin Taylan Koç, Sibel Yavru	512 - Virologic Identification of Canine Parvovirus Type 2b (Cpv 2b) From Dogs in Konya - <b>Irmak Dik</b> , Atilla Şimşek	504 - Microbiological Changes During Storage in Using Starterculture Heat-Treated Sausage - <b>Halil Yalçın</b> , Pelin Ertürkmen, Yahya Öztürk, Hasan Altan Akkan, Mehmet Sari

15:10	431 - Immunohistochemical Distribution of Natriuretic Peptides in Active and Hibernating Anatolian Ground Squirrel (Spermophilus Xanthoprimum) Heart - <b>Mustafa Öztop</b> , Mehmet Özbek, Feyzullah Beyaz, Emel Ergün, Levent Ergün, Sebahattin Köknur, Füsün Erhan	553 - Gangrenous Mastitis Case in A Persian Queen - Tuğba Çine, <b>Muhammed Kürşad Birdane</b> , Mehmet Uçar	531 - Pharmacokinetics of Cefquinome After Single and Repeated Subcutaneous Administrations in Sheep - <b>Orhan Çorum</b> , Duygu Durna Çorum, Ayşe Er, Kamil Üney
15:20	BREAK COFFEE / TEA		
SESSION V			
A-5. Session Chairman: Prof. Dr. Çiğdem OĞUZÖĞLÜ		B-5. Session Chairmans: Prof. Dr. Kerem URAL Dr. Mehmet GÜLTEKİN	
C-5. Session Chairman: Assoc. Prof. Abuzer ACAR			
15:30	576 - Fatal Canine Parvovirus Infection in Newborn Puppies: Appropriate Vaccination Time Based on Maternally Derived Antibody Levels - <b>Merve Biskin Türkmen</b> , Tuğçe Sümer, Özlem Özdemir, Oğuz Kul	402 - Influence of Prepartum Supplementation of Selenium and Vitamin E on Biochemical Parameters of Dairy Cows - <b>Sobiech Przemyslaw</b> , Katarzyna Żarczyńska, Anna Snarska, Dominika Wysocka, Josef Illek	451 - Some Characteristics of Winged Animal of Aseel Genotypes Breeding in Turkey - <b>Banu Yüceer Özkul</b> , Fatih Atasoy, Fatma Tülin Özbaşer
15:40	558 - An Unusual Outcome For Fetal Death in Bitch: A Report of A Case - Güneş Erdoğan, <b>Tuğra Akkuş</b> , Eyyüp Hakan Uçar, Cevdet Peker, Rita Payan Carreira	463 - Positive Influence of The Feed Additive on Vitamin-Mineral Composition of Meat of The African Ostrich in The South-East of Kazakhstan - <b>Shameyeva Uldana</b> , Zhanabekova Gulmira, Zhumageldiev Akilbek, Khusainov Damir, Romashev Kanapia, Allabergenova Aru	375 - Effect of Timing of Artificial Insemination Relative To Spontaneous Estrus on Reproductive Performance and Calf Gender Ratio in Repeat Breeder Holstein Cows - <b>Tahir Bayril</b> , Orhan Yilmaz, Bahattin Çak
15:50	464 - The Investigation of D-Dimer Levels and Coagulation Profiles in Dogs With Distemper - Ahmet Ali Yağci, <b>Vehbi Güneş</b>	403 - Differentiation of Salmonella Isolates Using Pcr and High-Resolution Melt Curve Analysis - <b>Seyed Ali Ghorashi</b> , Mohammad Sadegh Saeidabadi, Hassan Nilic, Habibollah Dadras, Hassan Sharifiyazdi, Joanne Connolly, Mary Valcanis, Shane Raidal	585 - First Record of Necrobia Rufipes (De Geer, 1775) Associated With Pet Clinic in Turkey - <b>Nafiye Koç</b> , Ayşe Çakmak, Serpil Nalbantoğlu
16:00	418 - The Effects of Vancomycin and Daptomycin on Rat Liver Arginase Activity and Nitric Oxide - <b>Mehmet Ali Kisaçam</b> , Sema Temizer Ozan, Fatma Selvi, Gonca Ozan, Kadir Servi	627- Ultrasonography of The Gastrointestinal Obstruction - <b>Karolina Wrzesniewska</b> , Andrzej Milczak	590 - Molecular Detection of Anaplasma Ovis in Ixodid Ticks Collected From Sheep and Goats in Turkey - <b>Mehmet Fatih Aydin</b> , Munir Akdaş, Nazır Dumanlı
16:10	523 - Drug Marketing in Veterinary Clinics - <b>Burak Mat</b> , Aytekin Günlü, Mustafa Bahadır Çevrimli	528 - Oxidative Status in Neonatal Calves With Acute Infectious Diarrhea: Preliminary Findings - <b>Mehmet Gültekin</b> , Kerem Ural, Hasan Erdoğan, Serdar Paşa, Gamze Sevrî Ekren Asici, Gamze Gültekin, Asude Gulce Guler	425 - Cytotoxic Effects of Rhododendron Ponticum L. Extract on Prostat Carcinoma and Adenocarcinoma Cell Line (Du145, Pc3) - Emine Kübra Bilir, <b>Hidayet Tutun</b> , Sedat Sevin, Görkem Kismali, Ender Yarsan
16:20	567 - Pharmacokinetics and Bioavailability of Enrofloxacin and Danofloxacin in Premature Calves - Kamil Üney, <b>Orhan Çorum</b> , Ramazan Yıldız, Merve Ider, Mahmut Ok, Feray Altan	626- Low Grade Systemic Coagulation in E. Coli Induced Neonatal Diarrhea Among Calves- <b>Ilker Camkerten</b> , Kerem Ural, Serdar Paşa, Deniz Aliç Ural, Ali Evren Haydardedeoğlu, Hasan Erdoğan, Mehmet Gültekin, Songül Erdoğan	424 - Investigation of The Effects of Trehalose and Catalase on Post-Thawed Ram Sperm- <b>Sukru Güngör</b> , Ayhan Ata, Muhammed Enes Inanç

ORAL PRESENTATIONS OCTOBER 06 2017

in memory of Prof. Dr. ULVİ REHA FİDANCI		in memory of Prof. Dr. ALİ ZİYA KARAKILÇIK		in honour of Prof. Dr. GÜRBÜZ AKSOY	
SESSION VI					
A-6. Session Chairman: Prof. Dr. Serpil NALBANTOĞLU		B-6. Session Chairman: Prof. Dr. Nuri ALTUĞ		C-6. Session Chairman: Prof. Dr. Çiğdem ALTINSAAT	
09:50	360- 360 Degree Veterinary Dermatology: Erşan Kureri Against Sean Connery (Probiotic Therapy) - <b>Kerem Ural</b>	443 - A Survey For Exposure To Human Vector-Borne Pathogens in The European Part of The Turkey - <b>Dilek Muz</b> , Mustafa Doğan, Mustafa Necati Muz, Ismail Tayfur		430 - Investigations on the Effects of Nitrogen Fertilizer on Herbage Yield and Some Yield Properties of Second Crop Maize (Zea Mays L.) in Aksaray Region - Cevat Özbek, <b>Behcet Kir</b>	
10:00	461 - Clinical Perspective Approach To Visceral Leishmania in Dog Among Eagean Region - <b>Serdar Paşa</b> , Kerem Ural, Mehmet Gültekin, Hasan Erdoğan	532 - The Molecular Epidemiology of Bovine Noroviruses in Turkey - <b>Ilke Karayel Hacıoğlu</b> , Feray Alkan		554 - Quality of Kefir Prepared From Milk With Different Somatic Cell Counts - <b>Nazli Türkmen</b> , Ceren Akal, Halit Kanca	
10:10	625 - $\beta$ -Giardin Analysis and Molecular Typing of <i>Giardia Duodenalis</i> Isolates Among Dogs and Calves in Aegean Region of Turkey: Preliminary Results - <b>Nuran Aysul</b> , Kerem Ural, Mehmet Gültekin, Adnan Ayan, Selin Hacilarlioğlu, Songül Erdoğan, Metin Pekağırbaş, Gürkan Akyildiz	444 - Survey of Feline Immunodeficiency Virus, Feline Leukemia Virus, <i>Leishmania Infantum</i> and <i>Leishmania Tropica</i> in Stray Cats of Izmir, Turkey. <b>Dilek Muz</b> , Hüseyin Can Muhammet Karakavuk, Mert Döşkaya, Hüseyin Gökhan Özdemir, Aysu Değirmenci Döşkaya, Esra Atalay Şahar, Bayram Pektaş, Mehmet Karakuş, Seray Töz, Yusuf Özbel, Adnan Yüksel Gürüz, Mustafa Necati Muz		565 - Laparoscopic Spay in Shelter Medicine: Experiences on Postsurgical Period in Dogs - <b>Halit Kanca</b> , Gizem Tez	
10:20	622 - Molecular Typing of Acute and Active <i>E. Canis</i> Infected Dogs in Aydın Region - Kerem Ural, <b>Nuran Aysul</b> , Hasan Erdoğan, Selin Hacilarlioğlu, Metin Pekağırbaş, Adnan Ayan, Songül Erdoğan, Yasin Parlatir	589 - A General Evaluation on The Turkish Sericulture Sector - <b>Murat Polat</b> , Yavuz Cevger		517 - Dairy Consumption Attributes of Consumers: A Survey Study in Adana and Mersin- <b>O. Inanç Güney</b> , Levent Sangün	
10:30	596 - P Wave Dispersion in Canine Monocytic Ehrlichiosis - Kerem Ural, Ilker Camkerten, Serdar Paşa, Deniz Aliç Ural, Mehmet Gültekin, Ali Evren Haydardedeoğlu, Hasan Erdoğan, Canberk Balıkçı, Songül Erdoğan, <b>Gözde Budak</b>	388 - Serological Investigation of Wnv Infection Among Purebred Arabian Race Horses in Turkey - <b>Zeynep Akkutay Yoldar</b> , Sabri Hacıoğlu, Seda Tezcan Ülger		617 - Proteomics in Veterinary Medicine- <b>Mert Pekcan</b>	
10:50	BREAK COFFEE / TEA				

SESSION VII

**A-7. Session Chairman:**  
**Prof. Hasan Hüseyin HADİMLİ**

**B-7. Session Chairman:**  
**Assoc. Prof. Görkem KISMALI**

**C-7. Session Chairman:**  
**Prof. Berrin SALMANOĞLU**

<b>11:00</b>	502 - The Effect of Ram Semen Extender Supplemented With L-Cysteine and Catalase on Spermatological Parameter - <b>Ayhan Ata</b> , Şükrü Güngör, Muhammed Enes Inanç	445 - Epidemiology of Honeybee Diseases in Thracia, Turkey - <b>Mustafa Necati Muz</b> , Dilek Muz	618-Prevalance of Diagnosis of <i>Giardia Duodenalis</i> in Goats in Aydın Province of Turkey - <b>Adnan Ayan</b> , Kerem Ural, Serdar Paşa, Deniz Aliç Ural, Mehmet Gültekin, Hasan Erdoğan, Songül Erdoğan, Ece Küçük,
<b>11:10</b>	497 - Hellaboms (Helleborus Orientalis) Toxicosis in Merinos Ram in Ankara-Turkey - A Case Study - <b>Sedat Sevin</b> , Erdal Kara, Mehmet Şahal, Ender Yarsan	394 - The Effects of Bovine Serum Albumin on Sperm Quality and Dna Damage in Liquid Stored Ram Semen - <b>Deniz Yeni</b> , Fatih Avdatek, Mustafa Gündoğan	599 - Investigation of The Effect of Vaccination on Dynamic Thiol / Disulfide Balance in Lactating Dairy Cattle With Subclinical Mastitis - Gaye Bulut, <b>Güzin Camkerten</b> , Özcan Erel
<b>11:20</b>	506 - Serum Potassium-Lowering Effects of Insulin Plus Dextrose and Adrenalin Treatment That Enhance Intracellular Potassium Transitions in Hyperkalemic Diarrheic Calves - <b>Nuri Altuğ</b> , Nazmi Yüksek, Cumalı Özkan, Yıldırım Başbuğan, İhsan Keleş, Zahid Tefik Ağaoğlu, Abdullah Kaya, Yakup Akgül	439 - Comparison of Plasma and Hair Concentration of Flumethrin and Cypermethrin After Pour-on Administration in Goats- Ümit Karademir, Murat Boyacioğlu, Cavit Kum, Selim Sekkin, <b>Hande Sultan Şahiner</b> , Özge Bardakçı	609 - The Effects of Antioxidant Supplementation on Oxidative and Antioxidative Status During Training in Race Horses - <b>Güzin Camkerten</b> , Halil İbrahim Başyigit, Neslihan Taşçene, Tevhide Sel, Hilal Karagül
<b>11:30</b>	429 - Effects of P-Glycoprotein Inductor Rifampicin on Pharmacokinetics of Tulathromycin in Goats - <b>Hande Sultan Şahiner</b> , Cavit Kum	619 -The Effects of Intravenous Novacoc Treatment on Metabolic Profiles During The Transition Period of Dairy Cows - <b>Ahmet Cihat Tunç</b> , Fatih Mehmet Birdane, Cangir Uyarlar, Fulya Altınok Yipel, Eyüp Eren Gültepe, Durmuş Fatih Başer	778-Some Observations of Respiratory Ultrasound Plethysmography (Rup) in Donkeys- <b>Osman Güngör</b>
<b>11:40</b>	454 - Subcutaneous Melatonin Implant Treatment For Eosinophilic Plaque in A Cat- Kerem Ural, Mehmet Gültekin, Naile Karagöz, <b>Özde Kandemir</b>	539 - The Withitness of Cat Owners About The Reproductive Status of Their Animals in Afyonkarahisar and Ankara - <b>Duygu Baki Acar</b> , Mürşide Ayşe Demirel	779-Non-Invasive Pulmonary Function Tests in Donkey - <b>Osman Güngör</b>

**12:00 LUNCH IN THE HOTEL RESTAURANT (Only for BLUE - GREEN - ORANGE Package ID Holders)**



SESSION VIII			
A-8. Session Chairman: Prof. Dr. Abdurrahman GÜL		B-8. Session Chairmans: Assoc. Prof. Dr. Duygu BAKİ ACAR	C-8. Session Chairman: Prof.Dr. Tevhide SEL
12:10	411 - The Effect of Igy and/Or Bacteriophage Therapy on Clinical Parameters in Salmonella Infections of Calves - <b>Hasan Hüseyin Hadimli</b> , Gökçenur Sanioglu Gölen, Ali Uslu	587 - Economic Analysis of An Alternative Production Area in Livestock Farming: Worm Manure Production - <b>Ahmet Cumhuri Akin</b> , Cevat Sipahi, Güler Berat Bozdoğan	525 - Piperlongumine (Piplartine) Down-Regulates The Antiapoptotic Proteins in Human Prostate Cancer Cells, Leading To Suppression of Proliferation and Induction of Apoptosis - <b>Görkem Kismali</b> , Tevhide Sel
12:20	630 - Distribution of The Cat Diseases in Shelters - Ibrahim Akin, <b>Yalçın Alper Özturan</b> , Ahmet Gacar	536 - Effect of Carrot Juice on Performance and Egg Quality Traits in Laying Hens - Eyüp Eren Gültepe, Cangir Uyarlar, I. Sadi Çetingül, Aamir Iqbal, <b>Ümit Özçinar</b> , Ismail Bayram	573 - Piperlongumine and Trail Synergize To Promote Cell Death in Colon Cancer Cells - <b>Tevhide Sel</b> , Görkem Kismali
12:30	629 - Distribution of Bovine Digital Dermatitis in Aydin County Dairy Farms and Relation With The Footbath Usage - Oğuzhan Kalyoncu, <b>Emre Gürdal</b> , Ibrahim Akin	604 - Current Situation and Problems in Red Meat Products Manufacturing Enterprises of Turkey - <b>Murat Polat</b> , Yavuz Cevger	432 - Relationship Between Activity of Glutathion Peroxidase and Nitric Oxide in Synovial Fluid and The Progression of Temporomandibular Joint Internal Derangement - <b>Berrin Salmanoğlu</b> , Orhan Güven, Sinan Tozoğlu, Ümit Tekin, Onur Güneş
12:40	551 - The Effect of Igy and Bacteriophage Therapy on Histopathological Findings in Salmonella Infections of Calves- <b>Hasan Hüseyin Hadimli</b> , Mustafa Kemal Çiftçi, Ali Uslu, Funda Terzi, Gökçenur Sanioglu Gölen	563 - Neurohistopathological Study on Neospora Caninum Infected Calves: Special Emphasis To Dopaminergic Activity - <b>Tuğçe Sümer</b> , Merve Bişkin Türkmen, Naci Öcal, Kadriye Gizem Imrak, Oğuz Kul	460 - Seroepidemiological Survey of Bovine Tick-Borne Infections in The Black Sea Region of Turkey - Mustafa Açici, Cenk Soner Bölükbaş, Gökmen Zafer Pekmezci, Ali Tümay Gürler, Şinasi Umur, Kadir Zafer Karaer, Ayşe Çakmak, <b>Serpil Nalbantoğlu</b> , Cevat Nisbet
12:50	446 - Seroprevalence of T. Gondii in Dairy Ruminant Production Systems, Shepherd Dogs Among The Herds and Detection of T. Gondii-Like Oocyst in Cat Feces in Hatay Region - <b>Mustafa Necati Muz</b> , Nuri Altuğ, Muhammet Karakavuk	577 - The Production Structure and Milking Characteristics of Saanen Goat Farms in Çanakkale Province, Turkey - <b>Arzu Gökdaı</b> , Engin Sakarya	476 - Can We Trust Our Elisa Results? Impacts on Clinical Practice - <b>Mert Pekcan</b> , Ilknur Pir Yağci, Ibrahim Mert Polat, Hakan Kalender, Hasan Ceyhun Macun
13:00	435 - The Investigation of The Prevalance of Lice Species on The Hair Goats Slaughtered At Bingöl Municipal Slaughterhouse - <b>Abdurrahman Gül</b> , Şeyma Günyakti Kiliç	574 - Relationship Between Degree of Anemia and Blood Gases in Cattle With Theileriosis - <b>Mehmet Temiz</b> , Nuri Altuğ, Nazmi Yüksek	569 - Impact of Maternal High-Fat Diet During Pregnancy and Lactation on Reproductive Development of The Male Offspring - <b>Çiğdem Altinsaatt</b> , Şakir Yildiran
13:10	<b>LUNCH IN THE HOTEL RESTAURANT (Only for BLUE - GREEN - ORANGE Package ID Holders)</b>		
20:00	<b>GALA DINNER (Only for BLUE - GREEN - ORANGE PARTICIPANTS ID HOLDERS) MEETING IN THE HOTEL LOBBY</b>		

# POSTER PRESENTATIONS OCTOBER 5 2017

01A	401 - The Role of Vitamins and Minerals in The Etiology of Bovine Nail Diseases - <b>Selvinaz Yakan</b>	579 -Effects of Pennyroyal Extract (Mentha Pulegium) Supplementation At Different Levels Into Diets of Hens on Performance, Egg Quality, Yolk Tbars Values in Laying Hens - <b>Şaziye Canan Bölükbaşı Aktaş</b> , Abdussamet Aydın
01B	582 - Helminthological Research in Wild Boars (Sus Scrofa) in Western Mediterranean Province of Turkey - Ahmet Gokcen, <b>Ramazan Adanir</b> , Bayram Ali Yukari, Onur Köse	580 - A Novel Eubiotic Feed Additive Remarkably Improves Laying Performance and Egg-Shell Quality in Late Laying Period - <b>Şaziye Canan Bölükbaşı Aktaş</b> , Sulhattin Yaşar, Fatih Yildirim, Hafız Ghulam Qutabuddin.
02A	583 - Eimeria Species in Gazelle Subgutturosa in Turkey - <b>Ramazan Adanir</b> , Sima Sahinduran, Osama B. Mohammed, Ahmet Gokcen, Bayram Ali Yukari, N. Sarp Sevgisunar	581 - Evaluation of Oxidative Stress in Sheep Infected With Psoroptes Ovis Using Total Antioxidant Capacity, Total Oxidant Status, and Malondialdehyde Level - <b>Mustafa Sinan Aktaş</b> , Fatih Mehmet Kandemir, Akın Kirbaş, Başak Hanedan, Mehmet Akif Aydın
02B	601- Symblepharon Formation After Corneal Wound in A Cat - Müge Bircan Akkartal, <b>Atilla Doğan</b> , Irem Ergin	605 - Fate of <i>Listeria Monocytogenes</i> in Carra Cheese During Manufacture and Ripening - <b>Hisamettin Durmaz</b> .
03A	609- The Evaluation of of Conventional Routine Coagulation Profile and D-Imer Concentration in Different Stages of Canine Visceral Leishmanias - Serkan Özkan, <b>Kerem Ural</b>	606 - The Effect of Cheese Brine Concentrations on Survival of <i>Listeria Monocytogenes</i> - <b>Hisamettin Durmaz</b> , Osman Aygun, Mustafa Ardic
03B	524 -Determination of Heavy Metal Pollution in Honey Samples Collected From Ardahan and Counties - <b>Hüsamettin Ekici</b> , Kemal Yazici	485 - Repairing of The Bilateral Nasal and Maxillary Bone Defect With Polypropylene Mesh in A Dog - Pınar Can, <b>Atilla Dogan</b>
04A	578 -Immunohistochemical Expression of Cannabinoid Receptor 2 (Cb2) in Sheep Ileum During Prenatal Period - <b>Mehmet Özbek</b> , Hidayet Tutuni, Emel Ergün, Feyzullah Beyaz, Levent Ergün.	521 - Integration of Meta-Analytical Approach To Research in Veterinary Medicine - <b>Pınar Ambarcioğlu</b> , Doğukan Özen, Ufuk Kaya, Erman Gülendağ, İsmayil Safa Gürcan
04B	527 - The Effects of Coenzyme Q10 on Serum Ceruloplasmin and Paraoxanase Levels of Rats With Experimental Diabetes - <b>Tevhide Sel</b> , Beste Kismali, Gorkem Kismali	382 - Cancer Development and Corrupted Signaling Mechanism - <b>Mehmet Ali Kisaçam</b> , Sema Temizer Ozan, Gonca Ozan
05A	499 - Aflatoxin M1 Levels in Milk and Kashar Cheese Samples With Respect To Seasonal Periods in Ardahan, Turkey - Ertan Doğan, <b>Murat Bayezit</b>	591 - An Altered Method To Production Polyclonal Ascites Fluid Via Mouse - <b>Gülizar Aydoğdu</b> , Şafak Mert, Benan Pelin Sermikli, Erkan Yilmaz.
05B	498 - A Comparative Study on The Effects of Eprinomectin and Ivermectin on Plasma Antioxidant Level and Lipid Peroxidation in Cows - Ali Bilgili, <b>Asım Kart</b> , Yılmaz Cigremis, Başak Hanedan, Dinçer Erdağ.	571 - Computed Tomographic Diagnosis and Surgical Treatment of Fibrochondrosarcoma: A Case Report - <b>Gonca Sönmez</b> , Pınar Can, Yanad Abou Monsef, Rıfki Haziroğlu, Ömer Beşalti
06A	509 - Effect of Carbontetrachloride on Rat Soleus Muscle - Duygu Fevziye Vural, Dilşad Özerkan, <b>Suna Cebesoy</b> , Nesrin Ozsoy Erdas, Hatice Mutlu Eyison	519 - Genetic Diversity in Apodemus Mystacinus (Mammalia, Rodentia) Based on Srs in Anatolia - <b>Reyhan Çolak</b> , Gül Olgun Karacan, Dilek Beteş, Ercüment Çolak
06B	518 - The Anatomical Structure of Apodemus Flavicollis Skull - Hatice Mutlu Eyison, <b>Suna Cebesoy</b> , Erkut Kivanç	535 - in Vitro Investigation of The Effects of Hsp70 Chaperone on Cell Proliferation and Oxidative Stress Against Amyloid Beta Nephrotoxicity - Sema Yıldız, <b>Nesrin Özsoy Erdaş</b> , Gülizar Aydoğdu, Erkan Yilmaz
07A	500 - Determining the effect of addition of fruit pomace into sorghum-sudan grass or alfalfa silages on fermentation characteristics and in situ degradability - <b>Gökhan Şen</b> , Mehmet Akif Karsli, Mehmet Basalan, Ilkay Aydogan, Serkan Erat	379 - A Tooth-Based Oroantral Fistula in A Dog - <b>Çağlar Yener</b> , Murat Sarierler
07B	490 - Investigation of Escherichia Coli O157:H7 By Ims-Pcr Techniques in Slaughtered Cattle in Kahramanmaraş Province - <b>Nurhan Ertaş Onmaz</b> , Sabri Datli.	487 - Zinc Responsive Nasal Dermatitis in A Great Danua: A Case Report - <b>Fulya Altinok Yipel</b>
08A	507 - Socioeconomic Implications of Biosecurity Practices in Small-Scale Dairy Farms - Mehmet Ferit Can, <b>Nuri Altuğ</b>	473 - Multi-Classes Antibiotic Residue Determination in Chicken Meat Samples By Liquid Chromatography-Mass Spectrometry - <b>Mustafa Yipel</b> , Ibrahim Ozan Tekeli, Cemil Kürekci
08B	488 - D-Dimer / Fibrinogen Ratio in Dogs With Ehrlichiosis - <b>Hasan Erdoğan</b> , Serdar Paşa, Kerem Ural, Mehmet Gültekin, Yasin Parlatir, Songül Erdoğan, Canberk Balıkçı	562 - Repair of An Oronasal Fistule Using Rotational Flap Technique - Rahime Yaygingül, Büşra Kibar, Nuh Kiliç, <b>Cansu Akdoğan</b>
09A	560 - Alternative Therapy Methods in Wound Healing - <b>Cansu Akdoğan</b> , Ibrahim Akin	458 - Microalbuminuria Due To Different Diseases Among Dogs - <b>Serdar Paşa</b> , Kerem Ural, Nuh Kiliç, Hasan Erdoğan, Mehmet Gültekin, Songül Erdoğan, Yasin Parlatir
09B	459 - Milk Yield and Some Udder Measurement of Saanen Goat in Province of Afyonkarahisar-	428 - Current Conditins and Animal Feeding Practices of Feedlot Enterprises Present in Ankara Çankırı Çorum



	Turkey - <b>Fatma Tülin Özbaşer</b> , Fatih Atasoy, Evren Erdem	Kırkkale and Kırşehir - <b>Mehmet Akif Karsli</b> , Uğur Ödevci
10A	440 - Small Ruminant Breeding in Mersin - <b>Banu Yüceer Özkul</b> , Özgür Gündüz	564 - Epigenetics and Its Applications in Livestock - <b>Mustafa Can Yilmaz</b> , Raziye Işık, Güldehen Bilgen
10B	483 - Repairing of Frontal Bone Defect Due To Sinus Mucocele With Titanium Mesh in A Dog - <b>Pınar Can</b> , Ozkay Nasiboglu, Omer Besalti	538 - Investigation of Some Agents Causing Diarrhea in Ruminants in Mid-Anatolia - <b>Sabri Hacıoglu</b> , Sirin G. Cizmeci, Rahime Adalet Duyum, Munevver Uzar, Ilke Karayel Hacıoglu
11A	410 -Fish Meatball From By-Product of Sea Bass ( <i>Dicentrarchus Labrax</i> L. 1758) Fillet Processing - Demet Kara, Yunus Alparslan, Cansu Metin, Hatice Hasanhocaoğlu Yapici, <b>Tuba Baygar</b> , Taçnur Baygar	607 - Candidate Genes Related with Meat Quality in Small Ruminants - <b>Raziye Işık</b> , Mustafa Can Yılmaz, Güldehen Bilgen
11B	484 - An Unusual Brachial Plexus Nerve Sheath Tumor in A Dog - <b>Pınar Can</b> , Tuncer Kutlu, Osman Kutsal, Omer Besalti	396 - Phosphodiesterase-5 Inhibition With Nanoparticles Improve The Levels of Angiogenic Genes in A Rat Diabetic Wound Healing Model - <b>Alparslan Kadir Devrim</b> , Mahmut Sözmen, Mert Sudağidan, Zelihağul Değim
12A	422 - Effect of Addition of Medium Chain Fatty Acids on Performance and Some Biochemical Parameters of Broiler Chickens - <b>Mehmet Demirci</b> , Mehmet Başalan.	392 - Antifungal Potential of Carvacrol Against <i>Candida Albicans</i> and <i>Candida Tropicalis</i> . Aysel Uğur, Tuba Baygar, Nurdan Saraç, <b>Taçnur Baygar</b> , Seher Sarıdaş
12B	419 - Presurgical Preparations in Camels - Nuh Kilic, <b>Büşra Kibar</b> , Özde Kandemir, Selim Tekin.	398 - Surgery of The Skin and Adnexal Tissues in Camels - Nuh Kilic, <b>Büşra Kibar</b> , Serdar Pasa, Kerem Ural.
13A	426 - Plant Essential Oils Used Against American Fowlbrood - <b>Hidayet Tutun</b> , Sedat Sevin, Adnan Ayan	442 - Immunohistochemical Expression of Atrial- and Brain Natriuretic Peptide in Anatolian Ground Squirrel ( <i>Spermophilus Xanthopymnus</i> ) Kidney and Lung - <b>Mustafa Öztıp</b> , Mehmet Özbek, Feyzullah Beyaz, Emel Ergün, Levent Ergün, Ergül Ergen, Füsün Erhan.
13B	526 - Vitamin E Serum Concentrations in Neonatal Calves - <b>Romana Kadek</b> , Jaroslav Filipek, Josef İllek	549 - Investigation of The Effects of Isoflurane and Sevoflurane Anesthesia on Coagulation Parameters in Dogs - Fatih Mehmet Birdane, <b>Musa Korkmaz</b> , Cenker Çağrı Cingi, Zulfukar Kadir Saritas.
14A	548 - Oxidative Status and Lipid Profile in Mono and Co-Infection With Canine Monocytic Ehrlichiosis - <b>Mehmet Gultekin</b> , Kerem Ural, Serdar Paşa, Canberk Balıkçı, Gamze Sevri Ekren Asici	584 - Immunohistochemical Localization of Certain Nervous System Markers on Sheep Ileum During Prenatal Period - <b>Füsün Erhan</b> , Levent Ergün, Feyzullah Beyaz, Emel Ergün, Mehmet Özbek.
14B	608- Determination of Serum 25 Hydroxy Vitamin D3 Levels in Some Parasitic Dermatoses in Dogs - Naile Karagöz Güral, <b>Kerem Ural</b>	610-Spatial Distribution of Coccidiosis Among Goats in Aydın Province, Turkey - <b>Adnan Ayan</b> , Kerem Ural, Deniz Aliç Ural, Hasan Erdogan, Songül Erdogan, Ilker Camkerten, Ali Evren Haydardedeoğlu, Mehmet Gultekin
15A	802-Comparative Evaluation of Tylosin Tartarate and Tarantula Cubensis Venom For The Treatment of Bovine Papillomatosis: A Prospective, Double Blinded and Multicentered Study- <b>Bekir Buğrahan Yağci</b> , Kerem Ural, Ali Evren Haydardedeoğlu, Tamerhan Markoç	803-Unilateral Papillary Type Renal Carcinoma in A Terrier Breed Dog- Tunçer Ulukartal, <b>Bekir Buğrahan Yağci</b> , Ilker Camkerten, Kerem Ural

## POSTER PRESENTATIONS OCTOBER 6, 2017

- 01A 406 - Potential Use of Potato Pulp As A Ruminant Feed - **Hasan Hüseyin Şenyüz**, Mehmet Akif Karsli
- 01B 526 - Vitamin E Serum Concentrations in Neonatal Calves - **Romana Kadek**, Jaroslav Filipek, Josef Illek
- 02A 407 - Effects of Substituting Barley With Potato Pulp Silage Prepared With Ground Barley Straw and Wheat Bran on Fattening Performance of Lambs - **Hasan Hüseyin Şenyüz**, Mehmet Akif Karsli, Serkan Erat, Ömer Onur Parildar
- 02B 474 - Effect of Volatile Oil Obtained from Pinus Nigra Arn. Subsp. Pallasiana (Lamb.) Holmboe Leaves on Protoscole of Hydatid Cysts - **Esma Kozan**, Mert Ilhan, Ibrahim Tümen, Esra Küpeli Akkol
- 03A 414 - Efficiency Evaluation of Commercial Biofertilizers For Growth of Barley - **Cenap Cevheri**, Çiğdem Küçük
- 03B 522 - Protective Role of Bromelain Against Nickel Genotoxication in Rats - **Fusun Temamoğullari**, Pınar Aksu Kiliç, Şükrü Gürler
- 04A 492 - Effect of Some Risk Factors on Subclinical Mastitis in Dairy Cows - Resul Koçyiğit, Oktay Yilmaz, Erhan Özenç, **Mehmet Uçar**
- 04B 672- Coagulation Profile in Calf With Neonatal Diarrhea - Ahmet Künyeli, **Kerem Ural**
- 05A 575 - Develerde Göz Ve Kulak Cerrahisi. Nuh Kiliç, **Özde Kandemir**, Büşra Kibar
- 05B 372 - Prototypes of Modified Gauze in Controlling Hemorrhaging in Swine - **Zbigniew Adamiak**, Danuta Bukowiecka, Paweł Jastrzebski, Piotr Holak, Marek Jalyński
- 06A 592 - Histochemical and Morphometric Studies in Goose (Anser Anser) Testis - Serap Ilhan Aksu, Yalcın Akbulut, **Ebru Karadag Sari**, Turgay Deprem.
- 06B 409 - Biological Activity of The Cvs Virus in Cell Culture - **Sobiech Przemysław**, Zhanserik Sultanov, Mambetaliev M, Romashev K, Ussenbayev Altay, Khizat Serik
- 07A 400 - Investigations on Cryptosporidium Species in Domestic Geese (Anser Anser) in The Province of Kars, Turkey - Sibel Cagatay, **Baris Sari**
- 07B 489 - Pentoxifylline As A Therapeutic Armamentarium Against Alopecia, Crusting and Partial Tissue Loss; Diseases of The Pinna in Canine Visceral Leishmaniosis - **Gözde Budak**, Kerem Ural, Serdar Paşa, Mehmet Gültekin
- 08A 376 - Effects of Hexachlorocyclohexane (Hch-Y-Isomer, Lindane) on The Reproductive System of Zebrafish (Danio Rerio) - Hayati Yüksel, Ünal Ispir, **Aykut Ulucan**, Cebrahil Türk, Mehmet Reşit Taysi
- 08B 603 - *Dermatophagoides Farina* and *Dermatophagoides Pteronyssinus*-Specific Ig E Levels in Atopic Dogs - Kerem Ural, **Çağatay Türk**, Serdar Paşa, Ilker Camkerten, Ali Evren Haydardedeoğlu, Hasan Erdoğan, Mehmet Gültekin, Songül Erdoğan
- 09A 417 - Mirnas and Breast Cancer - **Berrin Salmanoglu**, Gizem Aralan
- 09B 638 - Investigation of Pathogenic Eimeria Species in Cattle By Microscopy and Pcr Methods in Kirikkale Province - **Aycan Nuriye Gazyagci**, Sami Gokpinar, Serkal Gazyagci, Meral Aydenizoz, Deniz Aliç Ural, Kerem Ural
- 10A 557 - Two Common Types of Vaginal Masses in Female Dogs - Bilginer Tuna, **Tuğra Akkuş**, Cevdet Peker, Eyyüp Hakan Uçar, Ayşe Nur Akkoç
- 10B 637 Determination of Antioxidant Capacity of Commercial Antioxidant Supplements By 2,2-Diphenyl-1-Picrylhydrazyl (Dpph) Assay - **Hande Sultan Sahiner**, Murat Boyacioglu, Ozge Bardakci, Umit Karademir
- 11A 602 Increasing The Pregnancy Rate in Breeding Season Middle Anatolian Merino Sheep of Non-Pregnancy - Şükrü Dursun, **Gaye Bulut**, Mehmet Köse, Tahir Karaşahin
- 11B 417 Mirnas and Breast Cancer - **Berrin Salmanoglu**, Gizem Aralan
- 12A 671 Gene Modification with CRISPR; a Shortcut to Super Human? - Elif Bulut, Alper Bulut, Murat Yildirim

<b>Forewords</b>	<b>i</b>
Organization Committee	ii
Program	v
Contents	xvi
<b>ORAL PRESENTATIONS</b>	
<b>ORAL 1</b>	Positive Influence of The Feed Additive on Vitamin-Mineral Composition of Meat of The African Ostrich in The South-East of Kazakhstan 1
<b>ORAL 2</b>	Effect of Alternate Phases of Canola Oil and Fish Oil Level on The Growth Performance and Fatty Acid Profiles of Juvenile European Seabass ( <i>Dicentrarchus Labrax</i> L. 1758) 2
<b>ORAL 3</b>	Young Asian Catfish <i>Pangasianodon Hypophthalmus</i> Under Different Conditions of Feeding Frequency Applied To The Determination of Some Blood Parameters in Individuals 3
<b>ORAL 4</b>	Investigation on The Relationship Between Effective Oxidative Stress and Hematological Values of <i>Anaplasma Phagocytophilum</i> , <i>Borrelia Burgdorferi</i> , <i>Dirofilaria Immitis</i> Infections in Aksaray Malaklı Dogs 4
<b>ORAL 5</b>	Evaluation of surgical nurses' attitudes concerning patient safety 5
<b>ORAL 6</b>	Molecular detection of <i>Anaplasma ovis</i> in ixodid ticks collected from sheep and goats in Turkey 6
<b>ORAL 7</b>	Non-Invasive Pulmonary Function Tests in Donkey 7
<b>ORAL 8</b>	Some Observations of Respiratory Ultrasound Plethysmography (Rup) in Donkeys 8
<b>ORAL 9</b>	The Investigation of the Prevalance of Lice Species on the Hair Goats Slaughtered at Bingöl Municipal Slaughterhouse 9
<b>ORAL 10</b>	The effects of <i>Hypericum perforatum</i> and Polihexanide on tersiyer-degree burn wound healing in rats 10
<b>ORAL 11</b>	Impact of Maternal High-Fat Diet During Pregnancy and Lactation on Reproductive Development of The Male Offspring 11
<b>ORAL 12</b>	Effect of gelatin coating incorporated with chitosan on the chemical, physical, microbiological and sensory quality of sea bream ( <i>Sparus aurata</i> L.,1758) filets 12
<b>ORAL 13</b>	First record of <i>Necrobiasis rufipes</i> (De Geer, 1775) associated with pet clinic in Turkey 13
<b>ORAL 14</b>	Sarcoptic scabies in a rabbit: Clinical findings, diagnosis and treatment 14
<b>ORAL 15</b>	Laparoscopic Spay in Shelter Medicine: Experiences on Postsurgical Period in Dogs 15
<b>ORAL 16</b>	Quality of Kefir Prepared from Milk with Different Somatic Cell Counts 16
<b>ORAL 17</b>	Preliminary results of comparison of some body measurements taken on Bafra lambs with the ones taken on the digital images of the same lambs using ImageJ program 17
<b>ORAL 18</b>	Pharmacokinetics of cefquinome after single and repeated subcutaneous administrations in sheep 18
<b>ORAL 19</b>	Pharmacokinetics and bioavailability of enrofloxacin and danofloxacin in premature calves 19
<b>ORAL 20</b>	Hellaboms ( <i>Helleborus orientalis</i> ) Toxicosis in Merinos Ram in Ankara-Turkey - A Case Study 20
<b>ORAL 21</b>	The Effect of Ram Semen Extender Supplemented with L-cysteine and Catalase on Spermatological Parameter 21
<b>ORAL 22</b>	A General Evaluation on the Turkish Sericulture Sector 22

<b>ORAL 23</b>	<b>Current Situation and Problems in Red Meat Products Manufacturing Enterprises of Turkey</b>	<b>Murat Polat, Yavuz Cevger</b>	<b>23</b>
<b>ORAL 24</b>	Fatal canine parvovirus infection in newborn puppies: appropriate vaccination time based on maternally derived antibody levels	Merve Biskin Türkmen, Tuğçe Sümer, Özlem Özdemir, Oğuz Kul	24
<b>ORAL 25</b>	Economic Analysis of an Alternative Production Area in Livestock Farming: Worm Manure Production	Ahmet Cumhur Akın, Cevat Sipahi, Güler Berat Bozdoğan	25
<b>ORAL 26</b>	Expression of Toll like receptors in rat testicular and epididymal tissues	Mehmet Özbek, Emel Ergün, Feyzullah Beyaz, Levent Ergün, Füsün Erhan, Nuh Yıldırım, Özge Özgenç	26
<b>ORAL 27</b>	Piperlongumine and TRAIL Synergize To Promote Cell Death in Colon Cancer Cells	Tevhide Sel, Gökrem Kısmalı	27
<b>ORAL 28</b>	Neurohistopathological study on neospora caninum infected calves: special emphasis to dopaminergic activity	Tuğçe Sümer, Merve Bıskın Türkmen, Naci Öcal, Kadriye Gizem Imrak, Oğuz Kul	28
<b>ORAL 29</b>	The Production Structure and Milking Characteristics of Saanen Goat Farms in Çanakkale Province, Turkey	Arzu Gökdağ, Engin Sakarya	29
<b>ORAL 30</b>	Effects of Dietary Supplementation of Pistacia Terebinthus (Terebinth) Seed in Layer Diet on Internal Egg Quality Parameters During Different Storage Time	İsmail Bayram, Eyüp Eren Gültepe, Cangir Uyarlar, Aamir Iqbal, Abdur Rahman, Süleyman Hacısalıhoğlu, Ümit Özçınar, İbrahim Sadi Çetingül	30
<b>ORAL 31</b>	Effect of carrot juice on performance and egg quality traits in laying hens	Eyüp Eren Gültepe, Cangir Uyarlar, İ. Sadi Çetingül, Aamir Iqbal, Ümit Özçınar, İsmail Bayram	31
<b>ORAL 32</b>	The Effects of Bovine Serum Albumin on Sperm Quality and DNA Damage in Liquid Stored Ram Semen	- Deniz Yeni, Fatih Avdatek, Mustafa Gündoğan	32
<b>ORAL 33</b>	Differentiation of Salmonella isolates using PCR and high-resolution melt curve analysis	Seyyed Ali Ghorashi, Mohammad Sadegh Saeidabadi, Hassan Nilic, Habibollah Dadras, Hassan Sharifiyazdi, Joanne Connolly, Mary Valcanis, Shane Raidal	33
<b>ORAL 34</b>	Effect of Size Sorting and Different Size Combination on Growth Performance of Asian Catfish (Pangasianodon hypophthalmus) in cage culture system	Suat Dikel, İlgin Özşahinoğlu, Mustafa Öz	34
<b>ORAL 35</b>	A Case of Dispharynx nasuta (Rudolphi, 1819) in a Long-eared Owl (Asio otus)	Mahmut Sinan Erez, Mehmet Fatih Bozkurt, Mustafa Volkan Yaprakçı, Ahmet Göksu, Esma Kozan	35
<b>ORAL 36</b>	The determination of sensitivities of various microorganisms to gamitromycin	Fatih Mehmet Birdane, Ali Uslu, Ecem Oğalakçı; Hasan Hüseyin Hadımlı	36
<b>ORAL 37</b>	Diagnosis of Neonatal Diarrhea with rapid test kits and hematological comparison	Durmuş Fatih Başer, Fatih Mehmet Birdane	37
<b>ORAL 38</b>	Fungal Flora of Traditional Turkish Moldy Cheese: Occurrence of Mycotoxins and Molecular Characterization of the Isolates	Nurhan Ertaş Onmaz, Harun Hızlısoy, Yeliz Yıldırım, Serhat Al; Fulden Karadal, Zafer Gönülalan	38
<b>ORAL 39</b>	Three Cases of Equine Vasculitis	Ali Cesur Onmaz, Alexandra Pavaloiu, Ayhan Atasever, Rene Van Den Hoven	39
<b>ORAL 40</b>	The investigation of D-dimer levels and coagulation Profiles in dogs with Distemper	Ahmet Ali Yağcı, Vehbi Güneş	40
<b>ORAL 41</b>	Dairy Consumption Attributes of Consumers: A Survey Study in Adana and Mersin	O. İnanç Güney, Levent Sangün	41
<b>ORAL 42</b>	Comparison of Factors Affecting Seafood Consumption According to Demographic Characteristics	Levent Sangün, O. İnanç Güney	42
<b>ORAL 43</b>	Comparison of Factors Affecting Seafood Purchase According to Demographic Characteristics	Levent Sangün, O. İnanç Güney, İlgin Özşahinoğlu	43
<b>ORAL 44</b>	Comparison of Hepatoprotective Activity of Coriander (Coriandrum sativum) and Its Major Component Linalool in an Experimental Rat Model	Fulya Altınok Yipel, İbrahim Ozan Tekeli, Şule Yurdagül Özsoy, Mehmet Güvenç, Alpaslan Kaya, Mustafa Yipel	44
<b>ORAL 45</b>	Investigation of Anti-Inflammatory and Antioxidant Activity of Colon Targeted Boswellic Acid and Ellagic Acid by Drug Delivery System: in vitro part (Colon targeting, physicochemical characterization, swelling / release tests)	Mustafa Yipel, İbrahim Ozan Tekeli, Fulya Altınok Yipel, Neslihan Beyazıt	45
<b>ORAL 46</b>	A Survey for Exposure to Human Vector-borne Pathogens in the European part of the Turkey	Dilek Muz, Mustafa Doğan, Mustafa Necati Muz, İsmail Tayfur	46
<b>ORAL 47</b>	Survey of feline immunodeficiency virus, feline leukemia virus, <i>Leishmania infantum</i> and <i>Leishmania tropica</i> in stray cats of İzmir, TURKEY	Dilek Muz, Hüseyin Can Muhammet Karakavuk, Mert Döşkaya, Hüseyin Gökhan Özdemir, Aysu Değirmenci Döşkaya, Esra Atalay Şahar, Bayram Pektaş, Mehmet Karakuş, Seray Töz, Yusuf Özbel, Adnan Yüksel Gürüz, Mustafa Necati Muz	47

<b>ORAL 48</b>	Epidemiology of Honeybee Diseases in Thracia, Turkey	Mustafa Necati Muz, Dilek Muz	48
<b>ORAL 49</b>	Seroprevalence of <i>T. gondii</i> in Dairy Ruminant Production Systems, Shepherd Dogs among the Herds and Detection of <i>T. gondii</i> -like Oocyst in Cat Feces in Hatay Region	Mustafa Necati Muz, Nuri Altuğ, Muhammet Karakavuk	49
<b>ORAL 50</b>	Serum potassium-lowering effects of insulin plus dextrose and adrenalin treatment that enhance intracellular potassium transitions in hyperkalemic diarrheic calves	Nuri Altuğ, Nazmi Yüksek, Cumalı Özkan, Yıldray Başbuğan, İhsan Keleş, Zahid Tevfik Ağaoğlu, Abdullah Kaya, Yakup Akgül	50
<b>ORAL 51</b>	Investigation of the Effect of Vaccination on Dynamic Thiol / Disulfide Balance in Lactating Dairy Cattle with Subclinical Mastitis	Güzin Camkerten, Halil İbrahim Başıyigit, Neslihan Taşçene, Tevhide Sel, Hilal Karagül	51
<b>ORAL 52</b>	A Clinical Perspective to Visceral Leishmaniasis in Dogs in Aegean Region	Serdar Paşa, Kerem Ural, Mehmet Gültekin, Hasan Erdoğan	52
<b>ORAL 53</b>	Assessment of Ejection Fraction and Fractional Shortening during Different Stages of Canine Visceral Leishmaniasis	Canberk Balıkçı, Kerem Ural	53
<b>ORAL 54</b>	Piperlongumine (Piplartine) down-regulates the antiapoptotic proteins in human prostate cancer cells, leading to suppression of proliferation and induction of apoptosis	Görkem Kısmalı, Tevhide Sel	54
<b>ORAL 55</b>	Evaluating Silage Quality of Potato Pulp Silage Prepared with Ground Wheat Straw, Ground Alfalfa Hay and Wheat Bran	Mehmet Akif Karşı, Hasan Hüseyin Şenyüz	55
<b>ORAL 56</b>	Some Characteristics of Winged Animal of Aseel Genotypes Breeding in Turkey	Banu Yüceer Özkul, Fatih Atasoy, Fatma Tülin Özbaser	56
<b>ORAL 57</b>	The Molecular Epidemiology of Bovine Noroviruses in Turkey	Ilke Karayel Hacıoğlu, Feray Alkan	57
<b>ORAL 58</b>	The report about ecthyma contagiosum infection in small ruminant herds from Turkey	Tuba Çiğdem Oğuzoğlu, Onur Ülgenalp, Bahattin Taylan Koç	58
<b>ORAL 59</b>	Molecular Diagnosis of <i>Giardia duodenalis</i> in Dogs and Calves in İzmir Province: Preliminary Study	Adnan Ayan, Mehmet Gültekin, Kerem Ural, Nuran Aysul, Songül Erdoğan, Hidayet Tutun	59
<b>ORAL 60</b>	Genetic characterization of the mite <i>Varroa destructor</i> (Family: Varroidae) collected from honey bees <i>Apis mellifera</i> (Hymenoptera, Apidae) in the province of Van in Turkey	Adnan Ayan, Kerem Ural, Osman Selçuk Aldemir	60
<b>ORAL 61</b>	Relationship between degree of anemia and blood gases in cattle with theileriosis	Mehmet Temiz, Nuri Altuğ, Nazmi Yüksek	61
<b>ORAL 62</b>	Seroepidemiological survey of bovine tick-borne infections in the Black Sea Region of Turkey	Mustafa Açıcı, Cenk Soner Bölükbaş, Gökmen Zafer Pekmezci, Ali Tümay Gürler, Şinasi Umur, Kadir Zafer Karaer, Ayşe Çakmak, Serpil Nalbantoğlu, Cevat Nisbet	62
<b>ORAL 63</b>	Diameter of Follicles and Corpus Luteum, Serum Progesterone levels, Oestrus and Pregnancy Rates in the Anatolian Buffalo Heifers	Muhammed Kürşad Birdane	63
<b>ORAL 64</b>	Gangrenous Mastitis Case in a Persian Queen	Muhammed Kürşad Birdane, Mehmet Uçar	64
<b>ORAL 65</b>	Can we trust our Elisa results? Impacts on clinical practice	Mert Pekcan, İlknur Pir Yağcı, İbrahim Mert Polat, Hakan Kalender, Hasan Ceyhun Macun	65
<b>ORAL 66</b>	Proteomics in Veterinary Medicine	Mert Pekcan	66
<b>ORAL 67</b>	Virologic identification of canine parvovirus type 2b (CPV 2b) from dogs in Konya	Irmak Dik, Atilla Şimşek	67
<b>ORAL 68</b>	Cytotoxicity, Antiviral and Antioxidant Activities of <i>Panax ginseng</i>	Irmak Dik, Oğuzhan Avcı, Burak Dik	68
<b>ORAL 69</b>	Antimicrobial and Antibiofilm Activity of <i>Laurus nobilis</i> L. essential oil against <i>Stenotrophomonas maltophilia</i> : A Biogenic Amine-Producer for Fish	Tuba Baygar, Aysel Uğur, Nurdan Saraç	69
<b>ORAL 70</b>	The Inhibition Effects of Eugenol and Pulegon on <i>Stenotrophomonas maltophilia</i> : An Opportunistic Pathogen	Tuba Baygar, Nurdan Saraç, Aysel Uğur, Taçnur Baygar, Uydu Balcı	70
<b>ORAL 71</b>	<i>Camallanus</i> spp. in Aquarium Fish ( <i>Poecilia reticulata</i> )	Mahmut Sinan Erez, Ahmet Göksu, Esma Kozan	71
<b>ORAL 72</b>	A Case of <i>Dispharynx nasuta</i> (Rudolphi, 1819) in a Long-eared Owl ( <i>Asio otus</i> )	Mahmut Sinan Erez, Mehmet Fatih Bozkurt, Mustafa Volkan Yaprakçı, Ahmet Göksu, Esma Kozan	72
<b>ORAL 73</b>	Antidiabetic Effects of <i>Laurus nobilis</i> (Daphne) Extract in Streptozotocin Induced Diabetic Rats: Histopathological, Immunohistochemical and Biochemical Investigations	. Ahmet Uyar, Turan Yaman, Rebin Rafaat Mohammed, Ömer Faruk Keleş, Zabit Yener	73
<b>ORAL 74</b>	Investigation of the effects of <i>quercus</i> spp (oak) on cutaneous wound healing and epithelialisation in rats: a histopathological, immunohistochemical and biochemical evaluations	Ahmet Uyar, Turan Yaman, Gwlsan Mohammed Jhangır, Ömer Faruk Keleş, Zabit Yener	74



<b>ORAL 75</b>	Effects of p-glycoprotein inducator rifampicin on pharmacokinetics of tulathromycin in goats	Hande Sultan Şahiner, Cavit Kum	75
<b>ORAL 76</b>	Comparison of plasma and hair concentration of flumethrin and cypermethrin after pour-on administration in goats	Ümit Karademir, Murat Boyacıoğlu, Cavit Kum, Selim Sekkin, Hande Sultan Şahiner, Özge Bardakçı	76
<b>ORAL 77</b>	Immunohistochemical distribution of natriuretic peptides in active and hibernating Anatolian ground squirrel ( <i>Spermophilus xanthoprimum</i> ) heart	Mustafa Öztıp, Mehmet Özbek, Feyzullah Beyaz, Emel Ergün, Levent Ergün, Sebahattin Köknur, Füsün Erhan	77
<b>ORAL 78</b>	Cytotoxic Effects of <i>Rhododendron ponticum</i> L. Extract on Prostat Carcinoma and Adenocarcinoma Cell Line (DU145, PC3)	Emine Kübra Bilir, Hidayet Tutun, Sedat Sevin, Gökrem Kısmalı, Ender Yarsan	78
<b>ORAL 79</b>	Sulfasalazine Treatment at Different Times Can Have a Positive Effect on LPS-Induced Endotoxic Rats	Burak Dik, Hatice Eser Fakı, Emre Bahçıvan	79
<b>ORAL 80</b>	The combination of IL-1 and TNF- $\alpha$ antagonists can treat experimental type 2 diabetes mellitus in rats: A new treatment in type 2 diabetes	Burak Dik, Emre Bahçıvan, Hatice Eser Fakı, Kamil Üney	80
<b>ORAL 81</b>	An observation of fine structure of umbilical cord stroma derived mesenchymal stem cells	Ahmet Ceylan, Özge Özgenç, Korhan Altunbaş, Petek Korkusuz, Asuman Özen	81
<b>ORAL 82</b>	Apoptosis and cell proliferation during postnatal development of the testis in the rat	Füsün Erhan, Mehmet Özbek, Ahmet Ceylan, Emel Ergün, Feyzullah Beyaz, Levent Ergün, Nuh Yıldırım, Özge Özgenç	82
<b>ORAL 83</b>	The effect of IgY and/or bacteriophage therapy on clinical parameters in salmonella infections of calves	Hasan Hüseyin Hadimli, Gökçenur Sanioğlu Gölen, Ali Uslu	83
<b>ORAL 84</b>	The effect of IgY and bacteriophage therapy on histopathological findings in salmonella infections of calves	Hasan Hüseyin Hadimli, Mustafa Kemal Çiftçi, Ali Uslu, Funda Terzi, Gökçenur Sanioğlu Gölen	84
<b>ORAL 85</b>	An Investigation on Some Silage Quality Characteristics of Some Hybrid Sorghum x Sudangrass ( <i>Sorghum bicolor</i> x <i>Sorghum sudanense</i> Stapf.) Cultivars	Bulent Budak, Şükrü Sezgi Özkan, Gülcan Demiroğlu Topçu, Behçet Kır, Ali Salman	85
<b>ORAL 86</b>	Comparison of effect of intraperitoneal and incisional bupivacaine or levobupivacaine on postoperative analgesia in dogs undergoing ovariectomy	Musa Korkmaz, Oktay Yılmaz, Zülfikar Kadir Sarıtaş, İbrahim Demirkan	86
<b>ORAL 87</b>	Oxidative status in neonatal calves with acute infectious diarrhea: preliminary findings	Mehmet Gültekin, Kerem Ural, Hasan Erdoğan, Serdar Paşa, Gamze Sevre Ekren Asıcı, Gamze Gültekin, Asude Gulce Guler	87
<b>ORAL 88</b>	An unusual outcome for fetal death in bitch: a report of a case	- Güneş Erdoğan, Tuğra Akkuş, Eyyüp Hakan Uçar, Cevdet Peker, Rita Payan Carreira	88
<b>ORAL 89</b>	Drug marketing in veterinary clinics	Burak Mat, Aytekin Günlü, Mustafa Bahadır Çevrimli	89
<b>ORAL 90</b>	Practical ECG device for measuring Heart frequency in British horses	Caner Çağrı Cingi, Abdullah Ruhi Soylu	90
<b>ORAL 91</b>	The Relationships among Serum Biochemical Parameters and Milk Yield of Holstein-Friesian Cows in Bozdoğan, Turkey	Deniz Aliç Ural	91
<b>ORAL 92</b>	Investigations on the effects of nitrogen fertilizer on herbage yield and some yield properties of second crop maize ( <i>zea mays</i> l.) in aksaray region	Cevat Özbek, Behçet Kır	92
<b>ORAL 93</b>	The withness of cat owners about the reproductive status of their animals in Afyonkarahisar and Ankara	Duygu Baki Acar, Mürşide Ayşe Demirel	93
<b>ORAL 94</b>	The protective role of silibinin against nickel toxication in rats	Füsün Temamoğulları, Ahmet Ateşşahin, Çiğdem Şebi Şen, Nihat Yumuşak, Mustafa Selim Doğru	94
<b>ORAL 95</b>	Investigation of Transmissible Venereal Tumor in Male Dogs by Cytological Examination	Mehmet Uçar, Tuğba Akbaş Çine, Caner Çağrı Cingi, Deniz Yeni, Ebubekir Yazıcı	95
<b>ORAL 96</b>	Investigation of the Effects of Trehalose and Catalase on Post-Thawed Ram Sperm	Şükrü Güngör, Ayhan Ata, Muhammed Enes İnanc	96
<b>ORAL 97</b>	Serological Investigation of WNV Infection Among Purebred Arabian Race Horses in Turkey	Zeynep Akkutay Yoldar, Sabri Hacıoğlu, Seda Tezcan Ülger	97
<b>ORAL 98</b>	Microbiological Changes During Storage in Using Starterculture Heat-Treated Sausage	Halil Yalçın, Pelin Ertürkmen, Yahya Öztürk, Hasan Altan Akkan, Mehmet Sarı	98
<b>ORAL 99</b>	Supplementation of quercetin has advanced DNA integrity on bull semen cryopreservation	Umut Taşdemir, Fatih Avdatek, Deniz Yeni, Muhammed Enes İnanc, Beste Çil, Ruhi Türkmen, Pürhan Barbaros Tuncer	99
<b>ORAL 100</b>	Supplementation of rosmarinic acid has reduced oxidative stress on bull semen after freeze thawing	Umut Taşdemir, Deniz Yeni, Muhammed Enes İnanc, Fatih Avdatek, Beste Çil, Ruhi Türkmen, Barbaros Tuncer	100
<b>ORAL 101</b>	The Investigation of Protective Effect of Resveratrol on Oxidative Stress Induced by Malathion in Rats	Erten Akbel, İsmail Küçükçukurt, Sinan İnce, Hasan Hüseyin Demirel, Damla Arslan Acargöz	101

<b>ORAL 102</b>	454 - Subcutaneous melatonin implant treatment for eosinophilic plaque in a cat	Kerem Ural, Mehmet Gültekin, Naile Karagöz, Özde Kandemir	102
<b>ORAL 103</b>	Glucose-6-phosphate dehydrogenase activity in the ovaries of healthy and ischemia-reperfusion injury in the pancreas administered rats	Tolunay Kozlu, Fatma Güler, Pınar Peker Akalin, Filiz Kazak, Yaşar Ergün	103
<b>ORAL 104</b>	Effect of thymoquinone on gdnf (glial cell line-derived neurotrophic factor) expression in testis of rats fed on high fat diet with cholesterol	Hasan Asker, Ebru Karadağ Sarı	104
<b>ORAL 105</b>	Influence of Prepartum Supplementation of Selenium and Vitamin E on Biochemical Parameters of Dairy Cows	Sobiech Przemyslaw, Katarzyna Żarczyńska, Anna Snarska, Dominika Wysocka, Josef Illek	105
<b>ORAL 106</b>	P wave dispersion in Canine Monocytic Ehrlichiosis	Kerem Ural, İlker Camkerten, Serdar Paşa, Deniz Aliç Ural, Mehmet Gültekin, Ali Evren Haydardedeoğlu, Hasan Erdoğan, Canberk Balıkcı, Songül Erdoğan, Gözde Budak	106
<b>ORAL 107</b>	Investigation of the effects of experimental amyloidosis on immune system in mice	Aykut Ulucan, Alper Sevimli	107
<b>ORAL 108</b>	Relationship between activity of glutathione peroxidase and nitric oxide in synovial fluid and the progression of temporomandibular joint internal derangement	Berrin Salmanoğlu, Orhan Güven, Sinan Tozoğlu, Ümit Tekin, Onur Güneş	108
<b>ORAL 109</b>	<i>Curcuma longa</i> and <i>Nigella sativa</i> from Kitchen to Veterinary Clinics: A Novel Treatment	Kerem Ural, Emre Yanık	109
<b>ORAL 110</b>	Correlation between ruminal pH and body condition score in cows with subacute ruminal acidosis	Deniz Aliç Ural, Kerem Ural, Onur Örtlek	110
<b>ORAL 111</b>	Interpretation of Plasma Amino Acid Profile in Healthy Lambs during Neonatal Period	Hasan Erdoğan, Mehmet Gültekin	111
<b>ORAL 112</b>	A Serological Investigation of Bovine Enterovirus-1, Bovine Herpesvirus-1, Bovine Viral Diarrhoea Virus and Parainfluenza-3 Virus Infections in Camels ( <i>Camelus dromedarius</i> ) in Western Turkey	Nural Erol, Sibel Gür, Bahattin Taylan Koç, Sibel Yavru	112
<b>ORAL 113</b>	ß-giardin analysis and molecular typing of <i>Giardia duodenalis</i> isolates among dogs and calves in Aegean Region of Turkey: Preliminary Results	Nuran Aysul, Kerem Ural, Mehmet Gültekin, Adnan Ayan, Selin Hacılarlıoğlu, Songül Erdoğan, Metin Pekağırbaş, Gürkan Akyıldız	113
<b>ORAL 114</b>	The Effects of Intravenous Novacoc Treatment on Metabolic Profiles during the Transition period of Dairy Cows	Ahmet Cihat Tunç, Fatih Mehmet Birdane, Cangir Uyarlar, Fulya Altınok Yipel, Eyüp Eren Gültepe, Durmuş Fatih Başer	114
<b>ORAL 115</b>	Distribution of Bovine Digital Dermatitis in Aydın County Dairy Farms and Relation with the Footbath Usage	Oğuzhan Kalyoncu, Emre Gürdal, İbrahim Akın	115
<b>ORAL 116</b>	360 degree Veterinary Dermatology: Erşan Kureri against Sean Connery (probiotic therapy)	Kerem Ural	116
<b>ORAL 117</b>	Molecular typing of acute and active <i>E. canis</i> infected dogs in Aydın region	Nuran Aysul, Hasan Erdoğan, Selin Hacılarlıoğlu, Metin Pekağırbaş, Adnan Ayan, Songül Erdoğan, Yasin Parlatur	117
<b>ORAL118</b>	Low vitamin D Levels in Association with Neonatal Diarrhea in Calves	Hasan Erdoğan, Kerem Ural, Deniz Aliç Ural, Serdar Paşa, İlker Camkerten, Ali Evren Haydardedeoğlu, Deniz Aliç Ural, Mehmet Gültekin, Songül Erdoğan, Canberk Balıkcı	118
<b>ORAL119</b>	Prevalance of diagnosis of <i>Giardia duodenalis</i> in goats in Aydın province of Turkey	Adnan Ayan, Kerem Ural, Serdar Paşa, Deniz Aliç Ural, Mehmet Gültekin, Hasan Erdoğan, Songül Erdoğan, Ece Küçük	119
<b>ORAL120</b>	Low grade systemic coagulation in E. coli induced neonatal diarrhea among calves	İlker Camkerten, Kerem Ural, Serdar Paşa, Deniz Aliç Ural, Ali Evren Haydardedeoğlu, Hasan Erdoğan, Mehmet Gültekin, Songül Erdoğan	120
<b>ORAL121</b>	Ultrasonography of the gastrointestinal obstruction	Karolina Wrzesniewska, Andrzej Milczak	121
<b>ORAL122</b>	Postpartum 25-OH-D3 and NEFA correlations among cattle and offspring	Songül Erdoğan, Kerem Ural, İlker Camkerten, Güzin Camkerten, Hasan Erdoğan, Deniz Aliç Ural, Ali Evren Haydardedeoğlu	122
<b>ORAL123</b>	Distribution of the Cat Diseases in Shelters	İbrahim Akın, Yalçın Alper Özturan, Ahmet Gacar	123
<b>ORAL124</b>	Melatonin for Treatment of the Good, the Bad and the Ugly Dermatological Disorders in Dogs and Cats: Practical Clues	Kerem Ural, Serdar Paşa, Hasan Erdoğan, Mehmet Gültekin, Songül Erdoğan	124
<b>ORAL125</b>	Hemolacria and more: spectacular case of bleeding in a calf	Songül Erdoğan, Hasan Erdogan, Kerem Ural, İsmail Günel, Tahir Özalp	125
<b>ORAL126</b>	The Effects of Antioxidant Supplementation on Oxidative and Antioxidative Status During Training in Race Horses	Güzin Camkerten, Halil İbrahim Başyigit, Neslihan Taşçene, Tevhide Sel, Hilal Karagül	126
<b>ORAL127</b>	Effect of Dietary Coenzyme Q10 Supplementation on the Growth Performance, Carcas Yield, Organ Weights and Oxidative Stress in Quails Exposed to Cold Stress	Tahir Bayrı, Fatih Akdemir, Hasan Akşit	127



<b>ORAL128</b>	Effect of timing of artificial insemination relative to spontaneous estrus on reproductive performance and calf gender ratio in repeat breeder holstein cows	Tahir Bayrı, Orhan Yılmaz, Bahattin Çak	128
<b>ORAL129</b>	The Effects of Vancomycin and Daptomycin on Rat Liver Arginase Activity and Nitric Oxide	Mehmet Ali Kışaçam, Sema Temizer Ozan, Fatma Selvi, Gonca Ozan, Kadir Servi	129
<b>POSTER PRESENTATIONS</b>			
<b>POSTER1</b>	The Role of Vitamins and Minerals in The Etiology of Bovine Nail Diseases	Selvinaz Yakan	131
<b>POSTER 2</b>	Effects of Pennyroyal Extract (Mentha Pulegium) Supplementation At Different Levels Into Diets of Hens on Performance, Egg Quality, Yolk Tbars Values in Laying Hens	Şaziye Canan Bölükbaşı Aktaş, Abdussamet Aydın	132
<b>POSTER 3</b>	A Novel Eubiotic Feed Additive Remarkably Improves Laying Performance and Egg-Shell Quality in Late Laying Period	Şaziye Canan Bölükbaşı Aktaş, Sulhattin Yaşar, Fatih Yıldırım, Hafız Ghulam Qutab Ud Din	133
<b>POSTER 4</b>	Evaluation of Oxidative Stress in Sheep Infected With Psoroptes Ovis Using Total Antioxidant Capacity, Total Oxidant Status, and Malondialdehyde Level	Mustafa Sinan Aktaş, Fatih Mehmet Kandemir, Akın Kırbaş, Başak Hanedan, Mehmet Akif Aydın	134
<b>POSTER 5</b>	Helminthological Research in Wild Boars (Sus Scrofa) in Western Mediterranean Province of Turkey	Ahmet Gokcen, Ramazan Adanir, Bayram Ali Yukari, Onur Köse	135
<b>POSTER 6</b>	Eimeria Species in Gazelle Subgutturosa in Turkey	Ramazan Adanir, Sima Sahinduran, Osama B. Mohammed, Ahmet Gokcen, Bayram Ali Yukari, N. Sarp Sevgisunar	136
<b>POSTER 7</b>	Investigation of pathogenic Eimeria species in cattle by microscopy and PCR methods in Kirikkale province	Aycan Nuriye Gazıyagcı, Sami Gokpınar, Serkal Gazıyagcı, Meral Aydenizoz, Kerem Ural	137
<b>POSTER 8</b>	The evaluation of of conventional routine coagulation profile and D-imer concentration in different stages of Canine Visceral Leishmanias	Serkan Özkan, Kerem Ural	138
<b>POSTER 9</b>	Fate of <i>Listeria monocytogenes</i> in Carra Cheese During Manufacture and Ripening	Hisamettin Durmaz	139
<b>POSTER 10</b>	The Effect of Cheese Brine Concentrations on Survival of <i>Listeria Monocytogenes</i>	Hisamettin Durmaz, Osman Aygun, Mustafa Ardic	140
<b>POSTER 11</b>	Repairing of The Bilateral Nasal and Maxillary Bone Defect With Polypropylene Mesh in A Dog	Pinar Can, Atilla Dogan	141
<b>POSTER 12</b>	Integration of Meta-Analytical Approach To Research in Veterinary Medicine	Pinar Ambarcıoğlu, Doğukan Özen, Ufuk Kaya, Erman Gülenadağ, İsmayil Safa Gürcan	142
<b>POSTER 13</b>	Immunohistochemical Expression of Cannabinoid Receptor 2 (Cb2) in Sheep Ileum During Prenatal Period	Mehmet Özbek, Hidayet Tutun, Emel Ergün, Feyzullah Beyaz, Levent Ergün	143
<b>POSTER 14</b>	Determination of Heavy Metal Pollution in Honey Samples Collected From Ardahan and Counties	Hüsamettin Ekici, Kemal Yazici	144
<b>POSTER 15</b>	The Effects of Coenzyme Q10 on Serum Ceruloplasmin and Paraoxanase Levels of Rats With Experimental Diabetes	Tevhide Sel, Beste Kismali, Gorkem Kismali	145
<b>POSTER 16</b>	Cancer Development and Corrupted Signaling Mechanism	Mehmet Ali Kışaçam, Sema Temizer Ozan, Gonca Ozan	146
<b>POSTER 17</b>	Aflatoxin M1 Levels in Milk and Kashar Cheese Samples With Respect To Seasonal Periods in Ardahan, Turkey	Ertan Doğan, Murat Bayezit	147
<b>POSTER 18</b>	An Altered Method To Production Polyclonal Ascites Fluid Via Mouse	Gülizar Aydoğdu, Şafak Mert, Benan Pelin Sermikli, Erkan Yılmaz	148
<b>POSTER 19</b>	A Comparative Study on The Effects of Eprinomectin and Ivermectin on Plasma Antioxidant Level and Lipid Peroxidation in Cows	Ali Bilgili, Asım Kart, Yılmaz Cıgremis, Başak Hanedan, Dinçer Erdağ	149
<b>POSTER 20</b>	Effect of Carbontetrachloride on Rat Soleus Muscle	Duygu Fevziye Vural, Dışad Özerkan, Suna Cebesoy, Nesrin Ozsoy Erdas, Hatice Mutlu Eyison	150
<b>POSTER 21</b>	The Anatomical Structure of Apodemus Flavicolis Skull	Hatice Mutlu Eyison, Suna Cebesoy, Erkut Kivanç	151
<b>POSTER 22</b>	Computed Tomographic Diagnosis and Surgical Treatment of Fibrochondrosarcoma: A Case Report	Gonca Sönmez, Pinar Can, Yanad Abou Monsef, Rifki Haziroğlu, Ömer Beşaltı	152
<b>POSTER 23</b>	Genetic Diversity in Apodemus mystacinus (Mammalia, Rodentia) Based on Srs in Anatolia	Reyhan Çolak, Gül Olgun Karacan, Dilek Beteş, Ercüment Çolak	153
<b>POSTER 24</b>	In Vitro Investigation of The Effects of Hsp70 Chaperone on Cell Proliferation and Oxidative Stress Against Amyloid Beta Nephrotoxicity	Sema Yıldız, Nesrin Özsoy Erdaş, Gülizar Aydoğdu, Erkan Yılmaz	154
<b>POSTER 25</b>	A Tooth-Based Oroantral Fistula in A Dog	Çağlar Yener, Murat Sarierler	155

<b>POSTER 26</b>	Determining the effect of addition of fruit pomace into sorghum-sudan grass or alfalfa silages on fermentation characteristics and in situ degradability	Gokhan Sen, Mehmet Akif Karsli, Mehmet Basalan, Ilkay Aydogan, Serkan Erat	156
<b>POSTER 27</b>	Investigation of Escherichia Coli O157:H7 By Ims-Pcr Techniques in Slaughtered Cattle in Kahramanmaraş Province	Nurhan Ertaş Onmaz, Sabri Datlı	157
<b>POSTER 28</b>	Zinc Responsive Nasal Dermatitis in A Great Danua: A Case Report	Fulya Altınok Yipel	158
<b>POSTER 29</b>	Multi-Classes Antibiotic Residue Determination in Chicken Meat Samples By Liquid Chromatography-Mass Spectrometry	Mustafa Yipel, İbrahim Ozan Tekeli, Cemil Kürekci	159
<b>POSTER 30</b>	Socioeconomic Implications of Biosecurity Practices in Small-Scale Dairy Farms	Mehmet Ferit Can, Nuri Altuğ	160
<b>POSTER 31</b>	D-Dimer / Fibrinogen Ratio in Dogs With Ehrlichiosis	Hasan Erdoğan, Serdar Paşa, Kerem Ural, Mehmet Gültekin, Yasin Parlatır, Songül Erdoğan, Canberk Balıkcı	161
<b>POSTER 32</b>	Alternative Therapy Methods in Wound Healing	Cansu Akdoğan, İbrahim Akin	162
<b>POSTER 33</b>	Repair of An Oronasal Fistule Using Rotational Flap Technique	Rahime Yaygınöl Büşra Kibar, Nuh Kılıç, Cansu Akdoğan	163
<b>POSTER 34</b>	Microalbuminuria Due To Different Diseases Among Dogs	Serdar Paşa, Kerem Ural, Nuh Kılıç, Hasan Erdoğan, Mehmet Gültekin, Songül Erdoğan, Yasin Parlatır	164
<b>POSTER 35</b>	Current Conditions and Animal Feeding Practices of Feedlot Enterprises Present in Ankara Çankırı Çorum Kırıkkale and Kırşehir	Mehmet Akif Karslı, Uğur Ödevci	165
<b>POSTER 36</b>	Epigenetics and Its Applications in Livestock	Mustafa Can Yılmaz, Raziye Işık, Güldehen Bilgen	166
<b>POSTER 37</b>	Investigation of Some Agents Causing Diarrhea in Ruminants in Mid-Anatolia	Sabri Hacıoğlu, Sırın G. Cizmeci, Rahime Adalet Duyum, Munevver Uzar, İlke Karayel Hacıoğlu	167
<b>POSTER 38</b>	Milk Yield and Some Udder Measurement of Saanen Goat in Province of Afyonkarahisar-Turkey	Fatma Tülin Özbaşer, Fatih Atasoy, Evren Erdem	168
<b>POSTER 39</b>	Small Ruminant Breeding in Mersin	Banu Yüceer Özkul, Özgür Gündüz	169
<b>POSTER 40</b>	Repairing of Frontal Bone Defect Due To Sinus Mucocoele With Titanium Mesh in A Dog	Pinar Can, Ozkay Nasiboglu, Omer Besalti	170
<b>POSTER 41</b>	Fish Meatball From By-Product of Sea Bass (Dicentrarchus Labrax L. 1758) Fillet Processing	Demet Kara, Yunus Alparlan, Cansu Metin, Hatice Hasanahocaoğlu Yapıcı, Tuba Baygar, Taçnur Baygar	171
<b>POSTER 42</b>	An Unusual Brachial Plexus Nerve Sheath Tumor in A Dog	Pinar Can, Tuncer Kutlu, Osman Kutsal, Omer Besalti	172
<b>POSTER 43</b>	Candidate Genes Related With Meat Quality in Small Ruminants	Raziye Işık, Mustafa Can Yılmaz, Güldehen Bilgen	173
<b>POSTER 44</b>	Phosphodiesterase-5 Inhibition With Nanoparticles Improve The Levels of Angiogenic Genes in A Rat Diabetic Wound Healing Model	Alparlan Kadir Devrim, Mahmut Sözmen, Mert Sudağıdan, Zelihağul Değim	174
<b>POSTER 45</b>	Antifungal Potential of Carvacrol Against Candida Albicans and Candida Tropicalis	Aysel Uğur, Tuba Baygar, Nurdan Saraç, Taçnur Baygar, Seher Sarıdaş	175
<b>POSTER 46</b>	Surgery of The Skin and Adnexal Tissues in Camels	Nuh Kilic, Büşra Kibar, Serdar Pasa, Kerem Ural	176
<b>POSTER 47</b>	Immunohistochemical Expression of Atrial- and Brain Natriuretic Peptide in Anatolian Ground Squirrel (Spermophilus Xanthopyrmnus) Kidney and Lung	Mustafa Öztıp, Mehmet Özbek, Feyzullah Beyaz, Emel Ergün, Levent Ergün, Ergül Ergen, Füsün Erhan	177
<b>POSTER 48</b>	Effect of Addition of Medium Chain Fatty Acids on Performance and Some Biochemical Parameters of Broiler Chickens	Mehmet Demirci, Mehmet Başalan	178
<b>POSTER 49</b>	Presurgical Preparations in Camels	Nuh Kilic, Büşra Kibar, Özde Kandemir, Selim Tekin	179
<b>POSTER 50</b>	Plant Essential Oils Used Against American Foulbrood	Hidayet Tutun, Sedat Sevin, Adnan Ayan	180
<b>POSTER 51</b>	Vitamin E Serum Concentrations in Neonatal Calves	Romana Kadek, Jaroslav Filipek, Josef İllek	181
<b>POSTER 52</b>	548 Oxidative status and lipid profile in mono and co-infection with canine monocytic ehrlichiosis	Mehmet Gultekin, Kerem Ural, Serdar Paşa, Canberk Balıkcı, Gamze Sevrı Ekren Asıcı	182
<b>POSTER 53</b>	Investigation of The Effects of Isoflurane and Sevoflurane Anesthesia on Coagulation Parameters in Dogs	Fatih Mehmet Birdane, Musa Korkmaz, Cenker Cagrı Cingi, Zulfukar Kadir Saritas	183
<b>POSTER 54</b>	Immunohistochemical Localization of Certain Nervous System Markers on Sheep Ileum During Prenatal Period	Füsün Erhan, Levent Ergün, Feyzullah Beyaz, Emel Ergün, Mehmet Özbek	184
<b>POSTER 55</b>	Determination of serum 25 Hydroxy Vitamin D3 levels in some parasitic dermatosis in dogs	Naile Karagöz Güral, Kerem Ural	185
<b>POSTER 56</b>	Coagulation Profile in Calf with Neonatal Diarrhea	Ahmet Künyeli, Kerem Ural	186

<b>POSTER 57</b>	Spatial Distribution of Coccidiosis Among Goats in Aydın Province, Turkey	Adnan Ayan, Kerem Ural, Deniz Alıç Ural, Hasan Erdogan, Songül Erdogan, Mehmet Gültekin	187
<b>POSTER 58</b>	Oxidative Status and Lipid Profile among Dogs at Different Stages of Visceral Leishmaniasis	Mehmet Gültekin, Serdar Paşa, Kerem Ural, Canberk Balıkçı, Gamze Sevrî Ekren Aşıcı, Gamze Gültekin	188
<b>POSTER 59</b>	Two Common Types of Vaginal Masses in Female Dogs	Bilginer Tuna, Tuğra Akkuş, Cevdet Peker, Eyyüp Hakan Uçar, Ayşe Nur Akkoç	189
<b>POSTER 60</b>	Potential Use of Potato Pulp As A Ruminant Feed	Hasan Hüseyin Şenyüz, Mehmet Akif Karşı	190
<b>POSTER 61</b>	Effects of Substituting Barley With Potato Pulp Silage Prepared With Ground Barley Straw and Wheat Bran on Fattening Performance of Lambs	Hasan Hüseyin Şenyüz, Mehmet Akif Karşı, Serkan Erat, Ömer Onur Parıldar	191
<b>POSTER 62</b>	Effect of Volatile Oil Obtained from Pinus Nigra Arn. Subsp. Pallasiana (Lamb.) Holmboe Leaves on Protoscolex of Hydatid Cysts	Esma Kozan, Mert İlhan, İbrahim Tümen, Esra Küpeli Akkol	192
<b>POSTER 63</b>	Efficiency Evaluation of Commercial Biofertilizers For Growth of Barley	Cenap Cevheri, Çiğdem Küçük	193
<b>POSTER 64</b>	Protective Role of Bromelain Against Nickel Genotoxication in Rats	Fusun Temamoğulları, Pınar Aksu Kılıç, Şükrü Gürler	194
<b>POSTER 65</b>	Effect of Some Risk Factors on Subclinical Mastitis in Dairy Cows	Resul Koçyiğit, Oktay Yılmaz, Erhan Özenç, Mehmet Uçar	195
<b>POSTER 66</b>	Comparative Evaluation of Tylosin Tartarate and Tarantula Cubensis Venom For The Treatment of Bovine Papillomatosis: A Prospective, Double Blinded and Multicentered Study	Buğra Bekirhan Yağcı, Kerem Ural, Ali Evren Haydardedeoğlu, Tamerçan Morkoç	196
<b>POSTER 67</b>	Develerde Göz Ve Kulak Cerrahisi	Nuh Kiliç, Özde Kandemir, Büşra Kibar	197
<b>POSTER 68</b>	Prototypes of Modified Gauze in Controlling Hemorrhaging in Swine	Zbigniew Adamiak, Danuta Bukowiecka, Paweł Jastrzebski, Piotr Holak, Marek Jalynski	198
<b>POSTER 69</b>	Histochemical and Morphometric Studies in Goose (Anser Anser) Testis	Serap İlhan Aksu, Yalcin Akbulut, Ebru Karadağ Sari, Turgay Deprem	199
<b>POSTER 70</b>	Biological Activity of The Cvs Virus in Cell Culture	Sobiech Przemysław, Zhanserik Sultanov, Mambetaliev Mc, Romashev K, Ussenbayev Altay, Khizat Serikf	200
<b>POSTER 71</b>	Investigations on Cryptosporidium Species in Domestic Geese (Anser Anser) in The Province of Kars, Turkey	Sibel Cagatay, Baris Sari	201
<b>POSTER 72</b>	Pentoxifylline As A Therapeutic Armamentarium Against Alopecia, Crusting and Partial Tissue Loss; Diseases of The Pinna in Canine Visceral Leishmaniasis	Gözde Budak, Kerem Ural, Serdar Paşa, Mehmet Gültekin	202
<b>POSTER 73</b>	Effects of Hexachlorocyclohexane (Hch-Y-Isomer, Lindane) on The Reproductive System of Zebrafish (Danio Rerio)	Hayati Yüksel, Ünal İspir, Aykut Ulucan, Cebrahil Türk, Mehmet Reşit Taysı	203
<b>POSTER 74</b>	Dermatophagoides Farina Or Dermatophagoides Pteronyssinus-Specific Ig E Levels in Atopic Dogs	Kerem Ural, Çağatay Türk, Serdar Paşa, İlker Camkerten, Ali Evren Haydardedeoğlu, Hasan Erdoğan, Mehmet Gültekin, Songül Erdoğan	204
<b>POSTER 75</b>	Unilateral Papillary Type Renal Carcinoma in A Terrier Breed Dog	Tunçer Ulukartal, Buğra Bekirhan Yağcı, İlker Camkerten, Kerem Ural	205
<b>POSTER 76</b>	Symblepharon Formation After Corneal Wound in A Cat	Müge Bircan Akkartal, Atilla Doğan, İrem Ergin	206
<b>POSTER 77</b>	Determination of Antioxidant Capacity of Commercial Antioxidant Supplements By 2,2-Diphenyl-1-Picrylhydrazyl (Dpph) Assay	Hande Sultan Sahiner, Murat Boyacioglu, Ozge Bardakci, Umit Karademir	207
<b>POSTER 78</b>	Increasing The Pregnancy Rate in Breeding Season Middle Anatolian Merino Sheep of Non-Pregnancy	Şükrü Dursun, Gaye Bulut, Mehmet Köse, Tahir Karaşahin	208
<b>POSTER 79</b>	Mirnas and Breast Cancer	Berrin Salmanoglu, Gizem Aralan	209
<b>POSTER 80</b>	Gene Modification with CRISPR; a Shortcut to Super Human? -	Elif Bulut, Alper Bulut, Murat Yildirim	210
<b>ICAVST SCIENCE AWARDS – 2017</b>			211



## ***ORAL PRESENTATIONS***

---

***POSITIVE INFLUENCE OF THE FEED ADDITIVE ON VITAMIN-MINERAL COMPOSITION OF MEAT OF THE AFRICAN OSTRICH IN THE SOUTH-EAST OF KAZAKHSTAN***

---

SHAMEYEVA ULDNA, ZHANABEKOVA GULMIRA, ZHUMAGELDIEV AKILBEK,  
KHUSAINOV DAMIR, ROMASHEV KANAPIA, ALLABERGENOVA ARU

Kazakh National Agrarian University

[dakonia\\_23@mail.ru](mailto:dakonia_23@mail.ru)

**The aim** of the study was influence of feed additives on the quality and composition of Ostrich meat in south-east Kazakhstan. in the experiment, 48 three-month-old females of the black African ostrich were involved divided in four groups: the first - control group was fed with the ration taken on the farm; birds of the second group additionally received a feed supplement at the rate of 5 g/kg, the third - 10 g/kg, and the fourth - 15 g/kg of ration for nine months. Composition of the feed supplement was as follows (in percentage): shell rock - 38.25, bentonite-38.25, bischofite - 4.5 elemental sulfur - 4.0, sodium selenite - 0.000004, potassium iodine -0,001, iron sulfate - 0.01, zinc sulfate - 0.001, dry brewer's yeast - 2,5, dry acidophilus milk - 1.5, fish meal- 2,5, meat and bone meal - 4,0, flour from the roots of licorice - 0.1, flour from the leaves of plantain - 0.1. At the end of the experiment, the experimental ostriches were slaughtered (three individuals in each group) and the vitamin and mineral composition of the muscle tissue of the birds was examined. **Thus**, the use of the fodder additive developed by us in the south-east of Kazakhstan has a beneficial effect on the vitamin-mineral and amino acid composition, and, accordingly, on the nutritional and biological value of ostrich meat.

**Keywords:** Ostrich, Feed Supplement, Meat Composition

***EFFECT OF ALTERNATE PHASES OF CANOLA OIL AND FISH OIL LEVEL  
ON THE GROWTH PERFORMANCE AND FATTY ACID PROFILES OF  
JUVENILE EUROPEAN SEABASS (DICENTRARCHUS LABRAX L. 1758)***

---

İLGIN ÖZSAHINOĞLU, PINAR MUMOĞULLARINDA DOYANÇ, SUAT DIKEL

<sup>a</sup> Çukurova University

[i.ozsahinoglu@gmail.com](mailto:i.ozsahinoglu@gmail.com)

Seven groups of European seabass (*Dicentrarchus labrax* L.) were fed three type diets in which the added oil was 100% fish oil (FO), 100% canola oil (CO), 50%FO+50%CO with fish oil and canola oil based diet were regularly alternated in a series of weekly cycles (1W: alternation of 1 weeks on CO and 1 weeks FO, 1W: alternation of 1 week 50%FO+50%CO and 1 week 100%FO, 3W: alternation of 3 weeks FO and 3 weeks CO), over a 12-week period. The use of canola oils in European sea bass diets did not affect fish survival. Specific growth rate (SGR) for all periods was similar in all experimental groups. No significant differences were found in daily feed intake. Whole body composition did not show any differences among dietary treatment in protein, dry matter and ash content. Lipid levels of whole body were lower in fish fed FO, CO, 1week 50%CO/FO+100%FO compared with fish fed 50%FO+50%CO. LA(18:2n-6) levels did not show any differences among dietary treatment. on the other hand, LNA is highest in CO diet. Total monounsaturated fatty acid was highest in CO diet. As a result of this study; the great ability for bioconversion of n-3 FA, canola oil is a promising alternative to fish oil in formulating feed and alternate weekly cycles for European sea bass.

**Keywords:** Canola Oil; Fatty Acids; Fish Oil Replacement; Feeding Schedule; European Sea Bass



***YOUNG ASIAN CATFISH PANGASIANODON HYPOPHthalmus UNDER  
DIFFERENT CONDITIONS OF FEEDING FREQUENCY APPLIED TO THE  
DETERMINATION OF SOME BLOOD PARAMETERS IN INDIVIDUALS***

---

İLGİN ÖZSAHINOĞLU, SUAT DIKEL, LEVENT SANGÜN, HASAN GÖKBOĞA

Çukurova University

[i.ozsahinoglu@gmail.com](mailto:i.ozsahinoglu@gmail.com)

This study was conducted in Çukurova University, Faculty of fisheries, Dr. Nazmi TEKELİOĞLU freshwater aquaculture and research station. In this experiment 480 juvenile Asian catfish (*Pangasianodon hypophthalmus*) with  $3.50 \pm 0.40$  g weight on average were split into 4 groups in triplicate and stocked in 12 tanks and 12 cages including 20 fish each. Blood parameters and all types of adaptation conditions depending on feeding frequency were investigated in two different aquaculture facilities both tank and cage. At the end of the study Total protein and Glucose values were between 3.65-4.85 and 86.5-96.0, respectively in the tanks. Total protein values were between 4.20-4.65 respectively in the cage. According to results of the analyses of triglyceride and cholesterol there were statistical differences among the groups ( $p \leq 0.05$ ). Blood parameter of the fish was affected by feeding frequency. It was determined that fish which was reared in cages and fed with three times feeding frequency had the highest triglyceride and cholesterol contents. In conclusion, result of this study showed that the high blood parameters for Asian catfish were obtained from the fish which reared in cages and fed three times a day according to triglyceride and cholesterol values.

**Keywords:** *Pangasianodon Hypophthalmus*, Blood Parameters, Cage, Tank

**INVESTIGATION ON THE RELATIONSHIP BETWEEN EFFECTIVE  
OXIDATIVE STRESS AND HEMATOLOGICAL VALUES OF ANAPLASMA  
PHAGOCYTOPHILUM, BORRELIA BURGENDORFERI, DIROFILARIA  
IMMITIS INFECTIONS IN AKSARAY MALAKLI DOGS**

---

ALI EVREN HAYDARDEDEOGLU<sup>a</sup>, OLGA BÜYÜKLEBLEBİCİ<sup>b</sup>,  
TAHIR KARASAHİN<sup>a</sup>, NESE HAYAT AKSOY<sup>a</sup>

<sup>a</sup> Aksaray University Faculty of Veterinary Medicine, Adana Yolu 7. Km

<sup>b</sup> Mersin University Technical Science Vocational School

[ahaydardedeoglu@gmail.com](mailto:ahaydardedeoglu@gmail.com)

Infectious diseases are of great importance in terms of animal health. In addition to economically important diseases in animals, domestic animals (cats, dogs, some birds, etc), infectious diseases, both in terms of animal health and zoonoses feature of some important areas of study are due to transport. Pets of people in close relationships with the numerous studies on infectious diseases in dogs are. Among the factors that cause disease in dogs *Borrelia burgdorferi*, *Ehrlichia canis*, *Dirofilaria immitis*, *Anaplasma phagocytophilum* are important in the each of the four factors are transmitted through ticks and flies and ticks and flies that their vectoring species are frequently encountered in our country. The aim of the study is associated with both dog and human health in Aksaray province of these disease agents to form the basis of studies and disease prevention and control practices related to contribute.

Blood samples will be collected from 40 Malakli dogs which are raised in various animal shelters in Aksaray region. In the study of 40 dogs blood *V. cephalica* *accessorius* our method in accordance with 4 ml EDTA and silicone tubes will be taken *Borrelia burgdorferi*, *Ehrlichia canis*, *Anaplasma phagocytophilum* and *Dirofilaria immitis* in terms of rapid test kits will be evaluated and blood samples taken from the oxidative stress important markers that, and will be subject to evaluation by the kits.

**Keywords:** Aksaray Malakli Dog, Vector Mediated Infections, Oxidative Stress, Hematology

## ***EVALUATION OF SURGICAL NURSES' ATTITUDES CONCERNING PATIENT SAFETY***

---

**ALI ŞAHİN<sup>a</sup>, FATMA AYHAN<sup>a</sup>, ŞERİFE KURSUN<sup>c</sup>**

<sup>a</sup> Karamanoglu Mehmet bey University

<sup>c</sup> Selçuk University

[alisahin@kmu.edu.tr](mailto:alisahin@kmu.edu.tr)

The present study was designed as a descriptive study to evaluate the attitudes of surgical nurses concerning patient safety. The study included 123 nurses, who have been working in the operating rooms of the hospitals in Karaman, Konya for at least one year and were voluntary to participate in the study. Data collection tools included a questionnaire to inquire demographic characteristics of surgical nurses, and “Safety Attitudes Questionnaire (SAQ) -Operating Room Version” to evaluate their attitudes concerning patient safety. The mean scores obtained from SAQ sub-dimensions were between  $42.12 \pm 16.82$  and  $69.07 \pm 24.44$ , whereas the mean score of SAQ total was  $59.11 \pm 13.29$ . Statistically significant difference was determined between the mean SAQ total score and age, weekly working hours, duration of working in the operating room, resting status, receiving in service training, and training about patient safety. The present study will enhance patient safety in operating rooms by providing an improvement in communication among health workers and in team collaboration, regulating working hours, and scheduling training programs to establish an opinion about worker safety and patient safety.

**Keywords:** Patient Safety; Opinion of Patient Safety; Operating Room

## MOLECULAR DETECTION OF ANAPLASMA OVIS IN IXODID TICKS COLLECTED FROM SHEEP AND GOATS IN TURKEY

MEHMET FATİH AYDIN<sup>a</sup>, MUNIR AKTAS<sup>b</sup>, NAZIR DUMANLI<sup>b</sup>

<sup>a</sup> Faculty of Health Sciences, Karamanoglu Mehmetbey University

<sup>b</sup> Department of Parasitology, Faculty of Veterinary Medicine, University of Firat

[veterinermfa@gmail.com](mailto:veterinermfa@gmail.com)

*Anaplasma ovis*, a tick-borne microorganism is included the genus *Anaplasma*, infects sheep, goats and some wild ruminants. It is usually causes asymptomatic cases and transmitted by *Dermacentor*, *Rhipicephalus* and *Hyalomma* spp. We aimed with this study to investigate *A. ovis* in ixodid ticks. Ixodid ticks (n: 2241) were collected from sheep and goats in seven provinces in Black Sea region of Turkey and divided into 310 pools. Total genomic DNA's were extracted from ticks and analyzed by species-specific PCR for *A. ovis*. The maximum likelihood estimate (MLE) of infection rates were calculated with 95% confidence intervals (CI). From the 310 tick pools analysed, 68 were found positive in terms of *A. ovis*. MLE of infection rate was calculated as 3.41% (CI: 2.67-4.28) in total. Five tick species were found to be infected with *A. ovis*. The MLE of infection rates were 8.1% (CI 5.38-11.5) in *D. marginatus*, 5.36% (CI 3.63-7.56) in *R. turanicus*, 3.12% (CI 0.521-9.5) in *R. sanguineus*, 1.89% (CI 0.101-8.06) in *H. punctata*, 1.82% (CI 0.831-3.37) in *R. bursa* and 0.921% (CI 0.281-2.13) in *H. parva*. Five tick species were found to be infected with *A. ovis* in the studied area. *D. marginatus* and *Rhipicephalus* spp. can play an important role in transmission of *A. ovis*. We suggest further studies aimed to determine multiple infections in vectors and hosts.

**Keywords:** Anaplasma ovis, Tick, Pcr

**Acknowledgements:** This study was financially supported by grants (109 O 766) from the Scientific and Technical Research Council of Turkey (TUBITAK) and (45-M-12) Commission of Scientific Research Projects, Karamanoğlu Mehmetbey University.

## **NON-INVASIVE PULMONARY FUNCTION TESTS IN DONKEY**

---

OSMAN GÜNGÖR

Department for Companion Animals and Horses, University of Veterinary Medicine Vienna  
Section of Equine Internal Medicine

[osmanguengoer@gmail.com](mailto:osmanguengoer@gmail.com)

Respiratory function of donkeys measured by Forced Oscillometry Technique (FOT) has not adequately been characterized. In addition, the respiratory efforts of the thorax and abdominal muscles of donkeys have not adequately been quantified. The aim of this study was to analyze the differences of thoracic and abdominal excursions during breathing by using Respiratory Ultrasound Plethysmography (RUP). Secondly, this study aimed to describe the magnitude of airway impedance (Zrs) and its two components, the airway resistance (Rrs) and the reactance (Xrs) in donkeys. Zrs, Rrs and Xrs were measured at oscillation frequencies (f) ranging from 2 Hz up to 7 Hz. Raw data was cleaned for outliers and statistically analyzed. In total 18 donkeys were tested, but data of 2 animals had to be omitted entirely due to bizarre values and patterns. During the measurements, it appeared that some animals were coughing mildly and therefore post hoc the effect of coughing on group means was studied. The group mean differences of Rrs and Xrs were analysed by Mann Whitney-U test for independent samples. **These findings suggest that** coughing donkeys have increased respiratory resistance of the lower airways and reduced ability of the respiratory tract to store capacitive energy. The latter is associated with stiffness of the lung or with hyperinflation and loss of lung elastic recoil. The coughing was considered to be associated with mild bronchitis caused by lungworms (*Dictyocaudus arnefeldi*). **The results of this pilot study indicate that** subclinical bronchial disease of donkeys can be diagnosed using FOT. However further studies are needed to determine the optimal oscillation spectrum and improvement must be made for measuring procedures including the use of better masks before the method can be used for diagnostic purposes.

**Keywords:** Donkey Pulmonary Function, Respiratory Ultrasound Plethysmography, Thoracic Abdominal Asynchrony, Forced Oscillation Technique

## ***SOME OBSERVATIONS OF RESPIRATORY ULTRASOUND PLETHYSMOGRAPHY IN DONKEYS***

---

OSMAN GÜNGÖR

Department for Companion Animals and Horses, University of Veterinary Medicine Vienna  
Section of Equine Internal Medicine

[osmanguengoer@gmail.com](mailto:osmanguengoer@gmail.com)

The respiratory efforts of the thorax and abdominal muscles of donkeys have not adequately been quantified. The aim of this study was to analyse the differences of thoracic and abdominal excursions during breathing by using Respiratory Ultrasound Plethysmography (RUP). Synchronisation, rhythm and relative contribution of the thoracic and abdominal muscles were analysed. The final goal was to contribute to a reference data base for diagnostic purposes and find out if RUP could be a simple diagnostic technique for use in the field. The RUP system in its current form is too sensitive to signal noise and generated data are difficult to quantify. Nevertheless, using an alternative algorithm the respiratory strategy of healthy and coughing donkeys appeared different.

**Keywords:** Donkey Pulmonary Function, Respiratory Ultrasound Plethysmography, Thoracic Abdominal Asynchrony

**THE INVESTIGATION OF THE PREVALANCE OF LICE SPECIES ON THE  
HAIR GOATS SLAUGHTERED AT BINGÖL MUNICIPAL  
SLAUGHTERHOUSE**

---

ABDURRAHMAN GÜL, ŞEYMA GÜNYAKTI KILINÇ

Bingöl University Faculty of Veterinary Medicine, Department of Parasitology

[agul68@hotmail.com](mailto:agul68@hotmail.com)

This study was conducted to investigate the prevalence of lice infestations in 290 goats slaughtered in Bingöl Municipal Slaughterhouse. For this purpose, 290 goats were examined, between December 2014 to May 2015 by going once a week during six months to Bingöl Municipal Slaughterhouse. Lice infestation were seen in 88 (30.34%) of the examined 290 hair goats. of the 340 lice collected from the infested goats, 153 (45%), 63 (19%), 124 (36%) were positive for *Bovicola caprae*, *Bovicola limbata* and *Linognathus africanus* respectively. The average number of lice per animal was found to be 3.85. This study was conducted for the first time in Bingöl province.

**Keywords:** Bingöl, Goats, Lice, Mallophaga and Anoplura



***THE EFFECTS OF HYPERICUM PERFORATUM AND POLIHEXANIDE ON  
TERSIYER-DEGREE BURN WOUND HEALING IN RATS***

---

SELVINAZ YAKAN<sup>a</sup>, YUSUF KENAN DAĞLIOĞLU<sup>b</sup>, KIVILCIM ERDOĞAN<sup>b</sup>, RUHAY  
ALDIK<sup>b</sup>

<sup>a</sup> Ağrı İbrahim Çeçen University

<sup>b</sup> Çukurova University

[syakan@gmail.com](mailto:syakan@gmail.com)

**In this study**, it was aimed to determine the effects of applying Hypericum perforatum and Polihexanide on tersiyer -degree burn wound healing in rats. The research was carried out on 48 adult female Wistar albino rats. Tersiyer-degree burns were created with hot iron applied during 5 seconds, 5 mm in diameter, on the back of all rats. Rats were randomly separated 4 main groups each group consisted of 12 animals and treatment began 24 hours after the burn injury. Control group (burned but no topical agent), in the Hypericum perforatum oil groups, 1 mL of Hypericum perforatum oil was administered via syringe to the wound, in the Polihexanide groups, 1 mL of Polihexanid was administered via syringe to the wound, in the Hypericum perforatum oil and Polihexanid groups in which both Hypericum perforatum and Polihexanide were applied total 1 mL were administered via syringe to the wound. The wounds were checked daily. Seven rats from each group were sacrificed on the 7th and 14th days after the treatment. Burned skin tissue samples were collected from the rats for histopathological examinations. Histopathological evaluations on the 7th and 14th days showed that the wound healed faster in the study groups than the control group ( $p < 0.001$ ). **According to the results** of this study Hypericum perforatum and Polihexanid are effective in healing experimentally created tersiyer-degree burn in rats.

**Keywords:** Hypericum Perforatum, Polihexanide, Burn Wound Healing, Rat

## **IMPACT OF MATERNAL HIGH-FAT DIET DURING PREGNANCY AND LACTATION ON REPRODUCTIVE DEVELOPMENT OF THE MALE OFFSPRING**

---

ÇİĞDEM ALTINSAAT<sup>a</sup>, ŞAKIR YILDIRAN<sup>b</sup>

<sup>a</sup> University of Ankara

<sup>b</sup> University of Ankara Institution of Health Sciences

[caltinsaat@yahoo.com](mailto:caltinsaat@yahoo.com)

Maternal high-fat diet (HFD) feeding predisposes offspring to metabolic diseases. The aim of the present work was to investigate the effect of maternal high fat diet feeding on reproductive development of the male offspring during a period of 90 days after birth, using Wistar rats. At the beginning of the study, 20 healthy female rats were divided into two groups. Mothers in the HFD group were fed with cafeteria diet until mating, before mating and during pregnancy and lactation. The control group were fed with normal diet composition. At the end of the pregnancy in both groups 20, 30 and 90-day-old male offsprings (n = 6) were obtained. In the experimental process, the change of body weight, serum cholesterol, triglycerides, total protein, total glucose, albumin values and blood testosterone levels of rats in all groups were determined. Testicular tissue samples were obtained and the samples were fixed in 10% neutral formalin solution for histologic findings. Tissue sections were examined under the light microscope after hematoxylin-eosin staining. Blood cholesterol, triglyceride, total protein, albumin and total glucose levels were evaluated with autoanalyzer. Testosterone levels were determined with commercial ELISA kits. Body weights were increased in control group in 20 days ( $p < 0.001$ ) and reduced in 30 days ( $p < 0.05$ ) compared to the HFD offspring. Blood testosterone levels were decreased in 90-day-old HFD group compared to with the control group ( $p < 0.001$ ). The ALT, AST, albumin and total protein values were determined to be reduced in 20, 30 and 90-day-old pups of the HFD groups compared with the control group. Triglyceride levels were decreased in 20-day-old pups of the control group compared with HFD group. No major alterations were detected in histological findings. The results show that testosterone levels were significantly decreased, in HFD offspring compared to those in normal diet fed controls.

**Keywords:** High Fat Diet, Male, Offspring, Testosterone

***EFFECT OF GELATIN COATING INCORPORATED WITH CHITOSAN ON THE CHEMICAL, PHYSICAL, MICROBIOLOGICAL AND SENSORY QUALITY OF SEA BREAM (SPARUS AURATA L.,1758) FILLETS***

---

**ÇİĞDEM DİKEL, YASEMEN YANAR, SUAT DİKEL**

University of Cukurova

[cgdmddl@gmail.com](mailto:cgdmddl@gmail.com)

Chitosan was used in gelatin coatings to maintain the quality of refrigerated seabream fillets over a period of 12 days. Fish fillets were coated with a solution of 15% fish gelatin incorporated with %0.5 and %1 chitosan and then stored in refrigerator (4±1 °C). Coatings preservative effect was assessed periodically (every 3 days) by microbial analyses (Total bacterial counts), chemical determinations (total volatile basic nitrogen, thiobarbituric acid, peroxide value, free fatty acid), physical (pH and hunter Lab color values) and sensory characteristics. Total bacterial counts reached higher populations in control and %15 gelatin coating samples as compared to gelatin coating containing both chitosan samples (p<0.05). Samples coated with gelatine enriched with chitosan showed the lowest rate of total volatile basic nitrogen, peroxide and free fatty acid values (p<0.05). The presence of chitosan improved the color of seabream by increasing the L\* value and decreasing a\* value. As determined by sensory analysis (overall acceptability attribute) the observed shelf-life of seabream fillets was longest for gelatin coating containing both chitosan concentrations (12 days) followed by % 15 gelatin coating (9 days), and control (6 days) samples. The presence of 0.5 and 1% chitosan in seabream samples produced a distinct but sensorially acceptable pleasant odor, well received by the panellists.

**Keywords:** Gelatin, Sparus aurata, Shelf Life, Chitosan

**FIRST RECORD OF NECROBIA RUFIPES (DE GEER, 1775) ASSOCIATED WITH PET CLINIC IN TURKEY**

---

NAFIYE KOÇ, AYSE ÇAKMAK, SERPİL NALBANTOĞLU

Ankara University Faculty of Veterinary Medicine Department of Parasitology, TURKEY

[nafiyekoc@gmail.com](mailto:nafiyekoc@gmail.com)

The species *Necrobia rufipes* (De Geer, 1775) is a beetle of the family Cleridae and is commonly known as the copra beetle and red-legged ham beetle. The copra beetle is a cosmopolitan pest, causing significant damage to stored products such as copra (dried coconut flesh), ham, cheese, dried fish and other foods rich in protein content. *Necrobia rufipes* was also reported on animal carrion and human corpses in various countries. **A large number of insects** were detected in the pet clinic especially on the pet food plates. Samples collected from these areas were transferred to Ankara University, Faculty of Veterinary Medicine, Department of Parasitology. Under Stereo microscope examination the samples were identified as *Necrobia rufipes*. **There are a large number** of insects associated with pet store. The origin of insects infestation is unknown but it can come from raw material or from the place where dry pet food products are stored. Therefore, *N. rufipes* infestation may have been associated with stored pet foods, which contains high proteins. **The present study was shown** that these insects threaten pet clinics via pet food and this is the first report of *Necrobia rufipes* in Turkey. The occurrence of these insects indicates the need to enhance the food quality. Early detection and management of infestations is important to spread to the whole clinic and integrity and quality of food products.

**Keywords:** *Necrobia Rufipes*, Cleridae, Pet Clinic, Turkey

## ***SARCOPTIC SCABIES IN A RABBIT: CLINICAL FINDINGS, DIAGNOSIS AND TREATMENT***

---

ARIF KURTDEDE<sup>a</sup>, NAFIYE KOÇ<sup>b</sup>, ERDAL KARA<sup>a</sup>, SERPIL NALBANTOĞLU<sup>b</sup>

<sup>a</sup> Ankara University Faculty of Veterinary Medicine Department of Internal Medicine, Turkey

<sup>b</sup> Ankara University Faculty of Veterinary Medicine Department of Parasitology, Turkey

[nafiyekoc@gmail.com](mailto:nafiyekoc@gmail.com)

**In the present case**, it was aimed to evaluate the effectiveness of the treatment in addition to the clinical findings of the sarcoptic mange in a rabbit. A 6 months old female mix breed rabbit with the severe pruritic and hyperkeratotic lesions complaint was referred to our clinic. Lesions were observed on the claws, at the caudodorsal area of the tail, at the nose tip and at the edges of the ears. The rabbit owner gave information that itchy redness occurred in her own body. Deep skin scrapings were made in three different areas of lesions for ectoparasite examination. In the microscopic examination of the samples, matured adults and eggs of the mites according to the morphological characteristics were identified as *Sarcoptes scabiei var cuniculi*. 15 mg of selamectin was used two times, ten days apart. In addition, a pomate containing urea and salicylic acid was applied on the lesions once daily for five days. Hyperkeratotic lesions resolved on day 10, and hairs on the lesional area grew on day 30. The recurrence did not occur until two months after the completion of the treatment. **As a result**, combined treatment with selamectin and the pomate containing urea and salicylic acid was successful in a rabbit with sarcoptic mange.

**Keywords:** Rabbit, *Sarcoptes scabiei var cuniculi*, Urea, Salicylic Acid, Selamectin

## ***LAPAROSCOPIC SPAY IN SHELTER MEDICINE: EXPERIENCES ON POSTSURGICAL PERIOD IN DOGS***

---

HALIT KANCA, GİZEM TEZ

Ankara University

[hkanca@ankara.edu.tr](mailto:hkanca@ankara.edu.tr)

Spay and neuter programmes are integral parts of shelter medicine. Laparoscopic ovariectomy (LapOVE) offers an alternative for traditional midline ovariohysterectomy. In this study, effect of LapOVE on surgical time, postoperative stress and pain were evaluated in one-year spay programme. Twenty-one adult (8 months-5 years) and 21 prepubertal (4-8 months) female dogs were randomly allocated into either adult or prepubertal traditional midline ovariohysterectomy (OHE), midline ovariectomy (OVE) and LapOVE groups and each group included 7 dogs. Surgery was performed by an experienced operator under inhalation anaesthesia and surgical times were recorded. Postsurgical stress was evaluated by serum glucose measurements and total blood counts on 0, 1, 6, 24h. Postsurgical pain was assessed by using Melbourne Pain Scale on 0, 1, 6, 24 and 48h. Results indicate that OVE was less time consuming ( $P<0.05$ ) and it induced less postoperative pain ( $P<0.05$ ) and stress ( $P<0.01$ ) compared to OHE in both adult and prepubertal dogs. Surgical time was longer ( $P<0.01$ ) in LapOVE in adult dogs compared to OVE. In contrast, it induced less postoperative pain ( $P<0.05$ ) and stress ( $P<0.05$ ). In prepubertal dogs, LapOVE surgical time was shorter ( $P<0.05$ ) than OHE and postsurgical pain and stress ( $P<0.01$ ) were reduced. In conclusion, OVE should be preferred over OHE in traditional midline surgery in bitches. In addition, being a simple and less traumatic method LapOVE has a great potential to be included in shelter spay programmes, especially for prepubertal dogs.

**Keywords:** Laparoscopy, Ovariectomy, Pain, Postsurgical Period, Stress



## ***QUALITY OF KEFIR PREPARED FROM MILK WITH DIFFERENT SOMATIC CELL COUNTS***

---

**NAZLI TURKMEN<sup>a</sup>, CEREN AKAL<sup>a</sup>, HALIT KANCA<sup>b</sup>**

<sup>a</sup>Department of Dairy Technology, Faculty of Agriculture, Ankara University

<sup>b</sup>Department of Obstetrics and Gynaecology, Faculty of Veterinary Medicine, Ankara University

[nazli.turkmen@ankara.edu.tr](mailto:nazli.turkmen@ankara.edu.tr)

Kefir is a traditional fermented milk product prepared by using kefir grains or kefir cultures. The objective of this study was to evaluate the effects of using bovine milk with different somatic cell counts (SCC) on some properties of kefir. SCC of different batches of milk was estimated by Fossomatic method and milk with low (135.000 cells/ml), medium (450.000 cells/ml) and high (850.000 cells/ml) SCC were prepared. Milk was pasteurized at 95°C for 10 min and was cooled to 25-28°C. Kefir grains were added (3%) and milk was incubated at 25°C until pH value of approximately 4.5 and kept at 4°C thereafter. Titratable acidity, pH value, fat (Gerber) and total dry matter (gravimetric) content, consistency index (dynamic rheometer), phase separation, colour (L, a, b values) and sensory properties (by using scoring test with 7 panelists) were recorded on days 1, 7 and 14 of the storage and compared in duplicates. Results indicated that pH, fat, total dry matter content, consistency index and L, a, b values decreased; titratable acidity and phase separation increased as SCC in milk increased ( $p<0.05$ ). In contrast, sensory properties were acceptable for all SCC levels studied. In conclusion, SCC in bulk milk affects physical and chemical properties of kefir; however, sensory properties are not affected.

**Keywords:** Kefir, Somatic Cell Count, Sensory Properties

***PRELIMINARY RESULTS OF COMPARISON OF SOME BODY MEASUREMENTS TAKEN ON BAFRA LAMBS WITH THE ONES TAKEN ON THE DIGITAL IMAGES OF THE SAME LAMBS USING IMAGEJ PROGRAM***

---

**SERKAN ERAT<sup>a</sup>, BORA ÖZARSLAN<sup>a</sup>, EVREN ERDEM<sup>a</sup>**

<sup>a</sup>Kırıkkale University, Faculty of Veterinary Medicine, Department of Animal Breeding and Husbandry, Kırıkkale, TÜRKİYE

[serkanerat@gmail.com](mailto:serkanerat@gmail.com)

**The purpose of this study** was to compare some body measurements taken on Baфра lambs with the ones taken on the digital images of the same lambs using ImageJ program (ImageJ 1.50i, Wayne Rasband, National Institutes of Health, USA). Baфра lambs (31 females, 21 males) ranging in age from 171 days to 201 days (mean age=183.6 days) were used. Each lamb was photographed with a digital camera (Sony DSC P72 Cyber-Shot 3.2 MP w/3X optical zoom, Japan). Then, three measurements, wither height (WH), rump height (RH) and chest depth (CD), were taken from the lambs using the measurement stick. in order to get the real measurements on the lambs, the wool of the lambs was pressed with the measurement stick on one point in the WH and RH and two points in the CD. Mean wool thickness of 4.5 cm was subtracted from the digital measurements of the WH and RH while 9.0 cm (2x4.5 cm) was subtracted from the digital measurements of the CD (as adjusted digital measurements). The real measurements taken on the live lambs (M1) and the adjusted digital measurements (M2) were compared using paired t test to see if M1 and M2 differs. The means and standard errors of the WH, RH and CD in M1 were 57.45±0.48, 59.19±0.48 and 24.04±0.21 cm, respectively. The means and standard errors of the WH, RH and CD in M2 were 57.99±0.69, 58.56±0.70 and 27.04±0.36 cm, respectively. The WHs of M1 and M2 (p=0.270) and the RHs of M1 and M2 (p=0.205) were not statistically different while the CDs of M1 and M2 (p<0.001) were statistically different. **This preliminary results** showed that ImageJ program can be used to measure somebody measurements of lambs from digital images with some confidence since more studies need to be done with more body measurements.

**Keywords:** Body Measurements, Baфра Lamb, Digital Image

**Acknowledgements:** This study is being funded by Kırıkkale University Scientific Research Project Coordination Unit (Project No: 2015/030).

## **PHARMACOKINETICS OF CEFQUINOME AFTER SINGLE AND REPEATED SUBCUTANEOUS ADMINISTRATIONS IN SHEEP**

ORHAN ÇORUM<sup>a</sup>, DUYGU DURNA ÇORUM<sup>b</sup>, AYSE ER<sup>c</sup>, KAMİL ÜNEY<sup>d</sup>

<sup>a</sup> Department of Pharmacology and Toxicology, FVM, University of Kastamonu

<sup>b</sup> Arac Rafet Vergili Vocational High School, University of Kastamonu

<sup>c</sup> Department of Pharmacology and Toxicology, FVM, University of Selcuk

<sup>d</sup> Department of Pharmacology and Toxicology, FVM, University of Selcuk

[orhancorum@kastamonu.edu.tr](mailto:orhancorum@kastamonu.edu.tr)

The purpose of this study was to determine the pharmacokinetics and bioavailability of cefquinome (CFQ) (2.5 mg/kg) following single and repeated subcutaneous (SC) administrations in sheep. Six clinically healthy, female, 1.5±0.2 years sheep were used for the study. In pharmacokinetic study, the crossover design in three phases were performed. The withdrawal interval between the phases of the study was 15 days. In first phase, CFQ (Cobactan, 2.5%) was administered by an intravenous (IV) bolus (3 sheep) and SC (3 sheep) injections at dosages of 2.5 mg/kg of body weight to each sheep. In second phase, the treatment administration following the washout period was repeated via the opposite administration route. In third phase, CFQ following the withdrawal interval was administered subcutaneously to each sheep (n=6) at a dose of 2.5 mg/kg q. 24 hours for 5 days. Plasma concentrations of cefquinome were measured using the HPLC-UV method. Pharmacokinetic parameters were calculated using WinNonlin software. The  $t_{1/2\lambda z}$  and MRT of CFQ after the single SC administration was longer than IV administration ( $P<0.05$ ). Bioavailability (F) of CFQ following the single SC administration was 123.51±11.54%. AUC<sub>0-∞</sub> and C<sub>max</sub> following repeated doses (last dose) were higher than those observed after the first dose ( $P<0.05$ ). Cefquinome accumulated after repeated SC doses. CFQ can be given at a dose of 2.5 mg/kg body weight q. 24 h for the treatment of infections caused by susceptible pathogens which minimum inhibitory concentration is ≤1.0 µg/mL in sheep.

**Keywords:** Cefquinome, Pharmacokinetics, Bioavailability, Subcutaneous, Sheep

**Acknowledgements:** Supported by the Coordination of Scientific Research Projects, University of Selcuk (Project No.15401151)

## **PHARMACOKINETICS AND BIOAVAILABILITY OF ENROFLOXACIN AND DANOFLOXACIN IN PREMATURE CALVES**

KAMİL ÜNEY<sup>a</sup>, ORHAN ÇORUM<sup>b</sup>, RAMAZAN YILDIZ<sup>c</sup>, MERVE IDER<sup>d</sup>,  
MAHMUT OK<sup>d</sup>, FERAY ALTAN<sup>e</sup>

<sup>a</sup> Dept. of Pharmacology and Toxicology, Faculty of Veterinary Med., University of Selcuk

<sup>b</sup> Department of Pharmacology and Toxicology, FVM, University of Kastamonu

<sup>c</sup> Dept. of Internal Medicine, FVM, University of Mehmet Akif Ersoy, Burdur

<sup>d</sup> Department of Internal Medicine, Faculty of Veterinary Medicine, University of Selcuk

<sup>f</sup> Department of Pharmacology and Toxicology, FVM, University of Dicle

[orhancorum@kastamonu.edu.tr](mailto:orhancorum@kastamonu.edu.tr)

The aim of this study was to determine the pharmacokinetics and bioavailability of enrofloxacin (ENR) and danofloxacin (DNX) following intravenous (IV) and intramuscular (IM) administrations in premature calves. The study was performed on twenty-four calves that were determined to be the premature by the anamnesis and general clinical examination and require the correction of vital functions. The calves were allocated to two parallel treatment groups comprising twelve per group. Six calves in each group received single IV and IM injections of 10 mg/kg bw ENR and 8 mg/kg DNX, respectively. Plasma samples were collected for the determination of applied drugs by high-pressure liquid chromatography and analyzed by non-compartmental methods. Mean pharmacokinetic parameters of ENR and DNX following IV administration were; elimination half-life ( $t_{1/2\lambda z}$ ) 11.16 and 17.47 h, area under the plasma concentration-time curve ( $AUC_{0-\infty}$ ) 147 and 44.18 h\* $\mu$ g/mL, volume of distribution at steady-state ( $V_{dss}$ ) 1.06 and 4.45 L/kg, and total body clearance 0.07 and 0.18 L/h/kg, respectively. Mean pharmacokinetic parameters of ENR and DNX following IM injection were; peak plasma concentration ( $C_{max}$ ) 7.55 and 2.15  $\mu$ g/mL, time to peak concentration ( $T_{max}$ ) 5.33 and 3 h,  $t_{1/2\lambda z}$  21.10 and 28.41 h,  $AUC_{0-\infty}$  210 and 69.96  $\mu$ g/h/mL, respectively. The mean bioavailability of ENR and DNX after IM administration were determined as 117% and 124%, respectively. We concluded that ENR and DNX following IM administration show the high bioavailability and the long elimination half-life. Additionally, the pharmacokinetic data demonstrated that DNX is widely distributed and slowly eliminated following a single IV administration in premature calves. Further studies are required to plan a dosage regimen with these drugs in the premature calves.

**Keywords:** Enrofloxacin, Danofloxacin, Pharmacokinetics, Bioavailability, Premature Calves

## ***HELLABOMS (HELLEBORUS ORIENTALIS) TOXICOSIS IN MERINOS RAM IN ANKARA-TURKEY - A CASE STUDY***

---

**SEDAT SEVIN<sup>a</sup>, ERDAL KARA<sup>b</sup>, MEHMET ŞAHAL<sup>b</sup>, ENDER YARSAN<sup>a</sup>**

<sup>a</sup>Ankara University, Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology

<sup>b</sup>Ankara University, Faculty of Veterinary Medicine, Department of Internal Medicine

[sedatsevin59@gmail.com](mailto:sedatsevin59@gmail.com)

An 18-month-old horned merino ram was brought to the animal hospital of Ankara University with the complaints of fatigue, wounds around the mouth and nose and swelling and darkening of the tongue. The anamnesis taken from the animal owner increased the suspicions of an overdose poisoning. According to the owner, herd was fed with grinded hellaboms (*Helleborus orientalis*) roots with considerably high doses compared to its traditional use as an alternative treatment in sheep and goat breeding by ear implant. Anamnesis also was showing that the rest 150 sheeps of the herd placed in Meyildere village of Nallıhan in Ankara had similar semptomnes following five-day period with 6 havier symptomnes and 5 losses within the herd. After anamnesis, representative samples were taken from the patient's ram herd and examined in terms of virological diseases. Results were negative for blue tong and PPR diseases. Next, the plant roots which added in the feed were analyzed toxicologically. The active ingredient 'protoanemon' was clearly detected in the *Helleborus orientalis* toxicologic analyse results. Protoanemon of Hellaboms contain delta-lacton hellebrin which is a bufatenoid type heart glycoside. Due to these active substances, they are being used as analgesic, anthelmintic, diuretic in the treatments of heart failure, circulatory insufficiency and menstrual bleeding. It is also being used in animals to treat scabies, bronchitis and similar breast diseases. Results proved that misuse of the plant lead to poisoning and the poisoning was the main cause of the abnormalities and the deaths in the herd. After understanding of the reason, with applications of wide spectrum of antibiotics, vitamins and corticosteroids, remaining poisoned animals were treated successfully.

**Keywords:** *Helleborus Orientalis*, Intoxication, Subcutan, Misapplication

***THE EFFECT OF RAM SEMEN EXTENDER SUPPLEMENTED WITH L-CYSTEINE AND CATALASE ON SPERMATOLOGICAL PARAMETER***

---

**AYHAN ATA, SUKRU GUNGOR, MUHAMMED ENES INANC**

Mehmet Akif Ersoy University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination

[ayhana@mehmetakif.edu.tr](mailto:ayhana@mehmetakif.edu.tr)

The aim of this study was to determine the effects of L-cysteine (C), catalase (CAT) and combination L-cysteine + catalase (C+CAT) on sperm parameters after the freeze-thawing of ram sperm. Semen samples collected from 5 ram with the aid of electro ejaculator in out of season, which were diluted with a Tris-based extender containing 1, 2 mM C, 200, 400 µg CAT and 2 mM C +400 µg CAT and no antioxidant (control), were cooled to 50 C and frozen in 0.25 ml French straws. The addition of 2mM C led to higher percentages of subjective, CASA total and progressive motilities ( $63.3 \pm 3.33\%$ ,  $41.06 \pm 3.027\%$ ,  $18.59 \pm 1.29$ ) compared to controls ( $40.0 \pm 2.58\%$ ,  $26.40 \pm 5.32\%$ ,  $12.40 \pm 3.71\%$ ,  $P < 0.05$ ). C+CAT gave the lowest VCL (µm/s), VSL (µm/s), VAP (µm/s), LIN (%), STR (%) and WOB (%) values respectively ( $77.39 \pm 2.43\%$ ,  $33.59 \pm 6.55$ ,  $49.29 \pm 5.39$ ,  $43.20 \pm 7.59$ ,  $67.54 \pm 5.89$ ,  $63.61 \pm 5.58$ ), compared to other groups, ( $P < 0.05$ ). C+CAT group also led to highest sperm ALH (µm/s) ( $3.80 \pm 0.40$ ) when compared to control ( $2.85 \pm 0.23$  µm/s,  $P < 0.05$ ). L-cysteine 2 mM supplementation in semen extenders provided a better protection of ram sperm CASA parameters against cryopreservation injury compared the combination of L-cysteine 2mM and catalase 400 µg.

**Keywords:** CASA Sperm Parameters, Catalase, L-Cysteine, Ram Sperm Freezing



## ***A GENERAL EVALUATION ON THE TURKISH SERICULTURE SECTOR***

---

**MURAT POLAT, YAVUZ CEVGER**

Ankara University, Faculty of Veterinary Medicine, Department of Animal Health Economics and Management

[vet.hekim.muratpolat@gmail.com](mailto:vet.hekim.muratpolat@gmail.com)

The purpose of this study is to assess the sericulture sector according to the actual data which has both cultural and economic value for Turkey and has the feature of being a livestock sub-production area mostly considered as a source of additional income. The fresh silk cocoon, being the output of sericulture, is an important raw material for the silk and silky textile industry and also has a traditional and cultural value. In Turkey, as of 2016, the annual cocoon production is 103 tons, and the 2001 family deals with this work. The organization in sericulture dates back to old times. In 1940, the first cooperatives were founded in Bursa, Bilecik and Adapazarı in order to maintain and increase the cocoon production after the foundation of the Republic. These cooperatives were merged and Bursa Association of Agricultural Sales Cooperatives for Silk Cocoons (KOZABİRLİK) was founded on 11 May 1940. Although the support given to the sericulture has changed over the years, it is very important for the sector. By 2016, the purchase price of cocoons was 5 TL / kg while the price of support was 40 TL / kg. Silky products, which are natural output of silkworm production, make the sector important for marketing and foreign trade. Despite the decrease in export amount in recent years, only silk carpet exports have generated nearly 100 million dollars in income in the last 5 years. Although the sericulture sector is an additional field of activity, it has some problems in itself. At the beginning of these; not being preferred too much because the incomes obtained from the alternative livestock and agricultural activities are more than those obtained from the silk cocoon and the losses due to the poisoning occurred as a result of contamination of mulberry leaves used in silkworm breeding.

**Keywords:** Sericulture, Raw Silk, Fresh Cocoon, Silk Carpet, Exportation

## ***CURRENT SITUATION AND PROBLEMS IN RED MEAT PRODUCTS MANUFACTURING ENTERPRISES OF TURKEY***

---

**MURAT POLAT, YAVUZ CEVGER**

Ankara University, Faculty of Veterinary Medicine, Department of Animal Health Economics  
and Management

[vet.hekim.muratpolat@gmail.com](mailto:vet.hekim.muratpolat@gmail.com)

It is aimed through this research to determine the current situation and problems concerning the production, cost and marketing of the red meat products manufacturing enterprises in Turkey, to investigate the issues such as the raw material procurement, quality-price relation, capacity utilization, processing costs within the scope of production-industry integration and also to reveal the sectoral problems concerning the investment and operating period in industry. **The research material** is composed of the data provided for 2014 and 2015 by the red meat producers, which accepted the data and information supply and which operate primarily in the different regions of Turkey, have a registration at the Union of Chambers and Commodity Exchanges of Turkey and also of which the capacity reports were prepared. SPSS 17.0 and Microsoft Excel were used to calculate business results and production costs of red meat products. In addition, costs for sujuk, salami, sausage, pastrami, kavurma and jambon are separately determined. **It was determined that** the enterprisers' average capacity utilization was 49,89% in 2014-2015. It was determined while the greatest expenditure elements were raw materials in the same period in the enterprises, the second was recorded as auxiliary product, the third was labor and then energy costs. It is seen that the average activity period of the enterprises is 20.8 years. It was determined that the raw material productivity for 100 kg red meat was 134,3 kg for sujuk, 155,5 kg for salami, 163,3 kg for sausage, 90,2 kg for pastrami, 85,6 kg for kavurma and also 113,3 for jambon. **It was determined** that the greatest problem faced by the red meat producers was the lack of raw material and this caused the increases in costs by leading to the reduction in capacity utilization.

**Keywords:** Red Meat, Finished Product, Economic Analysis, Cost, Production, Productivity

## ***FATAL CANINE PARVOVIRUS INFECTION IN NEWBORN PUPPIES: APPROPRIATE VACCINATION TIME BASED ON MATERNALLY DERIVED ANTIBODY LEVELS***

---

MERVE BISKIN TURKMEN, TUGCE SÜMER, OZLEM OZDEMIR, OGUZ KUL

Kirikkale University of Turkey

[biskinm@gmail.com](mailto:biskinm@gmail.com)

**In this study**, it is aimed to describe the usage of maternally derived antibody (MDA) level based vaccination schedule on the prevention of newborn puppy deaths caused by canine parvovirus infection in the dog farm following the JAVMA regular vaccination schedule. However, if any viral disease is present in the environment, the MDAs of the puppies can be neutralized by the vaccination and they can become vulnerable to the circulating wild viruses. **Total 72 puppies** from two dog breeder farms were died in the last two years and all cases showed co-existence with vaccine administration. The blood and faeces samples of the both mother and puppies (n=45) were collected and necropsy was performed for 9 died puppies. Their tissue samples were collected for histopathological, PCR examinations and DNA sequencing. MDALs of Canine Adenovirus(CAV), Canine Distemper Virus(CDV) and CPV were analysed by immunocomb ELISA technique (Biogal Inc.). **Pathologic findings** were characterized by CPV infection e.g. fibrinous hemorrhagic enteritis, vilous atrophy and lymph node necrosis. The CPV infection was confirmed by PCR, and the responsible strain was CPV2b according to virus phylogenetic analyses. MDAL of all the CPV infected puppies were under the protective levels. Otherwise, 22 out of 24 puppies were found viremic during the test time. Interestingly, clinical signs were severe in the 60th day vaccinated puppies born from the more immune competent mother dogs'. Thus, the causes of deaths are originating from the blockage of the MDAs still have competence on the protective level for puppies, due to early vaccination in the farm. **in conclusion**, high mortality rates characterized by CPV, CDV and HCC infections having a clear co-existence with vaccination in a breeding dog farm, is closely related to blocking of MDALs. This can be highlighted and prevented by detecting the individual MDALs and a comprehensive clinical pathological approaches.

**Keywords:** Dog, Canine Parvo Virus, Maternally Derived Antibody, Vaccination

## ***ECONOMIC ANALYSIS OF AN ALTERNATIVE PRODUCTION AREA IN LIVESTOCK FARMING: WORM MANURE PRODUCTION***

---

**AHMET CUMHUR AKIN, CEVAT SİPAHİ, GÜLER BERAT BOZDOĞAN**

Department of Animal Health Economics and Management, Faculty of Veterinary Medicine,  
Mehmet Akif Ersoy University

[acumhurakin@mehmetakif.edu.tr](mailto:acumhurakin@mehmetakif.edu.tr)

**In this research**, the sustainability of the field of activity has been examined through conducting an economic analysis of data obtained from the business administration activities of an establishment operating in provincial borders of Burdur which were performed between 2015-2016. **in the study**, production cost, cost factors and the economic ratios of the establishment has been presented. When the cost factors of worm manure production is analyzed, it is determined that the primary cost factors for the year 2015 in a 100 square meters of production area ranges as; %46,1 for cost of worm, %7 for animal manure, %33,1 for labor force, %2,5 for electricity and water bills and %1,2 for packaging. It is established that there has not been any worm cost in 2016 and that the distribution has been sorted as %20,3 for animal manure, %56,9 for labor force, %4,8 for electricity and water bills and %5,6 for packaging costs. **As a result of** the analyses, the economic ratios of the establishment are calculated as respectively; the return on equity of 1,21 in 2016 while -0.03 in 2015, economic rentability of 1,21 in 2016 while -0.03 in 2015, rentability factor of 1,10 in 2016 while -0.08 in 2015. It has been conferred that the worm manure production is a field with continuous manufacturing and market opportunity in livestock farming industry and its profitability is at a point where it will satisfy the manufacturer as of the periods examined. It can be asserted that this production branch will play an active role in rural development in the market conditions nowadays with its sustainable production structure and it will be an alternative production area for monetizing for the farmers.

**Keywords:** Economic Analysis, Worm Manure Production, Livestock Economics, Burdur

## ***EXPRESSION OF TOLL LIKE RECEPTORS IN RAT TESTICULAR AND EPIDIDYMAL TISSUES***

**MEHMET ÖZBEK<sup>a</sup>, EMEL ERGÜN<sup>b</sup>, FEYZULLAH BEYAZ<sup>c</sup>, LEVENT ERGÜN<sup>b</sup>,  
FÜSUN ERHAN<sup>b</sup>, NUH YILDIRIM<sup>b</sup>, ÖZGE ÖZGENÇ<sup>b</sup>**

<sup>A</sup> Department of Histology and Embryology, Faculty of Veterinary Medicine, Mehmet Akif Ersoy University

<sup>B</sup> Department of Histology and Embryology, Faculty of Veterinary Medicine, Ankara University

<sup>C</sup> Department of Histology and Embryology, Faculty of Veterinary Medicine, Erciyes University

[mehmetozbek2@gmail.com](mailto:mehmetozbek2@gmail.com)

The testis is an immunologically privileged site in the body. Multiple factors participate in the establishment of immunotolerance in the testis. Toll-like receptor (TLR) multigene family encodes important recognition receptors of the innate immune system that have been conserved in both the invertebrate and vertebrate lineages. This study was conducted to examine distribution of TLR2, TLR4 and TLR7 in the testes and epididymis of the rat during the postnatal period using the streptavidin biotin complex method. **Testes and epididymis tissues taken** from four groups Wistar albino rats at different stages of postnatal development constituted material of the study. Each of the four groups composed of six rats was designed as prepubertal (5 days), pubertal (20 days), postpubertal (50 days) and mature (70 days). At 5 old day rats, no immunoreactivity was detected with an antibody to TLR2 and TLR4 in primitive Sertoli cells although weak immunoreactivity for TLR7 was observed in these cells. At 20 old day rats, TLR7 and TLR2 immunoreactivity were seen in the cells forming the seminiferous tubules, and prominent TLR4 immunostaining was detected in some cells in the seminiferous tubule lumen. At 50 and 70 old day rats, it has been shown significant differences in the expression of the three TLRs in cells at different stages of spermatogenesis. **in all periods examined**, weak TLR2 and TLR7 immune reactions were observed in epididymal epithelial cells. While the epithelial cells in the 5-day old rats stained weakly with TLR4, an intense reaction was observed in the later stages, especially in basal cells and smooth muscle cells around the epithelial cells. **in conclusion**, testis and epididymis exhibited different TLR expressions in the throughout postnatal period. It has been considered that these receptors may serve both to maintain the spermatogenesis and to protect testis and epididymis against pathogens.

**Keywords:** Testis, TLR2, TLR4, TLR7, Rat

## **PIPERLONGUMINE AND TRAIL SYNERGIZE TO PROMOTE CELL DEATH IN COLON CANCER CELLS**

---

TEVHIDE SEL, GÖRKEM KISMALI

Dept. of Biochemistry, Faculty of Veterinary Medicine, Ankara University

[sel@veterinary.ankara.edu.tr](mailto:sel@veterinary.ankara.edu.tr)

**Piperlongumine (PL)** is a biologically active compound recently identified to be toxic selectively to tumor cells in vitro and in vivo. Tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) is an apoptosis-inducing cytokine and one of physiologic weapons against cancer. Although TRAIL is a promising anticancer agent, TRAIL resistance is a major barrier to effective cancer therapy. **The aim** of the study was to evaluate the antitumor effects of PL and utility of the combined use of PL and TRAIL in colon cancer cells. **Caco-2 colon cancer cells** were treated with PL (0-150uM) and/or TRAIL (25 ng/ml), cell viability and migration were examined. Cell viability was determined by trypan blue exclusion and MTT assay. Cell migration was determined by wound healing assay. Furthermore, lactate dehydrogenases (LDH) levels of medium were determined as biochemical markers of cell viability. **Colon cancer cells** were treated with PL and/or TRAIL for 24, 48 and 72 h incubation and IC50 doses for 24 h incubation were determined 30uM. PL and PL plus TRAIL inhibit colon cancer cell growth in a dose-dependent manner. Treatment with TRAIL has no effect at inhibiting growth of Caco-2 cells. The combination of PL and TRAIL elicit a synergistic antitumor effect on Caco-2 cells. There is a significant increased in PL and PL+TRAIL treatments group of LDH activities with respect to control and TRAIL group. **Present data show that** PL efficiently enhanced TRAIL effects in colon cancer cells. Combined treatment with PL and TRAIL is more effective than the individual treatments of TRAIL at inhibiting growth of colon cancer cells.

**Keywords:** Piperlongumine, Trail, Caco-2 Cells



# **NEUROHISTOPATHOLOGICAL STUDY ON NEOSPORA CANINUM INFECTED CALVES: SPECIAL EMPHASIS TO DOPAMINERGIC ACTIVITY**

**TUĞÇE SÜMER<sup>a</sup>, MERVE BIŞKIN TÜRKMEN<sup>a</sup>, NACI ÖCAL<sup>b</sup>, KADRIYE GİZEM<sup>c</sup>  
IMRAK<sup>d</sup>, OĞUZ KUL<sup>a</sup>**

<sup>a</sup> Kirikkale University, Department of Veterinary Pathology

<sup>b</sup> Kirikkale University, Department of Veterinary Internal Disease

<sup>c</sup> Kirikkale University, Department of Bioengineering

<sup>d</sup> Kirikkale University, Department of Veterinary Pathology

[tugceanteplioglu@gmail.com](mailto:tugceanteplioglu@gmail.com)

*Neospora caninum* is a protozoan parasite known as a major cause of foetal loss in cattle and neuromuscular disease in dogs and calves. *N. caninum* is closely related with *Toxoplasma gondii*, therefore it was misdiagnosed until described by Dubey et al. in 1988. Although, the exact mechanism of behavioral changes arising from *T. gondii* is still unknown, there are evidences that related with dopamine and tyrosine hydroxylase (TH) exaggeration in the brain. in this study, we aimed to investigate whether relationship between *N. caninum* and dopamine mechanism in natural infections. **75 aborted fetuses and 25 calves** with neurological signs were necropsied in six different farms. 20 calves' brains that are *Neospora* negative were also used as control. The brain sections from four different regions (obex, cerebellum, cornu ammonis and olfactory bulbs) were examined for scoring lesion severity and *N. caninum* co-localizations. Immunohistochemistry was performed for TH, dopamine transporter (DAT) and dopaminergic neuron receptor D1 (DNRD1) demonstration. The seroprevalence for *N. caninum* were 37.7% (161/427 animals) for the cattle and 55.5 % (10/18 animals) for dogs on these farms. in immunoperoxidase examination, increased levels of TH and DAT expressions were observed where *N. caninum* immunopositivity observed especially in degenerative and necrotic neural cells in the brain. *Toxoplasma gondii* manipulates definitive host behavior for its own advantage increasing dopamine metabolism. **According the results,** *N. caninum* may modulate the behavior of cattle and calves using the same route and triggers the abnormal behaviors such as aggression, kicking, nymphomania, intersuckling and tongue rolling.

**Keywords:** Neospora Caninum, Dopamine, Tyrosine Hydroxylase, Calve, Abnormal Behaviors

## ***THE PRODUCTION STRUCTURE AND MILKING CHARACTERISTICS OF SAANEN GOAT FARMS IN ÇANAKKALE PROVINCE, TURKEY***

---

**ARZU GÖKDAL, ENGİN SAKARYA**

Ankara University Faculty of Veterinary Medicine, Department of Animal Health Economics  
and Management

[vet.arzu@gmail.com](mailto:vet.arzu@gmail.com)

In recent years a large number of enterprises have started to breed Saanen goats which have higher milk yields than hair goats in our country. Çanakkale is the city in which the Saanen goat breeding is the most intensive and has the largest number of Saanen goats in Turkey. In fact, 25,51% of the total Saanen goats in Turkey is located in Çanakkale. The aim of this study is to make an evaluation about the production structure of Saanen goat enterprises, milking characteristics and common animal diseases related to hygiene conditions. The material of the study is the data which are obtained from face-to-face surveys made by 10 dairy goat breeders as a preliminary study of a scientific research. In the study it has been observed that nearly all producers make a semi-intensive dairy goat breeding and have a normal-based pens. It has been seemed that most farmers don't use any foreign labor and they work generally with their own family labor. It has been detected that all of the farmers don't have any training in dairy goat breeding systems and hygiene practices. Regarding the milking characteristics, only a few farmers have an automatic milking system in their farms and in general milking is made by hand in pens. However, they don't use any gloves while milking and breast cleaning is also not done after milking process. It has been observed that, mastitis diseases frequently occur in enterprises in which milking hygiene is not implemented regularly. Due to this disease, a large number of animals have been removed from the farms and economic losses caused by mastitis have been reported. As a result, producers need to be informed and trained in technical terms in milking and hygiene practices in order to provide economical benefits and prevent common animal diseases.

**Keywords:** Dairy, Goat, Milking, Saanen

***EFFECTS OF DIETARY SUPPLEMENTATION OF PISTACIA  
TEREBINTHUS (TEREBINTH) SEED IN LAYER DIET ON INTERNAL EGG  
QUALITY PARAMETERS DURING DIFFERENT STORAGE TIME***

---

İSMAİL BAYRAM<sup>a</sup>, EYÜP EREN GÜLTEPE<sup>a</sup>, CANGİR UYARLAR<sup>a</sup>, AAMIR IQBAL<sup>a</sup>,  
ABDUR RAHMAN<sup>b</sup>, SÜLEYMAN HACISALİHOĞLU<sup>c</sup>, ÜMİT ÖZÇINAR<sup>a</sup>, İBRAHİM  
SADİ ÇETİNGÜL<sup>a</sup>

<sup>a</sup> Animal Nutrition and Nutritional Disorders, Faculty of Veterinary Medicine, Afyon  
Kocatepe University

<sup>b</sup> Department of Animal Nutrition, University of Veterinary and Animal Sciences, Lahore,  
Pakistan

<sup>c</sup> Esme Vocational School, Usak University

[umitozcinar@gmail.com](mailto:umitozcinar@gmail.com)

Egg quality losses during storage period from laying to transportation pose hazardous damage to farm economics. Sustainability and maintenance of internal egg quality can be achieved by alternative therapy like herbal and plants products. The current study was designed to investigate the effects of dietary supplementation of Pistacia terebinthus seed meal in laying hens on egg quality traits during different storage time. For this purpose, a total of 192 Babcock white laying hens were divided into 6 groups with 4 subgroups in each and fed diets containing 0, 10, 20, 30, 40 and 50 g/kg terebinth (Pistacia terebinthus) to each group accordingly. At the end of the experiment, 48 eggs were collected from each group at 2 consecutive days. From the first day collection, 12 eggs from each group were analysed on the same day without storage. Remaining eggs were stored at +4°C. Then after 10, 20 and 30 days of storage, 12 eggs from each group were analysed for internal egg quality parameters. Results revealed that terebinthus has shown significantly positive effect ( $P<0.05$ ) on Haugh unit values at 20 g/kg and 40 g/kg inclusion rate at days 30 of storage. Similarly, yolk colour index value was also increased ( $P<0.05$ ) at 3% inclusion level of terebinthus at days 20 of storage while eggshell breaking strength and egg weight remained unaffected ( $P>0.05$ ) at various dose levels during different storage duration. It is concluded that terebinthus seed could be used to extend storage time of eggs without adverse effect on quality.

**Keywords:** Egg Storage, Egg Quality, Shelf Life, Terebinthus, Haugh Units

***EFFECT OF CARROT JUICE ON PERFORMANCE AND EGG QUALITY TRAITS IN LAYING HENS***

---

EYÜP EREN GÜLTEPE, CANGIR UYARLAR, İ.SADI ÇETİNGÜL, AAMİR IQBAL,  
ÜMİT ÖZÇINAR, İSMAİL BAYRAM

Afyon Kocatepe University Faculty of Veterinary Medicine

[umitozcinar@gmail.com](mailto:umitozcinar@gmail.com)

The aim of this study is to investigate the effect of carrot juice on egg production and egg quality in layer hens. A total of 96 white laying hens (Babcock), 50 weeks aged. Hens were divided into 4 groups (n=24) with 4 subgroups in each (n=6). Carrot juice as fresh was added to the drinking water to experimental groups, 0%, 1%, 2.5%, 5% respectively during 4 weeks. Weekly egg production, feed consumption, egg weight, egg mass and FCR were determined in this study. Egg traits analyses were conducted at mid and end of the study. Results showed that mean egg yield percentages were significantly higher at all treatment groups compared to control. There was no difference between control and treatment groups at feed consumption and FCR. Egg weight wasn't affected by treatment, but egg mass was significantly higher in groups %1 and %5 as compared to control. Haugh unit has decreased over time in the control group, but has increased in the group %2.5. Egg shell thickness was lower at the end of the study as compared control. Although there were differences between treatment groups for albumen index, all treatments were similar with control. Yolk index was significantly higher in all treatment groups than the control group at the end of the study. Moreover, mean yolk colour score of group %5 was significantly higher than the control group at the end of the study, it is concluded that carrot juice showed some positive effects on performance of laying hens without any adverse effects on egg trait. There is a need for longer and more detailed works on this subject.

**Keywords:** Carrot Juice, Laying Hen, Egg Yield

***THE EFFECTS OF BOVINE SERUM ALBUMIN ON SPERM QUALITY AND DNA DAMAGE IN LIQUID STORED RAM SEMEN***

---

**DENİZ YENİ, FATİH AVDATEK, MUSTAFA GÜNDOĞAN**

Afyon Kocatepe University

[dyeni@aku.edu.tr](mailto:dyeni@aku.edu.tr)

The aim of the present study was to determine the effects of the bovine serum albumin (BSA) on sperm quality and DNA damage at 0, 24, 48 and 72 h in liquid stored Merino ram semen at 5°C. Ejaculates were collected from five Merino Rams by artificial vagina and pooled at 37°C for evaluation. All the replicates were applicated five times concurrently. Ram semen samples were collected and diluted with Tris-based extender containing different concentrations (0, 2, 4 and 6 g/l) of BSA, and sperm motility, abnormality, plasma membrane integrity, acrosome integrity and % DNA in tail (COMET assay) content were measured and analysed. The extenders containing 4 g/l of BSA resulted in higher motility percentages and plasma membrane integrity, in comparison to the control, up to 72 h of storage ( $P<0.05$ ). At 24 and 48 h, BSA doses of 2, 4 and 6 g/l led to lower % DNA in tail percentages and all doses of BSA were found to be in protected total abnormality up to 72 h of liquid semen storage when compared with the controls ( $P<0.05$ ). As conclusion, it was shown that especially 4 g/l of BSA is the most beneficial for ram sperm parameters during liquid storage.

**Keywords:** BSA, DNA Integrity, Liquid Storage, Ram Semen

***DIFFERENTIATION OF SALMONELLA ISOLATES USING PCR AND HIGH-RESOLUTION MELT CURVE ANALYSIS***

---

SEYED ALI GHORASHI<sup>a</sup>, MOHAMMAD SADEGH SAEIDABADI<sup>b</sup>, HASSAN NILI<sup>b</sup>,  
HABIBOLLAH DADRAS<sup>b</sup>, HASSAN SHARIFIYAZDI<sup>b</sup>, JOANNE CONNOLLY<sup>a</sup>, MARY  
VALCANIS<sup>c</sup>, SHANE RAIDAL<sup>a</sup>

<sup>a</sup> Charles Sturt University and , Graham Centre For Agricultural Innovation, Wagga Wagga,  
New South Wales 2678, Australia

<sup>b</sup> School of Veterinary Medicine, Shiraz University, Shiraz, Iran

<sup>c</sup> Department of Microbiology and Immunology, The University of Melbourne, Victoria 3010,  
Australia

[aghorashi@csu.edu.au](mailto:aghorashi@csu.edu.au)

Poultry products can be contaminated with Salmonella isolates which may cause foodborne disease in humans. The aim of this study was to optimise a rapid diagnostic test that can differentiate Salmonella isolates without requiring DNA sequencing. Specific primers were used to amplify hem-D gene of 16 different Salmonella reference strains and 65 clinical isolates from commercial poultry farms. PCR products were applied to high-resolution melt curve analysis and Salmonella isolates were differentiated based on their HRM curves. Analysis of the nucleotide sequence of the amplicons from selected isolates confirmed that each melting curve profile was related to a unique DNA sequence. The relationship between reference strains and tested specimens was also evaluated using a mathematical model without visual interpretation of HRM curves. In addition, the potential of the PCR-HRM curve analysis was evaluated for genotyping of additional Salmonella isolates from different avian species. The findings indicate that PCR followed by HRM curve analysis provides a rapid and robust technique for genotyping of Salmonella isolates to determine the Salmonella strains.

**Keywords:** Salmonella, PCR, High Resolution Melting Curve Analysis, Strain Differentiation



***EFFECT OF SIZE SORTING AND DIFFERENT SIZE COMBINATION ON GROWTH PERFORMANCE OF ASIAN CATFISH (PANGASIANODON HYPOPHthalmus) IN CAGE CULTURE SYSTEM***

---

**SUAT DIKEL<sup>a</sup>, ILGIN ÖZŞAHINOĞLU<sup>a</sup>, MUSTAFA ÖZ<sup>b</sup>**

<sup>a</sup> Çukurova University

<sup>b</sup> Aksaray University

[dikel@cu.edu.tr](mailto:dikel@cu.edu.tr)

Young Asian cat fish (*Pangasianodon hypophthalmus*) have been cultured for 66 days feeding period in floating cages in Seyhan Dam Lake Adana, Tukiye. Fish ( $29.15 \pm 0.83$ g , and  $47.03 \pm 0.59$ g) were graded as a triplicated group. Research trails were established as 100% small group (B), 50% small + 50% large fish (group K1), 75% small + 25% large fish (group K2). At the end of the study best growth rate was obtained from group B ( $173.08 \pm 0.92$  g), and the other groups (K1 and K2) were  $164.19 \pm 0.82$  g and  $154.65 \pm 0.87$ g respectively. As a conclusion, growth of young Asian cat fish (~30 g) were positively affected from size grading application in cage culture conditions.

**Keywords:** Panga, Asian Cat Fish, Size Grading, Cage Culture.

***THE TREATMENT OF THE IMMUPPLUS AFS (POLYHERBAL FORMULATION), EFFECTS SOME HEMATOLOGICAL PARAMETERS IN GOAT KIDS.***

---

**FATİH MEHMET BIRDANE, DURMUŞ FATİH BAŞER**

Afyon Kocatepe University, Veterinary Faculty, Department of Internal Medicine

[fbirdane@aku.edu.tr](mailto:fbirdane@aku.edu.tr)

in the present study, it was aimed to reveal the hematologic effects of Immunoassay AFS applied to newborn goat kids. in study, 31 Saanen kids (control; n = 15, study; n = 16) were used. Sixteen goats, including the immuplus AFS study group, were started on the day of birth and were given a daily dose of 1gr / kid for 17 days. Samples were collected from both groups at day 0, 3, 7, 15, and 30 days. Hematologically, WBC, RBC, Hemoglobin, Hematocrit, MCV, MCH, MCHC, and RDW levels were measured. When the results were statistically evaluated, statistical difference was found between the control group and the study groups, even though the time dependent statistical difference was found in RBC (p <0,001), MCV (p <0,001), MCH (p <0,001) and RDW (P=0,01). As a result, it was determined that the ImmuPlus applied to the kids, at the dose and duration of the study, had no adverse effect on the measured hematological parameters.

**Keywords:** Polyherbal, Immuplus AFS, Hematology, Goat, Kid

## **THE DETERMINATION OF SENSITIVITIES OF VARIOUS MICROORGANISMS TO GAMITROMYCIN**

FATİH MEHMET BIRDANE<sup>a</sup>, ALI USLU<sup>b</sup>, ECEM OĞLAKÇI<sup>b</sup>,  
HASAN HÜSEYİN HADİMLİ<sup>b</sup>

<sup>a</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Internal Medicine

<sup>b</sup> Selcuk University, Faculty of Veterinary Medicine, Department of Microbiology

[fbirdane@aku.edu.tr](mailto:fbirdane@aku.edu.tr)

**Objective:** This study was aimed to determine sensitivities of microorganisms to gamitromycin isolated from clinical samples belong to various animals. **Methods:** The materials of this study were the clinical specimens (milk, internal organs, stools, lumps, etc.) of different animal species. Samples were cultured on different media and identified by classical microbiological methods. The susceptibilities of microorganisms isolated from specimens to gamitromycin were determined by disk diffusion method. **Results:** Twenty *Escherichia coli*, 18 *Pasteurella multocida*, 11 *Trueperella pyogenes*, 2 *Rhodococcus equi*, 3 Koagulase negative staphylococci, 2 *Mannhaemia haemolytica*, 3 *Streptococcus* ssp, 2 *Enterococcus* ssp, 3 *Staphylococcus aureus* and 1 *Pasteurella caballi* were isolated from the clinical specimens. Fourteen (70%) *E. coli* isolates, 11 (61,1%) *P. multocida* isolates, 6 (54,5%) *T. pyogenes* isolates, 2 (100%) *R. equi* isolates, 1 (33% 3) KNS isolate, 1 (50%) *M. haemolytica* isolate, 1 (33,3%) *Streptococcus* ssp. isolate, 2 (100%) *Enterococcus* ssp isolates and 2 (66.6%) isolates of *S. aureus* were susceptible to gamitromycin. in addition, one *P. caballi* isolate was resistant to gamitromycin. **Conclusion:** in conclusion, the susceptibility of various bacteria isolated from different animal species to gamitromycin was variable.

**Keywords:** Bacteria, Sensitivities, Gamitromycin

## **DIAGNOSIS OF NEONATAL CALF DIARRHEA WITH RAPID TEST KITS AND HEMATOLOGIC COMPARISON**

DURMUŞ FATİH BAŞER, FATİH MEHMET BIRDANE

Afyon Kocatepe University, Veterinary Faculty, Internal Medicine

[dfbaser@aku.edu.tr](mailto:dfbaser@aku.edu.tr)

in the present study, **it was aimed to** compare hematologic diagnosis with fast test kits of neonatal calf diarrhea. in the study, 100 (diarrhea, n = 88, control; n = 12) neonatal calves were evaluated in different cases. Quick test kits were applied to all 88 calves included in the study group. According to the results Corona virus (n = 20), *Cryptosporidium* (n = 15), Rota virus (n = 14), *Echerichia coli* K99 n = 8), negative (n = 8), Giardia (n = 3) and Coccidiosis (n = 1) were detected. Blood samples were taken for hematological examination following clinical examinations of the calves. For detecting the agents, commercial kits were used as BoviD-5 Ag (Bionote). Haematological examination, WBC, lymphocyte, monocyte, granulocyte, RBC, hemoglobin, hematocrit, MCV, MCH, MCHC, RDW, PLT, MPV, PDW, PCT levels were measured. When compare the results between the groups, statistically **significant differences** were found in PLT numbers between *E. Coli* ( $347,0000 \pm 113,0275$ ), *Cryptosporidium* + Rota virus ( $713,0000 \pm 243,6983$ ) and Rota virus ( $825,0000 \pm 403,0772$ ) the difference was detected ( $p = 0.007$ ). When PCT data were compared, only statistically significant differences were found between the groups of *E. coli* ( $0,1560 \pm 0,05159$ ) and Rota virus ( $0,3770 \pm 0,1633$ ) ( $p = 0,020$ ). **As a result**, fast test kits showed the etiology of neonatal calf diarrhea because of its importance in the determination and rapidity of the treatment, it plays an important role in the success of the treatment and hematologically a significant increase in PLT value of Rota virus infections. Therefore, **it has been concluded that** Rota virus should be treated with consideration of the platelet elevation in the viral diseases.

**Keywords:** Corona virus, *Cryptosporidium*, *Esherichia coli* k99, Giardia, Rota virus

## ***FUNGAL FLORA OF TRADITIONAL TURKISH MOLDY CHEESE: OCCURENCE OF MYCOTOXINS AND MOLECULAR CHARACTERIZATION OF THE ISOLATES***

NURHAN ERTAŞ ONMAZ<sup>a</sup>, HARUN HIZLISOY<sup>b</sup>, YELİZ YILDIRIM<sup>a</sup>, SERHAT AL<sup>a</sup>,  
FULDEN KARADAL<sup>c</sup>, ZAFER GONULALAN<sup>a</sup>

<sup>a</sup> Department of Food Hygiene and Technology, <sup>b</sup> Department of Veterinary Public Health  
Veterinary Faculty, Erciyes University  
<sup>c</sup> Nigde Omer Halisdemir University

[nertas@erciyes.edu.tr](mailto:nertas@erciyes.edu.tr)

**Aim:** The aim of this study was to identify the fungi forming of fungal flora of moldy cheese commonly produced traditionally in Turkey, to the create the geographic distribution map of fungal flora of cheeses and to determinate the level and presence of mycotoxins in moldy cheese thus to reveal the public health risk potential.

**Material and Methods:** A total of 120 moldy cheese samples collected from different city bazaars were analysed by using the method recommended by ISO 21527-2. The obtained isolates were identified by Matrix-Assisted Laser Desorption-Ionization Time-of-Flight, Mass Spectrometry (MALDI-TOF - MS) method. Subsequently, PCR amplicons of the ITS1-5.8S-ITS4 region were subjected to sequence analysis. The typing of fungi and the determination of the genetic relationship were indicated by REP-PCR method. The presence and the level of mycotoxins in the collected samples were determined by HPLC. **Results:** in this study, 250 mold strains were isolated from 120 cheese samples. of the 250 isolates identified from samples, 225 were *Penicillium roqueforti*, 12 were *P. verrucosum*, 2 were *P. cyclopium*, 2 were *P. chrysogenum*, 5 were *P. camemberti* and 4 were *Aspergillus flavus*. Overall, *P. roqueforti* was the dominant fungus in the samples analyzed. Five samples (4 %) contained levels of AFM1 at the maximum permissible level (0.05 µg/kg). **Conlusion:** in conclusion, the dominant fungal species found in moldy cheese was *P. roqueforti* in Turkey, and many of isolates were capable of producing AFM1. It is concluded that moldy cheese production process must be standardized to use selected nontoxigenic strains as starter cultures and regular monitoring of AFM1 levels in commonly consumed cheeses in Turkey should be done to protect consumer health.

**Keywords:** AFM1, Moldy Cheese, MALDI-TOF MS, REP PCR, Mycotoxin

## **THREE CASES OF EQUINE VASCULITIS**

---

**ALI CESUR ONMAZ<sup>a</sup>, ALEXANDRA PAVALOIU<sup>b</sup>, AYHAN ATASEVER<sup>c</sup>,  
RENE VAN DEN HOVEN<sup>d</sup>**

<sup>a</sup> University of Erciyes, Faculty of Veterinary Medicine, Department of Internal Medicine,  
Kayseri, Turkey

<sup>b</sup> University of Agricultural Sciences and Veterinary Medicine, Department of Semiology,  
Medical Imaging and Ethopathology, Romania

<sup>c</sup> University of Erciyes, Faculty of Veterinary Medicine, Department of Pathology, Kayseri,  
Turkey

<sup>d</sup> University of Veterinary Medicine Vienna, Department of Small Animals and Horses,  
Equine Clinic, Vienna, Austria

[aconmaz@erciyes.edu.tr](mailto:aconmaz@erciyes.edu.tr)

This paper reports on three various cases of petechial fever that were well documented in the files of the Equine Clinic at the University of Veterinary Medicine, Vienna. A syndrome dominated by vasculitis expresses itself as edema of all legs. At ultrasonography, the spleen appeared enlarged in 2 cases. The clinical state of two animals deteriorated quickly and both horses had to be euthanized within 48 hours after presentation. The surviving animal that was presented early in the course of the disease was treated with dexamethasone and penicillin. Necropsy of the died horses included generalized vasculitis of the skin, severe muscular hemorrhage and necrosis and vasculitis in many organs. Anemia was a common finding and  $\gamma$ -globuline levels were highly elevated. Three cases were diagnosed clinically and in two cases, lesions were confirmed on histopathological examination.

**Keywords:** Vasculitis, Equine, Hemorrhages, Petechia



## **THE INVESTIGATION OF D-DIMER LEVELS AND COAGULATION PROFILES IN DOGS WITH DISTEMPER**

AHMET ALI YAĞCI<sup>a</sup>, VEHBİ GÜNEŞ<sup>b</sup>

<sup>a</sup> Istanbul Metropolitan Municipality

<sup>b</sup> Erciyes University

[gunesvehbi@hotmail.com](mailto:gunesvehbi@hotmail.com)

The aim of this study was to determine sensitivity, specificity and cutoff value of D-dimer levels in both healthy dogs and dogs with Canine Distemper Virus (CDV). Twenty clinical cases and eleven healthy dogs were included in this study. D-dimer was measured using an immunochromatographic analyze system. and also the measurement of fibrinogen, PT and aPTT were carried out in same plasma samples. Clinical conditions were categorized based on result of rapid CDV kits, clinical findings, hematologic and biochemical results. Clinical cases were divided to two subgroups as dogs died due to CDV (n=11) and dogs survived (n=9) after than treatment. D-dimer values increased significantly ( $p<0.05$ ) in infected group [0.1 to 7.9 mg/l (median 1.6 mg/l)] compared to control group [0.1 to 0.2 mg/l (median 0.1 mg/l)]. But a statistically difference was not determined in between dogs died and survived. Mean fibrinogen level and aPTT in CDV group were higher than those of healthy dogs. The D-dimer ranges in dogs died due to CDV and dogs survived [0.7 to 7.9 mg/l (median 2.1 mg/l)] and [0.1 to 2.3 mg/l (median 1.3 mg/l)]. D-dimer sensitivity and specificity were also determined at 0.4 mg/L cut-off concentrations. Sensitivity and specificity of D-dimer values were determined to be 95% and 100%, respectively. These values were higher than those of Fibrinogen (Sen: 70% and Spec.:90). respectively. in conclusion, D-dimer is thought to be sensitive and specific supporting indicator in the evaluation of diagnosis in CDV cases. in dogs with CDV, analysis of D-dimer values before and after treatment in controlled case studies were suggested in future studies to enlighten the issue.

**Keywords:** D-Dimer, Distemper Virus, Dog

**Acknowledgements:** This Project was supported by Erciyes University, Department of Scientific Research Projects (Project code: TYL-2016-6562)

***DAIRY CONSUMPTION ATTRIBUTES OF CONSUMERS: A SURVEY  
STUDY IN ADANA AND MERSIN***

---

**O. İNANÇ GÜNEY, LEVENT SANGUN**

University of Cukurova

[inancguney@gmail.com](mailto:inancguney@gmail.com)

This research aims to determine consumption attitudes and preferences of dairy products of the consumers living in Adana and Mersin provinces which were located in the south-east part of Turkey. In this context, the demographic structures of the consumers were also taken into account for the analyzes. In this context, a face-to-face consumer survey was conducted with 518 people in Adana and Mersin provinces and 505 of these individuals were determined as milk and dairy products consumers. Since the obtained data did not show normal distribution ( $p < 0.01$ ), nonparametric tests were used to analyze the data. The results of the research show that there is a consumption concentration on some dairy products and 35-44 age group is the most dairy products consumed group among all. Income levels also effects the consumption and the supermarkets are the most preferred place for purchasing dairy products.

**Keywords:** Consumer Preferences, Dairy Products, Purchase, Consumption, Adana, Mersin

***COMPARISON OF FACTORS AFFECTING SEAFOOD CONSUMPTION  
ACCORDING TO DEMOGRAPHIC CHARACTERISTICS***

---

LEVENT SANGÜN, O. İNANÇ GÜNEY

Çukurova University

[leventsangun@gmail.com](mailto:leventsangun@gmail.com)

in our study, in order to specify the factors that are effective in consumption of seafood products a face to face survey was conducted with 407 individuals in supermarkets in Adana province. It was determined that 60 of the individuals who participated in the survey did not consume the seafood products and 347 individuals are regular consumers of this product type. The results of the analysis show that while there were differences in age, occupation and income for the seafood consumption factors ( $p < 0.05$ ), there was no difference for sex and education ( $p > 0.05$ ). Nonparametric tests (Mann Whitney-U and Kruskal Wallis) were applied in the analysis because the applied Kolmogorov Smirnov normality test results showed  $p < 0.01$ . When the averages were examined, it was determined that the average of all factors was between the value 4 and 5. This shows that consumers "absolutely agree" that seafood consumption is influenced by factors such as health and nutritional value.

**Keywords:** Health, Nutrition Value, Consumer Behavior, Demographic Segmentation, Adana

***COMPARISON OF FACTORS AFFECTING SEAFOOD PURCHASE  
ACCORDING TO DEMOGRAPHIC CHARACTERISTICS***

---

LEVENT SANGÜN, O. İNANÇ GÜNEY, ILGIN ÖZŞAHINOĞLU

Çukurova University

[leventsangun@gmail.com](mailto:leventsangun@gmail.com)

In this study, the factors that affect the purchases of seafood for in Adana province was compared according to the demographic differences. A total of 407 individuals were participated in the face-to-face survey which was conducted on May 2016 and it was determined that 347 individuals consumed seafood products. The averages of the factors (Natural-farm, place of sales, price, freshness, diversity) that are effective in purchasing seafood products were calculated within the scope of the research. These averages were tested according to demographic characteristics, and as a result of these tests, there was a significant difference according to age ( $p < 0.05$ ) but no significant difference according to gender, education, occupation and income situation. When the averages of the factors that could affect the purchase were examined, it was found that around value 4 in all. This shows that in the purchase of seafood products consumers are effected from the factors natural or farm, place of purchase, price, freshness and varieties Kolmogorov Simonov did not show normal distribution according to normality test result ( $p < 0.01$ ). For this reason, Mann Whitney U and Kruskal Wallis test were applied from non-parametric tests.

**Keywords:** Seafood, Purchase, Demographic Segmentation, Adana

# **COMPARATION OF HEPATOPROTECTIVE ACTIVITY OF CORIANDER (CORIANDRUM SATIVUM) AND ITS MAJOR COMPONENT LINALOOL IN AN EXPERIMENTAL RAT MODEL**

FULYA ALTINOK YİPEL<sup>a</sup>, İBRAHİM OZAN TEKELİ<sup>b</sup>, ŞULE YURDAGÜL ÖZSOY<sup>c</sup>,  
MEHMET GÜVENÇ<sup>d</sup>, ALPASLAN KAYA<sup>e</sup>, MUSTAFA YİPEL<sup>f</sup>

<sup>a</sup> Namık Kemal University, Facult of Veterinary Medicine, Department of Internal Medicine, 59030 Tekirdağ, TURKEY

<sup>b</sup> Mustafa Kemal University, Facult of Veterinary Medicine, Department of Pharmacology-Toxicology, 31060 Hatay, TURKEY

<sup>c</sup> Mustafa Kemal University, Facult of Veterinary Medicine, Department of Pathology, 31060 Hatay, TURKEY

<sup>d</sup> Mustafa Kemal University, Facult of Veterinary Medicine, Department of Physiology, 31060 Hatay, TURKEY

<sup>e</sup> Mustafa Kemal University, Faculty of Agricultural, Department of Field Crops, 31040 Hatay, TURKEY

<sup>f</sup> Namık Kemal University, Facult of Veterinary Medicine, Department of Pharmacology-Toxicology, 59030 Tekirdağ, TURKEY

[fulyip@hotmail.com](mailto:fulyip@hotmail.com)

This study was aimed to investigate and compare hepatoprotective activity of Coriandrum sativum (Cs) and its major component linalool (Ln) against CCl<sub>4</sub> induced hepatotoxicity in rats. Essential oil of Cs was obtained by hydrodistillation method and chemical composition was determined by GC-MS analysis. 42 male Wistar Albino rats were divided into 7 groups each containing 6 rats. Experimental groups designed as: only saline administrated control group (I), 0,5 mg/kg CCl<sub>4</sub> administrated group (II), 25 mg/kg Silymarin administrated group (III), 100 and 200 mg/kg Cs administrated groups (IV, V), 100 and 200 mg/kg Ln administrated groups (VI, VII). The protective activities determined according to the results of serum liver biomarkers (AST, ALT, ALP), antioxidant (GSH, GPx, CAT) parameters, lipid peroxidation (MDA) and histopathological examination. The percentage of Ln was measured as 81.6 %. The results demonstrate the protective activity of Ln against acute liver toxicity. on the other hand, further studies are required to examine protective and therapeutic effects of major components of the medicinal plants in other experimental models.

**Keywords:** Carbon Tetrachloride, Coriandrum Sativum, Hepatoprotective Activity, Linalool

**Acknowledgements:** Presentation of this study is supported by Scientific Activities Support Program of Namık Kemal University.

**INVESTIGATION OF ANTI-INFLAMMATORY AND ANTIOXIDANT ACTIVITY OF COLON TARGETED BOSWELLIC ACID AND ELLAGIC ACID BY DRUG DELIVERY SYSTEM: IN VITRO PART (COLON TARGETING, PHYSICOCHEMICAL CHARACTERIZATION, SWELLING / RELEASE TESTS)**

MUSTAFA YİPEL<sup>a</sup>, İBRAHİM OZAN TEKELİ<sup>b</sup>, FULYA ALTINOK-YİPEL<sup>c</sup>, NESLIHAN BEYAZIT<sup>d</sup>

<sup>a</sup> Namık Kemal University, Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology, 59030 Tekirdağ, TURKEY

<sup>b</sup> Mustafa Kemal University, Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology, 31060 Hatay, TURKEY

<sup>c</sup> Namık Kemal University, Faculty of Veterinary Medicine, Department of Internal Medicine, 59030 Tekirdağ, TURKEY

<sup>d</sup> Mustafa Kemal University, Faculty of Arts and Sciences, Department of Chemistry, 31060 Hatay, TURKEY

[musyip@hotmail.com](mailto:musyip@hotmail.com)

The Acetyl 11-keto- $\beta$ -boswellic acid (AKBA) and Ellagic acid (EA) are main components of some widely used plants (*Boswellia serrata* and *Punica granatum*) in ethno medicine and ethno veterinary medicine in inflammatory diseases. This medicinal plants also provide significant economic contributions to their countries. The main objective of the study was to investigate the efficacy of AKBA and EA known as an antioxidant and antiinflammatory against to colitis by target. Put forth of the potential of increase the R&D based economic inputs by investigate efficacy of targeted EA in inflammatory bowel diseases is also aimed. For this purposes, after succinylation of chitosan, Elemental analysis, FT-IR (Fourier Transform Infrared Spectroscopy), DSC (Differential Scanning Calorimetry), XRD (X-Ray Diffraction), SEM (Scanning Electron Microscope), NMR (Nuclear Magnetic Resonance Spectroscopy) analyzes to determine structure of the polymer and polymer-active agent interactions (physico-chemical characterization); in vitro swelling and releasing tests to determine release kinetic of material in the colon media were done as the first part. According to the results N-succinly chitosan was successfully synthesized as a pH-sensitive matrix and the EA was successfully targeted to the colon by loading in to the matrix.

**Keywords:** Boswellic Acid; Colon Targeting; Ellagic Acid, Physico-Chemical Characterization; Swelling and Release Test

**Acknowledgements:** This study is supported by TUBITAK with project number: 2150891.



## ***A SURVEY FOR EXPOSURE TO HUMAN VECTOR-BORNE PATHOGENS IN THE EUROPEAN PART OF THE TURKEY***

**DILEK MUZ<sup>a</sup>, MUSTAFA DOĞAN<sup>b</sup>, MUSTAFA NECATI MUZ<sup>c</sup>, ISMAIL TAYFUR<sup>d</sup>**

<sup>a</sup> Dept. of Virology, Veterinary Medicine Faculty, Namik Kemal University, Tekirdag-TURKEY

<sup>b</sup> Dept. of Infectious Disease, Medicine Faculty, Namik Kemal University, Tekirdag-TURKEY

<sup>c</sup> Dept. of Parasitology, Faculty of Vet. Med., Namik Kemal University, Tekirdag-TURKEY

<sup>d</sup> Dept. of Emergency, Medicine Faculty, Health Science University, İstanbul-TURKEY

[dilekmnm@gmail.com](mailto:dilekmnm@gmail.com)

Arthropod infestations and related epidemics are a major public health concern, due to global climate change have been increasing vector-borne pathogens including viruses, bacteria, and protozoa reported in the Europe significantly threatening animal and human health. Limited knowledge is accessible about vector-borne pathogens of humans living above the backdoor Europe at the refugee movements with having a particularly emerging risk of new pathogen strains. This study aimed to evaluate the seroprevalence of human vector-borne pathogens in the European part of Turkey. A total 120 patients with tick-bite were examined in General Hospital from Tekirdag during the 2015 year. Mean age of the sampled patients was 27.25, 30 % of them below 10 age, consisted of total 42 women (35 %) and 78 (65 %) men. The seroprevalence of Crimean-Congo Hemorrhagic Fever with 3.3 % (IgM: 0 %; IgG: 3.3 %); West Nile Virus 5.8 % (IgM: 5.8 %; IgG: 0%); *Borrelia burgdorferi* 25.8 % (IgM: 5 %; IgG: 22.5 %); *Rickettsia conorii* 9.2 % (IgM: 0%; IgG: 9.2 %). The samples were found seronegative for *Anaplasma phagocytophilum*. Routine hematological and biochemical test results compared and discussed in parallel to most imported risk factor. This study demonstrated that humans from country style or more rural life are partially exposed to vector-borne pathogens in the European part of Turkey.

**Keywords:** Zoonosis, Human, Tick, Thracia, Turkey.

**Acknowledgements:** *This presentation is only partially supported by Scientific Activities Support Program of Namik Kemal University, Tekirdağ, Turkey.*

# ***SURVEY OF FELINE IMMUNODEFICIENCY VIRUS, FELINE LEUKEMIA VIRUS, LEISHMANIA INFANTUM AND LEISHMANIA TROPICA IN STRAY CATS OF IZMIR, TURKEY***

DİLEK MUZ<sup>a</sup>, HÜSEYİN CAN<sup>b</sup>, MUHAMMET KARAKAVUK<sup>c</sup>, MERT DÖŞKAYA<sup>d</sup>,  
HÜSEYİN GÖKHAN ÖZDEMİR<sup>d</sup>, AYSU DEĞİRMENCİ DÖŞKAYA<sup>c</sup>, ESRA ATALAY  
ŞAHAR<sup>b</sup>, BAYRAM PEKTAŞ<sup>f</sup>, MEHMET KARAKUŞ<sup>c</sup>, SERAY TÖZ<sup>c</sup>, YUSUF ÖZBEL<sup>c</sup>,  
ADNAN YÜKSEL GÜRÜZ<sup>c</sup>, MUSTAFA NECATİ MUZ<sup>g</sup>

<sup>a</sup>Department of Virology, Namik Kemal University, Faculty of Veterinary Medicine,  
Degirmenaltı / Tekirdag 59030, Turkey

<sup>b</sup>Dept. of Molecular Biology, Ege University Faculty of Sciences, İzmir 35100, Turkey

<sup>c</sup>Department of Parasitology, Ege University Medical School, Bornova/İzmir 35100, Turkey

<sup>d</sup>Department of Veterinary Affairs, Municipality of İzmir, Turkey

<sup>e</sup>The Protection and Development Union of İzmir Bird Paradise, İzmir, Turkey

<sup>f</sup>İzmir Atatürk Training and Research Hospital, Dept. of Microbiology, İzmir, Turkey

<sup>g</sup> Department of Parasitology, Namik Kemal University, Faculty of Veterinary Medicine,  
Degirmenaltı / Tekirdag 59030, Turkey

[mustafamuz@gmail.com](mailto:mustafamuz@gmail.com)

Feline Immune Deficiency Virus (FIV) is a retrovirus that causes an acquired immunodeficiency syndrome in domestic cats. Feline Leukemia Virus (FeLV) is the most common cause of cancer in cats, may cause various blood disorders, and may lead to a state of immune deficiency that hinders a cat's ability to protect itself against other infections. The American Association of Feline Practitioners and the European Advisory Board on Cat Diseases recommend that the retrovirus status of all cats should be known. Due to the increase in reports of *L. tropica* in cats makes it necessary and worthy to research. The aim of this survey was to investigate the presence of FIV, FeLV in a group of stray cats of İzmir, Turkey in which the incidence of Leishmania species has been determined. The occurrence of FIV, FeLV and Leishmania species was tested in the 1008 stray cats which were brought to the Veterinary Clinics or shelters from 13 different districts of Izmir. The results indicated that FIV positivity is 25.2 %, FeLV positivity is 69.7 %, and previously *L. tropica* and *L. infantum* were reported to be 6/1008 and 1 /1008, respectively. in sum, the molecular epidemiological studies should be planned together for the control and prevention of infectious diseases in the future.

**Keywords:** Zoonosis, Cat, Izmir, Turkey.

**Acknowledgements:** This presentation is only partially supported by Scientific Activities Support Program of Namik Kemal University, Tekirdağ, Turkey

## ***EPIDEMIOLOGY OF HONEYBEE DISEASES IN THRACIA, TURKEY.***

**MUSTAFA NECATI MUZ<sup>a</sup>, DILEK MUZ<sup>b</sup>**

<sup>a</sup> Department of Parasitology, Namik Kemal University, Faculty of Veterinary Medicine, Degirmenaltı / Tekirdag 59030, Turkey..

<sup>b</sup> Department of Virology, Namik Kemal University, Faculty of Veterinary Medicine, Degirmenaltı / Tekirdag 59030, Turkey

[mustafamuz@gmail.com](mailto:mustafamuz@gmail.com)

The worldwide population of western honey bees (*Apis mellifera*) is under pressure from pathogenic parasites and other stressors which cause lethal epidemics. Honey bee populations faced medical and economic challenges from 2006 when beekeepers first reported collapses of their colonies. Since 2006 honeybee diseases have rising global impact on colony collapses. The mite *Varroa destructor* is a pest that has been associated with the collapses of *Apis mellifera* colonies world-wide. Deformed wing virus replicates on *Varroa destructor*, transmits with the mites when they are feeding. DWV-induced immunosuppression in hosts. World most widespread honeybee virus, Deformed wing virus (DWV) usually cause asymptomatic infections with low levels of the virus when transmitted vertically or orally but DWV transmission by the ectoparasitic mite *Varroa destructor* results with very high levels in infected pupae and cause characteristic symptoms, including deformed wings and shortened abdomen. One of the most common, and least known, honeybee pathogens is black queen cell virus (BQCV), which at high titers causes queen larvae and pupae to turn black and die. The microsporidian *Nosema ceranae* ingested by honey bees has been shown to promote precocious foraging, reduce longevity, reduce immunity and triggers colony losses. **The aim of this study** is to identify medical reasons of the honey bee colonies distributed in the Thrace between 2015-2017. Honeybee samples collected from 45 stationary apiaries. Sum of the study revealed that *N. ceranae* detected in 23/45, *N. apis* in 3/45, DWV in 39/45, BQCV in 17/45, *V. destructor* in 43/45. Molecular epidemiologic field studies should be planned for prevention and control of honeybee diseases among the region.

**Keywords:** Epidemiology, Honeybee, Virus, Parasite, Thracia, Turkey.

**Acknowledgements:** *This presentation is only partially supported by Scientific Activities Support Program of Namik Kemal University, Tekirdağ, Turkey.*

## **SEROPREVALENCE OF *T. GONDII* IN DAIRY RUMINANT PRODUCTION SYSTEMS, SHEPHERD DOGS AMONG THE HERDS AND DETECTION OF *T. GONDII*-LIKE OOCYST IN CAT FECES IN HATAY REGION**

**MUSTAFA NECATI MUZ<sup>a</sup>, NURI ALTUG<sup>b</sup>, MUHAMMET KARAKAVUK<sup>c</sup>**

<sup>a</sup> University of Namık Kemal, Faculty of Veterinary Medicine

<sup>b</sup> Department of Internal Medicine, Faculty of Veterinary Medicine, Tekirdağ

<sup>c</sup> Department of Parasitology, Faculty of Medicine, University of Agea, İzmir, Turkey

[mustafamuz@gmail.com](mailto:mustafamuz@gmail.com)

**Introduction:** *Toxoplasma gondii* is a socioeconomically important protozoan parasite that belongs to the medically well known phylum Apicomplexa which includes *Theileria*, *Babesia*, and *Cryptosporidium*. Infection with the protozoan parasite *Toxoplasma gondii* has global distribution. This study was aimed to investigate the seroprevalance of *Toxoplasma gondii* in dairy ruminant production system and shepherd dogs by the ELISA test. on the other hand, we determined the *Toxoplasma gondii* – like oocyst by the floatation method in faeces of owned and free roaming domestic stray cats (*Felis domesticus*) living around these farms to make an epidemiologic comparison and raise awareness. **Method:** The thirty dair farms were sampled from five different towns each include three villages. ELISA and floatation methods were used. **Results:** *Toxoplasma gondii* seropositivity found 60.9% (112/184) in cattles, 53.8% (99/184) in sheeps, 35.9% (66/184) in goats and 58.7% (27/46) shepherd dogs by the ELISA test. *Toxoplasma gondii* like oocyst detected 8.3% 3/36 in the cat feces by the floatation method. **Conclusion:** Durability of *T. gondii* oocysts in the nature may increase the rates of *T. gondii* infection and the incidence of toxoplasmosis outbreaks. Different genetic strains of *T. gondii* have various organ or tissue pathogenicity that may cause clinically different anamnesis. These genetic strains cycles between domestic and wild animals and humans. on the other hand, as previously reported; *T. gondii* infected domestic cats between 4 and 13 days after feeding *T. gondii* tissue cysts can excrete more than 20 million oocysts. This suggests without any effective vaccines to prevent toxoplasmosis should need an integrated strategy of prevention to reduce or eliminate the transmission of *T. gondii*. Alternative control methods should be developed under the frame of “One Health, One Medicine” for prevention of medically important zoonose parasites like *T. gondii* as well.

**Keywords:** *Toxoplasma Gondii*, Ruminant, Dog, Cat, Hatay. Turkey.

**Acknowledgements:** This presentation is only partially supported by Scientific Activities Support Program of Namık Kemal University, Tekirdağ, Turkey.

***SERUM POTASSIUM-LOWERING EFFECTS OF INSULIN PLUS DEXTROSE AND ADRENALIN TREATMENT THAT ENHANCE INTRACELLULAR POTASSIUM TRANSITIONS IN HYPERKALEMIC DIARRHEIC CALVES***

**NURI ALTUĞ<sup>a</sup>, NAZMI YÜKSEK<sup>b</sup>, CUMALI ÖZKAN<sup>b</sup>, YILDIRAY BAŞBUĞAN<sup>b</sup>, İHSAN KELEŞ<sup>c</sup>, ZAHİD TEVFIK AĞAOĞLU<sup>d</sup>, ABDULLAH KAYA<sup>b</sup>, YAKUP AKGÜL<sup>b</sup>**

<sup>a</sup> Department of Internal Diseases, Faculty of Veterinary Medicine, Namık Kemal University, Tekirdağ, Turkey

<sup>b</sup>Department of Internal Diseases, Faculty of Veterinary Medicine, Yuzuncu Yıl University, Van, Turkey

<sup>c</sup>Department of Internal Diseases, Faculty of Veterinary Medicine, Erciyes University, Kayseri, Turkey

<sup>d</sup>Department of Internal Diseases, Faculty of Veterinary Medicine, Cumhuriyet University, Sivas, Turkey

[nurialtug@gmail.com](mailto:nurialtug@gmail.com)

The study examined the serum potassium-lowering effects of different treatment options for hyperkalemia in diarrheic calves (n=18). Calves were allocated into three treatment groups. All groups received isotonic sodium bicarbonate solution for a period of 90 minutes. The animals in group 1 received no further treatment, those in group 2 received a further dose of 50% dextrose and insulin, and those in group 3 received a further dose of adrenaline. High serum K levels in all groups significantly decreased after treatment (AT) than before treatment (BT). Serum potassium levels AT in groups 2 and 3 were found to be significantly lower than those in group 1. Increase in pH, bicarbonate and total carbon dioxide values were observed AT in all groups. However, bicarbonate and total carbon dioxide levels in the AT were not statistically significantly different from those in the adrenaline group compared with the groups 1. These parameters were significantly lower in the group 2. Moreover, the concentration of glucose in the groups 2 in contrast to the adrenalin group was higher than that in both the BT and group 1 AT. The insulin + dextrose combination and adrenaline applications in hyperkalemic calves had similar effects. However, the administration of adrenaline had a lower negative effect on metabolic acidosis treatment.

**Keywords:** Adrenaline, Calf, Diarrhoea, Hyperkalemia, Insulin

**Acknowledgements:** Presentation of this study is supported by Scientific Activities Support Program of Namık Kemal University

***INVESTIGATION OF THE EFFECT OF VACCINATION ON DYNAMIC THIOL / DISULFIDE BALANCE IN LACTATING DAIRY CATTLE WITH SUBCLINICAL MASTITIS***

---

GAYE BULUT<sup>a</sup>, GÜZİN CAMKERTEN<sup>b</sup>, ÖZCAN EREL<sup>c</sup>

<sup>a</sup> Aksaray Univesity

<sup>b</sup> Aksaray University Vocational School of Technical Sciences

<sup>c</sup> Ankara Atatürk Training and Research Hospital Biochemistry Laboratory

[oguzalperen@hotmail.com](mailto:oguzalperen@hotmail.com)

The objective of this study was to investigate the thiol groups as a novel oxidative stress parameter in lactating dairy cattle with subclinical mastitis before and after vaccination. Our study will be the first report in the literature. A total of 37 Lactating dairy cow before and after mastitis vaccine were included in this study. Total thiol and native thiol levels in serum were measured in all animal. Quantity of dynamic disulphide bond (–S–S–) and %ss/native thiol, %ss/total thiol, %nativ thiol /total thiol ratios were calculated from these values. The results were evaluated. in our study, there was no statistically significant change in native thiols, total thiols and disulfides. But after vaccination, the ratio of native thiol / total thiol was lower than that before vaccination (respectively, 81.66; 85,66) and disulphide /native thiol (respectively, 12.46; 8.58), disulphide/total thiol (respectively, 9.16; 7.20) rates were higher ( $p<0.05$ ). After vaccination, the thiol/disulfide balance was lower than before vaccine and the balance was found to be towards the disulfide formation. This situation it was interpreted that the oxidative reaction still persists in 15 days after vaccination.

**Keywords:** Subclinical Mastitis, Thiol, Disulfide



## ***A CLINICAL PERSPECTIVE TO VISCERAL LEISHMANIASIS IN DOGS IN AEGEAN REGION IN TURKEY***

SERDAR PAŞA<sup>a</sup>, KEREM URAL<sup>a</sup>, MEHMET GÜLTEKİN<sup>a</sup>, HASAN ERDOĞAN<sup>a</sup>,  
CANBERK BALIKÇI<sup>a</sup>, HATİCE ERTABAKLAR<sup>b</sup>, SONGÜL ERDOĞAN<sup>a</sup>,  
YASİN PARLATIR<sup>a</sup>

<sup>A</sup> Department of Internal Medicine, Faculty of Veterinary, Adnan Menderes University

<sup>B</sup> Department of Parasitology, Faculty of Medicine, Adnan Menderes University

[spasa@adu.edu.tr](mailto:spasa@adu.edu.tr)

in the present study, the aim was to make interpretation for clinical approach in cases of visceral leishmaniasis in dogs in Aegean region. A total of 28 dogs with visceral leishmaniasis were used. The diagnosis of the disease was made with the rapid test kit with the principle of ELISA and IFAT. The cases were divided into 4 groups (n = 7) by staging (I, II, III and IV) according to clinical, serological and biochemical findings as defined by Leishvet Group. Clinical outcome was assessed by clinical presentation, serological, haematological, biochemical (urea, creatinine, TP) findings, cardiopulmonary markers (CTnI and D-dimer) and coagulation profiles (PT, APTT, FIB). Clinical examination revealed lymphadenopathy, hypotrichosis and skin lesions in all the dogs in the group, while weight loss, onychogriposis and epistaxis were found to be specific. IFAT values were 1/64 in all cases in Stage I group, whereas cases in other stages were found to be seropositive with higher anti-Leishmania antibody titers. Hypoproteinemia was detected in three dogs in stage II, four dogs in stage III, whereas hyperproteinemia was detected two dogs of stage III and stage IV. Azotemia was determined in two, six and seven cases of stage II, III and IV, respectively. The ratio of protein / creatinine in the urine was found to be high in all cases of Stage III and Stage IV in two cases in Stage II. Thrombocytopenia was detected in four cases in Stage II, one in Stage III, and three in Stage IV. Increased CTnI level was found in a dog in Stage III. D-dimer level was found to increase in five cases in stage I, six cases in stage II, and all cases in stage III and IV. In PT, prolongation in one case in stage II, prolongation in two cases, shortening in one case, prolongation in four cases in stage III, shortening in two cases, prolongation in two cases in stage IV, shortening in one case was detected. In APTT, prolongation in two cases in Stage II, four cases in Stage III and Stage IV, and a shortening in Stage II was detected. It has been determined that levels of fibrinogen increased in four cases in Stage I, II and III, one in Stage IV, and decreased in one cases in Stage I and IV, and three cases in Stage II.

**Keywords:** Köpek, Visceral Leishmaniasis, Koagulasyon Profili, Kardiyopulmoner Belirteç



## **ASSESSMENT OF ECHOCARDIOGRAPHIC EJECTION FRACTION AND FRACTIONAL SHORTENING AT DIFFERENT STAGES OF CANINE VISCERAL LEISHMANIASIS**

**CANBERK BALIKÇI<sup>a</sup>, KEREM URAL<sup>b</sup>**

<sup>a</sup> Adnan Menderes University, Veterinary Faculty, Department of Veterinary Sciences

<sup>b</sup> Adnan Menderes University, Veterinary Faculty, Department of Veterinary Sciences

[canberkbalikci@gmail.com](mailto:canberkbalikci@gmail.com)

Visceral Leishmaniasis (VL), which has been shown by the World Health Organization (WHO) to be a very important and urgent emergency that has poor prognosis when not controlled by zoonotic and various applications, is now characterized by close disease findings both in humans and in dogs. In this study, it was aimed to evaluate EF and FS parameters at different stages of canine visceral leishmaniasis to benefit in diagnosis and treatment monitoring. A total of 35 dogs, 28 of which were infected with *L. infantum* and 7 of which were healthy, constituted the material of study. VL diagnosis was confirmed with test positivity with fast ELISA on blood samples. VL dogs eligible for inclusion into study were evaluated in 4 different groups (n = 7, each group), according to "LeishVet Working Group". ECHO, studies were performed on the right parasternal short axis and EF and FS parameters were detected. In control group, EF values (%) were found between 48 and 74, FS (%) value between 24 and 38. EF value was found between 59 and 74, FS value was between 31 and 42 in group I. EF value was found between 58 and 93, FS value was between 29 and 63 in group II. EF value was found between 35.3 and 93.8, FS value was between 16.4 and 50 in group III. EF value was between 52 and 82, FS value was between 27 and 50 in group IV. As a result, when we considered the LWG, it can be said that echocardiographic evaluation [reduction in FS, EF (systolic dysfunction)] should be performed into account in CVL dogs. It may be beneficial to focus on cardiac changes contributing to the intravital diagnosis in CVL dogs and to apply the necessary additional treatment protocols.

**Keywords:** Leishmaniasis, Echocardiography, Ejection Fraction, Fractional Shortening, Dog

**Acknowledgements:** This research was supported by Adnan Menderes University Research Funding Unit (ADU-BAP) with Project no:15064.

***PIPERLONGUMINE (PIPLARTINE) DOWN-REGULATES THE ANTIAPOPTOTIC PROTEINS IN HUMAN PROSTATE CANCER CELLS, LEADING TO SUPPRESSION OF PROLIFERATION AND INDUCTION OF APOPTOSIS***

---

GORDEM KISMALI, TEVHIDE SEL

Ankara University

[tevhidesel@gmail.com](mailto:tevhidesel@gmail.com)

**Piperlongumine**, is a natural alkaloid has shown potent anticancer activity, it was identified to exhibit its effects by targeting ROS signaling. The aim of present study was to evaluate the mechanism of possible antiapoptotic effects of piperlongumine in prostate cancer cells. **To evaluate the effect** of PL on the growth of prostate cancer, we analyzed cell viability using the MTT assay. To figure out the relationship between the induction of apoptosis and the expression of apoptosis regulatory proteins by PL treatment, the expression of apoptosis regulatory proteins was investigated by western blot. PL inhibited cell proliferation even at low doses ( < 10  $\mu$ M), 24h and 48h incubation. **When treated** with PL (0–15  $\mu$ M) prostate cancer cells, **we found that** the expression of various apoptotic proteins such as Bax, cleaved caspase-3, cleaved caspase-8 was increased, while the expression of anti-apoptotic protein survivin was decreased in a concentration dependent manner. Therefore, these results indicated that PL could inhibit prostate cancer cell growth via inhibition of apoptotic signaling pathway in vitro, and PL may be a promising candidate drug for treating prostate cancer.

**Keywords:** Piperlongumine, Prostate Cancer Cell, Apoptosis

## ***EVALUATING SILAGE QUALITY OF POTATO PULP SILAGE PREPARED WITH GROUND WHEAT STRAW, GROUND ALFALFA HAY AND WHEAT BRAN***

MEHMET AKIF KARSLI<sup>a</sup>, HASAN HÜSEYİN ŞENYÜZ<sup>b</sup>

<sup>a</sup> Kırıkkale University

<sup>b</sup>uluslararası Hayvancılık Araştırma ve Eğitim Merkezi Müdürlüğü Lalahan/Ankara

[mehmetakifkarsli@hotmail.com](mailto:mehmetakifkarsli@hotmail.com)

The objective of this study was to; 1) evaluate silage quality of potato pulp silages (PPS) prepared with different feedstuffs and compare PPS with corn silage (CS). A total of 5 PPS were prepared with % 5 ground barley straw, 5 % ground alfalfa hay, 5 % wheat bran alone or combination of 2.5 % ground barley straw + 2.5 % wheat bran, and 2.5 % ground alfalfa hay + 2.5 % wheat bran wet weight basis. These silages were ensiled in 1-L jars and CS was prepared at large scale silo. After 40 d of ensiling, all silages were analyzed for chemical composition, pH, organic acids, ammonia-N contents, in situ DM and OM degradabilities and in vitro digestibility (IVOMD). Dry matter concentration was higher but OM concentration of CS was less than those of PPS ( $P < 0.05$ ). Potato pulp containing only ground wheat straw matter had the lowest CP concentration among all silages ( $P < 0.05$ ). While NDF concentration was less ADF concentration was higher in CS compared with those of PPS ( $P < 0.05$ ). Silage pHs ranged from 4.01 to 4.18 ( $P < 0.05$ ) among silage. Both lactic acid and acetic acid concentrations of CS were significantly higher than those of PPS. Potato pulp with wheat bran had the highest lactic acid concentrations among PPS ( $P < 0.05$ ). Silage ammonia-N levels were similar among all silages ( $P > 0.05$ ). The percentages of in situ DM and OM degradations and IVOMD were significantly less in CS compared with PPS ( $P < 0.05$ ). Percentage of IVOMD of CS was 58,13% but it ranged from 76,75 to 80,76% in PPS ( $P < 0.05$ ). It can be concluded that high quality PPS can be obtained with addition of 5% dry feedstuffs, including ground barley straw.

**Keywords:** Potato Pulp, Silage, in Situ Degradability, in Vitro Digestibility.

## ***SOME CHARACTERISTICS OF WINGED ANIMAL OF ASEEL GENOTYPES BREEDING IN TURKEY***

---

**BANU YÜCEER ÖZKUL<sup>a</sup>, FATİH ATASOY<sup>a</sup>, FATMA TÜLİN ÖZBAŞER<sup>b</sup>**

<sup>a</sup> Ankara University, Faculty of Veterinary Medicine, Dept. of Animal Husbandry, Ankara

<sup>b</sup> Namik Kemal University, Faculty of Veterinary Med., Dept. of Animal Husbandry, Tekirdağ

[yuceerbanu@hotmail.com](mailto:yuceerbanu@hotmail.com)

This research conducted determine some of characteristics of Aseel genotype of cocks (n=166) and hens (n=94) breeding in Turkey. Data were collected from the Ankara and around cities. Some head and body measurements of cocks and hens were found; head length 66.65 and 71.59 mm, neck length 16.48 and 13.35 cm, chest wide 115.47 and 97.40 mm, chest circumference 38.34 and 34.13 cm, shank depth 5.55 and 2.67 cm, shank length 11.19 and 9.41 cm, shank diameter 5.54 and 4.74 cm, thigh length 18.74 and 15.36 cm. The cocks live weight was higher than hen ( $P < 0.001$ ). Obtained values usually were found significant higher than hens. As a result, some morphological characteristics of Aseel genotype that breeding for a long time in Turkey were determined and variation in this genotype was found to be high in this research.

**Keywords:** Aseel, Characteristic, Cock, Hen, Live Weight, Turkey

## **THE MOLECULAR EPIDEMIOLOGY OF BOVINE NOROVIRUSES IN TURKEY**

---

ILKE KARAYEL HACIOGLU, FERAY ALKAN

Ankara University, Faculty of Veterinary Medicine, Department of Virology

[ilkekarayel@gmail.com](mailto:ilkekarayel@gmail.com)

Caliciviruses are important pathogens of humans and animals. In cattle, at least three distinct genera (Nebovirus, Norovirus and Vesivirus) of caliciviruses have been detected but only neboviruses and noroviruses have been associated with enteric replication and with enteric signs. The aim of this study was to examine the prevalence and genetic diversity of BoNoVs in diarrheic calves in Turkey. In this study, 167 fecal samples from diarrheic calves housed in family (n=48) and organized (n=11) farms located in 10 different provinces between 2002 and 2016 were tested for the presence of BoNoV. For this purpose, viral RNA was extracted by using Trizol LS Reagent and then Nested-PCR targeting the RdRp gene region was carried out. After that BoNoV positive samples were subjected to RT-PCR by using the primers targeting the capsid gene region. Out of 167 samples 56 were detected as positive for BoNoV. The calves with BoNoV were from 8 organized farms and 15 family farms. Sequencing data of the RdRp gene region was obtained for 34 BoNoV. According to the phylogenetic analysis, these BoNoVs were identified as GIII.2 genotype (n=25) and GIII.1 genotype (n=9). After RT-PCR was performed for the amplification of capsid gene regions, amplicons belonging to four BoNoV full capsid gene regions and one BoNoV partial capsid gene region were obtained. These amplicons were sequenced and analyzed for the detection of recombination. Of these samples two BoNoV strains were identified as recombinant strain (GIII.P1/GIII.2) while the capsid sequence data of others were found consistent with their RdRp gene region. As a result, BoNoVs were designated as having an important role on newborn diarrhea alone or along with other enteric pathogens for both small and organized farms. Also this study is the first to reveal the presence of BoNoVGIII.1 along with the recombinant strains of BoNoV in Turkey.

**Keywords:** Bovine Calicivirus, Norovirus, Calf Diarrhea, Genotype

## **THE REPORT ABOUT ECTHYMA CONTAGIOSUM INFECTION IN SMALL RUMINANT HERDS FROM TURKEY**

TUBA ÇİĞDEM OĞUZOĞLU<sup>a</sup>, ONUR ÜLGENALP<sup>a</sup>, BAHATTİN TAYLAN KOÇ<sup>b</sup>

<sup>a</sup> Ankara University, Veterinary Faculty, Department of Virology, 06110 Dışkapı-  
Ankara/TURKEY

<sup>b</sup> Adnan Menderes University Faculty of Veterinary Medicine Department of Virology

[oguzoglu@ankara.edu.tr](mailto:oguzoglu@ankara.edu.tr)

**Object:** Ecthyma contagiosum or contagious pustular dermatitis in sheep and goat is caused by Orf virus, a double-stranded DNA virus belonging to the genus Parapoxvirus (PPV) in the family Poxviridae. The Orf virus causes severe exanthematous dermatitis that reported also in Turkey for many years. In this study, we aimed to provide certain diagnosis with PCR test in clinically Orf suspected animals. Additionally, molecular characterization based on B2L partial gene region which has been widely performed in phylogenetic analysis. **Material-Method:** Infected sheep and goats showed that proliferative blistering lesions on the lips. Approximately 475 affected animals were included two small ruminant flocks which were neighboring flocks. Lesions proceeded from macular through papular to large nodules. Scrap materials and blood samples have been investigated by using B2L gene region primers by PCR (Inoshima et al. 2000). DNA sequencing was performed. Our sequence data have been compared with other parapoxvirus strains available from GenBank database in phylogenetic analysis. **Results:** Obtained sequences showed that close relation with other Turkish ORF strains had been characterized in previous years (Karakas et al., 2013; Akkutay-Yoldar et al, 2016). **Conclusion:** Totally, 41.5 million (31 million sheep and 10.5 million goat) small ruminants in Turkey, have been under the continuous risk by parapoxvirus infection. Because this infection may emerge nearly every year in Turkey. We suggest to control of Orf infection with a regular vaccination program and sanitation measures.

**Keywords:** Parapoxvirus, Ecthyma Contagiosum, Small Ruminant, Turkey

**Acknowledgements:** All authors have equally contributed this study.

## MOLECULAR DIAGNOSIS OF *GIARDIA DUODENALIS* IN DOGS AND CALVES IN İZMİR PROVINCE: PRELIMINARY STUDY

ADNAN AYAN<sup>a</sup>, MEHMET GÜLTEKİN<sup>b</sup>, KEREM URAL<sup>b</sup>, NURAN AYSUL<sup>d</sup>,  
SONGÜL ERDOĞAN<sup>b</sup>, HİDAYET TUTUN<sup>e</sup>

<sup>a</sup> Van Yüzüncü Yıl University, Faculty of Veterinary Medicine Department of Genetics, Van, Turkey

<sup>b</sup> Adnan Menderes University, Faculty of Veterinary Medicine Department of Internal Medicine, Aydın, Turkey

<sup>d</sup> Adnan Menderes University, Faculty of Veterinary Medicine Department of Parasitology, Aydın, Turkey

<sup>e</sup> Mehmet Akif Ersoy University Veterinary Faculty of Veterinary Medicine Department of Pharmacology and Toxicology, Burdur, Turkey

[adnan\\_ayan43@hotmail.com](mailto:adnan_ayan43@hotmail.com)

**Aim:** *Giardia duodenalis*, a flagellated intestinal protozoan with a significant impact on public health. There is insufficient knowledge available regarding epidemiology of *G. duodenalis* in calves and dogs in Turkey. The aim of the present research was to investigate the molecular diagnosis of *G. duodenalis* in dogs and calves in İzmir province of Turkey's Aegean Region. **Method:** Faecal samples from 181 Holstein Friesian calves less than three months of age, of both sexes and faecal samples from 115 dogs in İzmir were collected. Diagnosis of infection was made microscopically by detection of cysts in the faecal samples. The samples were confirmed by PCR for *Giardia* positivity. The prevalence of *Giardia* genotypes was identified by DNA sequence analysis of the beta-giardin gene for every PCR positive sample. **Results:** The overall prevalence of *G. duodenalis* was 16.02% among calves and 13.91% among dogs in İzmir diagnosed *Giardia*-positive by microscopy, were found positive by nested PCR. The  $\beta$ -giardin nested PCR assay revealed assemblage B in all samples (100%) for dogs. The  $\beta$ -giardin nested PCR assay was revealed assemblage A and sub-genotype A3 in all samples (100%) for calves. **Conclusion:** Results of the present study suggested an important role of calves and dogs as potential reservoirs of human infections in İzmir province of Turkey.

**Keywords:** *Giardia duodenalis*, Molecular Characterization, Calf, Dog



**GENETIC CHARACTERIZATION OF THE MITE VARROA DESTRUCTOR  
(FAMILY: VARROIDAE) COLLECTED FROM HONEY BEES APIS  
MELLIFERA (HYMENOPTERA, APIDAE) IN THE IN THE PROVINCE OF  
VAN IN TURKEY**

---

ADNAN AYAN<sup>a</sup>, KEREM URAL<sup>b</sup>, OSMAN SELÇUK ALDEMİR<sup>c</sup>

<sup>a</sup> Van Yüzüncü Yıl University, Faculty of Veterinary Medicine Department of Genetics, Van,  
Turkey

<sup>b</sup> Adnan Menderes University, Faculty of Veterinary Medicine Department of Internal  
Medicine, Aydın, Turkey

<sup>c</sup> Adnan Menderes University, Faculty of Veterinary Medicine Department of Parasitology,  
Aydın, Turkey

[adnan\\_ayan43@hotmail.com](mailto:adnan_ayan43@hotmail.com)

The mite Varroa destructor is an ectoparasite that is considered a major pest of the Turkey honeybee for beekeeping. The aim of the present study was to identify the haplotypes of the V. destructor mite which infest honeybees in the province of Van in Turkey. For this purpose, one modified technique was used for the mitochondrial Cox1 gene of the mite. in order to analyze the mite mitochondrial genome (PCR + RFLP) methods were used. For the the polymerase chain reaction (PCR) COXF [5'GG(A/G)GG(A/T)GA(C/T)CC(A/T)ATT(C/T)T(A/T)TATCAAC3'] and COXRa [5'GG(A/T)GACCTGT(A/TA(A/T)AATAGCAAATAC3'], primers were selected. Afterwards 570 bp in size amplified DNA was obtained. Thereafter for the RFLP the XhoI and SacI restriction enzymes were applied to the amplified products. Although the SacI restriction enzyme did not cut the DNA, the XhoI restriction enzyme cut the amplified DNA into two fragments (bands), 270 and 300 bp in size. While comparing the results, these bands were found to be specific for the Korean haplotype of V. destructor. in conclusion, all of the 286 samples of V. destructor examined in this study were identified to be the Korean haplotype.

**Keywords:** Varroa Destructor, Haplotype, Van

## **RELATIONSHIP BETWEEN DEGREE OF ANEMIA AND BLOOD GASES IN CATTLE WITH THEILERIOSIS**

MEHMET TEMİZ<sup>a</sup>, NURİ ALTUĞ<sup>b</sup>, NAZMİ YÜKSEK<sup>c</sup>

<sup>a</sup> Mercek Veterinary Clinic, İzmir, Turkey

<sup>b</sup> Namık Kemal University, Faculty of Veterinary Medicine, Department of Internal Medicine, Tekirdağ, Turkey

<sup>c</sup> Yüzüncü Yıl University, Faculty of Veterinary Medicine, Department of Internal Medicine, Van, Turkey

[dvm.mehmettemiz@hotmail.com](mailto:dvm.mehmettemiz@hotmail.com)

This study was conducted to determine the relationship between the degrees of anemia and blood gases in cattle with theileriosis. It included 28 cattle with theileriosis and 7 healthy animals as the control group. The cattle with theileriosis were divided into 4 groups according to their hematocrit (Hct) values: cattle with Hct of >26 were considered as nonanemic (Group 1), Hct of 20–26 as mildly anemic (Group 2), Hct of 14–19 as moderately anemic (Group 3), and Hct of 10–13 as severely anemic (Group 4). The PCO<sub>2</sub>, HCO<sub>3</sub>, and TCO<sub>2</sub> levels in the study groups were lower than those of the control group. Moreover, reductions in HCO<sub>3</sub> and TCO<sub>2</sub> concentrations were significant only in the severely anemic group. Similarly, the lowest PCO<sub>2</sub> levels were also detected in the severely anemic group. There were no significant differences in the SO<sub>2</sub> levels between the control and study groups. On the other hand, the increase was significant in the severely anemic group when compared to Groups 1 and 2. The results seemed to indicate the trend of uncompensated metabolic acidosis in theileriosis cases with severe anemia; thus, veterinary surgeons should bear this in mind when evaluating the prognosis for such cases.

**Keywords:** Anemia, Blood Gases, Cattle, Theileriosis

## **SEROEPIDEMIOLOGICAL SURVEY OF BOVINE TICK-BORNE INFECTIONS IN THE BLACK SEA REGION OF TURKEY**

MUSTAFA AÇICI<sup>a</sup>, CENK SONER BÖLÜKBAŞ<sup>a</sup>, GÖKMEN ZAFER PEKMEZCİ<sup>a</sup>,  
ALİ TÜMAY GÜRLER<sup>a</sup>, ŞİNASİ UMUR<sup>a</sup>, KADRI ZAFER KARAER<sup>b</sup>, AYŞE ÇAKMAK<sup>b</sup>,  
SERPİL NALBANTOĞLU<sup>b</sup>, CEVAT NİSBET<sup>c</sup>

<sup>a</sup> Ondokuz Mayıs University

<sup>b</sup> Ankara University

<sup>c</sup> Ondokuz Mayıs University

[nalbantogluserpil@yahoo.com](mailto:nalbantogluserpil@yahoo.com)

Babesiosis, theileriosis, and anaplasmosis are the tick-borne diseases of cattle in most of the tropical areas and Turkey. A total of 270 cattle were randomly selected from 27 villages and 77 farms in the Black Sea Region of Turkey for the determination of infections by *Babesia bigemina* and *Anaplasma marginale* by using the indirect fluorescent antibody (IFA) test and the competitive enzyme-linked immunosorbent assay (cELISA). of those, 242 and 256 sera were also analyzed for antibodies against *Theileria annulata* and *Babesia bovis* infections using the IFA test, respectively, during the period of June 2006 to June 2007. of the 256 tested sera, 99 (38.6%) were positive for *B. bovis*; from the total 270 sera, 40 (14.8%) were positive for *B. bigemina*; of the 242 sera tested, 31 (12.8%) were positive for *T. annulata* by IFA; and from the total 270 sera, 102 (37.8%) were positive for *A. marginale* by cELISA. A total of 1125 ixodid ticks were collected and 10 species were identified. Antibodies produced by infections with *Babesia* spp., *Anaplasma* spp., and *Theileria* spp. were found highly prevalent. Infections caused by the agents and the tick species may cause severe economic damage to cattle production from the Black Sea Region of Turkey.

**Keywords:** Anaplasmosis, Babesiosis, Theileriosis, Ticks, Turkey

## **DIAMETER OF FOLLICLES AND CORPUS LUTEUM, SERUM PROGESTERONE LEVELS, OESTRUS AND PREGNANCY RATES IN THE ANATOLIAN BUFFALO HEIFERS**

**MUHAMMED KÜRŞAD BIRDANE**

Department Of Obstetrics And Gynaecology, Faculty Of Veterinary Medicine, Afyon  
Kocatepe University

[mkbirdane@yahoo.com](mailto:mkbirdane@yahoo.com)

**The purpose** of this study was investigate the serum progesterone level, diameter of dominant follicle, size of corpus luteum and estrus and pregnancy rates in the Anatolian buffalo heifers. **in this study**, total of 20 Anatolian buffalo heifers, aged between 18-32-month age, were used in April. Controlled intravaginal progesterone releasing (CIDR®) device were kept in place for 7 days (day 0) purpose of synchronization of estrus. After 7 days, CIDR were removed and 500 µg Cloprostenol (Estrumate®, 2 ml i.m) were injected in all heifers (day 7). At day 10, 12 µg buserelin (Receptal®, 3 ml i.m) were injected to all heifer. Animals were palpated per rectum to assess estrous status at day 10 (follicle>1.0 cm and a tonic uterus with the presence or absence of mucous vaginal discharge). Artificial insemination was performed using frozen thawed Italian buffalo bull semen, at day 10, approximately 72 hours later PGF2α injection. Transrectal ultrasonography of the ovaries were performed at Days 0, 7 and 10 to assess the diameter of the largest follicle and day +7 to measure corpus luteum diameter after day 7 of insemination. Pregnancy rate was determinated at day 30 after inseminaton. Largest follicles were found at day 0; 0,96±0,18 cm, at day 7; 0,87±0,13 cm, at day 10; 1,27±0,26 cm and CL size were measured 1,67±0,09 cm at day +7 after insemination. Estrus rate and pregnancy rates were found 85 % (17/20) and % 58 (10/17). Progesterone levels in the serum at day 0; 2,97± 1,61 ng/ml, at day 7; 3,24±1,66 ng/ml, at day 10; 0,81±0,28 ng/ml and at +7; 3,42±1,05 ng/ml were found. **As a result**, it was determined that Anatolian buffalo heifers have high cyclic activity, oestrus rate and acceptable pregnancy in April.

**Keywords:** Anatolian Buffalo, Progesterone Level, Oestrus Rate, April

## ***GANGRENOUS MASTITIS CASE IN A PERSIAN QUEEN***

---

TUĞBA ÇİNE, MUHAMMED KÜRŞAD BIRDANE, MEHMET UÇAR

Obstetrics and Gynaecology, Veterinary Medicine, Afyon Kocatepe University,

[mkbirdane@yahoo.com](mailto:mkbirdane@yahoo.com)

A multiparous 2.5 years old, nursing Persian queen was admitted to the pet clinic one week after parturition with dystocia anemnesis, due to the complaints of loss of appetite, reddened udders. After clinical examination, it was determined that the general condition of animal was bad and the body temperature was 39.8 C. The fourth and fifth mammary lobes of right sides were found soreness, redness and fever. Mastitis was diagnosed and an amoxicillin and clavulanic acid antibiotic (Synulox 50mg, one tablet, daily) was started. After 5 days antibiotic treatment, general condition of queen and appetite was improved, however inflammation of the mammary glands were still continued and had become gangrenous lesions. Clinically, the gangrenous mastitis was diagnosed in the right 4th and 5th mammary lobes and necrosis was defined. There was an open wound and a pus discharge. After that, it was decided to mastectomy, right 3rd - 4th - 5th and the left 4th mammary lobes were surgically removed. The general condition of the cat and the operation area in the mammary lobes were very good and cat had no complaints after surgical treatment. As a result, antibiotic therapy alone is insufficient in the treatment of gangrenous mastitis. Surgical removal of gangrenous parts may save the affected queen's life.

**Keywords:** Gangrenous Mastitis, Persian Queen,

## **CAN WE TRUST OUR ELISA RESULTS? IMPACTS ON CLINICAL PRACTICE.**

MERT PEKCAN<sup>a</sup>, ILKNUR PIR YAGCI<sup>b</sup>, IBRAHIM MERT POLAT<sup>b</sup>, HAKAN KALENDER<sup>b</sup>, HASAN CEYHUN MACUN<sup>b</sup>

<sup>a</sup> Department of Biochemistry, Faculty of Veterinary Medicine, Ankara University

<sup>b</sup> Department of Obstetrics and Gynecology, Faculty of Veterinary Medicine, Kırıkkale University,

[pekcan@ankara.edu.tr](mailto:pekcan@ankara.edu.tr)

From several to hundreds of laboratory tests are performed each day for making decisions in clinical practice. Some of these tests may be performed at your veterinarian's side or samples may be sent out to a laboratory. Although Immunologic tests share lesser percentage of tests performed in laboratories they have considerable impact in clinical diagnosis as they have high sensitivity and specificity. Veterinary diagnostic laboratories have same disadvantages in obtaining immunologic assays and reagents by reason even the name of the antigen (protein) is the same the amino acid sequence may differ across the species this fact may cause false reactions (non-specific binding of antibodies) or non-reactions when kits are utilised rather than targeted species. An immunological test can be claimed as diagnostic if it had gone through validation procedures. Validation tests are common in evaluating diagnostic kits in human medicine but quite a few in veterinary medicine when compared. This condition may arise a question in our minds. Do all the results obtained from all immunological assays are reliable when testing species of veterinary interest? To ascertain this condition, we compared serum Anti-Mullerian Hormone levels in spayed, intact and animals with remnant ovaries with two different kits which are human and canine based from distinct companies. AMH levels are commonly used to monitor ovarian reserve in women but in veterinary medicine it is suggested for the diagnosis of ovarian remnant syndrome or presence of the ovaries without surgical intervention. Serum AMH concentrations measured using the human and canine kit prior to and after OHE were  $0.32 \pm 0.24$ ,  $0.006 \pm 0.22$  ng/ml ( $P < 0.001$ ) and  $12.08 \pm 22.81$ ,  $9.55 \pm 15.42$  ng/ml ( $P = 0.868$ ), respectively. **Thus**, the canine based kit was not able to reveal the significant drop in serum AMH levels. **In conclusion**, the human based ELISA kits successfully detected the drop in serum AMH concentrations. Reliable results can only be achieved from well-designed ELISA kits and claiming a kit to be species specific cannot provide a base for giving accurate results.

**Keywords:** Amh, Elisa, Clinical Correlation

## ***PROTEOMICS IN VETERINARY MEDICINE***

---

**MERT PEKCAN**

Ankara University Faculty of Veterinary Medicine Department of Biochemistry

[pekcan@ankara.edu.tr](mailto:pekcan@ankara.edu.tr)

The completion Human Genome Project at the beginning of the century provided various benefits to several fields such as human evolution and molecular medicine. These achievements lead proteomics to be recognised in the area of molecular medicine. Even proteomics rely on genomic data it supplies more information in research such as dynamic processes, post-translational modifications and even interactions among proteins. These techniques are commonly employed to identify new biomarkers, investigate the pathophysiology in medicine. Human genome completed more than a decade nevertheless, the studies on animals are quite a few when compared. This is partly due to genomic sequencing not completed in most of the animals and exclusively in farm animals. At first glance, it may be considered that utilising these high-cost techniques in animal research is quite early and even there are overlapping areas there are some distinctions from the human medicine. Studies in these distinctive areas not only related to the animals alone but also directly or indirectly related to humans. Animal proteomics can significantly contribute to research such as vaccine and drug development, physiology, toxicology, animal product quality and food safety. The data gathered from experiments in animals are relevant not only for animal sciences but also gives clues for perceiving and understanding complex biological mechanisms of health and disease in humans. The other fact is to be emphasised is that the farm animals are raised for obtaining animal products for human consumption. in this context how proteomic tools can be utilised to obtain the knowledge for managing and quality control of the products of animal origin will also be discussed.

**Keywords:** Proteomics, Animal, Biomarker



## ***VIROLOGIC IDENTIFICATION OF CANINE PARVOVIRUS TYPE 2B (CPV 2B) FROM DOGS IN KONYA***

---

**IRMAK DİK, ATILLA SIMSEK**

Selcuk University Veterinary Faculty Virology Department

[irmakdik@selcuk.edu.tr](mailto:irmakdik@selcuk.edu.tr)

The aim of this study was to analyze canine parvovirus type 2 (CPV 2b) DNA in feces by polymerase chain reaction (PCR) from dogs in Konya, Turkey. CPV-2 is an important pathogen infecting both domestic and wild dogs. CPV-2 has spread globally since its emergence in the 1970s. The virus is more contagious and has higher morbidity, mortality rates, and incidence in dog shelters, pet shops, and breeding kennels. CPV-2, the major etiological agent, causes severe hemorrhagic gastroenteritis, depression, diarrhea, vomiting, and leucopenia in dogs of all ages and myocarditis in pups <3 months. It especially affects young dogs that are not protected by maternal antibodies or vaccination. The virus shows antigenic differences as types 2a, 2b and 2c. in the present study, feces from 100 clinically symptomatic dogs ranging in age from 0 to 12 months were collected from the Veterinary Medicine Hospital of Selcuk University and Konya Municipality Dog Shelter and analyzed by PCR. Thirty-eight fecal samples were positive for CPV 2b, and an amplicon of 427 bp was detected. As a result, CPV 2b has been determined to be widespread in Konya. in conclusion, it may be stated that canines living in shelters should be vaccinated against CPV in order to improve their living conditions.

**Keywords:** Canine Parvovirus Type 2b, PCR, Dog.

## **CYTOTOXICITY, ANTIVIRAL AND ANTIOXIDANT ACTIVITIES OF PANAX GINSENG**

IRMAK DİK<sup>a</sup>, OGUZHAN AVCI<sup>a</sup>, BURAK DİK<sup>b</sup>

<sup>a</sup> Selcuk University Veterinary Faculty Virology Department

<sup>b</sup> Selcuk University.Veterinary Faculty. Pharmacology and Toxicology Department

[irmakdik@selcuk.edu.tr](mailto:irmakdik@selcuk.edu.tr)

Panax ginseng (PG) is a plant that contains pharmacologically active ingredients, has been used for many years in medicine. It has been shown to have various biological activities as immunomodulatory, anti-inflammatory, antifungal, antiviral and antioxidant effects. It is aimed to determine cytotoxicity, antioxidant and antiviral activities of Panax Ginseng on Bovine Ephemeral Fever Virus (BEFV) and Bluetongue virus (BTV) as in vitro.

PG was dissolved at concentration of 400 µg/mL with distilled water. The thiazolyl blue test was used to evaluate the cytotoxic activity of the PG. It caused cytotoxicity against to Vero cells up to 50 µg /mL concentrations. Accordingly, antiviral activity of PG was investigated a remarkable inhibitory effect against BEFV with CPE varying between 25 and 50 µg/mL. However, PG haven't any influence on BTV. PG were evaluated for total antioxidant capacity and oxidative stress marker thiobarbituric acid reactive substances (TBARS) on Vero cells infective with BEFV and BTV. Although, 25 and 50 µg/mL doses of PG, did not change total antioxidant capacity, it decreased oxidative stress in both diseases (p<0,005).

in conclusion, it is referred that PG has antiviral effect and has oxidative stress reducing effect. Further studies are required to ascertain the efficacy of PG as in vivo and further studies is needed to determine antioxidant effect.

**Keywords:** Panax Ginseng, Vero, Oxidative Stress, Antioxidant Capacity, Antiviral

**ANTIMICROBIAL AND ANTIBIOFILM ACTIVITY OF LAURUS NOBILIS  
L. ESSENTIAL OIL AGAINST STENOTROPHOMONAS MALTOPHILIA: A  
BIOGENIC AMINE-PRODUCER FOR FISH**

---

TUBA BAYGAR<sup>a</sup>, AYSEL UGUR<sup>b</sup>, NURDAN SARAC<sup>c</sup>

<sup>a</sup> Material Research Laboratory, Research Laboratories Center, Mugla Sitki Kocman University

<sup>b</sup> Section of Medical Microbiology, Department of Basic Sciences, Faculty of Dentistry, Gazi University

<sup>c</sup> Department of Biology, Faculty of Science, Mugla Sitki Kocman University

[tubaygar@mu.edu.tr](mailto:tubaygar@mu.edu.tr)

Besides its pathogenicity, *S. maltophilia* is considered to be related to food safety. *S. maltophilia* isolated from fish is considered to have the ability to produce high levels of biogenic amines and also have proteolytic activity. Since proteolysis may increase the levels of biogenic amines in foods, it is directly related to food hygiene and human health. *Laurus nobilis* L. (bay laurel) is an aromatic and medicinal plant which is used for its antiseptic, anti-cancer, anti-spasmodic, anti-mutagenic properties, and as a treatment for digestive disorders. It is also traditionally used for seafood cooking with its aromatic odour and flavour. In this study, it aimed to determine the inhibition activities of *Laurus nobilis* L. essential oil against *S. maltophilia* MU69. Antimicrobial activity of bay laurel essential oil was initially determined by disc diffusion method. Minimum Inhibition Concentration (MIC) and Minimum Bactericidal Concentration (MBC) were also determined by tube dilution assay. Antibiofilm activity of bay laurel essential oil was investigated by crystal violet staining and monitored by Scanning Electron Microscopy (SEM). Zone of inhibition measurement was found to be 17 mm while MIC and MBC values were both found to be 2,5 mg/mL. The biofilm inhibition rate was found to be 90.03 % for MIC of bay laurel essential oil. According to the biological activity results, it can be concluded that bay laurel essential oil has biologically active compounds against *S. maltophilia* strain. This natural agent may be potentially used for food industry that aim to manage the quality problems caused by *S. maltophilia*.

**Keywords:** Antimicrobial, Antibiofilm, *Laurus Nobilis* L., *S. Maltophilia*.

## **THE INHIBITION EFFECTS OF EUGENOL AND PULEGON ON STENOTROPHOMONAS MALTOPHILIA: AN OPPORTUNISTIC PATHOGEN**

**TUBA BAYGAR<sup>a</sup>, NURDAN SARAÇ<sup>b</sup>, AYSEL UĞUR<sup>c</sup>, TAÇNUR BAYGAR<sup>d</sup>, UYDU BALCI<sup>e</sup>**

<sup>a</sup> Research Laboratories Center, Mugla Sıtkı Koçman University

<sup>b</sup> Department of Biology, Faculty of Science, Mugla Sıtkı Koçman University

<sup>c</sup> Section of Medical Microbiology, Department of Basic Sciences, Faculty of Dentistry, Gazi University

<sup>d</sup> Department of Seafood Processing Technology, Faculty of Fisheries, Muğla Sıtkı Koçman University

<sup>e</sup> Department of Biology, Faculty of Science, Muğla Sıtkı Koçman University

[tubaygar@mu.edu.tr](mailto:tubaygar@mu.edu.tr)

Aerobic, non-fermentative and Gram-negative *S. maltophilia* is a multidrug-resistant bacillus that is known to be pathogen for human and animals. It can be found in a variety of environments including soil, water, and plants. *S. maltophilia*, which has the ability to form biofilms on surfaces that cause environmental problems, is resistant to many antibiotic classes such as cephalosporins, carbapenems, and aminoglycosides. Here in this study, its aimed to determine the inhibition activities of eugenol and pulegon against *S. maltophilia* MU69. Antimicrobial activities of eugenol and pulegon were initially determined by disc diffusion method. Minimum Inhibition Concentration (MIC) and Minimum Bactericidal Concentration (MBC) were also determined by tube dilution assay. Antibiofilm activities of the compounds were investigated by crystal violet staining and monitored by Scanning Electron Microscopy (SEM). Zone of inhibition measurements were found to be 39 mm and 28 mm for eugenol and pulegon, respectively. MIC and MBC values were found to be 3,12 mg/mL for eugenol while these were 2,5 mg/mL and 5 mg/mL for pulegon, respectively. The highest antibiofilm activity was found to be 56.30 % for MIC of eugenol. According to the biological activity results, it can be concluded that both eugenol and pulegon are active compounds against *S. maltophilia* strain. These natural agents may be potentially used for pharmaceutical applications that aim to manage *S. maltophilia* biofilm.

**Keywords:** Antimicrobial, Antibiofilm, Eugenol, Pulegon, *S. Maltophilia*

***CAMALLANUS SPP. IN AQUARIUM FISH (POECILIA RETICULATA)***

---

**MAHMUT SINAN EREZ<sup>a</sup>, AHMET GÖKSU<sup>b</sup>, ESMA KOZAN<sup>c</sup>**<sup>a</sup> Department of Parasitology, Faculty of Veterinary Medicine, Afyon Kocatepe University<sup>b</sup> Department of Parasitology, Faculty of Veterinary Medicine, Afyon Kocatepe University<sup>c</sup> Department of Parasitology, Faculty of Veterinary Medicine, Afyon Kocatepe University[mserez@aku.edu.tr](mailto:mserez@aku.edu.tr)

The aim of this study was to determine the species of parasites in Guppy fish (*Poecilia reticulata*) which was brought to Parasitology Laboratory of Faculty of Veterinary Medicine, Afyon Kocatepe University. The owner of the aquarium informed that sudden and mass deaths were observed in the aquarium and brought some of the dead fish to the laboratory for the examination. After the fish were examined macroscopically, necropsy was performed and examined for parasitic infection. Collected parasites were microscopically examined and identified. No other parasitic infection was found in the examination. in addition to abdominal swelling in the fish, reddish parasites crawling out of the anus were also seen. Collected parasites are described as *Camallanus* spp. according to related literature (Stromberg ve Crites, 1974). *Camallanus* spp. which causes significant loss especially in small fish such as guppies. This case is the first report in Afyonkarahisar Province.

**Keywords:** Fish, *Camallanus*, Guppy (*Poecilia Reticulata*), Parasite

## ***A CASE OF DISPHARYNX NASUTA (RUDOLPHI, 1819) IN A LONG-EARED OWL (ASIO OTUS)***

---

MAHMUT SINAN EREZ<sup>a</sup>, MEHMET FATİH BOZKURT<sup>b</sup>,  
MUSTAFA VOLKAN YAPRAKÇI<sup>c</sup>, AHMET GÖKSU<sup>d</sup>, ESMA KOZAN<sup>e</sup>

<sup>a</sup> Department of Parasitology, Faculty of Veterinary Medicine, Afyon Kocatepe University

<sup>b</sup> Department of Pathology, Faculty of Veterinary Medicine, Afyon Kocatepe University

<sup>c</sup> Department of Surgery, Faculty of Veterinary Medicine, Afyon Kocatepe University

<sup>d</sup> Department of Parasitology, Faculty of Veterinary Medicine, Afyon Kocatepe University

<sup>e</sup> Department of Parasitology, Faculty of Veterinary Medicine, Afyon Kocatepe University

[mserez@aku.edu.tr](mailto:mserez@aku.edu.tr)

Cachexia and dehydration were detected as the clinical sign and sudden death occurred in a long-eared owl which was brought to Veterinary Health Practice and Research Center of Afyon Kocatepe University by officers of National Parks. As a result of necropsy, ingluvitis, proventriculitis, esophagitis and the parasites were detected throughout these organs. Furthermore, mild purulent bronchopneumonia, wide hemorrhages in lungs, severe hyperaemia among all tissues and organs were detected in the long-eared owl. After examination of one parasite which was sent to parasitology laboratory, it was diagnosed as *Dispharynx nasuta*. This case is the first report of *Dispharynx nasuta* from an owl in Turkey.

**Keywords:** *Dispharynx Nasuta*, Helminth, Nematode, Owl, Turkey

## **ANTIDIABETIC EFFECTS OF LAURUS NOBILIS (DAPHNE) EXTRACT IN STREPTOZOTOCIN INDUCED DIABETIC RATS: HISTOPATHOLOGICAL, IMMUNOHISTOCHEMICAL AND BIOCHEMICAL INVESTIGATIONS**

AHMET UYAR<sup>a</sup>, TURAN YAMAN<sup>b</sup>, REBIN RAFAAT MOHAMMED<sup>b</sup>,  
ÖMER FARUK KELEŞ<sup>b</sup>, ZABIT YENER<sup>b</sup>

<sup>a</sup> Department of Pathology, Faculty of Veterinary Medicine, Mustafa Kemal University

<sup>b</sup> Department of Pathology, Faculty of Veterinary Medicine, Yuzuncu Yil University

[uyarahmet@hotmail.com](mailto:uyarahmet@hotmail.com)

The preventative effect of *Laurus nobilis* (Daphne) extract (NL) was investigated histopathological, immunohistochemical and biochemical changes in pancreas, liver and kidney tissues of streptozotocin (STZ)-induced diabetic rats. Forty healthy Wistar albino male rats were divided randomly into five groups as Control; Diabetes mellitus (DM); DM+NL; DM+Akarboz; and NL. Rats in control, DM and DM+Akarboz groups were fed on with standard pellet. The DM+ NL and NL groups received in addition 30 ml NL extract/kg diet for 28d. Experimental diabetes was established by a single-dose [70 mg/kg, intra-peritoneal (i.p)] STZ injection. Blood glucose levels were recorded throughout the all experiment period. Histopathological studies showed that hepatorenal and pancreatic protection was further supported by the almost normal histology in DM+ NL extract-treated group as compared to the degenerative changes such as disorder of architectural structure, inflammatory cell infiltration, hydropic degeneration and necrosis in pancreas, liver and kidney tissues of STZ-treated rats. **As a result** of immunohistochemical investigation, STZ-induced degenerative changes in beta-cells caused decreases in the number of functioning beta-cells and insulin immunoreactivity in the pancreas of the diabetic rats. The pancreas of NL-treated rats was improved and the number of immunoreactive  $\beta$  cells were significantly increased. Decreased levels of blood glucose AST, ALT, ALP, LDH, Creatinin were detected in plant extract supplemented diabetic group. Additionally, a considerable increase in the malondialdehyde (MDA) and fluctuated antioxidant defence system constituents (ADSCs) levels were restored in NL-extract supplemented diabetic groups. in conclusion, our data suggests that the STZ-induced histopathological, immunohistochemical and biochemical alterations could be prevented by NL extract probably due to its antioxidant activity and possess the ability to regenerate  $\beta$ -cells.

**Keywords:** Diabetes Mellitus, *Laurus Nobilis* (Daphne) Extract, Rat



## **INVESTIGATION OF THE EFFECTS OF QUERCUS SPP (OAK) ON CUTANEOUS WOUND HEALING AND EPITHELIALISATION IN RATS: A HISTOPATHOLOGICAL, IMMUNOHISTOCHEMICAL AND BIOCHEMICAL EVALUATIONS**

AHMET UYAR<sup>a</sup>, TURAN YAMAN<sup>b</sup>, GWLSHAN MOHAMMED JHANGIR<sup>c</sup>,  
ÖMER FARUK KELEŞ<sup>d</sup>, ZABİT YENER<sup>e</sup>

<sup>a</sup> Department of Pathology, Faculty of Veterinary Medicine, Mustafa Kemal University

<sup>b</sup> Department of Pathology, Faculty of Veterinary Medicine, Yuzuncu Yil University

<sup>c</sup> Department of Pathology, Faculty of Veterinary Medicine, Yuzuncu Yil University

<sup>d</sup> Department of Pathology, Faculty of Veterinary Medicine, Yuzuncu Yil University

<sup>e</sup> Department of Pathology, Faculty of Veterinary Medicine, Yuzuncu Yil University

[uyarahmet@hotmail.com](mailto:uyarahmet@hotmail.com)

The **objective** of the present study was to evaluate histopathological, immunohistochemical and biochemical effects of Quercus spp (Oak) on the wound healing in the rats skin. **Twenty-four Wistar albino** rats were divided to three groups equally, Control, Oak and Madecassol. in order to make wound model rats were carried out under xylazine-ketamine anesthesia after which a wound by punch device 1cm in diameter at least 2 cm spaced 2 parallel cutaneous tapes from the interscapular region. Oak and madecassol ointment have been administered to study groups per day and serum physiologic solution has been administered to control group locally as placebo. in order to evaluate of histopathological, immunohistochemical and biochemical alterations were took the blood and skin tissue on 7th and 15th days. Compared with the control group, the topical application of Oak had antiinflammatory effect by reducing inflammation and edema. Moreover, it had positive effects on epithelialisation, proliferative effects on fibroblasts and enlarging effect on collagenisation. **As a result** of immunohistochemical investigation Glutathione peroxidase 1(GPx1) immunoreactivity was higher in the skin tissues of Oak group compared to the Control group. Biochemical examination of skin and blood tissue revealed that fluctuated malondialdehyde and antioxidant defence system constituents levels were restored in Oak group. **Consequently**, application of Oak accelerated wound healing by reducing the time required for complete epithelialization and the proliferation of connective tissue.

**Keywords:** Quercus Spp (Oak), Epithelialisation, Wound Healing, Rat.

## **EFFECTS OF P-GLYCOPROTEIN INDUCTOR RIFAMPICIN ON PHARMACOKINETICS OF TULATHROMYCIN IN GOATS**

HANDE SULTAN ŞAHİNER, CAVIT KUM

Adnan Menderes University, Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology, Aydın, Turkey

[hyalinkilinc@adu.edu.tr](mailto:hyalinkilinc@adu.edu.tr)

The **objective** of this study was determination pharmacokinetic profile of tulathromycin relation with rifampicin which is a P-gp transporter protein inducer. Activated P-gp may change dose, delivery and interval time of many drugs. **in this study**, healthy male goats were separated into three groups (n=8) as Group A, B and C. Group A received only single 2.5 mg/kg dose subcutaneous tulathromycin. Group B received at first 7 days of the experiment oral 10 mg/kg/day rifampicin, 8th-day single dose subcutaneous 2.5 mg/kg tulathromycin. Group C received at first 7 days of the experiment oral 10 mg/kg/day rifampicin and 8th-day single dose subcutaneous 2.5 mg/kg tulathromycin followed by 8-15th days oral 10 mg/kg/day rifampicin. Blood samples were taken from Vena jugularis, before and after the drug administration (0.016 to 360. h). Plasma samples were analyzed by liquid chromatography-mass spectrometry (LC-MS/MS). **Detected** Group A peak plasma concentration (C<sub>max</sub>) of tulathromycin was 1390,97±173,65, and Group B and C values were 958,21±106,31 and 807,21±116,82 ng/ml, respectively. When compared C<sub>max</sub> values among all groups, Group A value was significantly higher than the groups B and C (P<0.05). Group A, B and C detected mean residence time based on time zero to last sample time (MRT<sub>last</sub>) values were 52.16±1.87, 56.04±4.70 and 66.75±4.30 hour, respectively and determined mean residence time based on time zero extrapolated to infinity (MRT<sub>INF\_obs</sub>) values were 69.28±4.64, 85.90±5.75, 86.76±4.69 hour, respectively. When compared of MRT<sub>last</sub> and MRT<sub>INF\_obs</sub> values among the groups, rifampicin administered groups (Group B and C) values were higher than the Group A. These differences among the groups found significant (P<0.05). **Study findings** suggest that the rifampicin use in goats may change several pharmacokinetic parameters of tulathromycin. Although, in order to comprehend the effects of rifampicin on tulathromycin pharmacokinetic parameters requires further in vitro studies on CYP enzymes and the P-gp transport systems.

**Keywords:** Pharmacokinetics, Goat, P-Gp, Rifampicin, Tulathromycin

## **COMPARISON OF PLASMA AND HAIR CONCENTRATION OF FLUMETHRIN AND CYPERMETHRIN AFTER POUR-ON ADMINISTRATION IN GOATS**

UMIT KARADEMİR, MURAT BOYACIOĞLU, CAVIT KUM, SELİM SEKKİN, HANDE SULTAN SAHİNER, ÖZGE BARDAKÇI

Adnan Menderes University, Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology, Aydın, Turkey

[hyalinkilinc@adu.edu.tr](mailto:hyalinkilinc@adu.edu.tr)

**This study** was investigated of plasma and hair concentration of flumethrin and cypermethrin following pour-on administration (2 mg/kg) in goats. **12 male goats** allocated into two groups (FLM and CYP) of six such that the mean weight of animals in each group was similar. in group FLM and CYP, Flumethrin and cypermethrin was received at a dose of 2 mg/kg on the pour-on. Blood samples were collected prior the drug application (0. hour) and 1. hour between 40. days time intervals post-treatment. At the same time hair samples were collected from the animals. Blood samples were centrifuged, and the plasma was extracted. All plasma samples were kept under -20 °C till analyses. Collected hair samples were put on the locked small pockets, without day light. Drug concentrations on plasma and hair samples were analysed within high performance liquid chromatography (HPLC). **During the study**, to those of animals administered the drugs, no allergic, anaphylactic side effects were determined. Following pour-on administration of drugs in goats could not be detected in plasma samples and in hair samples was detected on 40 and 35. days respectively. **in conclusion** in the present study to those of goats administered pour-on flumethrin and cypermethrin, HPLC analyses of blood samples withdrawn through 40 days period, could not detected in plasma samples and, the drugs in hair samples was determined on 40 and 35. days respectively. in light of this results from the present study, taking into account that flumethrin and cypermethrin did not pass through blood, those drugs may be safely used. Besides tough flumethrin was detected among hair samples for a longer duration in contrast to cypermethrin, should be preferred for a longer efficacy. To this context drug amount detected in hair samples, for its efficacy against ectoparasites and drugs passing though parasites, warranted further studies.

**Keywords:** Flumethrin, Cypermethrin, Pharmacokinetic, Goat

*Acknowledgements: This study was supported by funding from The Scientific and Technological Research Council of Turkey (Project number 214O355)*

## **IMMUNOHISTOCHEMICAL DISTRIBUTION OF NATRIURETIC PEPTIDES IN ACTIVE AND HIBERNATING ANATOLIAN GROUND SQUIRREL (*SPERMOPHILUS XANTHOPRYMNUS*) HEART**

MUSTAFA ÖZTOP<sup>a</sup>, MEHMET ÖZBEK<sup>b</sup>, FEYZULLAH BEYAZ<sup>c</sup>, EMEL ERGÜN<sup>d</sup>, LEVENT ERGÜN<sup>d</sup>, SEBAHATTIN KÖKNUR<sup>c</sup>, FÜSUN ERHAN<sup>d</sup>

<sup>a</sup> Mehmet Akif Ersoy University, Faculty of Science and Art, Department of Biology, Burdur

<sup>b</sup> Mehmet Akif Ersoy Uni., Faculty of Veterinary Med., Dept. of Histology and Embryology, Burdur

<sup>c</sup> Erciyes University, Faculty of Veterinary Medicine, Dept of Histology and Embryology, Kayseri

<sup>d</sup> Ankara University, Faculty of Veterinary Medicine, Department of Histology and Embryology

[mustafamalatya@gmail.com](mailto:mustafamalatya@gmail.com)

Hibernation is an adaptive strategy to survive the winter under conditions of low ambient temperatures and limited or no food availability. The heart of hibernating Anatolian ground squirrels (*Spermophilus xanthoprymnus*) has the remarkable ability to fall to low temperatures without going into cardiac arrest. Natriuretic peptides possess potent natriuretic, diuretic and vasodilating activities and are implicated in body fluid homeostasis and blood pressure control. This study aims to investigate the immunohistochemical distribution of natriuretic peptides in active and hibernating Anatolian ground squirrel heart tissue using the Streptavidin-Biotin Complex (Strept-ABC) method. In the active period, immunohistochemistry revealed strong immunoreactivity for ANP and BNP in atrial and ventricular cardiomyocytes when compared with weak immunoreactivity for CNP. ANP and BNP immunoreactivity was observed in some venules, arterial and endocardial endothelial cells, and arterial smooth cells. We firstly detected ANP and CNP immunoreactivity in the ventricular intercalated discs. Immunoreactivity for CNP was present in the endocardial and vessel endothelial cells. In the hibernation period, no ventricular and endothelial ANP immunoreactivity was observed, with no or little immunoreactivity in the intercalated discs. We observed heterogeneous ANP and BNP immunoreactivity in the atrial cardiomyocytes. BNP immunostaining was found in the endothelial cells. Heterogeneous BNP immunoreactivity was present in the ventricular cardiomyocytes compared with the active period. Similar to ANP and BNP, we observed a heterogeneous distribution of CNP immunoreactivity in the atria. Ventricular and endothelial CNP immunoreactivity was weak. No immunoreactivity was present in the ventricular intercalated discs. Our data suggest that patchy distribution of natriuretic peptides in hibernating squirrels result from accumulation possibly because of their slow turnover compared with the more rapid turnover in the active period, thus representing their storage form. This may be associated with the fact that heart rate slows down and blood pressure lowers during the hibernation.

**Keywords:** Natriuretic Peptides, ANP, BNP, CNP, Squirrel, *Spermophilus Xanthoprymnus*

## **CYTOTOXIC EFFECTS OF RHODODENDRON PONTICUM L. EXTRACT ON PROSTAT CARCINOMA AND ADENOCARCINOMA CELL LINE (DU145, PC3)**

EMINE KÜBRA BİLİR<sup>a</sup>, HİDAYET TUTUN<sup>b</sup>, SEDAT SEVIN<sup>c</sup>, ENDER YARSAN<sup>d</sup>,  
GÖRKEM KISMALI<sup>e</sup>

<sup>a</sup> Ankara University, Veterinary Faculty

<sup>b</sup> Mehmetakif Ersoy University, Veterinary Faculty, Department of Pharmacology and Toxicology

<sup>c</sup> Ankara University, Veterinary Faculty, Department of Pharmacology and Toxicology

<sup>d</sup> Ankara University, Veterinary Faculty, Department of Pharmacology and Toxicology

<sup>e</sup> Ankara University, Faculty of Veterinary Medicine, Department of Biochemistry

[hidayettutun@hotmail.com](mailto:hidayettutun@hotmail.com)

Rhododendron species have been used in traditional medicine for the treatment of inflammation, pain, cold, asthma, skin and gastro-intestinal disease, are distributed widely around the world. Mad honey obtained from the nectar of common rhododendron (*Rhododendron ponticum* L.), which is distributed throughout Black Sea region of Turkey, contains grayanotoxins, which are toxic diterpenes. The grayanotoxins, mostly grayanotoxins I and III, which are present in leaves, flowers and nectar responsible for toxicity of mad honey. The aim of this study was to determine the amount of grayanotoxin I and III in extract of common rhododendron and to investigate in vitro cytotoxic effects of the extract on prostate carcinoma cell lines. During the flowering period of common rhododendrons gathered from the Altinordu District of Ordu and dried under suitable conditions, extracted with distilled water and lyophilized. The content analysis of the common rhododendrons was carried out by the Chromatographic Method at Marmara Research Center Food Institute of the Scientific and Technical Research Council of Turkey. The cytotoxic activity of the extract of common rhododendron against human prostate carcinoma (DU145) and human prostate adenocarcinoma (PC3) cell lines by using the MTT and Neutral Red assay was evaluated. It was determined that the extract of common rhododendron contained 55.75 µg/kg of grayanotoxin I and 7.4 µg/kg of grayanotoxin III, and had a dose-dependent cytotoxic effect. IC<sub>50</sub> of the extract was found to be 283.3 and 169.9 µg/ml in MTT assay, and 307.6 and 346.0 µg/ml in Neutral Red assay for DU145 and PC3 respectively. The fact that common rhododendron has cytotoxic effects on prostate carcinoma cells suggests that it may be a potential therapeutic agent for anticarcinogenic activity.

**Keywords:** Cancer Cell Line, Cytotoxic Effect, Grayanotoxin, Rhododendron Ponticum L.

## ***SULFASALAZINE TREATMENT AT DIFFERENT TIMES CAN HAVE A POSITIVE EFFECT ON LPS-INDUCED ENDOTOXIC RATS***

---

BURAK DIK, HATICE ESER FAKI, EMRE BAHÇIVAN

Selçuk University.Veteriner Faculty, Pharmacology and Toxicology Department

[burakdik@selcuk.edu.tr](mailto:burakdik@selcuk.edu.tr)

Endotoxemia has high mortality rate in human and animals. It is aimed that the use of sulfasalazine for different periods of time can reduce inflammation and increase antioxidant capacity, which is important at the onset of the inflammatory response in endotoxemia. **The study** was carried out with 4 groups of 30 Wistar albino rats. Groups was established as control group, endotoxemia model group (LPS) with LPS (4mg / kg, single dose), group (SL5) treated with sulfasalazine (300 mg / kg, single dose daily) for 5 days before the endotoxemia model (4 mg / kg, single dose LPS) and lasty the group (LS) in which sulfasalazine (300 mg / kg, single dose) was administered at the same time as the endotoxemia model (4 mg / kg, single dose LPS). Blood collection was performed at 3 and 6 hours after the last applications in the all groups. The rats were euthanized at 6 hours, cytokine (IL-1 $\beta$ , IL-6, IL-10, TNF- $\alpha$ ), oxidative status and total antioxidant capacity analyzes were performed on plasma and serum samples. **Sulfasalazine treatment** reduced levels of proinflammatory cytokines as TNF- $\alpha$ , IL-1 $\beta$ , IL-6 and significantly increased IL-10 levels as anti-inflammatory cytokine. At the same time, application of sulfasalazine inhibited the decrease of total antioxidant capacity but it may not prevent the increase of TBARS. **As a result**, it can be stated that application of sulfasalazine in different periods may increase the anti-inflammatory response, total antioxidant capacity in experimental endotoxemia. However, single dose sulfasalazine treatment is more effective than prophylactic treatment of sulfasalazine. in conclusion, the use of sulfasalazine in endotoxemia cases at different doses and durations may reduce the mortality of the disease.

**Keywords:** Endotoxemia, Sulfasalazine, Cytokine, Oxidative Stress, Antioxidant Capacity.



## **THE COMBINATION OF IL-1 AND TNF-A ANTAGONISTS CAN TREAT EXPERIMENTAL TYPE 2 DIABETES MELLITUS IN RATS: A NEW TREATMENT IN TYPE 2 DIABETES**

BURAK DIK, EMRE BAHCIVAN, HATICE ESER FAKI, KAMIL UNEY

Selcuk University.Veteriner Faculty.Pharmacology and Toxicology Department

[burakdik@selcuk.edu.tr](mailto:burakdik@selcuk.edu.tr)

Type 2 diabetes is characterized as high glucose, cytokine levels and chronic inflammation. in the therapy of this disease, anti-inflammatory treatment is primarily evaluated as new treatment strategy. in the present study, it is aimed to be new treatment modality of use of TNF- $\alpha$  antagonist etanercept and IL-1 antagonist anakinra in diabetes. **in the study**, 40 male Wistar albino rats (6-8 weeks of age) were used and divided into 5 groups: healthy control (HC, n:6), diabetic control (DC, n:8), diabetic+anakinra (DAT, n:8), diabetic+etanercept (DET, n:8), and diabetic+etanercept and anakinra (DEAT, n:10). Saline solution (0.1 ml/rat/day, s.c.) was applied to the control (HC and DC) groups for 21 days. The DAT group was treated with anakinra (10 mg/kg/day, daily, s.c.) and the DET group was treated with etanercept (10 mg/kg, twice a week, s.c.) for 21 days. The DEAT group was treated with anakinra (10 mg/kg/day, daily, s.c.) and etanercept (10 mg/kg, twice a week, s.c.) for 21 days. Blood samples were collected at the end of twenty-one days. Blood samples were evaluated for biochemistry, hematology, adiponectin, leptin, resistin, insulin sensitivity tests (HOMA-IR and HOMA- $\beta$ ), thiobarbituric acid reactive substances (TBARS), and total antioxidant capacity (TAC) levels. **The insulin and HOMA- $\beta$  levels** statistically significantly increased in the DAT, DET and DEAT groups. Glucose level was statistically lower than DC group in treatment (DAT, DET and DEAT) groups ( $p<0.05$ ). Also, TBARS levels were statistically significant decrease in DAT group ( $p<0.05$ ) at the same time, it decreased quantitative in the DET and DAT groups. **in conclusion**, anakinra and etanercept treatment can reduce inflammation, oxidative stress and it may have important antidiabetic effects without having serious side effects. Further investigations or clinical studies are needed to determine the effects of longer duration and different doses of the study.

**Keywords:** IL-1, TNF-A, Diabetes, Etanercept, Anakinra.



## **AN OBSERVATION OF FINE STRUCTURE OF UMBILICAL CORD STROMA DERIVED MESENCHYMAL STEM CELLS**

AHMET CEYLAN<sup>a</sup>, ÖZGE ÖZGENÇ<sup>b</sup>, KORHAN ALTUNBAŞ<sup>c</sup>, PETEK KORKUSUZ<sup>d</sup>,  
ASUMAN ÖZEN<sup>e</sup>

<sup>a</sup> Ankara University, Faculty of Veterinary Medicine, Department of Histology and Embryology, Ankara

<sup>b</sup> Ankara University, Faculty of Veterinary Medicine, Department of Histology and Embryology, Ankara

<sup>c</sup> Department of Histology and Embryology, Faculty of Veterinary Medicine, Afyon Kocatepe University, Afyonkarahisar

<sup>d</sup> Department of Histology AND Embryology, Faculty of Medicine, Hacettepe University, Ankara

<sup>e</sup> Ankara University, Faculty of Veterinary Medicine, Department of Histology and Embryology, Ankara

[ozgenc@ankara.edu.tr](mailto:ozgenc@ankara.edu.tr)

Mesenchymal stem cells (MSCs) which have capacity for self-renewal, proliferation and differentiation are often used in cellular therapies and tissue engineering. Umbilical cord is one of the sources of mesenchymal stem cells, can be distinguished into three main compartments, which are subamniotic stroma, intervacular stroma and perivascular stroma. Umbilical cord derived MSCs are easier to isolate, have less ethical constraints and risk of bacterial or viral contamination compared to other MSC sources. Despite these advantageous properties, the ultrastructure of umbilical cord derived MSCs has not been investigated sufficiently. **The purpose of the study** was to investigate rat umbilical cord stroma derived MSCs using electron microscope. In this context, mesenchymal stem cells obtained by explant culture method were collected after third passage for the electron microscopic examination. Furthermore, mesenchymal stem cells derived from umbilical cord stroma were stimulated towards adipogenic, osteogenic, chondrogenic lineages and neurospheres. **As a result**, the ultrastructure of mesenchymal stem cells derived from umbilical cord stroma was similar to mesenchymal stem cells obtained from other sources. However, since these cells have more ergastoplasm in their cytoplasm than the others, the cells reach the third passage more quickly. Because of the advantages they have umbilical cord stroma is a promising source of MSCs.

**Keywords:** Mesenchymal Stem Cell, Umbilical Cord, Ultrastructure

## ***APOPTOSIS AND CELL PROLIFERATION DURING POSTNATAL DEVELOPMENT OF THE TESTIS IN THE RAT***

FÜSUN ERHAN<sup>a</sup>, MEHMET ÖZBEK<sup>b</sup>, AHMET CEYLAN<sup>a</sup>, EMEL ERGÜN<sup>a</sup>,  
FEYZULLAH BEYAZ<sup>a</sup>, LEVENT ERGÜN<sup>a</sup>, NUH YILDIRIM<sup>a</sup>, ÖZGE ÖZGENÇ<sup>a</sup>

<sup>a</sup> Ankara University, Veterinary Faculty

<sup>b</sup> Mehmet Akif Ersoy University, Veterinary Faculty

[fusunerhan@cumhuriyet.edu.tr](mailto:fusunerhan@cumhuriyet.edu.tr)

As in many tissues throughout the body, the number of cells in the seminiferous tubules of the testis is determined by a dynamic balance between cell proliferation and apoptotic cell death. This study was conducted to investigate cell proliferation and which of the different apoptosis pathways play a role in the development of the testis. In the experiment, groups were designed for prepubertal (5 days old), pubertal (20 days old), postpubertal (50 days old) and adult (70 days old). Immunohistochemically, PCNA and Ki67 were used to assess cell proliferation whereas both caspase 3, 8 and 9 and TUNEL method were used for apoptosis. In all periods examined, severe PCNA reaction was observed in the nuclei of spermatogonia but not with Ki67. In 5 day-old rat, caspase 3 immunoreactivity was observed in Leydig cells. In the 20-day period, some spermatocytes in the seminiferous tubule lumen reacted with Caspases 3 and 9, whereas Leydig cells only stained with Caspase 3. At 50 and 70 days, the expression of Caspase 3 and 9 in the testis was observed parallel to each other and found in almost all seminiferous tubule cells except for spermatogonia. Caspase 8 was detected to react in cells in some seminiferous tubules and in Leydig cells. TUNEL method revealed that the apoptosis was most intense for 20 days and the least for 5 days.

In conclusion, mitotic activity in spermatogonia continues intensively in the postnatal period. At 50 and 70 days, parallelism in the expression of caspase 3 and 9 in spermatogenic cells supports that the mitochondrial intrinsic pathway is a more frequent pathway in apoptosis in the postnatal development of the testis. The cause of the most intense apoptosis observed in the 20-day old rat may be severe fluctuations in hormones with puberty.

**Keywords:** Apoptosis, Caspase, PcnA, Testis, TUNEL

## **THE EFFECT OF IGY AND/OR BACTERIOPHAGE THERAPY ON CLINICAL PARAMETERS IN SALMONELLA INFECTIONS OF CALVES**

HASAN HUSEYİN HADIMLI<sup>a</sup>, GOKCENUR SANIOĞLU GÖLEN<sup>b</sup>, ALİ USLU<sup>a</sup>

<sup>a</sup> Selçuk University

<sup>b</sup> Aksaray University

[hhadimli@selcuk.edu.tr](mailto:hhadimli@selcuk.edu.tr)

**Objective:** This study was aimed to determination of effectiveness of Immunglobuline Y (IgY) and bacteriophage therapy on clinical parameters in salmonella infections of calves. **Methods:** A total of 16 calves (total 3 treatment groups and 1 control group) were challenged with salmonella strains (Salmonella Dublin or S. Typhimurium) by oral route. After challenge, IgY, bacteriophage cocktail or combination of IgY-bacteriophage to calves were orally administrated. Calves were observed for 45 days. The clinical parameters (rectal temperature, behaviour, dehydration and fecal composition) were scored and were daily recorded. Also, death and salmonella infections were monitored. **Results:** It was observed that rectal temperatures were lower in groups of administered bacteriophage, IgY or combination of bacteriophage-IgY than controls. The behavior of calves in experimental groups were found to be normal. Dehydration of calves in experimental groups was not observed. It was determine to be normal the fecal compositions of calves in experimental groups. Any cases of morbidity and mortality were observed in all of treatment groups. However, Salmonella infections was formed and death occurred in calves in the control group. **Conclusion:** in conclusion, IgY, bacteriophage cocktail or combination of IgY-bacteriophage in calves were effective on clinical parameters and were useful for protection against salmonella infections.

**Keywords:** Salmonella, Igy, Bacteriophage Therapy, Calves

**Acknowledgements:** This study is part of project supported by TUBITAK-TOVAG (Project No: 112O324).

## **THE EFFECT OF IGY AND BACTERIOPHAGE THERAPY ON HISTOPATHOLOGICAL FINDINGS IN SALMONELLA INFECTIONS OF CALVES**

---

HASAN HUSEYİN HADİMLİ, MUSTAFA KEMAL ÇİFTÇİ, ALİ USLU, FUNDA TERZİ,  
GOKCENUR SANIOĞLU GÖLEN

Selçuk University

[hhadimli@selcuk.edu.tr](mailto:hhadimli@selcuk.edu.tr)

**Objective:** This study was aimed to determination of effectiveness of Immunglobuline Y (IgY) and bacteriophage therapy on clinical parameters in salmonella infections of calves. **Methods:** A total of 16 calves (total 3 treatment groups and 1 control group) were challenged with salmonella strains (Salmonella Dublin or S. Typhimurium) by oral route. After challenge, IgY, bacteriophage cocktail or IgY+bacteriophage cocktail to calves were orally administrated. Calves were observed for 45 days, dead or euthonized calves were necropsied and macroscopic and microscopic findings were evaluated. **Results:** in control group, both macroscopic and microscopic lesions related to acute septicemic salmonellosis were observed in the intestine, liver spleen, mesenterial lymph nodes, peyer's plaques and lung. Also, meningitis, oedema and hemorrhage in the brain indicate that the infection is septicemic. Necrotic enteritis was not seen in animals given bacteriophage and IgY, and other lesions were found to be lighter. in the group administrated combination of bacteriophage-IgY, lesions related to the intestine and other organs were rarely seen. **Conclusion:** in conclusion, it was concluded that administration of bacteriophage and IgY was found to be effective, as well as the bacteriophage-IgY combination is more effective,

**Keywords:** Salmonella, Igy, Bacteriophage Therapy, Calves

**Acknowledgements:** This study is part of Project supported by TUBITAK-TOVAG (Project No: 112O324).

## ***AN INVESTIGATION ON SOME SILAGE QUALITY CHARACTERISTICS OF SOME HYBRID SORGHUM X SUDANGRASS (SORGHUM BICOLOR X SORGHUM SUDANENSE STAPF.) CULTIVARS***

**BULENT BUDAK<sup>a</sup>, ŞÜKRÜ SEZGİ ÖZKAN<sup>b</sup>, GÜLCAN DEMİROĞLU TOPÇU<sup>c</sup>,  
BEHÇET KIR<sup>d</sup>, ALİ SALMAN<sup>e</sup>**

<sup>a</sup> Ege University, Ödemiş Vocational Training School, Izmir/Turkey

<sup>b</sup> Ege University, Faculty of Agriculture, Department of Field Crops, Izmir/Turkey

<sup>c</sup> Ege University, Faculty of Agriculture, Department of Field Crops, Izmir/Turkey

<sup>d</sup> Ege University, Faculty of Agriculture, Department of Field Crops, Izmir/Turkey

<sup>e</sup> Ege University, Ödemiş Vocational Training School, Izmir/Turkey

[bulent.budak@ege.edu.tr](mailto:bulent.budak@ege.edu.tr)

The most problem of animal husbandry sector is providing cheap and high quality forage production for farmers. Sorghum x Sudangrass hybrids are tall, fast-growing, heat-loving summer annual grasses and the best alternative to maize in Mediterranean conditions. These crops offer potential for silage production in drought areas or agronomic conditions with reduced water availability. **This study** was conducted on the experimental fields and forage quality laboratory of Ödemiş Vocational Training School of Ege University, in the duration of a summer growing period in 2013. Aneto, Gardavan, Greengo and Nutri Honey cultivars were used as a plant material. The vacuum bag silos each 500 g samples for all cultivars were kept in storage without light for 60 days for anaerobic fermentation. Some silage quality parameters such as dry matter ratio, pH, Flieg score, DLG quality point and crude ash ratio were obtained end of two months. According to the results, dry matter ratio %24.63-28.31, pH 4.07-4.17, Flieg score 87.32-97.35, DLG quality point 17-20 and crude ash ratio 7.44-8.41 were recorded for cultivars. Significant differences were determined among the cultivars in the research. Greengo and Gardavan cultivars has shown the best results in terms of dry matter ratio, pH, Flieg score and DLG quality points.

**Keywords:** Sorghum X Sudan Grass, Silage, Quality, Cultivar, Mediterranean

## **COMPARISON OF EFFECT OF INTRAPERITONEAL AND INCISIONAL BUPIVACAINE OR LEVOBUPIVACAINE ON POSTOPERATIVE ANALGESIA IN DOGS UNDERGOING OVARIOHYSTERECTOMY**

MUSA KORKMAZ<sup>a</sup>, OKTAY YILMAZ<sup>b</sup>, ZULFUKAR KADIR SARITAS<sup>a</sup>,  
IBRAHIM DEMIRKAN<sup>a</sup>

<sup>a</sup> Afyon Kocatepe University Veterinary Faculty, Department of Surgery

<sup>b</sup> Afyon Kocatepe University faculty of Veterinary Medicine, Department of Obstetrics and Gynaecology,

[vetmusakorkmaz@gmail.com](mailto:vetmusakorkmaz@gmail.com)

The purpose of this study is to compare of effect of intraperitoneal and incisional bupivacaine or levobupivacaine on postoperative analgesia in dogs undergoing ovariohysterectomy. in this study, 8 bitches in bupivacaine group, 8 in levobupivacaine group and 8 in control group, totally 24 female dogs were used that referred to our clinic for ovariohysterectomy. Under general anaesthesia OHE was performed in all dogs. During the operation, the sprayed bupivacaine 0.5% (4,4 mg/kg) with an equal volume of saline in BP group and sprayed levobupivacaine 0.5% (4,4 mg/kg) with an equal volume of saline in LP group and only saline in control group was applied intraperitoneally and incisional. The pain evaluation was carried with modified Mellbourne pain scale and the collection of blood samples to determine cortisol concentrations were performed at preoperative 30 min and at postoperative 1st, 2nd, 4th, 6th, 12th and 24th hours. Postoperative pain scores were found higher in the control group than BP and LP groups at 30 min, 1st, 4th, and 6th hours. It was determined that the pain scores in the BP and LP groups were similar at all measurement times and the pain scores were decreased statistically significant at the 24th hour in both groups. in all groups, cortisol levels increased postoperatively and decreased more rapidly in BP and LP groups. Moreover, it increased at postoperative 0 min, 30 min, 1st, 2nd, 4th and 6th hours in the control group and at postoperative 0 min, 30 min and 1 hour in BP and LP groups (p <0, 05). in conclusion, it is suggested that sprayed intraperitoneal and incisional BP and LP are very effective for preventing postoperative pain in dogs.

**Keywords:** Dog, Bupivacaine, Levobupivacaine, Postoperative Analgesia

## OXIDATIVE STATUS IN NEONATAL CALVES WITH ACUTE INFECTIOUS DIARRHEA: PRELIMINARY FINDINGS

MEHMET GULTEKIN<sup>a</sup>, KEREM URAL<sup>a</sup>, HASAN ERDOĞAN<sup>a</sup>, SERDAR PAŞA<sup>a</sup>,  
GAMZE SEVRI EKREN ASICI<sup>b</sup>, GAMZE GULTEKIN<sup>b</sup>, ASUDE GULCE GULER<sup>c</sup>

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine

<sup>b</sup> Adnan Menderes University, Faculty of Veterinary, Department of Biochemistry

<sup>c</sup> Adnan Menderes University, Faculty of Veterinary, Department of Parasitology

[gultekinmehmet@gmail.com](mailto:gultekinmehmet@gmail.com)

In the present study, it was aimed to evaluate the total parameters related to oxidative status in neonatal calves with acute infectious diarrhea. In this context, 20 healthy and 40 calves with acute diarrhea younger than 28 days and of both sexes were used. Stool specimens were evaluated by fast immunochromatographic diagnostic test kit (Bovid-5 Ag Test Kit, Bionote Inc., Korea) and microscopy to determine the etiological factors causing diarrhea. Total oxidative status (TOS), total antioxidant capacity (TAC) and oxidative stress index (OSI) parameters were analyzed in serum samples obtained from healthy and calves with diarrhea. The etiology of diarrhea was identified as mono-infected with *Cryptosporidium parvum* (n = 24), co-infected with *Cryptosporidium parvum* + rotavirus (n = 10) and mono-infected with *Escherichia coli* (n = 6). Decrease in TAC value (p < 0.01) and increase in TOS and OSI values (p < 0.001) were found in all calf groups with acute infectious diarrhea according to healthy calves. As a result of the present study, it is thought that oxidative balance may be impaired in neonatal calves with acute infectious diarrhea. Therefore, antioxidant applications might be evaluated within the scope of treatment of diarrhea in neonatal calves.

**Keywords:** Oxidative Status, Calves, Diarrhea

**Acknowledgements:** This study is partially summarized from the project data supported by TUBITAK with the number 116O014.



## ***AN UNUSUAL OUTCOME FOR FETAL DEATH IN BITCH: A REPORT OF A CASE***

---

GÜNEŞ ERDOĞAN<sup>a</sup>, TUĞRA AKKUŞ<sup>a</sup>, EYYÜP HAKAN UÇAR<sup>a</sup>, CEVDET PEKER<sup>a</sup>,  
RITA PAYAN-CARREIRA<sup>b</sup>

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary Medicine, Department of Obstetrics and Gynecology

<sup>b</sup> Cecav, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal

[tugraakkus08@hotmail.com](mailto:tugraakkus08@hotmail.com)

In this report, an unusual condition of fetal maceration conveyed with retention of fetal debris was diagnosed 5-months after breeding in a hound bitch. A five years old bitch due to loss of appetite and abdominal distention, five months after breeding. Although presenting a distended belly and mammary glands, no signs of parturition have been reported. At surgery, a reddish free intra-abdominal fluid was suctioned, and hysterectomy was performed; ovaries were not excised to avoid any compromise of hunting performance. Fur and bone remnants floating in a brown-green, mucous and odorless fluid were detected at inspection of the uterus. In this case, the evaluation of the uterus showed that all the fetuses underwent maceration and autolysis at least 3 months after the pregnancy putative, apparently without any ascending bacterial contamination. Although it was seen that compatible with chronic uterine inflammation findings (leukocytosis and anemia), closed cervical position and odorless uterine content may be an unusual sequel to canine fetal death.

**Keywords:** Fetal Maceration, Clinical Findings, Bitch

## **DRUG MARKETING IN VETERINARY CLINICS**

---

**BURAK MAT<sup>a</sup>, AYTEKİN GÜNLÜ<sup>b</sup>, MUSTAFA BAHADIR ÇEVIRIMLI<sup>c</sup>**

a Department of Animal Health Economics and Management, Faculty of Veterinary Medicine, Ankara University

b Department of Livestock Economics and Management, Faculty of Veterinary Medicine, Selcuk University

c Department of Livestock Economics and Management, Faculty of Veterinary Medicine, Selcuk University

[burakmat@selcuk.edu.tr](mailto:burakmat@selcuk.edu.tr)

Veterinary health products are among the indispensable elements together with the increase in productivity in animal breeding and the positive increase in pet animals' quality of life and life span. Veterinary medicines and vaccines enable veterinary clinics to have an important place in their incomes, as well as produce healthy and reliable products such as meat, milk and eggs for humans, in quantities and in quantities to the population.

In this study, it is aimed to determine the place of the drugs sold in veterinary clinics and used for the treatment of animal diseases in veterinary clinical revenues, and the variety of medicines supplied by means of supply and use of drugs. These results will be evaluated in terms of veterinary clinicians, use of drugs and traceability in terms of importance in animal health.

Within the scope of our research, our questionnaires were applied to veterinarians who operate 55 pet clinics operating in four provinces in Central Anatolia, Aegean and Marmara regions. When the share of veterinary clinic operators participating in the survey in the total incomes of the revenues from drug sales compared to the previous year was taken into account, a rate of 25.6% was found.

When the drug supply channels of veterinarians carrying out clinical operations were examined, it was determined that the first order was supplied by pharmacy warehouse with 75%, the second order by company representatives by 16% and the third order by 6,5% directly. According to the information obtained from the participants in the determination of the end use points of the supplied drugs, the rate of treatment use in the clinic was calculated as 57.43%, 33.27% outside of the clinic and 7,13% from direct sales. As a result, it can be said that pharmaceutical sales revenues have significant share for clinical operators.

**Keywords:** Medicine, Veterinary Clinics, Marketing

## ***MEASUREMENT OF HEART FREQUENCY WITH PRACTICAL ECG DEVICE IN BRITISH HORSES***

---

**CENKER CAGRI CINGI<sup>a</sup>, ABDULLAH RUHI SOYLU<sup>b</sup>**

<sup>a</sup> Afyon Kocatepe University

<sup>b</sup> Hacettepe University

[cagricingi@gmail.com](mailto:cagricingi@gmail.com)

The study was conducted in six thoroughbred British Horses between the ages were 2-5 years old, which continued the race life. Cardiac potentials were recorded on resting horses from the skin surfaces using portable, with two channels of three electrodes, 180 g ECG devices and Ag / AgCl electrodes, which we developed for practical measurements. Concurrently the heart rates of horses were detected by stethoscope manually. The ECG device was able to record between -10 mV and +10 mV with a sampling frequency of 1000 Hz and a 15-bit ADC (analog-to-digital converter) quality. The Java based smartphone software we developed for recording, displaying and storing ECG signals runs under the Android operating system and is compatible with the ECG equipment. As a result, when compared to manual measurements, practical ECG instrument measurements and smartphone software were found to be successful in getting the records and the device could be used comfortably in race horses.

Keywords: British Horse, EKG, Heart Frequency

## ***THE RELATIONSHIPS AMONG SERUM BIOCHEMICAL PARAMETERS AND MILK YIELD OF HOLSTEIN-FRIESIAN COWS IN BOZDOGAN, TURKEY***

**DENİZ ALIC URAL**

Adnan Menderes University Faculty of Veterinary

[alicdeniz@gmail.com](mailto:alicdeniz@gmail.com)

The aim of this study was to investigate the relationships among serum biochemical parameters and milk yield of Holstein-Friesian cows in Bozdogan province in Aydin, Turkey. Thirty Holstein Friesian cows were enrolled, at the age of 2 to 4 years within first and fourth lactation. Farms were visited monthly from January 2015 and January 2016 and 8614 milk records were collected in study. Among days 0-70, 71-140 and 141≥ were evaluated at the beginning, middle and late lactation period, respectively. The food stuff composed of 0%, 1.25% and 2.5% natural zeolite (clinoptilolite) involved feed mixture. in this research a total of 3 groups involved control, zeolite I, zeolite II. Blood was withdrawn once a month during the 305 days of lactation and divided into beginning, midterm and end of lactation. Commercial kits were used to analyze ALT, AST, glucose, urea, creatinine and triglyceride. in this study, the means of ALT, AST, glucose, urea, creatinine and triglyceride from serum biochemical parameters were found as  $24.52 \pm 0.947$  IU/L,  $57.70 \pm 3.119$  IU/L,  $52.95 \pm 1.336$  mg/dl,  $21.77 \pm 0.450$  mg/dl,  $0.75 \pm 0.024$  mg/dl and  $7.51 \pm 0.219$  mg/dl, respectively. The effects of lactation stage, parity and calving season on milk yield were statistically significant ( $P < 0.01$ ). Among serum biochemical parameters other than triglycerides, were within reference ranges in trial groups. The effect of lactation stage on ALT; AST, glucose and creatinine were found significant ( $P < 0.01$ ); whereas its effect on urea and triglyceride were found not significant ( $P > 0.05$ ). The effects of parity and calving season on serum biochemical parameters were found not significant ( $P > 0.05$ ). Generally negative and lower correlations between milk yield and serum biochemical parameters were observed in all lactation stages ( $P > 0.05$ ). Consequently, it was found that some serum biochemical parameters could not be affected by milk yield in the different lactation stages.

**Keywords:** Holstein-Friesian, serum biochemical parameters, milk yield, lactation stages

## ***INVESTIGATIONS ON THE EFFECTS OF NITROGEN FERTILIZER ON HERBAGE YIELD AND SOME YIELD PROPERTIES OF SECOND CROP MAIZE (ZEA MAYS L.) IN AKSARAY REGION***

---

CEVAT ÖZBEK, BEHCET KIR

Ege University, Agriculture Faculty, Field Crops Department

[behcet.kir@ege.edu.tr](mailto:behcet.kir@ege.edu.tr)

This research was carried on to define the efficiency of different fertilizing with nitrogen which is applied as basic+top dressing (Eurotim Plus+Timazot 25, Eurotim Plus+Urea, 15.15.15+Urea, DAP+ Timazot 25, DAP+Urea) to the corn that is grown as second crop to herbage yield in Osmankuyu locality in the Sultanhanı in Aksaray in 2013. The experiment was established randomized block design with three replicates. There were statistically significant differences on all the tested characteristics except the green leaf rate. The highest plant height, cob and green leaf rate, dry matter rate and yield were 257 cm with DAP + Urea, 30.6% with Eurotim Plus+Urea, 19.6% with Eurotim Plus+Timazot 25, 29.0% and 17320 kg ha<sup>-1</sup> with Eurotim Plus+Timazot 25, respectively. Differences between the data obtained as a results of the research; may be based on corn varieties and the ecological conditions of the research sites and the chemical properties of the fertilizers which they contain the macro and micro nutrients.

Considering the herbage yield as one of the significant yield characteristics, Eurotim Plus MPPA as base fertilizer and Timazot 25 as top fertilizer reached the highest yield with 11780 kg ha<sup>-1</sup> and 59360 kg ha<sup>-1</sup>, respectively.

**Keywords:** Nitrogen Fertilizer, Herbage Yield, Dry Matter Rate and Yield

## ***THE WITHITNESS OF CAT OWNERS ABOUT THE REPRODUCTIVE STATUS OF THEIR ANIMALS IN AFYONKARAHISAR AND ANKARA***

---

**DUYGU BAKI ACAR<sup>a</sup>, MÜRŞİDE AYŞE DEMİREL<sup>b</sup>**

<sup>a</sup> Department of Obstetrics and Gynaecology, Faculty of Veterinary Medicine, Afyon Kocatepe University

<sup>b</sup> Laboratory Animals Breeding and Experimental Researches Center, Gazi University

[dbakiacar@gmail.com](mailto:dbakiacar@gmail.com)

The aim of this research was to survey of the withitness of cat owners about the reproductive physiology, the time of consult to a veterinarian following any reproductive pathology of their animals in Afyonkarahisar and Ankara, and to exhibit the lack of knowledge and to inform the animal owners. The materials of this study were collected answers from participants to survey data prepared according to study aims in Afyonkarahisar and Ankara. Totally 123 cat owners were participated to our study. This survey study exhibited that the owners should be inform much better about cat welfare status, reproductive physiology, the knowledge status about the pathological conditions and the consult time to veterinarian, the age of puberty and first breeding age of cats, the importance of cat spaying/neutering. It was considered that organizing some education seminars, panel and meetings to cat owners will be useful about this issue. To the authors knowledge, this is the first reported survey study on the cat reproductive status withitness of cat owners.

The part of Afyonkarahisar of this study was supported by Afyon Kocatepe University BAPK (Project Number: 15.HIZ.DES.74).

**Keywords:** Cat Owner, Withitness, Reproductive Status

## **THE PROTECTIVE ROLE OF SILIBININ AGAINST NICKEL TOXICATION IN RATS**

FÜSUN TEMAMOĞULLARI<sup>a</sup>, AHMET ATEŞŞAHİN<sup>b</sup>, ÇİĞDEM ÇEBİ ŞEN<sup>c</sup>,  
NİHAT YUMUŞAK<sup>d</sup>, MUSTAFA SELİM DOĞRU<sup>e</sup>

<sup>a</sup> Harran University, Faculty of Veterinary Medicine

<sup>b</sup> Fırat University, Faculty of Veterinary Medicine

<sup>c</sup> Harran University, Faculty of Veterinary Medicine

<sup>d</sup> Harran University, Faculty of Veterinary Medicine

<sup>e</sup> Fırat University, Faculty of Veterinary Medicine

[farmafto@gmail.com](mailto:farmafto@gmail.com)

The aim of this study was to investigate of silybin use in nickel sulfate toxication as a protective measure. In this study both antioxidative effects in liver, kidneys and testes and overall effects related to sperm motility, membrane and acrosome integrity of orally administered silybin on rats were evaluated against harmful effects of 30 days nickel sulfate administration in various doses (2.5 and 5 mg/kg/day) over these organs. Rats were divided into experimental and control groups (n = 6) randomly: Group 2 (Nickel sulfate 2.5 mg/kg/day, i.p., n = 6), Group 3 (Nickel sulfate 5 mg/kg/day, i.p., n = 6), Group 4 (silybin 150 mg /kg/day, orally, n = 6), Group 5 (Nickel sulfate 2.5 mg/kg/day, i.p. and silybin 150 mg /kg/day, orally n = 6), and Group 6 (Nickel sulfate 5 mg/kg/day, i.p. and silybin 150 mg /kg/day, orally n = 6). **The results** showed that in the nickel sulfate with silybin treatment groups (Group 5 and 6), sperm motility, viable sperm and sperm counts were higher than the nickel sulfate treatment groups (Group 2 and 3). However, abnormal spermatozoa percentage was similar among the study groups (p>0.05). We found histopathologic degenerative and necrotic changes in liver, kidney and testis tissues obtained from Group 3 subjects. On the other hand, histopathological alterations were reduced significantly in Group 5 as compared to other groups. Increased apoptosis and caspase-3, -8, -9 and also TUNEL activity were detected in Group 3. However, caspase-3, -8, -9 and also TUNEL were reduced in Nickel sulfate + silibin given groups. Furthermore, there were alterations in the levels of antioxidant enzymes in Groups 5 and 6 in comparison to other groups. **The results of the present study** indicate the protective effects of silybin on some sperm parameters and histopathologic findings in rats exposed to nickel sulfate

**Keywords:** Nickel Sulfate, Rat, Silybin, Toxicity



## **INVESTIGATION OF TRANSMISSIBLE VENEREAL TUMOR IN MALE DOGS BY CYTOLOGICAL EXAMINATION**

MEHMET UÇAR<sup>a</sup>, TUĞBA AKBAŞ ÇİNE<sup>a</sup>, CENKER ÇAĞRI CINGİ<sup>b</sup>, DENİZ YENİ<sup>c</sup>,  
EBUBEKİR YAZICI<sup>a</sup>

<sup>a</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Obstetrics and Gynaecology Department, Afyonkarahisar/Turkey

<sup>b</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Internal Medicine Dept., Afyonkarahisar/Turkey

<sup>c</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Reproduction and Artificial Insemination Dept., Afyonkarahisar/Turkey

[mucar@aku.edu.tr](mailto:mucar@aku.edu.tr)

Transmissible (TVT) is a neoplasm that can be transmitted easily between female and male dogs via mating by the physical transfer of viable tumor cells. In male dogs, TVT is usually located in caudal part of the penis. Initially the tumor is small and varying from pink to red, subsequently progressing to large, ulcerated, friable, hemorrhagic and cauliflower-like masses. Clinical signs may include preputial discharge, licking of the region, dysuria, bloody urine and occasionally phimosis or paraphimosis.

In this study, 145 male dogs at the different breeds were examined for TVT incidence in Eskişehir region of Turkey in 2016 and 2017 (during eight months, November to June). TVT's diagnosis was based on anamnesis, location of the tumor mass and mainly cytological findings (smear of caudal part of the penis). Smears were painted with Giemsa staining method. The cells in the cytological preparations were classified as transmissible venereal tumor cells, neutrophil, erythrocyte, parabasal, intermediate, nucleated superficial and anuclear superficial cells.

TVT cells were observed in the smears prepared from 17 dogs (11,72 %), but only four of 17 dogs (2,76 %) had TVT lesions clinically, 13 (8,97 %) smears had TVT cells cytologically. There were no effects of age, weight and breed of dogs on the TVT lesions. All TVT lesions were observed in November, December and January. There were no relationships between TVT cells and season, age, weight, breed of dogs.

As a result, the male dogs having no lesions could be infected with TVT. Dogs should be examined not only clinically, but also cytologically, to determine whether TVT cells are present. This method can be an easy way to find and treat TVT lesion-free but infected dogs at an early time.

**Keywords:** Male Dogs, Cytology, TVT, TVT Cell

## **INVESTIGATION OF THE EFFECTS OF TREHALOSE AND CATALASE ON POST-THAWED RAM SPERM**

SÜKRÜ GÜNGÖR, AYHAN ATA, MUHAMMED ENES INANC

Clinical Sciences, Reproduction and Artificial Insemination, Veterinary Faculty, Mehmet Akif Ersoy University

[sukrugungor@mehmetakif.edu.tr](mailto:sukrugungor@mehmetakif.edu.tr)

**The aim** of this study was to investigate the effects of two levels trehalose, catalase and combination of trehalose and catalase on ram sperm parameters (motilities and viability) after the cryopreservation/thawing process. Seven rams (1-3 years of age) were housed at Mehmet Akif Ersoy University Faculty of Veterinary Medicine Department of Reproduction and Artificial Insemination Clinics, Burdur. Ejaculates were collected twice a week from the rams with electro-ejaculator. The ejaculates containing spermatozoa with >60% motility and concentrations higher than  $1 \times 10^9$  spermatozoa/ml were used in the study. Ejaculates were pooled at 37°C, divided into six equal aliquots, and diluted (37°C) with the Tris based extender containing Trehalose 25 mM + Glycerol (G) %6, Trehalose 50 mM + G %6, Catalase 200 µg+ G %6, Catalase 400 µg+ G %6, Trehalose 50 mM+ Catalase 400 µg+ G %6 and no antioxidant (control), respectively, were cooled to 5 °C than frozen in 0.25 ml French straws and stored in liquid nitrogen. **The extender supplemented** with trehalose 25 mM ( $54.1 \pm 1.53$ ;  $73.1 \pm 4.37$ , 50 mM ( $58.3 \pm 4.01$ ;  $63.1 \pm 0.30$ ) and combination of trehalose 50 mM with catalase 400 µg ( $56.6 \pm 1.05$ ;  $58.3 \pm 0.55$ ) resulted in higher subjective motility and viability, in comparison to the control ( $40.0 \pm 3.87$ ;  $40.5 \pm 0.22$ ) groups, respectively, ( $P < 0.05$ ). Also trehalose 50 mM ( $60.16 \pm 4.39$ ) and combination of Trehalose 50 mM with Catalase 400 µg led to higher CASA total motility when compared to control ( $44.40 \pm 8.13$ ) group ( $P < 0.05$ ). Sperm progressive motility was better in trehalose 25 mM ( $20.57 \pm 6.90$ ) group than the catalase 200 µg ( $10.63 \pm 3.59$ ) group ( $P < 0.05$ ). **Our data suggest** that combination trehalose 50 mM and catalase 400 µg can be added to Tris based extender for improving the post-thawed sperm quality in ram semen.

**Keywords:** CASA Parameters, Catalase, Ram Sperm

## ***SEROLOGICAL INVESTIGATION OF WNV INFECTION AMONG PUREBRED ARABIAN RACE HORSES IN TURKEY***

**ZEYNEP AKKUTAY-YOLDAR<sup>a</sup>, SABRI HACIOĞLU<sup>b</sup>, SEDA TEZCAN-ÜLGER<sup>c</sup>**

<sup>a</sup> Ankara University, Faculty of Veterinary Medicine, Department of Virology, Dışkapı  
06110, Ankara, Turkey

<sup>b</sup> Ankara University, Faculty of Veterinary Medicine, Department of Virology, Dışkapı  
06110, Ankara, Turkey

<sup>c</sup> Mersin University, Faculty of Medicine, Department of Medical Microbiology 33343,  
Mersin, Turkey

[akkutay@ankara.edu.tr](mailto:akkutay@ankara.edu.tr)

**Background:** West Nile is an important viral agent causing disease in both animals and humans. There are only a limited number of studies investigating the prevalence of this infection in horses in Turkey. The aim of this study was to serologically screen West Nile virus infection in Arabian horse populations from breeding farms located in three different geographical areas in Turkey using plaque reduction neutralization assay (PRNT). **Material/methods:** Blood serum samples were obtained from 165 arabian race horses in Marmara and Central- and Eastern-Anatolia, between March and December 2010. **Results:** PRNT results showed that the prevalence of West Nile virus antibodies were 4.4% (2/45) in Central Anatolia, 3.7%(2/53) in Eastern Anatolia and 8.95% (6/67) in the Marmara region. Overall prevalence was 6.06% (10 /165) in the three regions. **Conclusions:** The data demonstrate the need to screen the horses for WNV in the region. WNV should to be included in the diagnostic panels in cases resulting in death or with nervous system findings. This infection should be screened in human populations with similar clinical findings in human populations due to the zoonotic potential of the virus.

**Keywords:** Horses, Seroprevalance, Turkey, Wnv

## **MICROBIOLOGICAL CHANGES DURING STORAGE IN USING STARTERCULTURE HEAT-TREATED SUCUK**

HALİL YALÇIN<sup>a</sup>, PELİN ERTÜRKMEN<sup>b</sup>, YAHYA ÖZTÜRK<sup>c</sup>,  
HASAN ALTAN AKKAN<sup>d</sup>, MEHMET SARI<sup>e</sup>

<sup>a</sup> Mehmet Akif Ersoy University, Faculty of Veterinary Medicine Dept. of Food Hygiene and Technology

<sup>b</sup> Mehmet Akif Ersoy University, Burdur Vocational School of Higher Education, Food Technology Programme, Burdur

<sup>c</sup> Mehmet Akif Ersoy University, Burdur Vocational School of Higher Education, Food Technology Programme, Burdur

<sup>d</sup> Mehmet Akif Ersoy University, Burdur Vocational School of Higher Education, Food Technology Programme, Burdur

<sup>e</sup> Mehmet Akif Ersoy University, Faculty of Veterinary Medicine, Dept. of Livestock Burdur

[halilyalcin@yahoo.com](mailto:halilyalcin@yahoo.com)

in the study, the effect of starter cultures, isolated from white cheeses as heat-treated sucuk production. *Lb. plantarum*, *Lactococcus lactis* and *Enterococcus faecium* cultures were selected as starter and 6 different culture combinations were added at the concentration of 10<sup>7</sup> to 7 different sucuk types. The prepared sucuk dough (18 hours at 4 °C) was subjected to fast drying (30 min at 60 °C), heat treatment (64 °C of inner temperature) and rapid drying (10 min at 75 °C). The trial was repeated twice. 7., 14., and 21th days of experiment samples were collected for analysis of Lactic acid bacteria (LAB), total mesophilic aerobic bacteria (TMAB), yeast-mold and coliform bacteria counts. The resistance against microorganisms was found more effective in starter culture used group than control in present study. TMAB content of starter culture used group were determined as; 4.54-6.58 log cfu/g, *Lactococcus* 3.00-6.21 log cfu/g, *Lactobacillus* 3.43-6.16 log cfu/g, yeast 2.00-2.87 log cfu/g and coliform growth ≤1 log cfu/g were determined in the starter-containing samples at the final day of storage. TMAB, LAB and yeast-mold loads were increased and coliform group bacterial load was decreased during storage in sucuks. The development of mold growth was lower in starter culture used group and changed depending on the storage length. The application of heat treatment was resulted in reduction about 2 log cfu/g in TMAB and LAB loads, about 3 log cfu/g in yeast-mold loads and a complete inhibition in coliform load. The sensory evaluation was carried out in and products, produced using starter culture shave had the higher sensory evaluation scores. As a result of present study; addition of *Enterococcus* to *Lactococcus* and *Lactobacillus* containing cultures with heat treatment contributed to microbiological quality of sucuk.

**Keywords:** Heat-Treated Sucuk, Lactic Acid Bacteria, *Lb. Plantarum*, *Lactococcus lactis*, *Enterococcus Faecium*

## **SUPPLEMENTATION OF QUERCETIN FOR ADVANCED DNA INTEGRITY IN BULL SEMEN CRYOPRESERVATION**

UMUT TAŞDEMİR<sup>a</sup>, FATİH AVDATEK<sup>b</sup>, DENİZ YENİ<sup>c</sup>, MUHAMMED ENES İNANÇ<sup>d</sup>,  
BESTE ÇİL<sup>e</sup>, RUHİ TÜRKMEN<sup>f</sup>, PÜRHAN BARBAROS TUNCER<sup>g</sup>

<sup>a</sup> Aksaray University, Technical Sciences Vocational School

<sup>b</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination

<sup>c</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination

<sup>d</sup> Mehmet Akif University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination

<sup>e</sup> Ankara University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination

<sup>f</sup> Afyon Kocatepe Uni. Faculty of Veterinary Med., Dept. of Pharmacology and Toxicology

<sup>g</sup> Mersin University, Technical Sciences Vocational School

[tasdemiru@gmail.com](mailto:tasdemiru@gmail.com)

Treated of sperm cells as long as in vitro storage at room temperature, cooling and freezing can generate reactive oxygen species (ROS) and toxic-oxidants in semen extender and they cut down energy sources, resulting in lipid peroxidation, DNA damage and apoptosis. The long period of time preservation at environmental or subfreezing temperature produced free radicals by ROS. The sense of the current study was to sound the effects of addition of quercetin (Q) Tris extender on oxidative and osmotic stress on bull spermatozoa after freeze thawing. Ejaculates were collected via artificial vagina from Holstein breed bulls. Semen were divided five tools and diluted to a final concentration of  $15 \times 10^6$  spermatozoa/ml with the Tris extender containing Q (25, 50, 100 and 200 µg/ml) and no-additive (control). All examples were equilibrated at 4°C during 4 h then were loaded into 0.25 ml straws and frozen using a controlled rate. Sperm motility and motility characters were determined using the sperm analyzer system. Spermatozoa membrane integrity was assessed using the hypoosmotic swelling test. Sperm chromatin integrity was investigated using the single cell gel electrophoresis. Total antioxidant capacities were performed colorimetrically. Q supplementation did not produce better results on the proportion of sperm progressive and total motility. Besides, when sperm motility characters, plasma membrane integrity and spermatozoa abnormalities considered current treatment did not improve any fields when compared to C. Q supplementation exhibited the favourable tail length, tail DNA and tail moment. In conclusion, all parameters concerned Q25 may have beneficial effect on bull semen when added to the Tris extender.

**Keywords:** Antioxidant Activity, Bull Semen, Cryopreservation, DNA Integrity, Oxidative Stress, Quercetin

## ***SUPPLEMENTATION OF ROSMARINIC ACID HAS REDUCED OXIDATIVE STRESS ON BULL SPERMATOZOA FOLLOWING THE FREEZE THAWING PROCESS***

UMUT TAŞDEMİR<sup>a</sup>, DENİZ YENİ<sup>b</sup>, MUHAMMED ENES İNANÇ<sup>c</sup>, FATİH AVDATEK<sup>d</sup>,  
BESTE ÇİL<sup>e</sup>, RUHİ TÜRKMEN<sup>f</sup>, PÜRHAN BARBAROS TUNCER<sup>g</sup>

<sup>a</sup> Aksaray University, Technical Sciences Vocational School

<sup>b</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination

<sup>c</sup> Mehmet Akif University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination

<sup>d</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination

<sup>e</sup> Ankara University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination

<sup>f</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology

<sup>g</sup> Mersin University, Technical Sciences Vocational School

[tasdemiru@gmail.com](mailto:tasdemiru@gmail.com)

Cryopreservation has a side effect on the motility, chromatin integrity and viability of sperm cell. The current study was to investigate the effects of supplementation of rosmarinic acid (RA) Tris extender on sperm quality parameters, plasma and acrosome membrane damage, antioxidant enzymes activities as well as chromatin integrity following freeze thawing process on bull spermatozoa. Ejaculates were split into five aliquots and diluted to a final concentration of  $15 \times 10^6$  spermatozoa/ml with the Tris extender containing RA (25, 50, 100 and 200 µg/ml) and additive-free (control) and frozen using a controlled rate. Sperm motility and motion characters were determined using the sperm class analyzer system. Spermatozoa membrane integrity was assessed using the hypoosmotic swelling test. Sperm chromatin integrity was investigated using the single cell gel electrophoresis (comet) assay. Antioxidant capacities were performed colorimetrically using commercial kit. Treatments did not give better results on the percentages of sperm progressive, total motility and sperm motion characters ( $P > 0.05$ ), however RA25 and RA50 exhibited the favourable chromatin integrity. In conclusion, RA25 and RA50 have increased total antioxidant activities. As a consequence of that these have MDA amount and chromatin damage reduced in sperm cell.

**Keywords:** Antioxidant; Bull Semen Cryopreservation; Oxidative Stress; Rosmarinic Acid



## **THE INVESTIGATION OF PROTECTIVE EFFECT OF RESVERATROL ON OXIDATIVE STRESS INDUCED BY MALATHIONE IN RATS.**

ERTEN AKBEL<sup>a</sup>, ISMAIL KÜÇÜKKURT<sup>b</sup>, SINAN INCE<sup>c</sup>, HASAN HÜSEYİN DEMIREL<sup>d</sup>, DAMLA ARSLAN ACARÖZ<sup>e</sup>

<sup>a</sup> Uşak Health Training School, Uşak University

<sup>b</sup> Department of Biochemistry, Faculty of Veterinary Medicine, Afyon Kocatepe University

<sup>c</sup> Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology, Afyon Kocatepe University,

<sup>d</sup> Bayat Vocational School, Afyon Kocatepe University

<sup>e</sup> Department of Biochemistry, Faculty of Veterinary Medicine, Afyon Kocatepe University

[erten.akbel@usak.edu.tr](mailto:erten.akbel@usak.edu.tr)

The present study was planned to evaluate the protective role of resveratrol (Res) against subchronic malathion exposure in rats for 4 weeks. Totally, 48 Wistar rats were used and divided equally into 6 groups. The groups were designed as control group (only received a rodent diet and tap water), the corn oil group (0.5 mL of corn oil by oral route), the malathion group (100 mg/kg/day by oral route). Other three groups received malathion (100 mg/kg/day) plus Res (5, 10, and 20 mg/kg/day, respectively) by oral route. Malathion increased malondialdehyde and 8-OHdG levels, whereas decreased acetylcholinesterase, diminished glutathione, superoxide dismutase, and catalase activities in blood, liver, kidney, heart, and brain tissues. Biochemical parameters were not notably changed in all groups. In contrast, Res treatment inverted malathion-induced oxidative stress, lipid peroxidation, and activity of enzymes. Additionally, malathion-induced histopathological changes in liver, kidney, heart, and brain were ameliorated by Res treatment. These results demonstrate that malathion increases oxidative stress and decreases antioxidant status while Res has a protective function against malathion toxicity in rats.

**Keywords:** Malathion, Resveratrol, Acetylcholinesterase, Lipid Peroxidation, 8-OHdG, Rat.



## ***SUBCUTANEOUS MELATONIN IMPLANT TREATMENT FOR EOSINOPHILIC PLAQUE IN A CAT***

ÖZDE KANDEMİR<sup>a</sup>, KEREM URAL<sup>b</sup>, MEHMET GÜLTEKİN<sup>c</sup>, NAİLE KARAGÖZ<sup>d</sup>

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary, Department of Surgery

<sup>b</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine

<sup>c</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine

<sup>d</sup> Venüs Veterinary Clinic, İzmir

[ozdekandemir93@hotmail.com](mailto:ozdekandemir93@hotmail.com)

in cats ‘eosinophilic granuloma complex’ frequently is a confusing term involving four different syndromes: (a) eosinophilic plaque, as was the subject of this case report, (b) eosinophilic granuloma, (c) indolent ulcer, (d) allergic miliary dermatitis. All four syndromes are classified together as “eosinophilic granuloma complex” due to their clinical similarities. **in this case** a 2.5 years old cat presented pruritus with an eosinophilic plaque, as literaturally described circumscribed, raised, round to oval lesions located on the face. Hematological analysis revealed lymphocytic leukocytosis and eosinophilia. Histopathological examination of a skin biopsy revealed severe epidermal and follicular acanthosis. The dermis was densely infiltrated with mast cells. Subcutaneous melatonin implant (18 mg) was applied weekly for 4 times for treatment. **Following** 1 week after the first implant, there was a suprisingly high 75 % recovery. At the time of writing just prior to the fourth implant full recovery was evident. **The potential influence of melatonin** in the treatment of eosinophilic plaque has been hypothesized, as it might protect skin integrity, maintain a functional epidermal barrier, antioxidative, antiinflammatory and antiapoptotic activities, as described in several different literatures. It has also been experimentally evidenced in promoting hair growth cycling, as might be the case in this cat.

**Keywords:** Subcutaneous Melatonin Implant

## **GLUCOSE-6-PHOSPHATE DEHYDROGENASE ACTIVITY IN THE OVARIES OF HEALTHY AND ISCHEMIA-REPERFUSION INJURY IN THERANEKRON ADMINISTERED RATS**

TOLUNAY KOZLU<sup>a</sup>, FATMA GÜLER<sup>a</sup>, PINAR PEKER AKALIN<sup>b</sup>, FİLİZ KAZAK<sup>b</sup>,  
YAŞAR ERGÜN<sup>c</sup>

<sup>a</sup> Department of Histology and Embryology,

<sup>b</sup> Department of Biochemistry,

<sup>c</sup> Department. of Obstetrics and Gynecology Faculty of Veterinary Medicine, Mustafa Kemal University, Turkey

[tolunaykozlu@hotmail.com](mailto:tolunaykozlu@hotmail.com)

The effect of Theranekron on ovaries of rats was evaluated in healthy and ischemia-reperfusion injury. Rats have been divided into 4 groups: 1st group: control (n=8), 2nd group: Theranekron (single dose of 0,3 mg/kg intraperitoneally, n=10), 3rd group: torsion+detorsion (n=10) and 4th group: torsion+detorsion+Theranekron (single dose 0,3 mg/kg, intraperitoneally, n=10). Ovaries were dissected out and stored at -800C until the biochemical analysis. Ovaries were homogenized by sonication before the analysis and supernatant total protein, rGSH, NADPH levels and G6PD activity were evaluated, spectrophotometrically. In Theranekron group, hyperaemic and haemorrhagic regions, also increase in atretic follicles have been observed; moreover, G6PD activity was significantly reduced ( $p<0,01$ ) compared to control. In torsion-detorsion (the 3rd group) group, differences were found compared to the Theranekron group; structure of germinative epithelium and follicles, also amount of connective tissue. Even though G6PD activity was decreased ( $p>0,05$ ), it was similar with control group. Compared to the 3rd group, 4th group represented decreased hyperaemia and hemorrhage except medulla, decreased density of atretic follicles and amount of connective tissue. Also, compared to the 3rd group, 4th group represented a decrease in G6PD activity ( $p>0,05$ ), and a significant decrease compared to control group ( $p<0,01$ ). As regards total protein levels, Theranekron administration after torsion-detorsion (4th group), increased total protein levels compared to Theranekron group (2nd group) ( $p<0,05$ ) was observed. There were no significant changes regarding rGSH and NADPH levels between the groups. In this study, hemorrhage and hyperaemia were found histologically according to amount of applied Theranekron dose and its duration on the tissue. Moreover, G6PD activity was decreased by Theranekron both in healthy and ischemia-reperfusion injury in rat ovary. In this study, it was concluded that, the effects of Theranekron on healthy and ischemia-reperfusion injury in rat ovary, would provide an insight in the studies regarding Theranekron treatments.

**Keywords:** Theranekron, Ovary, Glucose-6-Phosphate Dehydrogenase, Rat

## ***EFFECT OF THYMOQUINONE ON GDNF (GLIAL CELL LINE-DERIVED NEUROTROPHIC FACTOR) EXPRESSION IN TESTIS OF RATS FED ON HIGH FAT DIET WITH CHOLESTEROL***

---

HASAN ASKER<sup>a</sup>, EBRU KARADAG SARI<sup>b</sup>

<sup>a</sup> University of Kafkas, Healthy Sciences Institute, Department of Histology and Embryology, Kars, Turkey

<sup>b</sup> University of Kafkas, Faculty of Veterinary Medicine, Department of Histology and Embryology, Kars, Turkey

[ekaradag84@hotmail.com](mailto:ekaradag84@hotmail.com)

The aim of this study was to determine the effect of intraperitoneal administration of thymoquinone on GDNF expression in the testis of rats fed on high fat diet with cholesterol, by immunohistochemical and Western blotting methods. Rats (Sprague Dawley) were randomly divided into five groups of eight animals each: Control, Sham, Thymoquinone, High Fat Diet with Cholesterol (CHFD) and High Fat Diet with Cholesterol + Thymoquinone (CHFD + T). Rats in Control, Sham, Thymoquinone groups were fed on standard pellet chow and rats in CHFD and CHFD + T groups were fed on mixed pellets with 65% butter and 2% cholesterol of the daily energy amount for 8 weeks. Thymoquinone was administered by intraperitoneally daily 8 mg/kg on rats in the Thymoquinone and CHFD + T groups for 14 days. All rats were sacrificed by cervical dislocation under diethyl ether anesthesia, and then testicular tissue samples were taken for histological, immunohistochemical and Western blotting examinations. Also blood samples were taken for biochemical analyzes. Although fed on high fat diet with cholesterol was increased the biochemical values such as serum total cholesterol, LDL, HDL, VLDL, triglyceride and leptin, as well as body weight, testis weight and seminiferous tubule diameter, these values were reached statistically similar values to control group with thymoquinone administration. The reduction of GDNF expression in testicular tissue by administration of thymoquinone in rats fed on high fat diet suggests that cholesterol, high fat diet and thymoquinone have an inhibitory effect on releasing of this growth factor.

**Keywords:** Cholesterol, High Fat Diet, Thymoquinone, GDNF, Testis

**Acknowledgements:** *This study was supported by Scientific and Technical Research Council of Kafkas University (2015-TS-83)*

## ***INFLUENCE OF PREPARTUM SUPPLEMENTATION OF SELENIUM AND VITAMIN E ON BIOCHEMICAL PARAMETERS OF DAIRY COWS***

---

**SOBIECH PRZEMYSŁAW<sup>a</sup>, KATARZYNA ŻARCZYŃSKA<sup>a</sup>, ANNA SNARSKA<sup>a</sup>,  
DOMINIKA WYSOCKA<sup>a</sup>, JOSEF ILLEK<sup>b</sup>**

<sup>a</sup> University of Warmia-Mazury

<sup>b</sup> Pharmaceutical and Veterinary University in Brno

[psobiech@uwm.edu.pl](mailto:psobiech@uwm.edu.pl)

The aim of the study was to evaluate the influence of vitamin E and selenium supplementation on selected blood biochemical parameters in dairy cows during the transition period. The study was conducted on 20 Holstein-Friesian (HF) cows divided into two groups. Group I (experimental, 10 cows) was intramuscularly administered a vitamin E and selenium supplement (30 ml) (tocopherol acetate – 50 mg, sodium selenite – 0.5 mg, solvent – 1 ml) 5 days prepartum. Group II was the control with no supplementation. The BCS of all cows was determined at 4-4.2 five days prepartum. Blood samples were collected from all cows on 5 sampling dates (5 days prepartum, on the day of parturition day, and 5, 10 and 15 days postpartum). Serum total protein, glucose, cholesterol, triglyceride, NEFA (non-esterified fatty acid), BHB (beta-hydroxybutyrate), vitamin E and selenium levels were determined in the collected samples. AST (aspartate aminotransferase), GGTP (gamma-glutamyl transpeptidase) and GSH-Px (glutathione peroxidase) activity was measured. In the experimental group, a significant increase in selenium and vitamin E concentrations was observed on the day of parturition, and an increase in GSH-Px activity was noted 5 days postpartum. No significant changes in the monitored parameters were reported in the control group.

**Keywords:** Dairy Cows, Transition Period, Selenium, Vitamin E

## ***P WAVE DISPERSION IN CANINE MONOCYTIC EHRLICHIOSIS***

KEREM URAL<sup>a</sup>, ILKER CAMKERTEN<sup>b</sup>, SERDAR PAŞA<sup>a</sup>, DENİZ ALIÇ URAL<sup>c</sup>,  
MEHMET GÜLTEKİN<sup>a</sup>, ALİ EVREN HAYDARDEDEOĞLU<sup>b</sup>, HASAN ERDOĞAN<sup>a</sup>,  
CANBERK BALIKÇI<sup>a</sup>, SONGÜL ERDOĞAN<sup>a</sup>, **GÖZDE BUDAK<sup>a</sup>**,

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine,  
Aydın, TURKEY

<sup>b</sup> Aksaray University, Faculty of Veterinary, Department of Internal Medicine, Aksaray,  
TURKEY

<sup>c</sup> Adnan Menderes University, Faculty of Veterinary, Faculty Farm, Aydın, TURKEY

[gozdebudakk@gmail.com](mailto:gozdebudakk@gmail.com)

**in the present study** a total of 10 dogs, with acute Canine Monocytic Ehrlichiosis, of both sexes and various ages, residing in Aydın or Aksaray municipalities and a healthy control group of 7 dogs without vector borne disease were enrolled. All dogs were subjected to computerized 12-lead ECG device [(1 mV/cm amplitude in resting and 50 mm/sec) for P wave dispersion (Pd) measurement. Mean±standard deviation of Pd values were 32.57±2.11 in dogs with CME and 23.47±1.62 in the control group, respectively with a statistical significance. It may be suggested that Pd increase might be associated with probable inter- or intra-atrial conduction disorders or probable myocarditis due to disease. Further investigations may be warranted regarding different stages of infection.

**Keywords:** Canine Monocytic Ehrlichiosis, P Wave Dispersion, Ecg

**Acknowledgements:** *This research was supported by Adnan Menderes University Research Fund. Unit with Project no: VTF-14036.*

## **INVESTIGATION OF THE EFFECTS OF EXPERIMENTAL AMYLOIDOSIS ON IMMUNE SYSTEM IN MICE**

---

AYKUT ULUCAN<sup>a</sup>, ALPER SEVIMLI<sup>b</sup>

<sup>a</sup> Bingöl University

<sup>b</sup> Afyon Kocatepe University

[aulucan@bingol.edu.tr](mailto:aulucan@bingol.edu.tr)

This study **aims** to investigate the effects of experimental amyloidosis in mice on the immune system. 120 female mice 7 weeks old from "Swiss albino" race used in the study and were divided into six equal and 20 animals in each groups. To induce amyloidosis Complete Freund's Adjuvant - Casein emulsion was injected to experimental group and treatment group as intraperitoneally and subcutaneously during the 8th and 10th weeks of the study. Additionally, two doses of methylprednisolone were injected into the left hind leg of the mice in the treatment group intramuscularly. Following the injection at the end of the 8th week blood samples from mice were taken and their necropsy was examined. At necropsy examination, the liver, spleen and kidney tissues were taken and the presence of amyloid was defined by congo red while the presence of Interleukin (IL)-1 $\beta$ , IL-6, TNF- $\alpha$  and Amyloid A were defined by immunohistochemistry technique. SAA, IL-1 $\beta$ , IL-6 and TNF- $\alpha$  were determined by ELISA technique. in sera, the highest rate of serum amyloid A (SAA) was obtained in the treatment group (Group-5) ( $p<0,05$ ) and in the experimental group (Group-3), and in the tissue the most severe amyloid deposition was detected at Group-3. The highest rate of TNF- $\alpha$ , IL-1 $\beta$ , IL-6 in sera was detected at Group-3 ( $p<0,05$ ). **Consequently**, it is possible to assert that SAA, IL-1 $\beta$ , IL-6 and TNF- $\alpha$  play a major role in the formation of amyloidosis, and even it can be claimed that there are significant correlations between SAA and proinflammatory cytokines and between IL-1 $\beta$  and IL-6. Also it is concluded that as for suppressing amyloidosis, it can be suitable to give repetitive and different doses of methylprednisolone.

**Keywords:** AA Amyloid, Mice, Immune System, SAA, TNF-A, IL-1 $\beta$ , IL-6

## **RELATIONSHIP BETWEEN ACTIVITY OF GLUTATHION PEROXIDASE AND NITRIC OXIDE IN SYNOVIAL FLUID AND THE PROGRESSION OF TEMPOROMANDIBULAR JOINT INTERNAL DERANGEMENT**

BERRİN SALMANOĞLU<sup>a</sup>, ORHAN GÜVEN<sup>a</sup>, SİNAN TOZOĞLU<sup>b</sup>, UMUT TEKİN<sup>c</sup>,  
ONUR GÜNEŞ<sup>a</sup>

<sup>a</sup> Ankara University

<sup>b</sup> Akdeniz University

<sup>c</sup> Kirikkale University

[bsalman@veterinary.ankara.edu.tr](mailto:bsalman@veterinary.ankara.edu.tr)

**In this study**, the activity of glutathione peroxidase (GPox) and the level of nitric oxide (NO) in the synovial fluid of patients with temporomandibular joint (TMJ) internal derangement (ID) were observed. The relationship between the activity of glutathione peroxidase and the level of nitric oxide and the progress of the ID were also evaluated. **This study included** 26 patients with TMJ ID. The patients with TMJ ID were identified and classified according to Wilkes staging through clinical and radiologic examinations. The activity of glutathione peroxidase and the level of nitric oxide were measured spectrophotometrically. **Significant correlations** between the two substances and the Wilkes stages were found. The activity of glutathione peroxidase and the level of nitric oxide in the synovial fluid were increased progressively as the stage of the TMJ ID progressed. **In conclusion that**, increase in the activities of GPX might not be enough to prevent progression of the TMJ ID. Oxidative stress may have a role in the pathogenesis of TMJ ID.

**Keywords:** Temporomandibular Joint, Internal Derangement, Gpox, NO, Antioxidant



## ***CURCUMA LONGA AND NIGELLA SATIVA FROM KITCHEN TO VETERINARY CLINICS: A NOVEL TREATMENT FOR ALOPECIA IN CATS AND DOGS***

---

KEREM URAL<sup>a</sup>, EMRE YANIK<sup>b</sup>

<sup>a</sup> Adnan Menderes University

<sup>b</sup> Noe-Vet Education

[uralkerem@gmail.com](mailto:uralkerem@gmail.com)

Alopecia still remains the mysterious part of Veterinary Dermatology. To those of patients where etiological investigation is not available, nor laboratory diagnosis is supported, clinicians should attempt blind therapeutic interventions. In the present study the authors **hypothesized** that Curcuma longa and Nigella sativa should probably be useful for their anti-inflammatory, anti-infectious effects against relieving alopecia resulting in hair regrowth. A total of 2 cats with a diagnosis of feline head and neck dermatitis presented with erythema, excoriations, crusting and alopecia and 3 dogs referred with a history of naturally occurring alopecia were all treated with a topical compound (involving 80% percentage Nigella sativa and 95% Curcuma longa, having turmeric) were applied twice daily to alopecic areas. Surprisingly rapid recovery in 2 to 7 days and evidence of fully hair re-growth (nearly 100%) was evident in all cases enrolled on days 8-14. **The results of** this study safely suggested that topical Curcuma longa and Nigella sativa combination holds promise as a novel therapeutic armamentarium against alopecia in cats and dogs

**Keywords:** D-dimer, cutaneous, disease, activity, cat, dog

## **CORRELATION BETWEEN RUMINAL PH AND BODY CONDITION SCORE IN COWS WITH SUBACUTE RUMINAL ACIDOSIS**

DENİZ ALIÇ URAL, KEREM URAL, ONUR ÖRTLEK

ADNAN MENDERES UNIVERSITY

[alicdeniz@gmail.com](mailto:alicdeniz@gmail.com)

**The purposes of** this field study were to a) confirm the presence of subacute ruminal acidosis (SARA) in Turkish dairy herds in Aydın region, b) record its regional distribution and c) to determine whether there is a relationship between body condition scoring, ruminal contractions and ruminal pH. Ruminal fluid samples, via rumenocentesis, were withdrawn from a total of 120 Holstein dairy cows, from 5 herds (n=24 cows per herd). Rumen pH was analyzed on-site with a portable pH-meter for a precise SARA diagnosis. Classical body condition scoring systems (USBCS method) were utilized within 1-5 scale with 0.25 intervals. Out of 120 cows enrolled 13 were (10.83%) classified as affected with SARA (pH<or=5.5), 6.6% were marginal (pH 5.6-5.8) and 82.5% were normal (pH>5.8). There was a significant difference (p<0.01) among farm V and other farms regarding mean ruminal pH. The overall means of BCS were found as 3.45±0.037, 3.43±0.122 and 4.30±0.075 in healthy animals, SARA suspected cows and cows with SARA, respectively with increased BCS in cows with SARA (P<0.01). Inter group comparison of ruminal contractions showed statistical significance (p<0.01). There were correlations among ruminal pH and ruminal contraction [r=0.622, p<0.01], ruminal pH and health status [r=-0.770, p<0.01], rumen contraction and health status [r=0.546, p<0.01]. **In the present study** BCS and ruminal contractions data were used as indicators, in which correlations were found among ruminal pH and ruminal contraction and ruminal pH and BCS, favoring the usage of those parameters as probable biomarkers in cows with SARA.

**Keywords:** Body condition score, dairy cattle, subacute rumen acidosis

## **INTERPRETATION OF PLASMA AMINOACID PROFILE IN HEALTHY LAMBS ON NEONATAL PERIOD**

---

HASAN ERDOĞAN, MEHMET GÜLTEKİN

Department of Internal Medicine, Faculty of Veterinary Medicine, University of Adnan Menderes, Aydın, TURKEY

[hasaner.09@gmail.com](mailto:hasaner.09@gmail.com)

**The aim of the study** was to evaluate the plasma essential and non-essential amino acid profiles of sakız lambs in neonatal period. For these propose a total of 8 sakız breed lambs in both sexes were enrolled to the study and kept in pens under standard conditions. Blood samples were collected from V. jugularis, on day 0., 3., 7., 14., 21., and 28., to heparinised tubes. Plasma amino acid concentrations were determined by high-performance liquid chromatography (HPLC). Branched-chain amino acid (BCAA) concentrations were decreased throughout the neonatal period and significant reductions determined between day 0. to day 14., 21., and 28 (p<0,01). Total essential amino acids (T EAA) and Total non- essential amino acids (T NEAA) concentrations were also reduced significantly after day 0. Total Glukogenic Amino acids (T GAA) concentrations were started to decrease notably after day 3. **In conclusion**, remarkable reductions in amino acid concentrations were determined in lambs during neonatal period and further studies could be designed with larger populations and different rations.

**Keywords:** amino acid profiles, lamb, neonatal period

## A SEROLOGICAL INVESTIGATION OF BOVINE ENTEROVIRUS-1, BOVINE HERPESVIRUS-1, BOVINE VIRAL DIARRHOE VIRUS AND PARAINFLUENZA-3 VIRUS INFECTIONS IN CAMELS (CAMELUS DROMEDARIUS) IN WESTERN TURKEY

NURAL EROL<sup>a</sup>, SIBEL GÜR<sup>b</sup>, BAHATTIN TAYLAN KOÇ<sup>a</sup>, SIBEL YAVRU<sup>c</sup>

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary Medicine, Department of Virology, Aydın, Turkey

<sup>b</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Virology, Afyon, Turkey

<sup>c</sup> Selçuk University, Faculty of Veterinary Medicine, Department of Virology, Konya, Turkey

[nuralerol@adu.edu.tr](mailto:nuralerol@adu.edu.tr)

Camel population has declined sharply in the last decades mainly due to agricultural mechanization. Currently, there are less than 2,000 camels in Turkey. Camel husbandry is still being maintained in some areas of Turkey, mostly in ordinary farms along with other domestic ruminant species particularly in the Aydın province for social and cultural purposes. Bovine Enterovirus (BEV), Bovine Herpesvirus type-1 (BHV-1), Bovine Viral Diarrhea Virus (BVDV) and Parainfluenza-3 (PI-3) virus infections are highly prevalent and listed among the prominent infections that have resulted in significant economic losses especially in dairy breeding industry. Although can also affect camels, there is little data on prevalence of these infections in camels probably due to their low number, limited breeding locations and little economic potential. **The objective of this study** was to obtain data on BVDV, BEV-1, PI-3 and BHV-1 infections in dromedar camels (*Camelus dromedarius*) in Turkey. Total of 92 serum samples were collected from slaughtered camels in a local abattoir and treated animals were brought to faculty clinics with different complaints. Additional samples were obtained from camels from small private farms. Seropositivity for specific antibodies against BVDV, BEV-1, PI-3 and BHV-1, was found in 54 (%58.7), 30 (32.6%), 20 (21.7%), and 2 (2.2%) of the camels, respectively, using the serum neutralization test (SNT). **In conclusion**, BEV-1 and PI-3 infections were common in camels in western part of Turkey. Breeding in farms where cattle and sheep are housed together could be an important factor in viral transmission. The camels may also be important in transmission cycle of these viruses under field conditions. in accordance with the reports from other countries, camels are less susceptible to natural BHV-1 infections. The low positivity rates indicate that camels could be resistant to this type of infection. To our knowledge, this is the first report on prevalence of major domestic ruminant viral infections in camels in Turkey.

**Keywords:** Camel, bovine enterovirus-1, bovine herpesvirus-1, bovine viral diarrhoea virus, parainfluenza-3 virus, antibody, prevalence

## ***β-GIARDIN ANALYSIS AND MOLECULAR TYPING OF GIARDIA DUODENALIS ISOLATES AMONG DOGS AND CALVES IN AEGEAN REGION OF TURKEY: PRELIMINARY RESULTS***

NURAN AYSUL<sup>a</sup>, KEREM URAL<sup>b</sup>, MEHMET GÜLTEKİN<sup>b</sup>, ADNAN AYAN<sup>c</sup>,  
SELİN HACILARLIOĞLU<sup>a</sup>, SONGÜL ERDOĞAN<sup>b</sup>, METİN PEKAĞIRBAŞ<sup>a</sup>,  
GÜRKAN AKYILDIZ<sup>d</sup>

<sup>a</sup> Adnan Menderes Universit, Faculty of Veterinary, Department of Parasitology, Isikli, Aydın, Turkey

<sup>b</sup> Adnan Menderes Universit, Faculty of Veterinary, Department of Internal Medicine, Isikli, Aydın, Turkey

<sup>c</sup> Van Yüzüncü Yıl University, Faculty of Veterinary Medicine Department of Genetics, Van, Turkey

<sup>d</sup> Department of Biology, Faculty of Arts and Sciences, Namik Kemal University. Tekirdağ, Turkey.

[seleknuran@hotmail.com](mailto:seleknuran@hotmail.com)

Giardiasis is considered an important zoonotic disease caused by *Giardia duodenalis*. However, molecular characterization is necessary to determine the zoonotic potential of *G. duodenalis*. Assemblages A and B have been known to infect humans and animals, whereas the others are mostly host specific to animals. Giardiasis in dogs and calves is important because of its highly prevalent rate of infection, clinical symptoms, and potential zoonotic risk. The aim of the present research was to investigate the prevalence and molecular characterization of *G. duodenalis* among dogs and calves in Aegean Region of Turkey. For this purpose, faecal samples from 563 dogs and 211 Holstein calves were collected. After investigating all samples microscopically, Nested-PCR was performed on positive samples. As a result, prevalence of giardiasis in dogs and calves were determined 11.54% and 16.11% respectively. The positive dogs were found to be both B4 and A3 assemblages. on the other hand, calves were positive for A3. in conclusion, the relatively high prevalence of giardiasis and the presence of the potential zoonotic sub-genotypes in dogs and calves remark the importance of treatment and preventative measures.

**Keywords:** Assemblages, calves, dogs, giardiasis

## **THE EFFECTS OF INTRAVENOUS NOVACOC TREATMENT ON METABOLIC PROFILES DURING THE TRANSITION PERIOD OF DAIRY COWS**

AHMET CİHAT TUNÇ<sup>a</sup>, FATİH MEHMET BİRDANE<sup>a</sup>, CANGIR UYARLAR<sup>b</sup>,  
FULYA ALTINOK YİPEL<sup>c</sup>, EYÜP EREN GÜLTEPE<sup>d</sup>, DURMUŞ FATİH BAŞER<sup>a</sup>,  
ABUZER ACAR<sup>a</sup>

<sup>a</sup> Internal Medicine, Veterinary Faculty, Afyon Kocatepe University

<sup>b</sup> Animal Nutrition and Nutritional Diseases, Veterinary Faculty, Afyon Kocatepe University

<sup>c</sup> Internal Medicine, Veterinary Faculty, Namık Kemal University

<sup>d</sup> Animal Nutrition and Nutritional Diseases, Veterinary Faculty, Afyon Kocatepe University

[cihat.tunc@gmail.com](mailto:cihat.tunc@gmail.com)

**This study** was performed to evaluate the effect of weekly administration of Novacoc intravenously 3 weeks before parturition on some hematological, metabolism, and immune parameters on early lactation period in dairy cows. **The animals in the treatment group** were administered daily Novacoc, 200 ml (Metamizole Sodium; 40 mg, Acetyl methionine 40 mg, Caffeine 3,5 mg, Calcium gluconate 100 mg, Magnesium gluconate 10 mg, Sodium Dihydrogen Phosphate Dihydrate 4,02 mg, Glucose monohydrate 200; İnterhas®, TURKEY) as intravenous slowly infusion on first 3 days of each weeks during last 3 weeks of prepartum period and first 3 weeks of postpartum period. The milk yields of all cows were recorded during postpartum 1 month from data. Parturition day was planned as day “0”; blood samples were collected on days -21, -14, -7, 0, 7, 14, 21 from V. coccygea of all cows. Total Leucocyte Count, Lymphocyte Count, Monocyte Count, Granulocyte Count, Total Erythrocyte Count, Hemoglobin, Hematocrit percentage, MCV, MCH, MCHC, RDW, PLT count, MPV, PDW, PCT percentage were analyzed on whole blood samples; NEFA, BHBA, Glucose, Total Cholesterol, Triglyceride, LDL, HDL, VLDL, ALT, AST, ALP and GGT levels were analyzed using by Chemwell 2910, Full Automatic Elisa Reader on serum samples. Data analyzes were performed using by PASW Statistics (18.0.0) package program. **There were no significant differences** on biochemical and hematological parameters between Treatment and Control Groups. However, Total Cholesterol, HDL, Triglyceride, and glucose levels were significantly higher on some postpartum days; NEFA and BHBA levels were found decreased. NEFA and BHBA levels in the Control Group were detected as subclinical ketosis levels. **in addition to this results**, the milk yields of each group were same during first 3 weeks of lactation, but peak milk yield on the Treatment Group detected increased significantly.

**Keywords:** BHBA, Cattle, NEFA, Novacoc, Transitional period

## **DISTRIBUTION OF BOVINE DIGITAL DERMATITIS IN AYDIN COUNTY DAIRY FARMS AND RELATION WITH THE FOOTBATH USAGE**

ÖĞÜZHAN KALYONCU, EMRE GÜRDAL, İBRAHİM AKIN

Faculty of Veterinary Medicine, Adnan Menderes University, Işıklı, AYDIN, TR

[emregurdal@gmail.com](mailto:emregurdal@gmail.com)

Digital dermatitis (DD) is the most encountered infectious cause of bovine lameness with economic losses and also an indicator of animal welfare in dairies. The purpose of this study is to investigate the relationship between footbath usage and DD lesions in Aydın County, TR. **in total 1527 cattle** from 6 different dairy farms in Aydın County were evaluated. During the first visits to all farms, surveys were made to veterinarians to get general information about footbath usage and farm. on second visits, all the feet of each cattle were examined in the milking parlor to detect DD lesions. Dairies were also examined for footbaths and categorized as “tolerable” and “intolerable”. Statistical analyses were performed via IBM SPSS Statistic 22.0® packet program with using “chi-square” test. The significance level was set at  $p < 0.05$ . **A total of 500 feet** (8.2%) of 338 cattle (22.1%) were diagnosed with DD lesions, DD lesions were not present in 5608 feet (91.8%). The most lesions were found in farms using dry manure as a bedding, and the least were seen in farms using rubber bedding ( $P < 0.001$ ). It was found that, the DD lesions were statistically less visible on the farm using formalin as a footbath, whereas the lesions were found on the farms using  $\text{CuSO}_4$  ( $P < 0.001$ ). Cattle in farms, that are using footbaths more than 5 times a week statistically had less DD lesions ( $P < 0.001$ ). It was determined that, DD lesions were statistically more frequent in farms that were unable to renew the footbath after milking ( $P < 0.001$ ). DD lesions were found to statistically higher ( $P < 0.001$ ) in farms that using “intolerable” footbaths. **in conclusion**, the usage procedures of footbaths were relatively important in terms of the incidence of DD lesions. It can be advised that farms do not use foot baths, if it is going to be misused.

**Keywords:** Digital Dermatitis, Footbath



**360 DEGREE VETERINARY DERMATOLOGY; ERŞAN KUNERI AGAINST SEAN CONNERY (PROBIOTIC THERAPY)**

---

KEREM URAL

Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine Aydın,  
TURKEY

[emregurdal@gmail.com](mailto:emregurdal@gmail.com)

**Veterinary Dermatology** has gained importance for the last 20 years in our Country, through better understanding of allergic/hypersensitivity disorders, parasitological/microbiological diseases. Despite many immunosuppressive compounds commercially available, the present author prefers immunostimulants for several dermatological disorders, in which **probiotic therapy** and leaky gut were his area of focus for many long years. in this article probiotic therapy (**denoting the good character of the movie as Sean Connery**) against classical antibiotic treatment (**remarked as Erşan Kureri in the movie ‘G.O.R.A**) with case series were reported.

**Keywords:** Allergy, Hypersensitivity, Probiotic, Veterinary Dermatology

## **MOLECULAR TYPING OF ACUTE AND ACTIVE EHRLICHIA CANIS INFECTED DOGS IN AYDIN REGION**

---

KEREM URAL<sup>a</sup>, NURAN AYSUL<sup>b</sup>, HASAN ERDOĞAN<sup>a</sup>, SELİN HACILARLIOĞLU<sup>b</sup>,  
METİN PEKAĞIRBAŞ<sup>b</sup>, ADNAN AYAN<sup>c</sup>, SONGÜL ERDOĞAN<sup>a</sup>, YASİN PARLATIR<sup>a</sup>

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine, Isikli,  
Aydın, Turkey

<sup>b</sup> Adnan Menderes University, Faculty of Veterinary, Department of Parasitology, Isikli,  
Aydın, Turkey

<sup>c</sup> Van Yüzüncü Yıl University, Faculty of Veterinary Medicine Department of Genetics, Van,  
Turkey

[seleknuran@hotmail.com](mailto:seleknuran@hotmail.com)

Canine monocytic ehrlichiosis (CME), the etiological agent is *Ehrlichia canis*, has been reported in many parts of the world, mainly in the tropical and subtropical regions. Canine ehrlichiosis has been divided into three phases: an acute, a sub-clinical and a chronic disease phase. Clinical signs of CME are almost non specific. Therefore, it is always important to know the stage of infection. **For this aim** a total of 102 suspected and nonsuspected blood samples were collected from dogs in Aydın. Animals divided into 3 groups: Group I: CME acute infected cases antibody (-), DNA/PCR (antigen) (+), Group II: CME active infected cases; antibody (+), DNA/PCR (antigen) (+) Group III: CME exposed cases antibody (+), DNA/PCR (antigen) (-), Group IV: healthy control group: antibody (-), DNA /PCR (antigen) (-). Antibody analysis was made with Snap 4Dx plus test kits. Nested PCR performed to detect the presence of antigens. **As a result**, 87 dogs were detected to be positive for presence of antigen or antibody. **This study is first** reporting molecular typing of acute and active *Ehrlichia canis* infected dogs in Aydın Region. *E. canis* is prevalent in dogs in Aydın region. Classification of dogs as active/acute infection is important from the perspective of clinicians.

**Keywords:** Antibody, Antigen, Dog, *Ehrlichia canis*, Molecular Typing, PCR

## **LOW VITAMIN D LEVELS IN ASSOCIATION WITH NEONATAL DIARRHEA IN CALVES**

HASAN ERDOĞAN<sup>a</sup>, KEREM URAL<sup>a</sup>, DENİZ ALIÇ URAL<sup>b</sup>, SERDAR PAŞA<sup>a</sup>, İLKER CAMKERTEN<sup>c</sup>, ALİ EVREN HAYDARDEDEOĞLU<sup>c</sup>, MEHMET GÜLTEKİN<sup>a</sup>, SONGÜL ERDOĞAN<sup>a</sup>, CANBERK BALIKÇI<sup>a</sup>

<sup>a</sup>Adnan Menderes University, FVM, Department of Internal Medicine, Aydın, Turkey

<sup>b</sup>Adnan Menderes University, FVM, Aydın, Turkey

<sup>c</sup>Aksaray University, FVM, Department of Internal Medicine, Aksaray, Turkey

[hasaner.09@gmail.com](mailto:hasaner.09@gmail.com)

In this study, **it was aimed to** measure 25 hydroxy vitamin D3 levels in diarrheic calves without known etiology and to determine the relation with disease activity. A forementioned research groups were as follows; I. group of diarrheic calves at the neonatal period and II. group involved healthy calves, which were age matched. In all groups of calves, 2 ml of blood samples were withdrawn from V. jugularis and then 25 hydroxy vitamin D3 levels were determined by radioimmunoassay method. 25 hydroxy vitamin D3 levels represented low [15–25 ng of 25(OH)D3/mL of plasma, n = 14 out of 16 diarrheic calves] and high vitamin D status [55–65 ng of 25(OH)D3/mL of plasma, n = 9 out of 11 healthy calves]. Vitamin D deficiency must be taken into consideration which should promptly change treatment protocols to those of neonatal diarrheic calves.

**Keywords:** Calves, Diarrhea, Neonate, Vitamin D

## PREVALENCE AND DIAGNOSIS OF *GIARDIA DUODENALIS* IN GOATS IN AYDIN PROVINCE OF TURKEY

ADNAN AYAN<sup>a</sup>, KEREM URAL<sup>b</sup>, NURAN AYSUL<sup>c</sup>, HASAN ERDOĞAN<sup>b</sup>, DENİZ ALIC URAL<sup>d</sup>, MEHMET GÜLTEKİN<sup>b</sup>, SONGÜL ERDOĞAN<sup>b</sup>, ECE KÜÇÜK<sup>b</sup>

<sup>a</sup> Van Yuzuncu Yil University, Faculty of Veterinary, Department of Internal Genetics, Van, TURKEY

<sup>b</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine, Işıklı, Aydın, TURKEY

<sup>c</sup> Adnan Menderes University, Faculty of Veterinary, Department of Parasitology, Işıklı, Aydın, TURKEY

<sup>d</sup> Adnan Menderes University, Faculty of Veterinary, Faculty Farm, Işıklı, Aydın TURKEY

[adnanayan\\_43@hotmail.com](mailto:adnanayan_43@hotmail.com)

*Giardia duodenalis* is the vast majority and frequently diagnosed protozoon parasite of livestock species worldwide. The aim of this study was to determine prevalence and diagnose *G. duodenalis* under 12-month age goats in Aydın province of Turkey. **For this purpose**, Goat faecal samples (n = 52) were collected directly from the rectums of all animals. Samples were kept on ice until laboratory examination. Diagnosis of *G. duodenalis* infection was microscopically determined based on the detection of cysts in faecal samples. For this purpose, faecal material was mixed with 33% ZnSO<sub>4</sub> solution and centrifuged at 880 × g for 5 min. 100 µl of the supernatant was dispensed on a slide with Lugol iodine and microscopically examined under 400x power. Faecal samples of 14 goats in Aydın diagnosed Giardia-positive by microscopy. **The overall prevalence** of giardiasis in goats was determined as 26.9% in Aydın, ranged from 1000 to 20.000 cysts per gram faeces for *G. duodenalis* cysts.

**Keywords:** *Giardia duodenalis*, Goat, Prevalance

## **LOW GRADE SYSTEMIC COAGULATION IN E. COLI INDUCED NEONATAL DIARRHEA AMONG CALVES**

İLKER CAMKERTEN<sup>a</sup>, KEREM URAL<sup>b</sup>, SERDAR PAŞA<sup>b</sup>, DENİZ ALİC URAL<sup>c</sup>  
ALİ EVREN HAYDARDEDEOĞLU<sup>a</sup>, HASAN ERDOĞAN<sup>b</sup>, MEHMET GÜLTEKİN<sup>b</sup>,  
SONGÜL ERDOĞAN<sup>b</sup>

<sup>a</sup>Aksaray University, FVM, Department of Internal Medicine, Aksaray, TURKEY

<sup>b</sup>Adnan Menderes University, FVM, Department of Internal Medicine, Işıklı, Aydın, TURKEY

<sup>c</sup>Adnan Menderes University, FVM, Faculty Farm, Işıklı, Aydın TURKEY

[ilkerCamkerten@hotmail.com](mailto:ilkerCamkerten@hotmail.com)

**The purpose of** the present study was to investigate probable changes in coagulation profile in neonatal diarrheic calves. Nine neonatal diarrheic and 7 clinically healthy neonatal calves aged between 1 week to 30 days were enrolled. As detected by Preciise Beijing semi-half microcoagulometer PT (22.77 s), APTT (42.62 s), Fib (211.73 mg/dl) concentrations were significantly increased in contrast to healthy calves ( $p<0.01$ ). on the other hand, as detected by Wondfo Finecare Fluorescent Immunoassay Meter D-dimer ( $<0.1\text{mg/dl}$ ) levels did not show elevations. Along with other parameters deemed WBC and MPV, it may be safely **suggested that** low grade systemic coagulation in E. coli induced neonatal diarrhea among calves was observed, which should be promptly treated.

**Keywords:** Systemic, Coagulation, Neonatal, Diarrhea, Calves

## **ULTRASONOGRAPHY OF THE GASTROINTESTINAL OBSTRUCTION**

KAROLINA WRZEŚNIEWSKA, ANDRZEJ MILCZAK

Dept. of Internal Medicine, Fac. Vet. Med., University of Life Sciences in Lublin - POLAND

[karola.wrzesniewska@gmail.com](mailto:karola.wrzesniewska@gmail.com)

Ultrasound imaging is sufficient to make the diagnosis in dogs and cats. **Objectives:** To present the accuracy of ultrasonography in the diagnosis of gastrointestinal tract obstruction. **Research methods:** Survey ultrasonography was performed on 38 animals (31 dogs and 7 cats), age: 4 months - 14 years. The study concerned patients with clinical signs of gastrointestinal tract disease. To identify the potential causes they were subjected to the complete ultrasound examination. Linear-array transducer (more than 7,5 MHz) was used in 36 patients, a low-frequency transducer (6 MHz) was used in 2 patients. **Results:** The study included 31 animals with the diagnosis of intestinal obstruction and 7 animals with different diagnosis. Ultrasonography detected gastrointestinal obstruction in 14 from 17 of them (82%), one ultrasonographic diagnosis of obstruction was incorrect, 2 patients required radiography examination. Each patient suffered from three or more clinical signs, such as vomiting (34/38), constipation > 24h (20/38), diarrhea (19/38), abdominal distention (5/38), abdominal pain (4/38), rectal tenesmus (3/38), dark colored diarrhea (3/38). The examination revealed several causes of gastrointestinal obstruction, e.g.: foreign body in intestines (6/17), foreign body in stomach (5/17), invagination (5/17), linear foreign body in jejunum (1/17). **Conclusions:** Contemporary approach to diagnosis of gastrointestinal obstructions requires specific sensitive methods. Ultrasonography is an excellent and useful technique to confirm or exclude obstruction, especially the causes of radiolucent foreign bodies. It can also detect the possible causes, location and severity of obstruction. In study, „target sign”, „accordion up”, segmental intestinal dilations, fluid-filled loops of bowel and free peritoneal fluid in ultrasound examination may indicate gastrointestinal obstruction, but a sign such as cholestasis or enlargement of the lymph nodes can be associated with other severe diseases like pancreatitis, inflammatory bowel disease or neoplasia.

**Keywords:** Foreign Body, Gastrointestinal Tract, Ultrasonography

## POSTPARTUM 25-OH-D<sub>3</sub> AND NEFA CORRELATIONS AMONG CATTLE AND OFFSPRING

SONGÜL ERDOĞAN<sup>a</sup>, KEREM URAL<sup>a</sup>, İLKER CAMKERTEN<sup>b</sup>, GÜZİN CAMKERTEN<sup>c</sup>,  
HASAN ERDOĞAN<sup>a</sup>, DENİZ ALIC URAL<sup>d</sup>, ALİ EVREN HAYDARDEDEOĞLU<sup>b</sup>

<sup>a</sup>Adnan Menderes University, FVM, Dept. of Internal Medicine, Aydın, TURKEY

<sup>b</sup>Aksaray University, FVM, Dept. of Internal Medicine, Aksaray, TURKEY

<sup>c</sup>Aksaray University, FVM, Department of Biochemistry, Aksaray, TURKEY

<sup>d</sup>Adnan Menderes University, FVM, Faculty Farm, Işıklı, Aydın, TURKEY

[songultp.09@hotmail.com](mailto:songultp.09@hotmail.com)

In cattle similar to human, vitamin D<sub>3</sub> can be efficiently synthesized via cutaneous pathway with exposing to adequate sunlight and furthermore synthesized plant steroid vitamin D<sub>2</sub> is taken from forages. Serum or plasma 25-hydroxyvitamin D<sub>3</sub> [25(OH)D<sub>3</sub>] is the best indicator of vitamin D status and concentrations above 30 ng/mL is required in cattle for adequately meeting demands. 25(OH)D<sub>3</sub> levels represented low [15–25 ng of 25(OH) D<sub>3</sub>/mL of plasma] and high [55–65 ng of 25(OH) D<sub>3</sub>/mL of plasma] vitamin D status regarding cited literature. Vitamin D conversion and hydroxylation in the liver has reduced with accumulation of fat in the ketogenic cattle as a result of negative energy. in the present study, **it was aimed to** determine alteration of NEFA and vitamin D<sub>3</sub> levels in cow and calf pairs at parturition as well as correlation between NEFA and vitamin D<sub>3</sub> levels. For this purpose, Vet Photometer 700 DP (Diaglobal, Genartek, Germany, Turkey) was used for measurement of NEFA levels on cow-side, able to give quick results (range 0.02-4.00 mmol/L) by use of enzymatic-colorimetric method. on the other hand, serum 25(OH)D<sub>3</sub> analysis was performed by fluorescence immuno chromatographic method within Savant POCT analyzer (Beijing Savant Biotechnology Co., Ltd., China). A total of 10 Holstein cows (0. days at parturition) and calf pairs, were enrolled. Blood samples were taken from V. jugularis to serum separating tubes for assay. in cattle and their calves, the serum concentration of vitamin D<sub>3</sub> (15.6-120 and 31,8-120 ng/mL) and NEFA (0.12-1.2 and 0.09-0.8 mmol/L) were determined, respectively. There were no significant correlation between NEFA and vitamin D<sub>3</sub> in cows and calf pairs. **Taking into account** several co-factors influencing test results, that could not easily be excluded, it might be suggested that further studies are warranted with larger cow-calf pair populations. **in conclusion**, it may be promptly denoted that vitamin D<sub>3</sub> concentrations in calves, could not be affected by the dams negative energy balance in parturition period. The present researcher group declare further interest for investigating effects of colostrum on vitamin D levels with large sample size.

**Keywords:** Calf, Cow, NEFA, Vitamin D

**Acknowledgements:** This study was summarized partially from the Scientific Research Project of the presenting author Assoc. Prof. Dr. Deniz ALIC URAL, and was funded by Adnan Menderes University Research Projects Funding Unit (ADU BAP) with project number BOMYO-17001



## ***DISTRIBUTION OF CAT DISEASES IN SHELTERS***

İBRAHİM AKIN, YALÇIN ALPER ÖZTURAN, AHMET GACAR

Faculty of Veterinary Medicine, Adnan Menderes University, Işıklı, AYDIN, TR

[alper.ozturan@hotmail.com](mailto:alper.ozturan@hotmail.com)

Shelters have important tasks on animal health, being closely related to the human and environmental health. In this respect, knowing the disease distribution in shelters is important. The present study aims to reveal the distribution of the cat diseases in shelters. Total 2310 cat records in varied ages and races from 6 different shelters were used as the material of the study. Shelters were visited at various times. During visits, the patient records were kept and hosted cats were examined. Records were categorized under the Reproduction, Internal Medicine and Surgery headings. Records were examined using the "Chi-Square" test in the IBM SPSS Statistics 22.0® package program. Total 1169 (50.6%), 615 (26.6%) and 526 (22.8%) records of the 2310 cats were categorized under the Reproduction, Internal Diseases and Surgery, respectively. Under the heading of Reproduction, 1130 (96.7%) spaying/neutering, 25 (2.1%) abortus, 9 (0.8%) uterine infections, 3 (0.3%) gynecologic metabolic diseases and 2 (0.2%) andrological problems were recorded. As Internal Medicine, 312 (50.7%) respiratory system diseases, 213 (34.6%) dermatological diseases, 64 (10.4%) infectious systemic diseases, 23 (3.7%) digestive system diseases, 1 (0.2%) immunological disease, 1 (0.2%) intoxication and 1 (0.2%) urinary tract disease was detected. As the Surgical records, 266 (50.6%) oral cavity diseases, 157 (29.8%) open wounds, 59 (11.2%) ophthalmological diseases, 17 (3.2%) hernias, 9 (1.7%) fractures, 9 (1.7%) paralysis 7 (1.3%) head traumas, and 2 (0.4%) otitis were found. Due to the invasive procedure and requirement of follow-up treatment, Spaying/Neutering [n=1130 cats (48.9%)] is evaluated as disease. **The results of** the study may contribute to the shelter management and animal advocates for future investment and planning of shelters. **It is also expected** that results be to shed light for shelter veterinarians and staffs for their success, in terms of career planning and animal, human and environmental health.

**Keywords:** Cat, Disease, Shelter

***MELATONIN FOR TREATMENT OF THE GOOD, THE BAD AND THE UGLY  
DERMATOLOGICAL DISORDERS IN DOGS AND CATS: PRATICAL CLUES***

---

KEREM URAL, SERDAR PAŞA, HASAN ERDOĞAN, MEHMET GÜLTEKİN,  
SONGÜL ERDOĞAN

Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine, Işıklı,  
Aydın, TURKEY

[uralkerem@gmail.com](mailto:uralkerem@gmail.com)

Melatonin, recognized as Dracula hormone, apart from its classical effects might have significant antioxidant, cytoprotective effects against inflammatory conditions and possesses immunostimulatory activity against allergic diseases. The present author (K.U.), nationally rank foremost among its competitors, uses melatonin in Veterinary Dermatology Field for many years with apparent success. of course in the present study, **the aim** was not to re-identify worldwide known movie The good (Clint Eastwood; il buonucattivo), the bad (Eli Wallach; il brutto) and the ugly (Lee Van Cleef; il cattivo), whereas melatonin was the focus for investigator against treatment of selected dermatological cases. Retrospective case series involving 6 dogs (n=2 atopic cases, n=1 each atypical Cushing disease, post-clipping alopecia, fungal infection) and other 5 cats (n=2 each eosinophilic plaque and hypersensitivity; n=1 cheyletiellosis, in which melatonin treatment resulted in regrowth of hair, clinical recovery for primary:/secondary skin lesions in both cats and dogs in 4 to 6 weeks, encourage the usage of this compound for dermatological disorders, not entirely but for in case of need.

**Keywords:** Cat, Dermatology, Disease, Dog, Melatonin

**HEMOLACRIA AND MORE: SPECTACULAR CASE OF BLEEDING IN A CALF**

SONGÜL ERDOĞAN, HASAN ERDOĞAN, KEREM URAL, İSMAİL GÜNAL,  
TAHİR ÖZALP

Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine, Isikli,  
Aydin, TURKEY

[songultp.09@hotmail.com](mailto:songultp.09@hotmail.com)

A 20-day old calf was referred to the Adnan Menderes University, Veterinary Hospital, Department of Internal Medicine in 31 May 2017 from Umurlu district. on arrival the present case presented fever, tachycardia, tachypnea, anormal bleeding symptoms [hemolacria (bloody tears), epistaxis, ear bleeding, prolonged bleeding time following injection and recurrent bleeding all over the body after minor trauma or spontaneously]. As being informed by the owner there was no change after the treatment performed by initial Veterinary Surgeon for two weeks. in an attempt to determine alterations that might be related to probable bovine neonatal pancytopenia (BNP), blood gas analysis, selected coagulation parameters were analyzed. Besides both rapid ELISA test kit (IDEXX SNAP® BVDV Antigen Test, United States) and PCR (Veterinary Research Control Institute, Bornova, İzmir) tested for bovine virus diarrhea virus antigen that were all negative. According to blood gas analysis Hct (<10%), Na<sup>+</sup> (130.2 mmol/L), K<sup>++</sup> (4.03 mmol/L), iCa (1.21 mmol/L), HCO<sub>3</sub> (32.8 mmol/L), BE (+6.5 mmol) and PT (>101 sec), APTT (64.1 sec) fibrinogen (> 113 mg/dL) levels were analyzed. As a result of histopathological analysis and postmortem examination, macroscopically petechial hemorrhage on the whole body, linear bleeding in jejunum and microscopically excudate with fibrin, neutrophil and blood in intestinal villus, tonsillar crypt, and pulmonary alveolus were obtained. As rejected by the owner, bone marrow aspiration cytology was not available observed for definitive diagnosis of BNP. This is first reported case of hemolacria in a calf in Eagean Region of Turkey.

**Keywords:** Bleeding, Calf, Coagulation, Hemolacria

## **THE EFFECTS OF ANTIOXIDANT SUPPLEMENTATION ON OXIDATIVE AND ANTIOXIDATIVE STATUS DURING TRAINING IN RACE HORSES**

GÜZİN CAMKERTEN<sup>a</sup>, HALİL İBRAHİM BAŞYİĞİT<sup>b</sup>, NESLIHAN TAŞÇENE<sup>c</sup>,  
TEVHİDE SEL<sup>d</sup>, HİLAL KARAGÜL<sup>d</sup>

<sup>a</sup> Dept of Veterinary, Technical Sciences Vocational School, Aksaray University

<sup>b</sup> Veterinarian, Samsun

<sup>c</sup> Institute of Foot and Mouth Disease, Ankara

<sup>d</sup> Dept. of Biochemistry, Faculty of Veterinary Medicine, Ankara University

[oguzalperen@hotmail.com](mailto:oguzalperen@hotmail.com)

Increases in oxidative stress and changes in antioxidant status have been shown during training in race horses and oxidant damage can be prevented by antioxidants. **in this study**, the effect of dietary supplementation of vitamin E, vitamin A and selenium(Se) on oxidant and antioxidant balance of arabian race horses during training was evaluated. Sixteen thoroughbred arabian race horses were divided into two groups; a control group, in which standard diet was provided and a antioxidant group, in which standard diet was supplemented with 450 IU of vitamin E, 22500 IU of vitamin A and 450 ug of Se on a daily basis. Blood samples were collected before and after 12 weeks of training. Plasma samples were analysed for MDA and vitamin A, erythrocyte samples were analysed for glutathion peroxidase (GPox), catalase (Cat) and superoxide dismutase (SOD). Before training, antioxidant supplemented horses had higher plasma MDA, erythrocyte GPox, Cat and SOD as compared to control horses. After training, antioxidant supplemented horses had lower plasma MDA and erythrocyte GPox than control horses. Antioxidant supplemented horses started with higher antioxidant status, but after training control horses had higher antioxidant enzymes so that few differences were observed between the antioxidant status of groups. **in conclusion**, antioxidant supplementation decreased plasma MDA levels of arabian race horses undergoing training conditions and compensated the oxidative stress.

**Key words:** race horses, oxidative stress, antioxidants, training

**Acknowledgements:** This study is summarised from TUBITAK-STUDENT Project by Halil İbrahim BAŞYİĞİT

## ***EFFECT OF DIETARY COENZYME Q10 SUPPLEMENTATION ON THE GROWTH PERFORMANCE, CARCAS YIELD, ORGAN WEIGHTS AND OXIDATIVE STRESS IN QUAILS EXPOSED TO COLD STRES***

TAHIR BAYRIL<sup>a</sup>, FATİH AKDEMİR<sup>b</sup>, HASAN AKSİT<sup>c</sup>

<sup>a</sup> Department of Animal Husbandry, Faculty of Veterinary, Dicle University, 21280, Diyarbakır, Turkey

<sup>b</sup> Department of Nutrition, Faculty of Fisheries, Inonu University, 44280, Malatya, Turkey

<sup>c</sup> Department of Biochemistry, Faculty of Veterinary, Balıkesir University, Balıkesir, Turkey

[tbayril@hotmail.com](mailto:tbayril@hotmail.com)

In the present study, we investigated the effects of CoQ10 supplementation to cold-stressed quails on growth performance, carcass yield, organ weights and oxidative stress parameters. Totally 180, day-old mixed-sexed Japanese quails (*Coturnix coturnix japonica*) were purchased from poultry unit of Veterinary Faculty of Dicle University and randomly allocated to 6 groups (3 groups for the thermoneutral experiment; TN and 3 groups for the cold stress experiment; CS). Exposure to cold stress adversely affected performance parameters as compared to quails kept at normal temperature conditions, as reflected by suppressed FBW, LWG, CCW ( $P < 0.0001$  for all) and CCY ( $P < 0.011$ ) and increased FCR ( $P < 0.0001$ ). With an increasing dose of CoQ10, FBW, LWG and CFI significantly increased (environmental temperature x CoQ10 level interaction effects;  $P < 0.0001$  for all), and also CCW and CCY significantly increased ( $P < 0.0001$  for both) and FCR significantly decreased ( $P < 0.002$ ). SOD levels of serum was not effected by cold stress conditions, while serum MDA, TAS, ceruloplasmin, sialic acid, AST, ALT and cholesterol levels were adversely effected. CoQ10 supplementation significantly decreased in serum MDA and cholesterol concentrations ( $P < 0.001$  and  $P < 0.012$ , respectively) and increased in serum TAS concentration. With an increasing dose of CoQ10, serum MDA level significantly decreased and serum SOD level significantly increased (environmental temperature x CoQ10 level interaction effects;  $P < 0.0001$  and  $P < 0.015$ , respectively). The testis weight was adversely affected by cold stress conditions in quails, but liver and heart weights were not effected. on the other hands, liver weight of quails exposed to cold stress significantly decreased with an increasing dietary CoQ10 levels ( $P < 0.001$ ). Consequently, it seems likely that dietary CoQ10 in cold-stressed quails may have a beneficial effect on performance parameters by preventing oxidative damage.

**Key words:** Coenzyme Q10, Growth Performance, Carcas Yield, Organ Weights, Oxidative Stress, Quail

# **EFFECT OF TIMING OF ARTIFICIAL INSEMINATION RELATIVE TO SPONTANEOUS ESTRUS ON REPRODUCTIVE PERFORMANCE AND CALF GENDER RATIO IN REPEAT BREEDER HOLSTEIN COWS**

TAHIR BAYRIL<sup>a</sup>, ORHAN YILMAZ<sup>b</sup>, BAHATTIN ÇAK<sup>b</sup>

<sup>a</sup> Department of Animal Husbandry, Faculty of Veterinary, Dicle University, 21280, Diyarbakır, Turkey

<sup>b</sup> Department of Animal Husbandry, Faculty of Veterinary Medicine, Yuzuncu Yıl University, 65080 Van, Turkey,

[tbayril@hotmail.com](mailto:tbayril@hotmail.com)

**This study** was conducted to investigate the effect of the interval between the onset of spontaneous estrus and artificial insemination (AI) on reproductive performance and calf sex ratio in repeat breeder Holstein cows. Two hundred eighty lactating Holstein cows were used in this study. The animals were artificially inseminated at different times (0–6, 7–12, 13–18, or 19–24 h) after the onset of spontaneous estrus. **Reproductive performance** did not differ between cows inseminated at 0–6 h (n = 70), 7–12 h (n = 70), 13–18 h (n = 70), or 19–24 h (n = 70) after the onset of estrus [pregnancy rate: 0–6 h, 57.1%; 7–12 h, 65.7%; 13–18 h, 54.3%; and 19–24 h, 62.9%; embryonic mortality rate: 0–6 h, 8.5%; 7–12 h, 5.7%; 13–18 h, 5.7%; and 19–24 h, 7.1%; calving rate: 0–6 h, 48.6%; 7–12 h, 60%; 13–18 h, 48.6%; and 19–24 h, 55.7%; twinning rate: 0–6 h, 2.9%; 7–12 h, 0%; 13–18 h, 5.7%; and 19–24 h, 2.9%; and calf sex ratio (F/M): 0–6 h, 64/36%; 7–12 h, 48/52%; 13–18 h, 42/58%; and 19–24 h, 46/54%; P>0.05]. in general, pregnancy rates of the groups inseminated at different postpartum times differed (P< 0.01) and were higher in the group inseminated at >151 days postpartum. **Pregnancy rates** were similar in groups inseminated in the second and third parities, but were lower in the group inseminated in the fourth parity. in conclusion, rates of pregnancy, embryonic mortality, calving, and twinning of repeat breeder Holstein cows did not differ between cows subjected to AI at different times after the onset of spontaneous estrus. The timing of AI in repeat breeder cows did not influence the calf sex ratio. Pregnancy rate of repeat breeder cows was influenced by postpartum time and parity number.

**Key words:** Repeat Breeder Cow, Calf Gender Ratio, Artificial Insemination Time, Pregnancy Rate

## ***THE EFFECTS OF VANCOMYCIN AND DAPTOMYCIN ON RAT LIVER ARGINASE ACTIVITY AND NITRIC OXIDE***

MEHMET ALI KISAÇAM, SEMA TEMIZER OZAN, FATMA SELVI, GONCA OZAN,  
KADİR SERVİ,

Fırat University

[tbayril@hotmail.com](mailto:tbayril@hotmail.com)

**Aim:** Vancomycin is an antibiotic formed by a result of fermentation of bacterial strains called *Amycolatopsis orientalis*. Vancomycin is used to treat infections caused by gram-positive bacteria in the last 30 years. Daptomycin is a lipopeptide antibiotic used in the treatment of systemic and life-threatening infections caused by Gram positive organisms. It is a naturally occurring compound found in the soil saprotroph *Streptomyces roseosporus*. Arginase is an enzyme which most highly concentrated in mammalian liver. Also present in abundance in many mammary tissues, where the urea cycle is not present. Nitric oxide(NO) is the chief molecule in regulation of endothelial functions. It is the first step for the occurrence of many disease states in cardiovascular system. The aim of the study was to investigate the effects of vancomycin and daptomycin on rat liver arginase activity and nitric oxide levels. **Material and Methods:** 21 adult male Spraque Dawley rats were divided in three groups (n=7); control, vancomycin and daptomycin group. Vancomycin applied at the dose of 200mg/kg intraperitoneal and daptomycin at the dose of 4 mg/kg intraperitoneal for 14 days. At the end of the experimental period, rats were decapitated and liver tissue were taken. Liver arginase activity and NO levels measured spectrophotometrically. **Results:** Arginase activity significantly increased in vancomycin group compared to daptomycin and control groups. There wasn't any significant difference among groups for NO levels. **Conclusion:** This results indicate that antibiotics may effect liver arginase activity.

**Key words:** Vancomycin, Daptomycin, Liver, Arginase



## ***POSTER PRESENTATIONS***

---

## ***THE ROLE OF VITAMINS AND MINERALS IN THE ETIOLOGY OF BOVINE NAIL DISEASES***

---

**SELVİNAZ YAKAN**

Ağrı İbrahim Çeçen University

[syakan@gmail.com](mailto:syakan@gmail.com)

Genetic factors, environmental and seasonal factors, age, pregnancy, lactation, race and microbial causes are common in the development of foot diseases. The inadequacy or imbalance of micro nutrients as well as those of macro nutrients causes the nail structure to become damaged and to increase the susceptibility to nail diseases. Minerals such as Ca, Mg, Zn, Cu, Fe, Mn, Se and I are needed for vitamins such as A, D and E and biotin for the development and health of the nail. These are related to the metalloenzymes of which they are the cofactor, while the horn quality of the nail, mainly keratin, is maintained. There are very few studies investigating the relationship between vitamins and minerals and nail diseases, while many studies have been conducted on the availability of these vitamins and minerals by animals according to their sources. There is not enough information in the literature about the changes of healthy nail minerals or diseased nail levels. Extensive studies are needed to determine the levels of vitamins and minerals in healthy and diseased nails and their role in the etiology of bovine nail diseases.

**Keywords:** Vitamins, Minerals, Bovine Nail, Nutrition

***EFFECTS OF PENNYROYAL EXTRACT (MENTHA PULEGIUM)  
SUPPLEMENTATION AT DIFFERENT LEVELS INTO DIETS OF HENS ON  
PERFORMANCE, EGG QUALITY, YOLK TBARS VALUES IN LAYING  
HENS***

---

**ŞAZIYE CANAN BÖLÜKBAŞI AKTAŞ, ABDUSSAMET AYDIN,**

Atatürk University, Agriculture Faculty, Animal Science Department, Erzurum, TURKEY

[canan@atauni.edu.tr](mailto:canan@atauni.edu.tr)

This research was conducted to investigate the effects of pennyroyal extract supplementation at different levels (0, 32.5, 65 and 130 mg/kg) and 50 mg/kg BHA (Butylated hydroxyanisole) into diets of laying hens on performance, egg quality traits, thiobarbituric acid reactive substances (TBARS) of yolk, the contents of malondialdehyde (MDA), superoxide dismutase (SOD) and glutathione peroxidase (GSHPx) in serum. Sixty Lohman LSL white layers, 40 weeks of age, kept in individual cages were assigned randomly to five treatment groups, each group included 12 hens. The hens received one of five diets with 0, 32.5, 65 or 130 mg/kg pennyroyal extract and 50 mg/kg BHA, respectively. Experiment lasted for 60 days. At the end of the experiment, the supplementation of pennyroyal extract did not affect on feed intake, rates of albumen, yolk and shell of egg, shell thickness, specific gravity, Haugh unit and some serum parameters. The diet supplemented with pennyroyal extract significantly improved feed conversion rate and egg production. Also, egg weights of groups fed on diets including 65 and 130 mg/kg of pennyroyal extract increased in present study. It was found that supplementation of 130 mg/kg pennyroyal extract and 50 mg/kg BHA significantly improved shell strength. Pennyroyal extract supplementation reduced the values of TBARS in eggs stored during 42 days ( $P<0.05$ ). In conclusion, pennyroyal extract ameliorated performance and lipid oxidation of eggs. Results from present study showed that pennyroyal extract may be used as feed additive in diets of commercial laying hens.

**Keywords:** Laying Hen, Pennyroyal Extract, Performance, Egg Quality, TBARS

## **A NOVEL EUBIOTIC FEED ADDITIVE REMARKABLY IMPROVES LAYING PERFORMANCE AND EGG-SHELL QUALITY IN LATE LAYING PERIOD**

ŞAZIYE CANAN BÖLÜKBAŞI AKTAŞ, SULHATTİN YAŞAR, FATİH YILDIRIM,  
HAFİZ GHULAM QUTAB UD DİN

<sup>a</sup> Atatürk University, Agriculture Faculty, Animal Science Department, Erzurum, TURKEY

[canan@atauni.edu.tr](mailto:canan@atauni.edu.tr)

To test the effects of varying dietary levels of a novel eubiotic feed additive (EFA) containing organic acids, probiotic and enzymes on laying performance, egg quality parameters, and serum glutathione peroxidase (GPx), malondialdehyde (MDA), total antioksidan (TAS) and total oksidants (TOS) levels, six diets containing 0, 200, 400, 600, 800 and 1000 mg/kg EFA were fed to 144 laying hens of 75 weeks age. Each of dietary treatments were randomly assigned to the hens kept in 6 independently replicated cages, each with 4 hens. Feeding trial lasted for 10 weeks, during which feed intakes, egg production parameters and feed conversion ratio, the egg quality criteria were determined biweekly. At the end of trial, 6 hens per treatment (1 bird per replicate) were sacrificed for the determination of serum TAS, TOS, MDA and GSH-Px levels. The results clearly indicated that various dietary supplementation levels of EFA did not affect feed intakes of hens, but their laying performance significantly ( $P<0.05$ ) enhanced. In particular, the increase in egg weight from 64.1 g (0 mg/kg) to 69.2 (200 mg/kg) and to 67.34 g (1000 mg/kg) was significant ( $P<0.05$ ). Egg production was significantly ( $P<0.05$ ) improved from 89.2% (0 mg/kg) to 93.7% (800 mg/kg) and to 96.7% (1000 mg/kg). Most importantly, FCR was significantly improved from 2.62 (0 mg/kg) to 2.49-2.32 (200, 400, 800 and 1000 mg/kg). Of the egg quality parameters, only shell breaking strength was remarkably ( $P<0.05$ ) improved from 1.10 (0 mg/kg) to 1.42-1.50 (200, 800 and 1000 mg/kg). There were sporadic, but insignificant effects of dietary supplementation levels of EFA on serum TAS, TOS, MDA and GSH-Px levels. Having considered optimum levels of these benefits a dietary supplementation level of 200 mg/kg EFA was recommended in commercial laying hen production.

**Keywords:** Eubiotic, Laying Hens, Egg Performance, Egg Quality, Serum, Antioxidant Enzymes,

***EVALUATION OF OXIDATIVE STRESS IN SHEEP INFECTED WITH PSOROPTES OVIS USING TOTAL ANTIOXIDANT CAPACITY, TOTAL OXIDANT STATUS, AND MALONDIALDEHYDE LEVEL***

**MUSTAFA SINAN AKTAŞ<sup>a</sup>, FATİH MEHMET KANDEMİR<sup>b</sup>, AKIN KIRBAŞ<sup>a</sup>, BAŞAK HANEDAN<sup>a</sup>, MEHMET AKİF AYDIN<sup>c</sup>,**

<sup>a</sup> Atatürk University, Faculty of Veterinary Medicine, Department of Internal Medicine, 25240, Erzurum, Turkey

<sup>b</sup> Atatürk University, Faculty of Veterinary Medicine, Department of Biochemistry, 25240, Erzurum, Turkey

<sup>c</sup> Food and Livestock Applied Research Center, 25240, Erzurum, Turkey

[sinanaktas@atauni.edu.tr](mailto:sinanaktas@atauni.edu.tr)

**Introduction:** The study aimed at evaluating oxidative stress using malondialdehyde (MDA), total antioxidant capacity (TAC), total oxidant status (TOS), and oxidative stress index (OSI) markers in sheep naturally infected with *Psoroptes ovis* (Acari). **Material and Methods:** The study was performed on 40 sheep divided into two equal groups: a healthy group (group I) and a group naturally infected with *Psoroptes ovis* (group II). The sera were obtained by centrifuging blood samples collected from the vena jugularis and serum MDA level changes in the samples were measured spectrophotometrically. Commercially available test kits were used for the measurement of TAC and TOS levels. The percentage ratio of TOS level to TAC level was accepted as OSI. **Results:** The serum malondialdehyde, total oxidant status levels, and oxidative stress index increased significantly ( $P < 0.01$ ) in group II, while the serum total antioxidant capacity levels decreased significantly ( $P < 0.01$ ) in this group. Negative correlations between total antioxidant capacity and total oxidant status and total antioxidant capacity and malondialdehyde, and a positive correlation between total oxidant status and malondialdehyde were found in infected sheep. **Conclusion:** The obtained results indicated the relationship between oxidant/antioxidant imbalance and *Psoroptes ovis* infection in sheep. Their MDA, TAC, TOS, and OSI markers may be used to determine the oxidative stress in natural infections with *Psoroptes ovis*.

**Keywords:** Sheep, Mange, *Psoroptes Ovis*, Oxidative Stress

## HELMINTHOLOGICAL RESEARCH IN WILD BOARS (*SUS SCROFA*) IN WESTERN MEDITERRANEAN PROVINCE OF TURKEY

AHMET GOKCEN, RAMAZAN ADANIR, BAYRAM ALI YUKARI, ONUR KÖSE

Department of Parasitology, Faculty of Veterinary Medicine, Mehmet Akif Ersoy University

[radanir@mehmetakif.edu.tr](mailto:radanir@mehmetakif.edu.tr)

The aim of the present study is to investigate the status of helminths in wild boars (*Sus scrofa*) in Western Mediterranean province (Antalya, Burdur, Isparta) of Turkey by postmortem examination. During investigation; 15 wild boars (four male and eleven female) were examined by necroscopy, which were hunted between 2010 and 2013. All sections of gastrointestinal system, organs of respiratory system and muscle samples were collected in individual plastic bags and were taken to the laboratory of Parasitology Department of Mehmet Akif Ersoy University, Faculty of Veterinary Medicine. Then; the gastrointestinal tract was separated into three regions such as; the stomach, small intestine and large intestine and all were cut opened by scissor, the stomach, small and large intestines and their contents were examined by helminths. Totally eleven helminth species (two cestodes larvae and nine nematode) were identified in all investigated boars with the following prevalence rates; 10 *Cysticercus tenuicollis* (66,66 %), 9 *Metastrongylidae* spp. (60 %), 8 *Globocephalus urosubulatus* (53,33 %), 5 *Hyostrongylus rubidus* (33,33 %), 5 *Physocephalus sexalatus* (33,33 %), 4 *Trichuris suis* (26,66 %), 3 *Macracanthorhynchus hirudinaceus* (20 %), 3 *Oesophagostomum dentatum* (20 %) and 2 hydatid cysts (13,33 %). Also the prevalence of *Metastrongylidae* species were found as; 6 boars were infected by *Metastrongylus apri*, 6 by *M. pudendodectus* and 4 by *M. salmi*. Muscle samples were negative for *Trichinella* spp. larvae. Fourteen of investigated wild boars were found to be infected by more than one species (mix infection) and just one boar was infected by single species (single infection). One animal was found to be infected by maximum seven different helminth species. All investigated wild boars were found to be infected by at least one or more helminth species.

**Keywords:** Helminth, Wild Boar, Western Mediterranean, Turkey

***EIMERIA SPECIES IN GAZELLE SUBGUTTUROSA IN TURKEY***

---

RAMAZAN ADANIR<sup>a</sup>, SIMA SAHINDURAN<sup>b</sup>, OSAMA B. MOHAMMED<sup>c</sup>, AHMET GOKCEN<sup>a</sup>, BAYRAM ALİ YUKARI<sup>a</sup>, N. SARP SEVGİSUNAR<sup>b</sup>

<sup>a</sup> Dept.of Parasitology, Faculty of Veterinary Medicine, Mehmet Akif Ersoy University

<sup>b</sup> Dept.of Internal Medicine, Faculty of Veterinary Medicine, Mehmet Akif Ersoy University

<sup>c</sup>ksu Mammals Research Chair, Department of Zoology, College of Science, King Saud

[radanir@mehmetakif.edu.tr](mailto:radanir@mehmetakif.edu.tr)

The present study aimed to identify the *Eimeria* species detected in Gazelle subgutturosa in Turkey. The materials of the present study were, six gazelles aged from 5 months to 1 year, which were bought from Agricultural Management Directorate of Sanliurfa (a city of Southeast Anatolian Region) by a farmer in Isparta province. During the routine health scan of those animals in Mehmet Akif Ersoy University Faculty of Veterinary Medicine Department of Internal Diseases, faecal samples were sent to Department of Parasitology laboratory for the investigation of gastrointestinal parasites. As a result of faecal examinations by native and Fulleborn flotation technique; all animals found to be infected by *Eimeria* species. Faecal samples showing coccidian oocysts were cultured in 2,5 % potassium dichromate (K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>) at room temperature for sporulation and were examined daily until the sporulation is completed. All samples were examined by flotation technique again and the sporulated oocysts were identified according to morphological characteristics such as; shape, colour, size of oocysts and sporocysts, presence or absence of micropil and micropilar cap, oocyst and sporocyst residuum and stieda body. As a result of present study; all examined animals found to be infected by *Eimeria elegans* and *E. abenovi*.

**Keywords:** *Eimeria* Spp., Gazelle Subgutturosa, Turkey



## INVESTIGATION OF PATHOGENIC EIMERIA SPECIES IN CATTLE BY MICROSCOPY AND PCR METHODS IN KIRIKKALE PROVINCE

AYCAN NURIYE GAZYAGCI<sup>a</sup>, SAMI GOKPINAR<sup>a</sup>, SERKAL GAZYAGCI<sup>b</sup>,  
MERAL AYDENIZOZ<sup>a</sup>, KEREM URAL<sup>c</sup>

<sup>a</sup> Kırıkkale University, Faculty of Veterinary, Department of Parasitology, Kırıkkale

<sup>b</sup> Kırıkkale University, Faculty of Veterinary, Department of Internal Medicine, Kırıkkale

<sup>c</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine, Aydın

[radanir@mehmetakif.edu.tr](mailto:radanir@mehmetakif.edu.tr)

This research was carried out in 9 different provinces of Kırıkkale between 30.05.2017-30.10.2015. A total of 150 calves and calves with a clinically normal appearance under 1 year of age were sampled. Sheather was found to be coccidiosis-positive in 78 animals (52%), and 72 (48%) in the flotation with saturated sugary water. of the 78 positive animals, 43 (55.1%) were male and 35 (44.7%) were female. in fecal examinations, *E. auburnensis* (55,12%), *E. canadensis* (39,74%), *E. ellipsoidalis* (34,61%), *E. zuernii* (16,6), *E. bovis* (14,1), *E. cylindrica* (5,12%) and *E. alabamensis* (12,82%) and *Isospora spp.* 29 (37.17%) of the infected animals were infected with only one eimeria species, while 49 (62.8%) of the infected animals had mixed infections at the stool border. in the study, all bands were detected in accordance with the stool examination after the PCR study with pathogenic eimeria species *E. alabamensis*, *E. auburnensis*, *E. bovis*, *E. cylindrica*, *E. ellipsoidalis*, *E. zuernii*.

**Keywords:** *Eimeria spp.*, PCR, Cattle

## **THE EVALUATION OF OF CONVENTIONAL ROUTINE COAGULATION PROFILE AND D-DIMER CONCENTRATION IN DIFFERENT STAGES OF CANINE VISCERAL LEISHMANIASIS**

SERKAN ÖZKAN, KEREM URAL

Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine, Aydın-TÜRKİYE

[uralkerem@gmail.com](mailto:uralkerem@gmail.com)

in the present the aim was to determine the D-dimer levels of coagulation tendency, which provides a basis for thrombosis in different stages of Canine Visceral Leishmaniasis and profile of conventional routine coagulation by testing. The animal material of the study consisted of a total 35 dogs, enrolled into five groups, 28 of which were with CVL and 7 healthy. CVL diagnosis was based on one or more clinical findings attributable to the disease subjected to rapid ELISA test kits and IFAT analyses. The dogs diagnosed with VL were classified into 4 different groups (n=7 in each group) established by Leishvet Group based on serological, clinical findings within haematological and to those of serum biochemical findings. By this context, research groups were determined as; I. Group: Stage I (Mild Cases), II. Group: Stage II (Moderate Cases), III. Group: Stage III (Severe Cases), IV. Group: Stage IV (Very Severe Cases), V. Group: Healthy Control. To those of classified dogs with CVL, obtained blood samples were subjected to D-dimer concentration and conventional routine coagulation profile (APTT, PTT and FIB) analysis. Regarding mean APTT values there was a statistical difference among healthy group and stage IV ( $p=0.009$ ) cases. There was no difference among groups in terms of PT and FIB values. Conducting D-dimer levels, there was a statistically significant difference determined among healthy group within stage III and stage IV infected dogs ( $p=0.009$ ). As stages of CVL progressed initial elevations among FIB levels decreased whereas cases with increased D-dimer levels along with elevated APTT concentrations were greater. To this context in cases of specifically increased FIB levels, to those of conventional routine coagulation profile, nonsteroidal antiinflammatory therapy; whereas in cases of D-dimer level elevations low molecular weight heparin compounds might be directed to therapy.

**Keywords:** Canine Visceral Leishmaniasis, Stage, Coagulation, Profile

**Acknowledgements:** This research was supported by Adnan Menderes University Research Fund. Unit with Project no: VTF-15063.

## ***FATE OF LISTERIA MONOCYTOGENES IN CARRA CHEESE DURING MANUFACTURE AND RIPENING***

---

**HISAMETTIN DURMAZ**

Harran University

[hdurmaz@gmail.com](mailto:hdurmaz@gmail.com)

Carra cheese produced from raw milk is a traditional cheese containing mostly black cumin (*Nigella sativa*) and produced in the Southeastern provinces of Turkey. This study was carried out to evaluate the growing and survival of *Listeria monocytogenes* during manufacture and ripening of Carra cheese. For this purpose, Carra cheese was produced with raw cow's milk inoculated to contain 2.97 log CFU/mL of *L. monocytogenes* (serovar 4b). Cheese was ripened by storing in an earthenware jug underground for 90 d. *L. monocytogenes* enumeration was made by surface-plating on Oxford agar. *L. monocytogenes* number increased during manufacture and reached to 4.89 log CFU/g at the first d of ripening, while it decreased to 4.19 log CFU/g during the first 15 d of ripening and remained constant throughout the rest of ripening. The results indicated that *L. monocytogenes* in Carra cheese manufactured with raw milk was able to survive for 90 d of ripening, despite low pH and the presence of high number of lactic acid bacteria. Thus, *Listeria*-contaminated Carra cheese could potentially cause to serious illness if consumed by susceptible individuals.

**Keywords:** *Listeria monocytogenes*, Carra Cheese, Manufacture, Ripening.

## THE EFFECT OF CHEESE BRINE CONCENTRATIONS ON SURVIVAL OF *LISTERIA MONOCYTOGENES*

---

HISAMETTIN DURMAZ<sup>a</sup>, OSMAN AYGUN<sup>b</sup>, MUSTAFA ARDIC<sup>c</sup>

<sup>a</sup> Harran University

<sup>b</sup> Firat University

<sup>c</sup> Aksaray University

[hdurmaz@gmail.com](mailto:hdurmaz@gmail.com)

Although storage in brine is thought to cause a decrease in the populations of undesirable microorganisms, there is great concern that the brine can also serve as a reservoir for certain salt-tolerant pathogens. Therefore, in this study, inactivation of *Listeria monocytogenes* at different salt concentrations and times were studied to gain a better understanding of the response of the bacterium in the brines. For this purpose, cheese brines containing 13%, 15% and 19% NaCl were inoculated with 103 *L. monocytogenes* (serotype 4b, RSKK 475) CFU/mL and stored at 4 °C for 0, 15, 30, 60 and 90 days. Population of the pathogen in 13% brine decreased significantly ( $P < 0.05$ ) during first 30 days of storage compared to population in initial brine. However, *L. monocytogenes* was able to survive in 13% brine during 90 days of storage. Whereas the population of *L. monocytogenes* in the 15% brine decreased significantly between days 0 to 15 of storage so that direct planting at 30, 60 and 90 days gave negative results, but the same samples gave positive results after enrichment. Numbers of *L. monocytogenes* in the 19% brine decreased faster than mentioned above for other salt concentration and the pathogen was not detected in brine after 15 days of storage by both the direct planting and enrichment. The results were shown that the *L. monocytogenes* could survive in brines, if its salt concentration was not higher than 19%. in conclusion, it was suggested that brined cheeses should be stored in brines containing 19% or more NaCl for at least 15 days to prevent survival of *L. monocytogenes*.

**Keywords:** *Listeria monocytogenes*, Brine, Salt Concentration

***REPAIRING OF THE BILATERAL NASAL AND MAXILLARY BONE  
DEFECT WITH POLYPROPYLENE MESH IN A DOG***

---

PINAR CAN, ATILLA DOGAN

<sup>a</sup> Ankara University Faculty of Veterinary Medicine Department of Surgery

[atilla\\_dogan0@hotmail.com](mailto:atilla_dogan0@hotmail.com)

Six months old male crossbreed dog was referred to clinic by the local animal shelter with infected open wounds on bilateral nasal and maxillary regions. In clinical examination, nasal septum, nasal and maxillary bones were destructed bilaterally, also mucopurulent nasal discharge and nasal dyspnea were present. In operation, wound margins were debrided, and remaining maxillary and nasal bones margins were exposed. Polypropylene mesh was fixed for repairing defect with 2/0 polypropylene suture material to the margin of bone. Gauze drains which rifampicine and bupivacaine HCl-impregnated were placed into the both nasal cavities. Ant biotherapy is maintained with amoxicillin (20mg/kg orally twice daily) and metronidazole (20mg/kg orally twice daily) for 15 days postoperatively. The drains were removed at postoperative 3th day and nasal cavity was lavaged with 0,09 % isotonic NaCl twice daily for 15 days. Clinical signs were completely resolved 21 days after operation. Polypropylene mesh was found easy to apply and cost effective, it should be considered for repairing of nasal and maxillary bone defects which compose the nasal cavity.

**Keywords:** Polypropylene Mesh, Bone Deffect, Dog

***INTEGRATION OF META-ANALYTICAL APPROACH TO RESEARCH IN  
VETERINARY MEDICINE***

---

**PINAR AMBARCIOĞLU, DOĞUKAN ÖZEN, UFUK KAYA, ERMAN GÜLENDAG,  
İSMAYİL SAFA GÜRCAN**

Ankara University

[pinarambarcioglu@gmail.com](mailto:pinarambarcioglu@gmail.com)

Meta-analysis is a statistical analysis that combines the findings of independent studies in the same subject to make systematic evaluations based on effect size estimations. It is necessary to compare the reported effect sizes systematically in published studies on research conducted in the same area, (1) to evaluate the mean and variance of the effect sizes obtained from individual studies, and (2) to provide an overview and an overall interpretation. Meta-analysis also provides a statistically stronger and more reliable outcome by integrating study findings systematically, especially where the findings do not support each other. Therefore, studies should be carried out in accordance with the meta-analytical approach. The purpose of this study was to describe the meta-analytical approach and to demonstrate the necessity of using it in scientific research in the field of veterinary medicine. Accordingly, information on the main effect size indices used in scientific research were given and the basic features of the meta-analytical thinking were explained. in conclusion, it had been emphasized that the application of meta-analytical approach provides easier and more accurate interpretation of the findings of the research, while providing guidance for other studies related to the subject, as it is in other fields as well as in the veterinary medicine field.

**Keywords:** Effect Size, Meta-Analysis, Meta-Analytical Approach

***IMMUNOHISTOCHEMICAL EXPRESSION OF CANNABINOID  
RECEPTOR 2 (CB2) IN SHEEP ILEUM DURING PRENATAL PERIOD***

---

**MEHMET ÖZBEK<sup>a</sup>, HİDAYET TUTUN<sup>b</sup>, EMEL ERGÜN<sup>c</sup>, FEYZULLAH BEYAZ<sup>d</sup>,  
LEVENT ERGÜN<sup>c</sup>**

<sup>a</sup> Department of Histology and Embryology, Faculty of Veterinary Medicine, Mehmet Akif Ersoy University

<sup>b</sup> Department of Pharmacology and Toxicology, Faculty of Veterinary Medicine, Mehmet Akif Ersoy University

<sup>c</sup> Department OF Histology and Embryology, Faculty of Veterinary Medicine, Ankara University

<sup>d</sup> Department of Histology and Embryology, Faculty of Veterinary Medicine, Erciyes University

[mehmetozbek2@gmail.com](mailto:mehmetozbek2@gmail.com)

The endocannabinoid system in the gastrointestinal tract has attracted much attention because both its activation and inhibition could be therapeutically useful depending on the circumstances. Evidence is emerging that exogenous and endogenous cannabinoids have an important role in gastrointestinal physiopathology, such as gastrointestinal inflammation. But cannabinoids mediate also other functions in the gut, such as gastroprotection and gastric secretion, gastrointestinal motility, ion transport, visceral sensation, and cell proliferation. This study was performed to determine immunohistochemical localization of CB2 in sheep ileum throughout prenatal period. In this study, the distal ileums from ten sheep fetuses with gestational ages varying between 63 and 147 days were used as a material. The streptavidin biotin complex (StreptABC) immunoperoxidase technique was employed to detect immunohistochemical localization of CB2 (Abcam, ab45942; 1/100, +4 °C overnight) in ileum. In all the periods examined, moderate reaction was observed in blood vessel walls and smooth muscle cells of tunica muscularis, and intense reaction was visualized in some cells between intestinal epithelial cells. It was observed that these intense reacting cells were located in both villi intestinalis and crypts, and the number of these cells increased as the birth approached. In conclusion, this is the first study of CB2 expression in ileum of sheep fetuses. Taking into account the current literature and cell morphology, it is likely that the intense reacting cells may be Tuft cells or enteroendocrine cells. We also believe that the expression of this receptor in predicted cells may contribute to both the intestinal secretion and the immune system. In addition to, expression of this receptor in smooth muscle suggests that it can contribute to intestinal motility.

**Keywords:** CB2, Ileum, Prenatal Period, Sheep



## **DETERMINATION OF HEAVY METAL POLLUTION IN HONEY SAMPLES COLLECTED FROM ARDAHAN AND COUNTIES**

HÜSAMETTİN EKİCİ<sup>a</sup>, KEMAL YAZICI<sup>b</sup>

<sup>a</sup> Kırıkkale University

<sup>b</sup> Program of Beekeeping, Department of Plant and Animal Production, Posof Vocational School, Ardahan University, Ardahan, Turkey

[hekici@kku.edu.tr](mailto:hekici@kku.edu.tr)

in this study the concentrations of some element levels in 180 honey samples obtained from honey producers producing beekeeping from all the counties of Ardahan province (Center, Hanak, Çıldır, Göle, Damal) in 2015 were investigated. The levels of Al, Ba, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, Sr and Zn elements in honey samples were determined by ICP-OES instrument. in the samples pretraement a microwave oven. The mean of element levels and the lowest and highest values were determined in honey collected from city center and counties. of the samples analyzed for Cd, Co, Cr and Pb values was found below the detection limit. As a result of analysis, the content of element in honey were detected as  $124,863 \pm 313,44$  ppb,  $1227,56 \pm 892,22$  ppb,  $67,352 \pm 34,636$  ppb,  $6484,904 \pm 2078,892$  ppb,  $302,551 \pm 323,329$  ppb,  $4,636 \pm 3,943$  ppb,  $3118,69 \pm 835,149$  ppb and  $10,535 \pm 14,73$  ppb, for Al, Ca, Fe, K, Mg, Mn, Na and Sr respectively. To conclude, the results of this study below the maximum residue limits when compared to some international limits. It was concluded that the samples analyzed would not pose any danger to human health.

**Keywords:** ICP-OES, Honey, Element, Pollution, Ardahan

## **THE EFFECTS OF COENZYME Q10 ON SERUM CERULOPLASMIN AND PARAOXANASE LEVELS OF RATS WITH EXPERIMENTAL DIABETES**

---

TEVHIDE SEL, BESTE KISMALI, GORKEM KISMALI

Dept. of Biochemistry, Faculty of Veterinary Medicine, Ankara University

[sel@veterinary.ankara.edu.tr](mailto:sel@veterinary.ankara.edu.tr)

In this study, it is investigated the antioxidant function of coenzyme Q10 on oxidative stress-mediated damage in Streptozotosine (STZ) induced diabetes by measuring the change on serum ceruloplasmine and paraxonase activity. Diabetes was induced in rats by the administration of STZ resolved in citrat buffer pH 4.5 (65 mg/kg BW. İ.p.). Coenzyme Q10 resolved in oil was administered orally (10 mg/kg BW/day) to STZ-diabetic rats for 3 weeks. in all groups serum glucose, paroxonase and ceruloplasmine levels were measured by spectrophotometric. The Diabetics and Diabetes+ Q10 groups' glucose levels were higher than control and Q10 groups. There is no differences between groups of paraoxonase levels. Serum ceruloplasmine levels of control group were higher than the others groups. Diabetic rats throughout the study the clinical signs of poliphagia, polydipsia, polyuria and stable hyperglycemia were observed. in conclusions that, Coenzyme Q10 supplementation has no beneficial effects on glycemic control in rats with diabetes. The Q10, Q10 + Diabetes and Diabetes groups' serum ceruloplasmine levels were decrease compare to control group.

**Keywords:** Diabetes Mellitus, Ceruloplasmine, Paraoxonase, Coenzyme10

***CANCER DEVELOPMENT AND CORRUPTED SIGNALING MECHANISM***

---

MEHMET ALI KISAÇAM, SEMA TEMIZER OZAN, GONCA OZAN

Firat University

[mkisacam@firat.edu.tr](mailto:mkisacam@firat.edu.tr)

Cancer is a collection of complex and heterogeneous diseases that cause cells to run away from their control mechanisms, causing extreme and timeless divisions and spreading to other tissues. 2014 Turkish Statistical Institute data indicates that 20.4% of the deaths occurred in Turkey, in 2014, were cancer-related and it is the second leading cause of death in Turkey. Cancer cells' acquisition atypical metabolic feature as a result of genetic and environmental factors and alteration in the signaling mechanism take part in the emergence of cancer as an important disease. Although most metabolic activity and signaling mechanism are identical to normal proliferative cells, these features abnormally increase in cancer cells as a result of the association of non-genetic factors such as genetic lesions and tumor microenvironments. Studies on these features of cancer cells enable the development of treatment strategies targeting tumor metabolism and signaling mechanisms. in this study, some signaling pathways regulated by tumorigenesis, as well as transcription mechanisms will be mentioned.

**Keywords:** Cancer, P13k, Mtor

## ***AFLATOXIN M1 LEVELS IN MILK AND KASHAR CHEESE SAMPLES WITH RESPECT TO SEASONAL PERIODS IN ARDAHAN, TURKEY***

---

ERTAN DOĞAN<sup>a</sup>, MURAT BAYEZİT<sup>b</sup>

<sup>a</sup> Kafkas University

<sup>b</sup> Mehmet Akif Ersoy University

[mnsabayezit@hotmail.com](mailto:mnsabayezit@hotmail.com)

Milk and dairy product have an important place in a healthy human diet since they are good sources calcium and proteins. Therefore, toxins such as AFM1 should not be present in milk and milk products. This study was planned in order to determine the presence and level of AFM1 in milk and kashar cheese samples produced in the Ardahan Region of Turkey. In this study, a total of 240 milk and 240 samples of kashar (cheddar) cheese were analyzed for aflatoxin M1 seasonally. Aflatoxin content and concentration of the samples were researched by competitive ELISA method. The incidences of AFM1 contamination in the samples of raw cow milk and cheddar cheese were 66 (27.5%) and 78 (32.5%) respectively. AFM1 in milk and cheddar cheese produced in Ardahan province is mostly seen in spring months. The levels of AFM1 were found to be below the tolerable limits set by EU and Turkish Food Codex (0.05 ppb). Samples of Kashar cheese were encountered to AFM1 at different levels in spring, summer and autumn. Samples of Kashar cheese were determined to be below the limits of tolerable according to Turkish Food Codex (500 ng/kg). According to the results of current study, it can be concluded that milk and Kashar Cheese samples are safe for AFM1 levels for the period in which the samples were collected.

**Keywords:** Aflatoxin M1, Elisa, Milk, Cheese, Ardahan

## ***AN ALTERED METHOD TO PRODUCTION POLYCLONAL ASCITES FLUID VIA MOUSE***

---

GÜLİZAR AYDOĞDU<sup>a</sup>, ŞAFAK MERT<sup>b</sup>, BENAN PELİN SERMIKLİ<sup>c</sup>,  
ERKAN YILMAZ<sup>d</sup>

<sup>a</sup> Department of Biology, Faculty of Science, Ankara University

<sup>b</sup> Center for Engineering in Medicine, Massachusetts General Hospital, Harvard Medical School

<sup>c</sup> Department of Biology, Faculty of Science, Ankara University

<sup>d</sup> Institute of Biotechnology, Ankara University

[gulizaraydogdu@yahoo.com](mailto:gulizaraydogdu@yahoo.com)

Many protocols exist for the production of polyclonal antisera specific for protein antigens in mice. Small volumes of antiserum can be obtained from mice by polyclonal antiserum production technique. However, polyclonal ascites production method is used that gives high volume and qualified polyclonal antibody. A large amount of antibodies was generated from mice by ascites fluid production method described by Kurpisz et al. (1988). We modified the method to generate anti-bovine serum albumin (BSA) polyclonal ascites fluid in mice. BALB-c mouse was immunized by BSA protein with complete Freund's adjuvant in order to get polyclonal antibody which recognizes different epitopes of BSA antigen. We expect that ascites including high amount of anti BSA antibody. The obtained polyclonal BSA ascites was used in ELISA and western blotting. This method is simple and cheap for producing larger volumes of mouse polyclonal antibody.

**Keywords:** Polyclonal Antibody, Polyclonal Ascites, Anti BSA Antibody

## ***A COMPARATIVE STUDY ON THE EFFECTS OF EPRINOMECTIN AND IVERMECTIN ON PLASMA ANTIOXIDANT LEVEL AND LIPID PEROXIDATION IN COWS***

ALİ BİLGİLİ<sup>a</sup>, ASIM KART<sup>b</sup>, YILMAZ CIGREMİS<sup>c</sup>, BAŞAK HANED, DİNÇER ERDAĞ<sup>e</sup>

<sup>a</sup> Ankara University

<sup>b</sup> Mehmet Akif Ersoy University

<sup>c</sup> İnönü University

<sup>d</sup> Atatürk University

<sup>e</sup> Kafkas University

[asimkart@hotmail.com](mailto:asimkart@hotmail.com)

Avermectins including Ivermectin and Eprinomectin are broad spectrum endectocides. These drugs are considered to have no serious adverse effects at therapeutic range. However, use of avermectins in overdose in some animal species and at the therapeutic range in humans could result in some adverse effects including mainly nervous system effects and some general symptoms. This study was aimed to investigate effects of Eprinomectin and Ivermectin on plasma malondialdehyde (MDA) and glutathione (GSH) levels in lactating cow. Ten Holstein breed lactating dairy cows were divided into 2 groups. Before the application of drugs, blood samples were collected from the jugular vein in each group at 0 hour as control, and then Group 1 and 2 received a single pour-on application of Ivermectin (0.5 mg/kg body weight) and Eprinomectin (0.5 mg/kg body weight), respectively. Blood samples were then collected again from the jugular vein at timed-intervals (at 1, 4, 8, 24 and 36 hours and on 2, 3, 4, 5, 6, 8, 10, 12, 15, 20 and 25th days) to measure plasma MDA and GSH concentrations. Eprinomectin and Ivermectin treatment caused a transient decrease in GSH levels which is followed by transient increase ( $P < 0.05$ ). However, no difference was observed in MDA levels at all sampling points following Eprinomectin and Ivermectin treatment compared to control samples ( $P > 0.05$ ). In conclusion, Eprinomectin and Ivermectin cause decreased GSH concentrations without alterations in MDA level leading to a decrease in the defense mechanism against oxidative stress although the decrease is not enough to cause lipid peroxidation.

**Keywords:** Eprinomectin, Ivermectin, Mda, Gsh

**EFFECT OF CARBONTETRACHLORIDE ON RAT SOLEUS MUSCLE**

DUYGU FEVZIYE VURAL<sup>a</sup>, DİLŞAD ÖZERKAN<sup>b</sup>, SUNA CEBESÖY<sup>a</sup>, NESRİN OZSOY ERDAS<sup>a</sup>, HATICE MUTLU EYİSON<sup>a</sup>

<sup>a</sup> Ankara University

<sup>b</sup> Kastamonu University

[suna.cebesoy@gmail.com](mailto:suna.cebesoy@gmail.com)

CCl<sub>4</sub> is a xenobiotic causes toxicity in human and animals and tissue damage by free radical production. in this study, it is purposed that the toxic effect of the CCl<sub>4</sub> to the soleus muscle. Totally 12 male Wistar albino rats were used, which their weights were 180-220 gr. The rats were separated into 2 groups that were control groups (Group 1) and CCl<sub>4</sub> (Group 2). At the end of 12th week, intracardiac blood were taken from rats under ketamin/rompun anesthesia and soleus muscles were taken. Tissues treated routine preparation process for light microscopy, 5-6 µm thin sections were taken. The tissues were stained respectively with hematoxylin-eosin (HE) for histopathologic examination; Masson-Trikrom for the formation of the fibrosis; Periodic Acid- Schiff for the glycogen particles. in the control group (Group 1) when the tissues were stained with the hematoxylin-eosin, it was seen that the orientation of the muscle fibers was regular. in the control group stained with masson-trikrom, it was observed that the collagen fibers were regular. in addition to these, in PAS staining two groups were seen PAS positive. in CCl<sub>4</sub> treated group (Group 2) muscle hypertrophy, orientation defect and loss of contractile protein in muscle fibers, increase in lipid tissue, collagen accumulation (fibrosis) in connective tissue around vessel and nerve plexus were determined. As a result; in this study, chronic muscle fibrosis occurs when applied as CCl<sub>4</sub>.

**Keywords:** Ccl<sub>4</sub>, Soleus Muscle, Fibrosis



## ***THE ANATOMICAL STRUCTURE OF APODEMUS FLAVICOLLIS SKULL***

---

HATICE MUTLU EYISON, SUNA CEBESÖY, ERKUT KIVANÇ

Ankara University

[suna.cebesoy@gmail.com](mailto:suna.cebesoy@gmail.com)

It is known that there are 20 species belong to genus of Apodemus distribution in Asia and Europe and also six species in Turkey. The features of external morphology and the features of skull and the structures of molar teeth are used on the purpose of the identification of these species. Especially, when the metric and nonmetric properties of the characters of skull are examined very carefully, it is understood that it is a characteristic feature on the identification of rodents. In this study, 35 skulls were cleaned with boiling at 70°C in a 15% ammonia solution and evaluated by anatomically for enhancing of the diagnostic characteristics of *A. flavicollis*. It has been shown that the anatomical characters that was examined can be used to identification of the species be located in the genus of Apodemus.

**Keywords:** Apodemus Flavicollis, Skull, Anatomy

## ***COMPUTED TOMOGRAPHIC DIAGNOSIS AND SURGICAL TREATMENT OF FIBROCHONDROSARCOMA: A CASE REPORT***

**GONCA SÖNMEZ<sup>a</sup>, PINAR CAN<sup>a</sup>, YANAD ABOU MONSEF<sup>b</sup>, RIFKI HAZIROĞLU<sup>b</sup>,  
ÖMER BEŞALTİ<sup>a</sup>**

<sup>a</sup> Ankara University Faculty of Veterinary Medicine, Department of Surgery, Turkey

<sup>b</sup> Ankara University Faculty of Veterinary Medicine, Department of Pathology

[gncsnmz@msn.com](mailto:gncsnmz@msn.com)

Eight years old neutered female mix breed dog was presented to clinic with a history of progressive growing mass on right gluteal region, hind limb lameness, and difficulty in urination and defecation. In clinical examination the mass was solid and located on right gluteal muscles and extended to the perineal region. The CBC and SB were in reference range. Computed tomographic examination revealed that the mass was starting from great trochanter of femur cranially, and extended dorsally to the sacral and caudal vertebrae and occupied the right side of pelvic cavity. The mass was isodense with muscles and the margin of the tumor was clear and well-shaped ovally. In contrast-enhanced CT images the mass was well contrast enhanced, and there was no evidence of lung or abdominal metastasis. The mass was gross totally removed without any surgical complication and the surgical wound was healed properly. In histopathological examination, the tumor was composed of spindle to ovoid shaped anaplastic cells with hypochromatic nucleus and acidophilic cytoplasm. These cells were arranged in interlacing bundles and were accompanied by polynucleated tumor giant cells and mitotic figures. In some areas, embryonic connective tissue, chondroid and osteoid tissues were observed. The tumor was diagnosed as fibrochondrosarcoma. The urination and defecation, and also lameness were improved satisfactory for 85 days. Carboplatine was applied after the operation as adjuvant chemotherapy was applied, but it was ceased because of the owner request. However, the mass was regrowth and reach to the presented time and same clinical signs reappeared, and additionally lung metastasis was seen in chest x ray at 95 days euthanasia were requested. Mesenchymal tumor at the caudal pelvic cavity and causes fecal and urinary incontinence and surgical removal should be suggested for providing the better quality of life.

**Keywords:** CT, Dog, Fibrochondrosarcoma

## **GENETIC DIVERSITY IN APODEMUS MYSTACINUS (MAMMALIA, RODENTIA) BASED ON SSRS IN ANATOLIA**

REYHAN ÇOLAK<sup>a</sup>, GÜL OLGUN KARACAN<sup>b</sup>, DILEK BETEŞ<sup>c</sup>, ERCÜMENT ÇOLAK<sup>c</sup>

<sup>a</sup> DEPARTMENT OF BIOLOGY, ANKARA UNIVERSITY

<sup>b</sup> DEPARTMENT OF MEDICAL SERVICES AND TECHNIQUES, AKSARAY UNIVERSITY

<sup>c</sup> DEPARTMENT OF BIOLOGY, ANKARA UNIVERSITY

[rcolak@science.ankara.edu.tr](mailto:rcolak@science.ankara.edu.tr)

Anatolia is a region in where the variety of subspecies diversity is high because it serves as a refuge for species in the Pleistocene period. in particular, the micro-refuge areas in this area are exposed to subspecies studies. The use of polymorphic loci accelerated the search for refuge areas and species diversity. The aim of this study is to reveal the genetic variation of species in *Apodemus mystacinus* based on SSR loci and to determine the micro-refuge areas, if any. DNA was extracted from 70 *A. mystacinus* specimens collected from 19 localities in Turkey using CTAB method. 7 SSR loci were used to determine the genetic variation of *A. mystacinus*. As a result of this study, *A. mystacinus* includes 2 genetic groups that indicate the presence of two subspecies; *A. m. mystacinus* and *A. m. euxinus* in Anatolia. This result also supports that one of the micro refuge areas is eastern Turkey and the other western and southern Turkey.

**Keywords:** *Apodemus Mystacinus*, Micro Refuge, SSR, Anatolia

**Acknowledgements:** *This study was supported by Ankara University, Scientific Research Projects Coordination Unit (BAPRO: 14B0430001)*

## **IN VITRO INVESTIGATION OF THE EFFECTS OF HSP70 CHAPERONE ON CELL PROLIFERATION AND OXIDATIVE STRESS AGAINST AMYLOID BETA NEPHROTOXICITY**

SEMA YILDIZ<sup>a</sup>, NESRİN ÖZSOY ERDAŞ<sup>a</sup>, GÜLİZAR AYDOĞDU<sup>a</sup>, ERKAN YILMAZ<sup>b</sup>

<sup>a</sup> Department of Biology, Faculty of Science, Ankara University

<sup>b</sup> Institute of Biotechnology, Ankara University

[Nesrin.Ozsoy@science.ankara.edu.tr](mailto:Nesrin.Ozsoy@science.ankara.edu.tr)

Accumulation of amyloid beta protein in the cell causes oxidative damage which might lead to cell death. Damage due to amyloid beta accumulation in the kidneys is quite prevalent, which could cause kidney failure. The aim of this study is to investigate the protective effects of Hsp70 chaperone on the amyloid beta induced toxicity in the human embryonic kidney cell line HEK-293 cells. In order to induce toxicity in the HEK-293 cell line, 5-10  $\mu$ M concentration of amyloid beta was applied for 24 hours. Afterwards, both normal and amyloid beta treated cells were treated with 2  $\mu$ g/ml concentration of Hsp70 for 2 hours. The effect of amyloid beta on cell viability was evaluated by MTT assay. Oxidative damage was assessed by measuring Lipid Hydroperoxide (LPO) levels. Furthermore, catalase and Superoxide Dismutase (SOD) levels were measured by colorimetric ELISA kits, in order to understand the protective effect of Hsp70 on the amyloid beta induced toxicity in the HEK-293 cells. Results indicate that cytotoxicity was induced by amyloid beta application and that the catalase and SOD levels decreased. On the other hand, Hsp70 application increased the catalase activity. However, SOD activities did not change significantly. Experimental results suggest that exogenous Hsp70 application to HEK-293 cells has a partial protective effect against the amyloid beta induced cytotoxicity in the HEK-293 cells.

**Keywords:** Hsp70, HEK-293, Amyloid Beta, Cytotoxicity, Oxidative Damage

**Acknowledgements:** This study was supported by Scientific Research Projects Coordination Unit of Ankara University (Project No: 17H0430001).

## ***A TOOTH-BASED OROANTRAL FISTULA IN A DOG***

---

**ÇAĞLAR YENER, MURAT SARIERLER**

Adnan Menderes University of Veterinary Faculty

[caglar.yener@hotmail.com](mailto:caglar.yener@hotmail.com)

in this case, the subject matter is an oroantral fistula localized in the distal of the right maxillary 3rd premolar teeth of a 7-year-old Terrier female dog with an open wound in the right buccal area and with halitosis and bloody discharge brought to Adnan Menderes University, Veterinary Faculty, Surgery Department. According to clinical examination, it was understood that the periodontal disease spread to apical area disrupted the structure of the nasal cavity and caused to the formation of a fistula, and it was decided that the 4th premolar tooth should be pulled out. The 4th premolar tooth of the dog was removed from gingival flap under general anesthesia, it was cut with a drill from the furcation point, and the tooth was extracted in two parts. Since the fistula hole was small, the tissue was attached to each other and was then closed. The fistula's canal was irrigated with polyvinylpyrrolidone iodine 10% (Batticon, Adeka, Turkey) solution. Intravenously fluid treatment was applied to the dog for the first 24 hours, and amoxicillin-clavulanic acid (Synulox, Pfizer, Belgium) i.m. was administered at a dose of 8,75 mg/kg bodyweight/day for 7 days. The recovery occurred 3 weeks later from the surgical intervention. in this case study, it has been observed that the oroantral fistula in dogs may be treated with a proper extraction of the relevant tooth, closure of the wound and with proper postoperative care.

**Keywords:** Dog, Tooth, Oroantral Fistula, Periodontitis

## ***DETERMINING THE EFFECT OF ADDITION OF FRUIT POMACE INTO SORGHUM-SUDAN GRASS OR ALFALFA SILAGES ON FERMENTATION CHARACTERISTICS AND IN SITU DEGRADABILITY***

GOKHAN SEN, MEHMET AKIF KARSLI, MEHMET BASALAN, ILKAY AYDOGAN,  
SERKAN ERAT

Kırıkkale University

[gokhansen@kku.edu.tr](mailto:gokhansen@kku.edu.tr)

The aim of this study was to determine the silage quality criteria and in site degradabilities of silages prepared with addition of grape pomace into Sorghum-sudan grass or alfalfa as rapid fermentable carbohydrate source. Grape pomace obtained at the region was ensiled with Sorghum-sudan grass or alfalfa grown at Keskin Yem Bitkileri Üretim ve İşleme Tesisleri at same period at the levels of 0, 10, 20 and 40%. Glass jars (1L) were used for ensiling of silages. Four silage samples were prepared for each treatment groups. After 45 days of ensiling, silage samples were opened and physical evaluation based on color, appearance and odor, NFE score, organic acid, nutrient contents, and in situ degradation levels were determined. Among silage quality criteria, NFE score and quality score based on physical features were higher in Sorghum-sudan grass silages compared with those of alfalfa silages. Addition of grape pomace improved silage quality in alfalfa silages, were only effective at 40% level in Sorghum-sudan grass silage ( $P<0.05$ ). pH and volatile fatty acids, among silage fermentation parameter, were different between Sorghum-sudan grass and alfalfa silages ( $P<0.05$ ). Grape pomace caused only an increase in pH of Sorghum-sudan grass silages, it significantly reduced pH and acetic acid levels of alfalfa silages ( $P<0.05$ ). Nutrient contents of Sorghum-sudan grass and alfalfa silages were different, except ADF content ( $P<0.05$ ). While addition of grape pomace increased ADF and HP contents of Sorghum-sudan grass silages and OM content of alfalfa silages, it caused a decrease at crude protein content of alfalfa silages ( $P<0.05$ ). in situ OM degradation levels were similar, but NDF and ADF degradation levels were higher in Sorghum-sudan grass silages ( $P<0.01$ ). Addition of grape pomace decreased OM degradations in both forage species, and NDF and ADF degradation levels only in alfalfa silages ( $P<0.05$ ).

In conclusion, grape pomace can be added into legume silages such as alfalfa up to 40% to improve silage quality and to be able to utilize grape pomace as forage insipid of some negative effects of grape pomace.

**Keywords:** Silage, Sorghum-Sudan Grass, Alfalfa, Grape Pomace, in Situ Degradation

## **INVESTIGATION OF ESCHERICHIA COLI O157:H7 BY IMS-PCR TECNQUES IN SLAUGHTERED CATTLE IN KAHRAMANMARAŞ PROVINCE**

---

NURHAN ERTAŞ ONMAZ, SABRİ DATLI

Erciyes University, Veterinary Faculty, Department of Food Hygiene and Technology

[nertas@erciyes.edu.tr](mailto:nertas@erciyes.edu.tr)

**Aim:** This study was conducted to investigate the presence of *Escherichia coli* O157:H7 and to detect its virulence genes, including; stx1, stx2, eaeA and ehlyA, on cattle carcasses, intestinal contents and swabs from environmental samples (conveyors, knives, aprons, saws, hooks, hands) in a beef slaughterhouse in Kahramanmaraş, Turkey. **Material and Methods:** A total of 200 samples, collected from commercial abattoirs, were examined for the presence of *E. coli* O157:H7 by enrichment/immunomagnetic separation (IMS) with plating of recovered immunobeads onto CHROM agar with cefixime and tellurite. Suspicious *E. coli* O157:H7 colonies were analysed with anti-O157 and H7 antisera and were confirmed by (Polymerase Chain Reaction) PCR targeting a range of genes including; rfbO157, fliCH7 stx1, stx2, eaeA and ehylA region of bacteria. **Results:** in the study, *E. coli* O157 isolated from 1(2%) of intestinal content samples. *E. coli* O157:H7 was detected in 2 (4%) and 2 (4%) of intestinal content and carcass samples, respectively. All isolates contained stx1, stx2, eaeA and ehylA genes. **Conclusion:** in conclusion, the result of this study suggested that cattle are an important reservoir of *E. coli* O157. Carcasses might be contaminated with feces during the slaughter of cattle. This constitutes a potential risk to human health. It might lead to outbreaks of human infections due to containing stx1, stx2, eaeA and ehylA genes.

**Keywords:** Cattle, Cross-Contamination, *E. coli* O157:H7, Slaughterhouse, Virulence Genes.



## **ZINC RESPONSIVE NASAL DERMATOSIS IN A GREAT DANUA: A CASE REPORT**

---

FULYA ALTINOK YİPEL

Namık Kemal Univ., Faculty of Veterinary Medicine, Department of Internal Medicine,  
59030, Tekirdağ, TURKEY

[fulyip@hotmail.com](mailto:fulyip@hotmail.com)

Zinc-responsive dermatosis can occur in dogs due to the lack in the diet or inadequate absorption in the intestines of zinc. A 4-year-old female Great Danua with crust on nose and interdigital redness was presented to the clinic. Knowledge of the applied various treatments (anti-parasitic, anti-bacterial, anti-fungal) and diet elimination against to allergy doubt was reached in the history however all of them were failed. Serum zinc level was measured. Taking in to account the macroscopically determined nasal parakeratosis and decrease in serum zinc level, balanced diet and oral zinc supplementation (10 mg / kg / day PO) was performed. It was observed that the clinical signs decreased within 3 weeks after received oral zinc supplementation, and of dermatological lesions completely treated 2 months later in the control. As a result, although zinc sensitive dermatosis are usually seen in SiberianHusky and AlaskanMalamute, it should be taken in to account that the Great Dane is also predisposed and oral zinc supplementation may be necessary.

**Keywords:** Nasal Dermatitis, Zinc, Great Danua

**Acknowledgements:** *Presentation of this study is supported by Scientific Activities Support Program of Namık Kemal University*

## **MULTI-CLASSES ANTIBIOTIC RESIDUE DETERMINATION IN CHICKEN MEAT SAMPLES BY LIQUID CHROMATOGRAPHY-MASS SPECTROMETRY**

MUSTAFA YIPEL<sup>a</sup>, İBRAHİM OZAN TEKELİ<sup>b</sup>, CEMİL KÜREKÇİ<sup>c</sup>

<sup>a</sup> Namık Kemal University, Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology, 59030 Tekirdağ, Turkey

<sup>b</sup> Mustafa Kemal University, Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology, 31060 Hatay, Turkey

<sup>c</sup> Mustafa Kemal University, Faculty of Veterinary Medicine, Department of Food Hygiene and Technology, 31060 Hatay, Turkey

[musyip@hotmail.com](mailto:musyip@hotmail.com)

Food quality and safety issues are of great interest to consumers due to the potential health hazards. One of the most important food safety problems is the chemical contaminants, particularly antibiotics, in foods of animal origins. Hence, the usage of antibiotics as growth promotion agent in livestock was banned in 2006, in Turkey. The main objective of this study was to examine the presence of 37 antibiotic agents, including these classified as clinically important for humans, in chicken meat samples, for which consumers recently paid a great attention due to appearance of information in the media. A total of 25 raw chicken meat samples (breast) were collected from retail sellers in five provinces (Adana, Gaziantep, Hatay, Mersin and Osmaniye) in Turkey. Liquid chromatography coupled with tandem mass spectrometry (LC-MS/MS) was used to determine multi antibiotic residue in samples. As a result of the current study, no antibiotic residue was detected in any of the analyzed chicken samples. Consequently, it can be said that LC-MS/MS is an important tool for the determination of multi-classes antibiotic residue in animal tissue samples. Finally, chicken meats sold in the abovementioned cities do not pose any public health risk in terms of antibiotic residues since none of the analyzed antibiotics were found. However, antibiotic residues in food of animal origins have to be monitored regularly.

**Keywords:** Antibiotic Residue, Chicken, Food Safety, LC-MS/MS, Public Health

**Acknowledgements:** Presentation of this study is supported by Scientific Activities Support Program of Namık Kemal University

## **SOCIOECONOMIC IMPLICATIONS OF BIOSECURITY PRACTICES IN SMALL-SCALE DAIRY FARMS**

---

MEHMET FERIT CAN<sup>a</sup>, NURI ALTUĞ<sup>b</sup>

<sup>a</sup> Mustafa Kemal University, Faculty of Veterinary Medicine, Department of Animal Health Economics and Management, Hatay, Turkey

<sup>b</sup> Namık Kemal University, Faculty of Veterinary Medicine, Department of Internal Medicine, Tekirdağ, Turkey

[nurialtug@gmail.com](mailto:nurialtug@gmail.com)

Biosecurity plays a crucial role in preventing contagious diseases and in increasing farm productivity. In the study, it was aimed to determine technical and economic biosecurity scores of farms, and to investigate the relationship between biosecurity practices (BP) and socioeconomic characteristics of producers. The study was conducted on a total of 50 small-scale dairy farms that were randomly selected in Hatay, Turkey. A checklist consisting of 19 biosecurity practices was addressed to the farms. The technical and economic scoring systems were developed by the authors according to presence and cost of each of the biosecurity practices. The means of the technical and economic scores were found to be 9.30 and 17.04, respectively. 'Treatment of sick animals' (98%), 'vaccination against the most common contagious diseases' (90%), and 'barn lime' (86%) were found to be the most commonly used applications. 'Testing for the most common contagious diseases before buying' (10%) was used at the lowest rate. Significant differences were found among the groups regarding education level ( $p<.05$ ), income class ( $p<.05$ ), and herd size ( $p<.01$ ). Biosecurity scores were significantly positively correlated with herd size ( $p<.05$ ) and producers' education level ( $p<.01$ ). There were statistically significant associations between the producers' socioeconomic characteristics and some of the biosecurity practices. Training programs should be arranged to change the attitudes and perception of small-scale producers concerning poor biosecurity practices. In order to encourage producers to increase biosecurity scores, regulations regarding financial support and penalties could be quite useful at both the regional and national levels.

**Keywords:** Biosecurity, Economic, Farm, Producer, Score

**Acknowledgements:** Presentation of this study is supported by Scientific Activities Support Program of Namık Kemal University

**D-DIMER / FIBRINOGEN RATIO IN DOGS WITH EHRLICHIOSIS**

HASAN ERDOĞAN, SERDAR PAŞA, KEREM URAL, MEHMET GÜLTEKİN,  
YASİN PARLATIR, SONGÜL ERDOĞAN, CANBERK BALIKÇI

Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine, Işıklı,  
Aydın, TURKEY

[hasaner.09@gmail.com](mailto:hasaner.09@gmail.com)

Thromboembolism is one of the important problems affecting mortality levels in diseases with bleeding disorders. It is known that deep venous thrombosis and thromboembolism are formed in diseases such as Ehrlichiosis which may cause hemorrhagic disorder but advanced diagnostic techniques are needed for a precise diagnosis. In this study, the aim was to determine D-dimer / fibrinogen ratios by D-dimer test in mono-infected dogs with Ehrlichiosis. For this purpose, dogs presenting high fever, lymphadenopathy and anorexia to those of mono-infected with Ehrlichiosis as detected by point of care rapid ELISA test Snap 4Dx along with healthy ones (n = 10) as determined within clinical and laboratory evaluation. Enrolled dogs in the present study were subjected to withdrawal of a total of 5 ml EDTA and citrated blood samples from *V.cephalica antebrachi* in an attempt to calculate D-dimer / Fibrinogen ratio by use of D-dimer and Fibrinogen levels as detected by commercial test kits. D-dimer (3059.0-1074.4 ng/ml) and Fibrinogen (371.0-62.1 mg/dl) levels and D-dimer / Fibrinogen ratios (12.2-5.9) of mono-infected dogs with Ehrlichiosis were found significantly elevated (p <0.00) in contrast to healthy dogs. In conclusion, it was suggested that the ratio of D-dimer/Fibrinogen in dogs with Ehrlichiosis monoinfection even combined with advanced diagnostic techniques, might become a biomarker that can shed light on the diagnostic significance of veterinary field thromboembolisms.

**Keywords:** D-Dimer, D-Dimer/Fibrinogen Ratio, Dog, Ehrlichiosis, Thromboemboli

## ***ALTERNATIVE THERAPY METHODS IN WOUND HEALING***

---

**CANSU AKDOGAN, İBRAHİM AKIN**

Adnan Menderes University, Veterinary Faculty, Department of Surgery, Aydın, TURKEY

[cansuakdogan92@gmail.com](mailto:cansuakdogan92@gmail.com)

Treatment methods that have not been scientifically proven to be effective are called Alternative therapy methods. These therapies are mostly traditional knowledge-based. If scientific methods are not useful, varied Alternative therapy methods can be referred to for treatment. Access to these methods, whether it is a lack of common detailed information or an inability to remember, can sometimes be difficult. Thus, this study is aimed at improving the availability of Alternative therapy methods by classifying them and to be a resource for wounds not treated by scientific methods. Alternative therapy methods can be discussed under the Organic, Inorganic and Physical/Other titles and can be classified as follows:

1. Alternative therapy methods with Organic Matters

a) With herbal substances; Aloe vera extract, Sugar dressing, St. john's wort oil, Black seed oil, Juniper tar, Tea tree oil

b) With animal substances; Manuka honey, Amniotic membrane, Maggot therapy, Medicinal leech therapy, Platelet rich plasma using, Propolis, Colostrum, Omentum

2. Alternative therapy methods with inorganic Matter; Zeolite (clinoptilolite), Ozone therapy, Hyperbaric oxygen therapy,

3. Alternative therapy methods with Physical/Other methods; Acupuncture, Ultrasonic treatment, Electrotherapy, Laser therapy, Topical negative pressure treatment

If classical scientific methods have been used and there is still no macro or micro healing, Alternative therapy methods can be utilized. It is hoped that the collected and summarized information via this abstract will be helpful for these cases.

**Keywords:** Wound Healing, Alternative Therapy

## **REPAIR OF AN ORONASAL FISTULE USING ROTATIONAL FLAP TECHNIQUE**

RAHIME YAYGINGÜL<sup>a</sup> BÜŞRA KIBAR, NUH KILIÇ, CANSU AKDOĞAN

Adnan Menderes University, Veterinary Faculty, Department of Surgery, Aydın, TURKEY

[cansuakdogan92@gmail.com](mailto:cansuakdogan92@gmail.com)

Oronasal fistula is not an common problem in the canine. A fistula may also result from trauma (i.e., bite wounds, gunshot wounds, blunt trauma to the head, electrical burns) or may be a complication of surgery (e.g., mass excision or ventral rhinotomy), radiation, or hyperthermic treatment of oral lesions. Foreign bodies lodged between the dental arcades may cause pressure necrosis of the palate and subsequent development of an oronasal fistula. Ingested food that passes through the fistula into the nasal cavity may be expelled from the nostril by sneezing. Respiratory infection is common **The study was performed** on a 2.5 years old female dog with a body weight of 13.5 kg brought to the Surgery Clinic, Faculty of Veterinary Medicine, Adnan Menderes University for surgical treatment of an traumatic oronasal fistula. Following oral examination, the condition was diagnosed as an oronasal fistula in the area on the midline of the soft palate. Anesthesia was induced with 4.0 mg/kg propofol administered intravenously. The dog was intubated and cuff inflated. Anaesthesia was continued with Sevoflurane ® (2-4 MAC) inhalation. Rotational flap technique was used to repair the defect. Postoperatively, mouth disinfection was provided by using Crystalin® solution. Cefazolin (22 mg/kg/ 12 h intramuscular) was given for 7 post-operative days. Liquid diets for the first 10-15 days, then soft food feeding were recommended. **In conclusion**, this case report describes the successful surgical treatment with rotational flap technique of oronasal fistula in dogs.

**Keywords:** Oronasal Fistule, Dog, Rotational Flap Technique, Soft Palate.

**MICROALBUMINURIA DUE TO DIFFERENT DISEASES AMONG DOGS**

SERDAR PAŞA<sup>a</sup>, KEREM URAL<sup>a</sup>, NUH KILIÇ<sup>b</sup>, HASAN ERDOĞAN<sup>a</sup>,  
MEHMET GÜLTEKİN<sup>a</sup>, SONGÜL ERDOĞAN<sup>a</sup>, YASİN PARLATIR<sup>a</sup>

<sup>a</sup> Department of Internal Medicine, Faculty of Veterinary, Adnan Menderes University

<sup>b</sup> Department of Surgery, Faculty of Veterinary, Adnan Menderes University

[spasa@adu.edu.tr](mailto:spasa@adu.edu.tr)

**in the present study**, the aim was to evaluate microalbuminuria due to different diseases among dogs. in this context, a total of 64 dogs were enrolled to those of different diseased study. All dogs, based on clinical examination, laboratory and imaging findings were subdivided into 4 groups (infection, trauma, cardiovascular diseases and neoplasia). Demographic questionnaire involving data such as breed, age and gender were filled for each dogs. Ten ml of urine were collected from different diseases dogs with catheterization method. Urine samples withdrawn from all dogs were measured to determine existing and rating of microalbuminuria and albumin/creatinine by “Healty Mate Vet 2AC” commercial urine test kits. Microalbuminuria in urinalysis revealed 59 of 64 dogs showing positive result and the other 5 of 64 dogs showed negative result in dogs which have different diseases by urine stick test. Interestingly 17 out of 19 dogs with trauma revealed microalbuminuria. Twenty one out 22 dogs with infectious disease, 13 out of 15 dogs with cardiovascular events, and 8 of all dogs with neoplasia showed microalbuminuria. Indeed, it was detected that age did not influence microalbuminuria in the present study. At the same time, it was detected that in correlation with the severity of diseases, elevated microalbuminuria levels were evident. in conclusion it may be suggested that microalbuminuria is an appropriate parameter understanding in routine clinical practice at different diseases among dog especially for determining early renal disorders and prognosis of disease. Besides by early diagnosis of microalbuminuria at critical diseased dogs with renal disorders could have helped better expectancy for life time and life quality.

**Keywords:** Dog, Infection, Trauma, Cardiovascular Diseases, Neoplasia, Microalbuminuria



***CURRENT CONDITINS AND ANIMAL FEEDING PRACTICES OF  
FEEDLOT ENTERPRISES PRESENT IN ANKARA ÇANKIRI ÇORUM  
KIRIKKALE AND KIRŞEHİR***

---

**MEHMET AKIF KARSLI<sup>a</sup>, UĞUR ÖDEVCI<sup>b</sup>**

<sup>a</sup> Department of Anial Nutriton, Veterinary Faculty, Kırıkkale University

<sup>b</sup> Hayvancılık Genel Müdürlüğü, Ankara

[mehmetakifkarsli@hotmail.com](mailto:mehmetakifkarsli@hotmail.com)

The aim of this study was to determine general conditions of small and big scale feedlot enterprises present at 5 provinces (Ankara, Çankırı, Çorum, Kırşehir and Kırıkkale) in Central-Anatolia region. For this purpose, these feedlot enterprises were evaluated by using a survey containing questions about general conditions of barns, obtaining of materials and marketing methods, feeding and animal-care practices, nutrient compositions of forages and concentrate feedstuffs used in the region, satisfaction of farmers by doing their job, and factors hardening their productiveness and each of these above parameters obtained for each province were also compared with those of the others. in conclusion, when the feedlot farmers were evaluated it was noted that the scale of feedlots and education level of farmers increased. Thus, the use of knowledge and technology among farmers and infra structures of barn improved. Farmers complained about a total of 15 problems that made their job difficult. Among these problems, the cost of feed was the number one.

**Keywords:** Feedlot Enterprises, Cental-Anatolia Region.

**EPIGENETICS AND ITS APPLICATIONS IN LIVESTOCK**

---

MUSTAFA CAN YILMAZ<sup>a</sup>, RAZIYE IŞIK<sup>b</sup>, GÜLDEHEN BILGEN<sup>a</sup><sup>a</sup> Ege University<sup>b</sup> Namık Kemal University[mustafa.can.yilmaz@ege.edu.tr](mailto:mustafa.can.yilmaz@ege.edu.tr)

Epigenetics is based on regulation of gene expression via mechanisms free from altering the sequence of DNA. Epigenetic changes include DNA methylation, genomic imprinting, histone modifications, chromatin remodeling and non-coding RNA regulation are induced by environmental effects and they are potentially inheritable. in animal genetic and breeding studies, epigenetics takes an important place of understanding how environmental factors affect traits of economic importance including development, health, fertility and behaviour. Epigenetic modifications can alter the quality and quantity of commercially important traits in livestock such as carcass and milk yield, marbling in meat, fat and protein yield in meat and milk. in recent years, due to the rapid development of molecular technologies and bioinformatic tools, applications of epigenetics in animal science studies have become more practicable and popular. in this review, we discussed the effects of epigenetic mechanisms on economic traits in livestock along with present and potential applications of epigenetics in animal breeding and selection.

**Keywords:** Epigenetics, Modifications, Inheritance, Livestock, Animal Breeding

## INVESTIGATION OF SOME AGENTS CAUSING DIARRHEA IN RUMINANTS IN MID-ANATOLIA

SABRI HACIOGLU<sup>a</sup>, SIRIN G. CIZMECI<sup>a</sup>, RAHIME ADALET DUYUM<sup>a</sup>,  
MUNEVVER UZAR<sup>a</sup>, ILKE KARAYEL HACIOGLU<sup>b</sup>

<sup>a</sup> Etlik Veterinary Control Central Research Institute

<sup>b</sup> Ankara University, Faculty of Veterinary Medicine, Department of Virology

[saabrii@hotmail.com](mailto:saabrii@hotmail.com)

Diarrhea in young ruminants is a common disease and an important worldwide problem in ruminant breeding. Rotaviruses are one of the major etiological agents associated with dehydration in calves, followed by Coronaviruses, *Cryptosporidium spp.*, *E. coli* K99, *Salmonella spp.*, etc. The onset of the disease varies individually, while some of them suffer from acute dehydration and death, others suffer from sub-acute forms with malnutrition that lasts for several days. Co-infection with more than one pathogen is common and often worsen the symptoms. **in this study**, a total of 47 samples (feces from 8 diarrheic calves, 30 intestinal contents of calves and 9 intestinal contents of lambs) were investigated for *Rotavirus*, *Coronavirus*, *E.coli* and *Cryptosporidium spp.* between October 2016 and May 2017. The samples were sent to Etlik Veterinary Central Research Institute Virology laboratory from Ankara, Cankiri, Yozgat, Kastamonu and Bolu provinces in Turkey. Firstly, the samples tested by ELISA kits according to the manufacturer's instructions. **6 samples** for *Rotavirus*, 1 sample for *Coronavirus*, 1 sample for *E.coli* and 6 samples for *Cryptosporidium spp.* were found positive. 2 feces found positive for *Rotavirus* and one of them coinfecting with *Cryptosporidium spp.* Also *Coronavirus* was found from one of the intestinal content coinfecting with *Cryptosporidium spp.* too. The positive *Rotavirus* samples were extracted by QIAamp Cador Pathogen Mini Kit and RT-PCR was performed using the primers targeting VP7 gene. After that, PCR products were sequenced and phylogenetic tree was constructed. **The detection of these agents** and their molecular characterizations are important for a successful control and eradication programme. Especially molecular characterizations of *Rotaviruses* are crucial for the selection of vaccine. If vaccine genotype different from circulating genotype in the area, a successful protection will not be achieved consequently mortality rate may increase.

**Keywords:** Diarrhea, *Rotavirus*, *Coronavirus*, *Cryptosporidium Spp*, *E coli*

## **MILK YIELD AND SOME UDDER MEASUREMENT OF SAANEN GOAT IN PROVINCE OF AFYONKARAHISAR-TURKEY**

---

FATMA TÜLİN ÖZBAŞER<sup>a</sup>, FATİH ATASOY<sup>b</sup>, EVREN ERDEM<sup>c</sup>

<sup>a</sup> Namık Kemal University

<sup>b</sup> Ankara University

<sup>c</sup> Kırıkkale University

[ftulin@gmail.com](mailto:ftulin@gmail.com)

**The aim of the study** was to determine some udder traits, milk production and body condition in Saanen goat kept under intensive conditions. The animal material was 87 on first period and 70 pregnant goat on second period that reared on a private farm in Afyonkarahisar. Lactation milk yield of 150 days in consecutive period was 204.06 and 355.80 kg respectively. It observed that the effect of birth type was not significant, while the effect of year and doe age **were significant** ( $P < 0.001$ ) in milk production during lactation periods. The type 3 (% 56.86) udder was observed much more than other types. The means of BCS was detected as 3.41 at 30; 3.74 at 90 and 3.68 at 150 days. **In conclusion**, the lactation milk yields and BCS of Saanen goats were higher than other studies, espacially at the second term, in Turkey.

**Keywords:** Goat, Saanen, Udder Measurement, Milk Yield

**Acknowledgements:** *This study is supported by Scientific Activities Support program of Namık Kemal University*

## ***SMALL RUMINANT BREEDING IN MERSİN***

---

**BANU YÜCEER ÖZKUL<sup>a</sup>, ÖZGÜR GÜNDÜZ<sup>b</sup>**

<sup>a</sup> Ankara University, Faculty of Veterinary Medicine, Dept.of Animal Husbandry, Ankara

<sup>b</sup> Gündüz Veterinary Clinic, Mersin

[yuceerbanu@hotmail.com](mailto:yuceerbanu@hotmail.com)

**This study aims to** examine that raise sheep and/or goat around Mersin region. in Turkey raising sheep and goats is usually done with domestic races in an extensive condition. There is a similar situation in Mersin as well. The sheep and goats being raised in this region include generally pure and crossbred Akkaraman, Morkaraman, Ivesi, Hamdani, Herik and Merinos sheep, and Kıl, Halep, Kilis and Saanen goats. These animals are usually taken to flatlands as the weather warms up and raised in a pasture based extensive conditions.

**Keywords:** Extensive, Goat, Mersin, Sheep

## **REPAIRING OF FRONTAL BONE DEFECT DUE TO SINUS MUCOCELE WITH TITANIUM MESH IN A DOG**

---

PINAR CAN<sup>a</sup>, OZKAY NASIBOGLU<sup>b</sup>, OMER BESALTI<sup>b</sup>

<sup>a</sup> Ankara University, Faculty of Veterinary Medicine, Department of Surgery

[c\\_pnar@yahoo.com](mailto:c_pnar@yahoo.com)

Sinus mucocèles represent complete opacification of one or more paranasal sinuses by mucus, often associated with bony expansion due to obstruction of the nasal sinus drainage. When the sinus expands due to mucus accumulation, bone destruction can occur. A 13-months-old-neutered female mix breed dog was referred to clinic with 2 months history of progressive swelling of frontal areas, epiphora, nasal dyspnea, sneezing and mild exophthalmos of both sides. **in clinical examination** swelling of frontal area and exophthalmos were present. In MR images, retained secretions caudally in frontal sinuses in both T1 and T2 weighted images and destruction of frontal bone bilaterally were determined. An incision to midline of the frontal to nasal area was performed, there were several sacs filled with mucus were observed. The connections between nasal passages and sinuses were obstructed, drainage of the sinuses with nasal passage was ensured with a drill. Titanium mesh was applied on bone defect and fixed with cerclage wires. Gauze drains which rifampicine and bupivacain HCl-impregnated were placed into the both nasal cavities. **The drains** were removed at postoperative 3th day. Clinical signs were completely resolved 15 days after operation. None of the clinical signs have been occurred within 10 months of follow up period. The titanium mesh was seen stable in control x-rays. Titanium mesh was found easy to apply and **should be consider** for repairing of frontal bone defects.

**Keywords:** Sinus Mucocèle, Titanium Mesh, Dog, Bone Defect

## **FISH MEATBALL FROM BY-PRODUCT OF SEA BASS (*DICENTRARCHUS LABRAX* L. 1758) FILLET PROCESSING**

DEMET KARA, YUNUS ALPARSLAN, CANSU METİN,  
HATİCE HASANHOCAOĞLU YAPICI, TAÇNUR BAYGAR

Department of Seafood Processing Technology, Faculty of Fisheries, Mugla Sıtkı Kocman  
University

[baygar@mu.edu.tr](mailto:baygar@mu.edu.tr)

Processing of raw foods into food products naturally generates by-products. One of the typical example is commercial fish filleting. Utilization of processing by-products is considered to be more important for the economic viability of the aquatic foods industry than most other food processing industries. By-product of sea bass fillet processing has been evaluated as fish meatball in this study. Four different kinds of meatballs were prepared as and analyzed throughout the storage period of 12 days. The groups were named as; Control (A), Croquet (B), Hamburger (C) and Meat and Rice Croquet (D). Sensorial, chemical, physical and microbiological analyses were done. Hamburger meatball was the most appreciated meatball by panellists while Meat and Rice Croquet was the less appreciated kind. pH ratios of the samples remained below the acceptable limit values. Hamburger meatball had  $23,35 \pm 2,35$  mg/100g TVB-N value that proved its freshness. Croquet and Hamburger meatballs were classified as good because of their TBA values which were below 3. Microbiological analysis revealed out that total viable and psychrotrophic bacteria load of Control, Croquet and Meat and Rice Croquet meatballs reached the limit value at 3rd day while Hamburger meatball reached at 6th day of the storage. It is concluded that Meat and Rice Croquet meatball from by-product of sea bass fillet processing were consumable till the 6th day of refrigerated storage while the Control, Croquet and Hamburger meatballs were consumable till the 3rd day of refrigerated storage.

**Keywords:** Sea Bass, Fillet, By-Product, Meatball

**Acknowledgement:** This work is summarized from Ms. C. of Demet KARA and supported by Muğla Sıtkı Koçman University Scientific Research Projects Coordination Unit with project number 2013/173.



## ***AN UNUSUAL BRACHIAL PLEXUS NERVE SHEATH TUMOR IN A DOG***

PINAR CAN<sup>a</sup>, TUNCER KUTLU<sup>b</sup>, OSMAN KUTSAL<sup>b</sup>, OMER BESALTI<sup>a</sup>

<sup>a</sup> Ankara University Faculty of Veterinary Medicine Department of Surgery

<sup>b</sup> Ankara University Faculty of Veterinary Medicine Department of Pathology

[c\\_pnar@yahoo.com](mailto:c_pnar@yahoo.com)

Eight years old neutered male German Shepherd Dog was presented with a history of progressive mass on the axillar region of the left thoracic limb. Biopsy had been taken by the referral veterinary clinic and rhabdomyosarcoma had been diagnosed. in clinical examination a big mass was present on axillary region and dog had pain at palpation. There is no neurological abnormality in the left thoracic limb and the dog had weightbearing on the limb, however abduction of the limb during walking and also standing was remarkable in physical examination. in CT images, a mass arising from caudal 1/3 of neck, to the left side of the trachea and extends dorsally to intervertebral foramens, ventrally to sternum and caudally to level of 5th costa was observed. The mass was isodens with muscles. No bony involvement and pulmonary invasion were detected. in operation it was not possible to spare the limb because of the tumor size and inclusion of all the brachial plexus' nerves and nerve roots. The mass was removed and forequarter amputation was performed. The dog well tolerated the operation. There was no signs of recurrence until 2nd month postoperatively. in macroscopic evaluation of the tumor; costal face of scapula of extremity and jugular region, with a size of 25x25x10 cm and 20x10x3 cm, respectively, limited, solid mass which can be easily fragmented and light reddish-white in color were seen. Tissue samples fixed in 10 % formalin and embedded in paraffin and sectioned in 4µm thickness were stained with hematoxylin and eosine (HE) and Masson's trichrom. PNST was diagnosed histopathologically. PNSTs are the malignant neoplasms of the peripheral nerves and there may be no neurologically clin signs in some cases. Radical limb amputation can be suggested in those kind of cases.

**Keywords:** Nerve Sheat Tumor, Brachial Plexus, Dog

## **CANDIDATE GENES RELATED WITH MEAT QUALITY IN SMALL RUMINANTS**

RAZİYE IŞIK<sup>a</sup>, MUSTAFA CAN YILMAZ<sup>b</sup>, GÜLDEHEN BILGEN<sup>b</sup>

<sup>a</sup> Namık Kemal University

<sup>b</sup> Ege University

[risik@nku.edu.tr](mailto:risik@nku.edu.tr)

Sheep and goat meat industry has a significant share in the global animal protein market. From the point of consumers, meat quality has a great importance most commonly in terms of tenderness and flavoursome. With regard to industrial perspective, colour, pH, water holding capacity, cooking losses, tenderness, marbling, chemical composition, fatty acid composition can be respected as important features of meat quality. Many candidate genes were determined to have effects on meat quality traits in small ruminants such as calpastatin (CAST), insulin-like growth factor I (IGF-I), callipyge (CLPG), myostatin (MSTN) and FABP4 gene (fatty acid binding protein 4). Calpastatin is a specific inhibitor of calpains that has a role in cell spreading, migration, proliferation and apoptosis. CAST has a major effect on muscle growth and meat tenderness after slaughter because of inhibits the calpain activity in post-mortem tissue. IGF-I was found to have a significant effect on foreshank weight, external fatness of carcass, drip loss and subjective assessment of meat colour. Also, it tended to be associated with longissimus dorsi muscle width and flavour. Callipyge gene is caused muscular hypertrophy that is a notable in the muscles of the pelvic limb in sheep and affects tenderness of meat. MSTN is associated with double muscling of carcasses. MSTN not only causes to produce more meat but also leaner and tenderer meat. FABP4 gene encodes the fatty acid binding protein which binds and transports long-chain fatty acids and it is related with intramuscular fat level, tenderness and marbling of the longissimus dorsi muscle. in this review, the association of genes with meat quality features that affected by many quantitative trait loci will be summarized.

**Keywords:** Meat Quality, Candidate Genes, Small Ruminants

## **PHOSPHODIESTERASE-5 INHIBITION WITH NANOPARTICLES IMPROVE THE LEVELS OF ANGIOGENIC GENES IN A RAT DIABETIC WOUND HEALING MODEL**

ALPARSLAN KADIR DEVRIM<sup>a</sup>, MAHMUT SÖZMEN<sup>b</sup>, MERT SUDAĞIDAN<sup>c</sup>,  
ZELIHAGUL DEĞİM<sup>d</sup>

<sup>a</sup> Department of Biochemistry, Faculty of Veterinary Medicine, Kırıkkale University

<sup>b</sup> Department of Pathology, Faculty of Veterinary Medicine, Ondokuz Mayıs University

<sup>c</sup> Sargem Laboratories, Konya Food and Agriculture University

<sup>d</sup> Pharmaceutical Technology Department, Faculty of Pharmacy, Gazi University

[akdevrim@hotmail.com](mailto:akdevrim@hotmail.com)

The purpose of the present study was to determine healing effects of tadalafil nanoparticle ointment (TNO), an efficient phosphodiesterase type-5 inhibitor on experimental rat model of diabetic wound. For this purpose, levels of vascular endothelial growth factor-A (VEGF-A), angiopoietin (ANGPT), fibroblast growth factor-2 (FGF-2) and transforming growth factor- $\beta$ 1 (TGF- $\beta$ 1) were investigated in the diabetic scar tissues. Additionally a panel of 84 angiogenic genes were screened between the groups. Investigations were performed on a total of 70 rats including 10 in each group. Diabetes mellitus was induced by the i.p. injection of 50 mg/kg of streptozotocin. The punch biopsy wounds were created in dorsal region of the rats. Scar tissues were taken from animals which were sacrificed on the post-operative 14th day and they were used for histopathology, immunohistochemistry and Real-Time PCR analyses. Likewise, serum activities of aspartate transaminase (AST), alanine transaminase (ALT) and alkaline phosphatase (ALP) were determined. Serum ALT, AST and ALP levels were elevated in diabetes induced groups. Re-epithelialization and healing rate were more significant in the TNO applied groups. TNO application induced significantly TGF- $\beta$ 1 protein secretion, especially in the non-diabetic groups. Between TNO applied groups, a relatively high gene expression level of ANGPT-2 was monitored in the group of diabetic wound, compared to non-diabetic wound group. The expression of FGF-2 gene increased in TNO administered wound groups. In non-diabetic TNO group, TGF- $\beta$ 1 expression was decreased. Higher VEGF-A gene expression levels were determined in TNO applied diabetic wound group. In conclusion, due to the metabolism of diabetic scar tissue, higher ANGPT-2 and VEGF-A levels were determined in diabetes induced groups. TNO exerted ameliorative effects on the organization of granulation tissue by inducing angiogenic cytokines in TNO applied groups.

**Keywords:** Diabetic Wound, Angiogenic Genes, Phosphodiesterase Type-5 Inhibition, Tadalafil, Nanoparticle Ointment.

**Acknowledgements:** Our deepest gratitude is extended to Turkish Scientific and Technological Research Council - TUBITAK (Project No: 113O510) for financing this study.

## ANTIFUNGAL POTENTIAL OF CARVACROL AGAINST CANDIDA ALBICANS AND CANDIDA TROPICALIS

AYSEL UĞUR<sup>a</sup>, TUBA BAYGAR<sup>b</sup>, NURDAN SARAÇ<sup>c</sup>, TAÇNUR BAYGAR<sup>d</sup>, SEHER SARIDAŞ<sup>e</sup>

<sup>a</sup> Section of Medical Microbiology, Department of Basic Sciences, Faculty of Dentistry, Gazi University

<sup>b</sup> Research Laboratories Center, Mugla Sıtkı Koçman University

<sup>c</sup> Department of Biology, Faculty of Science, Mugla Sıtkı Koçman University

<sup>d</sup> Department of Seafood Processing Technology, Faculty of Fisheries, Mugla Sıtkı Koçman University

<sup>e</sup> Department of Biology, Faculty of Science, Mugla Sıtkı Koçman University

[baygar@mu.edu.tr](mailto:baygar@mu.edu.tr)

For animals, systemic candidiasis is an opportunistic infection caused by *Candida* species. *C. albicans* is a commensal inhabitant of the of many species of animals and is opportunistic in causing disease in immunocompromised patients. Candidiasis is a localized mucocutaneous infectious disease caused by species of the *Candida*, most commonly *C. albicans*. It is distributed worldwide in a variety of animals. *C. albicans* is considered to be the most pathogenic species of the genus, but *C. tropicalis* is also capable of expressing many virulence factors, including hydrolytic enzymes such as aspartyl proteases, phospholipases and lipases. It shows filamentation and biofilm formation and adhere to host tissues, especially mucous membranes and biomedical devices. In this study, anti-candidal potential of carvacrol against *C. albicans* ATCC 10239 and *C. tropicalis* ATCC 750 were investigated. Antimicrobial activity of carvacrol was initially determined by disc diffusion method against *C. albicans* and *C. tropicalis*. Minimum Inhibition Concentration (MIC) and Minimum Lethal Concentration (MLC) were also determined by tube dilution assay. Antibiofilm activity of carvacrol was investigated by crystal violet staining and monitored by Scanning Electron Microscopy (SEM). Zone of inhibition measurements were found to be 52 mm and 45 mm for *C. albicans* and *C. tropicalis*, respectively. MIC and MLC values were found to be 0.625 mg/mL for *C. albicans* while these were 0.156 mg/mL and 0.312 mg/mL for *C. tropicalis*, respectively. The highest antibiofilm activity was found to be 86.92 % for MIC of carvacrol against *C. albicans*. The results demonstrated that carvacrol is a naturopathic active drug against *Candida* species and may be potentially used for pharmaceutical applications as an alternative to antifungal agents.

**Keywords:** Carvacrol, Antimicrobial, Antibiofilm, *Candida*.

## ***SURGERY OF THE SKIN AND ADNEXAL TISSUES IN CAMELS***

---

NUH KILIC<sup>a</sup>, BÜŞRA KIBAR<sup>a</sup>, SERDAR PASA<sup>b</sup>, KEREM URAL<sup>b</sup>

<sup>a</sup> University of Adnan Menderes Faculty of Veterinary Medicine Department of Surgery

<sup>b</sup> University of Adnan Menderes Faculty of Veterinary Medicine Department of Internal Medicine

[b.busrakibar@gmail.com](mailto:b.busrakibar@gmail.com)

in the present study, the most common diseases and related operations in the skin and subcutaneous tissue are emphasized. The following conditions possess significance as follows; injury to the nostrils, fistula of the hump and withers, dermoid cysts, abscesses, hernia, amputation of tail, udder amputation, teat fistule, infectious lymphadenitis, punctured foot an avulsion of the food pad. Nostrils often get lacerated to a variable length and different directions due to violent pulling of nose-strings by the owners in a bid control vicious animals. The hump of the camel contains most of the body fat and a well developed hump is a sign of good health. Dermoid cysts commonly occur in the jugular groove and cysts do not normally disturb the animal and the surgery is done for cosmetic reasons in the show animals. Abscesses have quite commonly been noticed in the camels, particularly in the black ones and may develop on any part of the body. Superficial abscesses may drain spontaneously but the deep abscesses seldom drain to the body surface and need to be drained surgically. As the line of treatment of the abscesses any where on the body surface is practically the same, a general discussion is being given instead of dealing with the individual abscess sites. Total or half udder amputation is indicated in cases of udder fibrosis with or without purulent sinus tracts. in some cases, the udder tissue becomes gangrenous as a sequel to untreated mastitis. The punctured foot, as the name indicates is a condition in which the solar surface of the foot is penetrated by some sharp objects leading to infection and formation of sinuses through the foot pad. in summary, the diseases and complications that occur are common in the camels and the treatment usually requires operative intervention.

**Keywords:** Camel, Skin, Fistula, Cyst Dermoid, Abscess

# **IMMUNOHISTOCHEMICAL EXPRESSION OF ATRIAL- AND BRAIN NATRIURETIC PEPTIDE IN ANATOLIAN GROUND SQUIRREL (*SPERMOPHILUS XANTHOPRYMNUS*) KIDNEY AND LUNG**

MUSTAFA ÖZTOP<sup>a</sup>, MEHMET ÖZBEK<sup>b</sup>, FEYZULLAH BEYAZ<sup>c</sup>, EMEL ERGÜN<sup>d</sup>,  
LEVENT ERGÜN<sup>d</sup>, ERGÜL ERGEN<sup>c</sup>, FÜSUN ERHAN<sup>d</sup>

<sup>a</sup> Mehmet Akif Ersoy University, Faculty of Science and Art, Department of Biology, Burdur

<sup>b</sup> Mehmet Akif Ersoy University, Faculty of Veterinary Medicine, Department of Histology and Embryology, Burdur

<sup>c</sup> Erciyes University, Faculty of Veterinary Medicine, Department of Histology and Embryology, Kayseri

<sup>d</sup> Ankara University, Faculty of Veterinary Medicine, Department of Histology and Embryology

[mustafamalatya@gmail.com](mailto:mustafamalatya@gmail.com)

Natriuretic peptides are hormones considered to have played a key role in the regulation of cardiopulmonary and cardiorenal homeostasis. ANP is currently viewed as an important component in the physiological control of cardio-renal function, and its role may be regarded as a physiological factor counteracting. ANP and BNP increase renal blood flow and glomerular filtration rate, further optimizing renal function. ANP stimulates the dilation of pulmonary airways and blood vessels. Similarly, BNP also has a pulmonary vasodilatory effect. To our knowledge, there has been no report that investigates the distribution of these peptides in the squirrel kidney and lung. This study was carried out to examine the immunohistochemical expression of natriuretic peptides in Anatolian ground squirrel kidney and lung using the Streptavidin-Biotin Complex (Strept-ABC) method. in the kidney, immunohistochemistry revealed strong immunoreactivity for ANP in distal tubules, moderate in the glomerulus and weak in proximal tubules. on the other hand, the distal and proximal tubules and capillaries stained moderately to strongly with BNP. in the lung, ANP and BNP were expressed by blood smooth muscle cells and endothelial cells and respiratory bronchiole epithelial cells. in addition, alveolar macrophages and capillaries also stained strongly and weakly with BNP, respectively. The present data show that squirrel kidney and lung contain ANP and BNP, suggesting that these peptide hormones are locally produced by the kidney and lung and form the renal and pulmonary natriuretic peptide system. They may participate in the regional regulation of water and sodium transport and renal circulation in the kidney and play an important physiological role in pulmonary function by modulating the proliferation of pulmonary endothelial cells and smooth muscle cells.

**Keywords:** Natriuretic Peptides, ANP, BNP, Kidney, Lung, *Spermophilus Xanthoprymnus*



## **EFFECT OF ADDITION OF MEDIUM CHAIN FATTY ACIDS ON PERFORMANCE AND SOME BIOCHEMICAL PARAMETERS OF BROILER CHICKENS**

MEHMET DEMİRCİ, MEHMET BAŞALAN

Department of Animal Nutrition and Nutritional Diseases, Veterinary Faculty, Kırıkkale University

[m.demirci.kku@hotmail.com](mailto:m.demirci.kku@hotmail.com)

**In this study, it was aimed to** investigate the effects of the addition of medium-chain free fatty acids on the performance of broilers, some haematological and serum biochemical parameters and the effect on breast meat fatty acids profile. The study was conducted on a randomized trial design model, in which a total of 120 daily male broiler chicks (Ross 308®) will form 4 main groups of 30 individuals, one control and three trials. For the experimental groups, the basal ration was given for 42 days with the addition of caprylic (C8: 0), capric (C10: 0) and lauric (C12: 0) acids from medium chain fatty acids at 0.2% ratio. in the study, there was no significant difference ( $p > 0.05$ ) between groups in terms of total feed consumption, feed utilization rate, weight gain, mean weight, hot-cold carcass yield data. The lowest mortality rates were seen in the C8 and C10 groups ( $p < 0.05$ ). There was no significant difference between the internal organs in the liver, gall bladder, heart, spleen, pancreas, bursa fabricius, stomach, abdominal fat weights and carcass ratio ( $p > 0.05$ ). **There was no significant difference** ( $p > 0.05$ ) between the groups in terms of RBC, WBC, HCT, MCV, MCH and MCHC but hemoglobin values were higher in the C8 group than in the other groups ( $p < 0.05$ ). Serum biochemical parameters such as glucose, total protein, albumin, lipase, total cholesterol, HDL and LDL values were not significantly different between the experimental groups ( $p > 0.05$ ) but the triglyceride level was significantly lower in the experimental groups ( $p < 0.05$ ). Fatty acid profiles of breast meat were similar among the groups ( $p > 0.05$ ). As a result, it was concluded that the addition of 0.2% ratio of free caprylic, capric or lauric acids to broiler rations generally did not result in specific effects or significant differences between the groups (except some blood parameters) but with it, that applications it was not constituted adverse effects. **For demonstration that** the specific effects of these fatty acids being studied and the possible statistical differences between the groups, it may be meaningful to work with higher contribution rates and more subjects.

**Keywords:** Broiler, Capric Acid, Caprylic Acid, Lauric Acid, Medium-Chain Fatty Acids



## ***PRESURGICAL PREPARATIONS IN CAMELS***

---

NUH KILIC, BÜŞRA KIBAR, ÖZDE KANDEMİR, SELİM TEKİN

Adnan Menderes University, Veterinary Faculty, Department of Surgery, Aydın, TURKEY

[b.busrakibar@gmail.com](mailto:b.busrakibar@gmail.com)

Discuss some of the presurgical considerations that can affect the success of a procedure, including the physiological state and condition of the patient; predisposing factors for infection; and the limitations of the surgeon, facilities, and equipment. The methods of asepsis and antisepsis, different procedures with regard risk of infection and degree of contamination are important for success of the procedure. Suture materials, suture patterns, surgical instruments, operation room protocol and patients restraint and anesthesia are important steps for presurgical considerations. Sutures and ligatures are indispensable to maintain proper approximation of the tissues during any surgical procedure. The proper selection of the suture material for any operation carries the most importance, as a wrong selection will result in a failure endangering the life of the patient. The following are some of the points which should be kept in mind when selecting the suture material for a particular surgery. Development of good technique requires a knowledge and understanding of the rational mechanics involved in suturing. Many experienced investigators, even those that have performed surgeries for many years, have developed poor surgical technique. Suture is any strand of material used to approximate the tissue edges and give artificial support while the tissue heals naturally. in routine large animal surgical practice, only a limited number of instruments are used unless some particular surgical procedure is undertaken that requires some additional special instruments pertaining to that surgery. The camel; for all practical purposes, is classified as a semi domesticated animal; hence, physical restraint with or without slight sedation is necessary even in docile animals to carry out clinical examination and/or minor surgical manipulations

**Keywords:** Camel, Presurgery, Asepsis, Antisepsis, Suture.

## **PLANT ESSENTIAL OILS USED AGAINST AMERICAN FOULBROOD**

---

HIDAYET TUTUN<sup>a</sup>, SEDAT SEVIN<sup>b</sup>, ADNAN AYAN<sup>c</sup>

<sup>a</sup> Mehmet Akif Ersoy University, Veterinary Faculty, Department of Pharmacology and Toxicology

<sup>b</sup> Ankara University, Veterinary Faculty, Department of Pharmacology and Toxicology

<sup>c</sup> Adnan Menderes University, Veterinary Faculty, Department of Parasitology

[hidayettutun@hotmail.com](mailto:hidayettutun@hotmail.com)

Honeybee is always vulnerable to many diseases and sanitary factors. American foulbrood (AFB) disease, caused by the bacterium *Paenibacillus larvae*, is the most serious disease of bacterial origin, not only causes economic loss but also causes ecological problems related to the role of honey bees, as the most important pollinators on Earth. Antibiotics (oxytetracycline, sulfathiazole etc.) have been used to keep the disease in control. However, the antibiotics can't eliminate the disease exactly. Use of these antibiotics lead to the development of drug-resistant bacteria, the detrimental effect on non-targeted organisms and the residue problem in products. For this reason, the need of alternative control methods has become compulsory in recent years. It has been known that some plant oils used widely in perfumery and food industry for flavor and smell have been used as a repellent to certain insects, antibacterial and antifungal. Due to this, intensive studies have been carried out on plants with antibacterial potential and these studies are still going on. Recently, studies in this area have shown that vegetable essential oils such as cinnamon, thyme, grapefruit, rosemary, marigold, are lethal to some bacteria. In addition, it has been reported that antibacterial effects of some components such as sanguinarine, thymoquinone, capsaicin, isolated from these plants. As a result, in countries rich in biodiversity due to endemic plant species, the essential oils used in control of this disease should be favored instead of or in combination with conventional drugs in integrated the disease management programs because of the lack of harmful effects of essential oils on non-target organisms and environment.

**Keywords:** American Foulbrood, Essential Oils, Honey Bee, *Paenibacillus Larvae*

## **VITAMIN E SERUM CONCENTRATIONS IN NEONATAL CALVES**

---

ROMANA KADEK, JAROSLAV FILÍPEK, JOSEF ÍLLEK

University of Veterinary and Pharmaceutical Sciences Brno

[kadekromana@gmail.com](mailto:kadekromana@gmail.com)

**The aim of the study** was to monitor vitamin E serum concentrations in neonatal calves according to the amount of received colostrum. Vitamin E serum concentrations were determined in 3 separate groups of calves. They received a different amount of colostrum on the first day of their lives. All groups received 2 litres of colostrum from their own mothers up to 2 hours after being born. Additional 2 litres of commercially pre-made colostrum were received after another 4 hours (group B) or another 8 to 10 hours (group C). The calves in group A received 2 litres of colostrum, in group B 4 litres of colostrum in 2 doses and in group C 6 litres of colostrum in 3 doses. Concentrations of vitamin E in blood serums were determined by HPLC technique. In the next phase of the experiment, the calves were fed with milk replacer. Another blood sampling and determination of vitamin E serum concentration was performed when the calves were 30 days old. The vitamin E serum concentration in group A was  $1.14 \pm 0.76$   $\mu\text{mol/l}$  when the calves were one day old and  $8.69 \pm 3.42$   $\mu\text{mol/l}$  when they were 30 days old. In group B, the vitamin E concentration was  $2.89 \pm 0.85$   $\mu\text{mol/l}$  when the calves were one day old and  $8.84 \pm 1.04$   $\mu\text{mol/l}$  when they were 30 days old. In group C, the vitamin E concentration was  $5.02 \pm 2.15$   $\mu\text{mol/l}$  when they were first day old and  $8.39 \pm 2.73$   $\mu\text{mol/l}$  when they were 30 days old. The calves which received 2 litres of colostrum or 4 litres of colostrum had subnormal concentrations of vitamin E concentration in their blood serum. In comparison with the group C, the differences between vitamin E serum levels were statistically

**Keywords:** Calves, Colostrum, Vitamin E

## OXIDATIVE STATUS AND LIPID PROFILE IN MONO AND CO-INFECTION WITH CANINE MONOCYTIC EHRLICHIOSIS

MEHMET GULTEKIN<sup>a</sup>, KEREM URAL<sup>a</sup>, SERDAR PAŞA<sup>a</sup>, CANBERK BALIKÇI<sup>la</sup>,  
GAMZE SEVRI EKREN ASICI<sup>b</sup>

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine,  
Aydın, TURKEY

<sup>b</sup> Adnan Menderes University, Faculty of Veterinary, Department of Biochemistry, Aydın,  
TURKEY

[gultekinmehmet@gmail.com](mailto:gultekinmehmet@gmail.com)

Vector-borne diseases in dogs are a major health problem with zoonotic importance. Canine monocytic ehrlichiosis (CME) is one of the most common vector-borne infections in dogs. Co-infections of vector-borne diseases are reported to cause more severe pathological effects than mono-infections. The current study investigates the effects of mono and co-infections of CME on oxidative status and lipid profiles in dogs. Dogs with vector-borne diseases were divided into two groups, mono (n = 22) and co-infected (n = 23) with CME, and compared to a healthy group (n = 20). Double and triple co-infections with other vector-borne diseases included *A. phagocytophilum*, *L. infantum*, and, *D. immitis*. The serum lipid profile (high-density lipoprotein (HDL), low-density lipoprotein (LDL), cholesterol, and triglycerides) and the total and individual markers of oxidative status (total antioxidant capacity (TAC), total oxidant status (TOS), malondialdehyde (MDA), paraoxonase (PON-1), and arylesterase (ARE)) were evaluated. Significant decreases in PON-1 and ARE enzyme activities and HDL concentration, as well as increases in TOS level, MDA, LDL, and triglyceride concentrations were determined in both mono and co-infected groups compared to the healthy control group. No significant differences were found in TAC level and cholesterol concentration among the groups. In conclusion, alterations in lipid profile and increases in oxidative stress were observed, however, no significant differences were detected between mono and co-infected dogs compared to a healthy control group.

**Keywords:** canine monocytic ehrlichiosis, oxidative status, lipid profile, co-infection

**Acknowledgement:** This study was summarized partially from the project that funded by Adnan Menderes University Research Projects Funding Unit with project number VTF-16003

## ***INVESTIGATION OF THE EFFECTS OF ISOFLURANE AND SEVOFLURANE ANESTHESIA ON COAGULATION PARAMETERS IN DOGS***

---

FATİH MEHMET BIRDANE<sup>a</sup>, MUSA KORKMAZ<sup>b</sup>, CENKER CAGRI CINGİ<sup>a</sup>,  
ZULFUKAR KADIR SARITAS<sup>b</sup>

<sup>a</sup> Afyon Kocatepe University Veterinary Faculty, Department of Internal Medicine

<sup>b</sup> Afyon Kocatepe University Faculty of Veterinary Medicine, Department

[vetmusakorkmaz@gmail.com](mailto:vetmusakorkmaz@gmail.com)

The aim of this study is investigating the isoflurane and sevoflurane anesthesia effect on coagulation parameters. In the study, 12 dogs applied to our clinic for ovariohysterectomy from different gender, age and sex used; 6 for isoflurane group (n=6) 6 for sevoflurane group (n=6). Premedication done with intravenous (iv) 0.3 mg/kg midazolam, for induction 4-6 mg/kg iv Propofol bolus used and for maintenance 1.5% isoflurane in isoflurane group and 2% sevoflurane in sevoflurane group used. Thrombin time (TT), Protrombin Time (PT) Activated partial thromboplastin time (APTT) and Fibrinogen (FIB) were measured at times: before anesthesia 0. minute (Z0), during the anesthesia 15. (Z1) and 30. minutes (Z2), after the anesthesia at 0. minute (Z3) and 1. hour (Z4) with venous sampling. It was measured that TT, PT, APTT and FIB levels were changed insignificantly according to time. TT level at 30. minutes and after anesthesia 0. minute was changed significantly between groups ( $p<0.05$ ).

**Keywords:** Dog, Isoflurane, Sevoflurane, Coagulation Parameter

## **IMMUNOHISTOCHEMICAL LOCALIZATION OF CERTAIN NERVOUS SYSTEM MARKERS ON SHEEP ILEUM DURING PRENATAL PERIOD**

FÜSUN ERHAN<sup>a</sup>, LEVENT ERGÜNa, FEYZULLAH BEYAZb, EMEL ERGÜNa,  
MEHMET ÖZBEKc

<sup>a</sup> Ankara University, Faculty of Veterinary Medicine.

<sup>c</sup> Erciyes University, Faculty of Veterinary Medicine

<sup>e</sup> Mehmet Akif Ersoy University, Faculty of Veterinary Medicine

[fusunerhan@cumhuriyet.edu.tr](mailto:fusunerhan@cumhuriyet.edu.tr)

Synaptophysin was the first synaptic vesicle protein to be cloned and characterized, and is now known to belong to a family of proteins with four transmembrane domains that includes synaptogyrin and synaptoporin. Synaptophysin is the most abundant synaptic vesicle protein by mass, accounting for 10% of total vesicle protein. Neurofilaments are highly specific major structural proteins of neurons, consisting predominantly of four subunits: Neurofilaments light, neurofilaments medium and neurofilaments heavy chain and alpha-internexin. The aim of this study was to detect immunohistochemical localization of synaptophysin and neurofilaments in sheep ileum during the prenatal period. In this study, the distal ileums from ten sheep fetuses with gestational ages varying between 63 and 147 days were used as a material. The streptavidin biotin complex immunoperoxidase technique was employed to detect immunohistochemical localization of synaptophysin and neurofilaments in the ileum. In the early period, the weak synaptophysin reaction was observed in smooth muscle cells of tunica muscularis and large nerve cells between them, but in later periods intense reaction was observed in smooth muscle cells of tunica muscularis, lamina muscularis and blood vessels walls. Moreover, the intense reaction was noted in the large nerve cells forming the nerve plexuses of the mucosa in later periods. As for the neurofilaments, there was almost no immune reaction in smooth muscle cells in the early period. In the following periods, a weak reaction was observed in these muscle cells. In all the periods examined, an intense immune reaction was detected in the large nerve cells forming the nerve plexuses. As a result, both synaptophysin and neurofilament expression were determined in the neural cells and muscle cells of the ileum during the fetal period. While neurofilaments showed intense immunoreaction only in nerve cells, synaptophysin reacted intensely in both smooth muscle cells and nerve cells.

**Keywords:** Ileum, Neurofilaments, Prenatal Period, Synaptophysin

## **DETERMINATION OF SERUM 25 HYDROXY VITAMIN D3 LEVELS IN SOME PARASITIC DERMATOSIS IN DOGS**

NAİLE KARAGÖZ GÜRAL, KEREM URAL

Adnan Menderes Üniversitesi, Veteriner Fakültesi İç Hastalıkları Anabilim Dalı, Aydın,  
TÜRKİYE  
[uralkerem@gmail.com](mailto:uralkerem@gmail.com)

in this study, it was aimed to measure 25 hydroxy vitamin D3 levels in dogs with different parasitic dermatoses and to determine their relation with disease activity. Aforementioned research groups were as follows; 1st Group: Demodictic scabies, 2nd Group: Sarcophagic scabies, 3rd Group: Canine Visceral Leishmaniasis, 4th Group: Other cases with parasitic dermatosis will be included in the study. 5th Group: Negative (non-infections) but dermatosis due to parasitic dermatoses, finally 6th Group: (n=10) will have healthy dogs without any disease table (absolutely no dermatosis). in all groups of dogs, vena cephalica antebrachii will be subjected to centrifugation by taking 2 ml samples of blood from non-anticoagulant serum tubes and then 25 hydroxy vitamin D3 levels will be determined by radioimmunoassay method. Appropriate statistical methods will be used in the calculation and comparison of the obtained parameters. in our literature review, we have not been able to identify a clinically-based study of D avitaminosis / hypovitaminosis or hypervitaminosis in parasitic skin diseases in dogs characterized by veterinary dermatological studies, as mentioned above in part. in this study, it was aimed to investigate the profile of vitamin D in dogs diagnosed with dermatitis with different parasitic factors. We believe that treatment protocols may change with the determination of the relationship of some selected parasitic diseases with vitamin D in dogs. Determining the relationship between acquired data and possible disease in dogs with potential Vitamin D profiling suggests that this void in the resulting literature will be filled in and will form the basis for existing studies and later on the work to be done, especially regarding the prognosis, monitoring and possibly treatment protocols of the disease. Besides, it is considered that the positive results that can be obtained contribute to the international literature and will contribute to the field of Veterinary Internal Medicine and Parasitology. By the evaluation of the scientific data to be obtained when the project is concluded, presentations will be made both in national and international arenas / congresses and contribution to the literature will be provided.

**Keywords:** 25 Hidroxy vitamin D3, demodicosis, sarcoptic scabies, Canine Visceral Leishmaniasis, parasitic dermatoses, vitamin D.

**Acknowledgements;** *This research was supported by Adnan Menderes University Research Fund. Unit with Project no: VTF-17002.*



AHMET KÜNYELİ, KEREM URAL

Adnan Menderes University, Veterinary Faculty, Department of Internal Medicine, Aydın,  
TURKEY

[uralkerem@gmail.com](mailto:uralkerem@gmail.com)

in the present study, the aim was to determine the probable alterations in coagulation profile in neonatal calves. A total of 78 (64 diseased and 14 healthy) calves diagnosed with rapid test results subdivided into healthy, infected and non-infected groups, whereas mono-infected four groups [I. group (*E. coli* infected), II. group (Rotavirus infected), III. group (*Cryptosporidium* spp. infected), IV. group (*Giardia* spp. infected)], V. group (non-infected), VI. group (co-infected) including sick calves, and healthy calves left as control were enrolled in group VII (n=14). Among evaluation of three major groups there were statistically significant differences regarding mean prothrombin time (PT) levels ( $p=0.026$ ) between healthy and infected diarrheic calves, and mean FIB levels ( $p=0.051$ ) between healthy and infected diarrheic calves. in the present study, as each group was evaluated individually statistically significant differences were detected regarding mean PT levels between co-infected group and non-infected diarrheic group ( $p=0.042$ ), mean FIB levels between healthy calves and the diarrheic calves with Cryptosporidiosis ( $p=0.012$ ). in conclusion, it may be suggested that interpretation for PT values in co-infected calves with diarrhea and FIB concentrations to those of diarrheic calves with cryptosporidiosis. Especially in field conditions, Veterinary Surgeons who could not possibly evaluate haemostatic or coagulation profiles, should aware of hyperfibrinogenemia, consequently as a consequenonsteroidal anti-inflammatory drug (NSAID) choices might be considered.

**Keywords:** Neonatal calves, diarrhea, coagulation.

**Acknowledgements:** *This research was supported by Adnan Menderes University Research Fund. Unit with Project no: VTF-15064*

***SPATIAL DISTRIBUTION OF COCCIDIOSIS AMONG GOATS IN AYDIN PROVINCE, TURKEY***

---

**ADNAN AYAN<sup>a</sup>, KEREM URAL<sup>b</sup>, DENİZ ALIÇ URAL<sup>c</sup>, HASAN ERDOĞAN<sup>b</sup>, SONGÜL ERDOĞAN<sup>b</sup>, MEHMET GULTEKİN<sup>b</sup>**

<sup>a</sup>Van Yüzüncü Yıl University, Faculty of Veterinary, Department of Internal Genetics, Van, TURKEY

<sup>b</sup>Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine, Işıklı, Aydın, TURKEY

<sup>c</sup>Adnan Menderes University, Faculty of Veterinary, Faculty Farm, Işıklı, Aydın TURKEY

[adnan\\_ayan43@hotmail.com](mailto:adnan_ayan43@hotmail.com)

Coccidiosis is one of the most crucial parasitic diseases of goats with worldwide distribution. Coccidiosis is of considerable economic importance because of the losses owing to clinical disease (diarrhoea), huge mortality and morbidity, poor growth and treatment costs but also due to subclinical infections that caused by *Eimeria* spp. The aim of this study was to determine the prevalence of coccidial infection of goats in Aydın. For this purpose, fresh faecal samples were collected directly from the rectum of 167 goats including 128 kids (up to 6 months old) in Aydın. Afterwards faecal examination was carried out using flotation in NaCl saturated solution and studied microscopically for the presence of oocysts. Then the modified McMaster technique was applied to determine the number of oocysts per gram (OPG) of faeces. The prevalence of infection in adult goats was 100 % with an intensity of 100–4650 OPG. The rate of infection in kids was 100 % with an intensity of 3800–159000 OPG.

**Keywords:** Coccidiosis, Goat, Prevalance

## **OXIDATIVE STATUS AND LIPID PROFILE AMONG DOGS AT DIFFERENT STAGES OF VISCERAL LEISHMANIASIS**

MEHMET GÜLTEKİN<sup>a</sup>, SERDAR PAŞA<sup>a</sup>, KEREM URAL<sup>a</sup>, CANBERK BALIKÇI<sup>a</sup>,  
GAMZE SEVRI EKREN AŞICI<sup>b</sup>, **GAMZE GÜLTEKİN<sup>b</sup>**

<sup>a</sup>Adnan Menderes University, Veterinary Faculty, Department of Internal Medicine, Aydın,  
TURKEY

<sup>b</sup>Adnan Menderes University, Veterinary Faculty, Department of Internal Medicine, Aydın,  
TURKEY

[gbalat@adu.edu.tr](mailto:gbalat@adu.edu.tr)

The purpose of the present study was to investigate the oxidative status and lipid profile among dogs at different stages of Visceral Leishmaniasis (VL). Dogs with VL were divided into four groups as stage I (n=9), stage II (n=11), stage III (n=6), stage IV (n=6) according to the classification of Leishvet group and compared to healthy control dogs (n=14). Serum lipid profile (high density lipoprotein (HDL), low density lipoprotein (LDL), cholesterol, and triglycerides), and oxidative status (total antioxidant capacity (TAC), total oxidant status (TOS), paraoxonase-1 (PON-1)) were evaluated. Significant increases in TOS level and LDL concentration and decreases in PON-1 activity and HDL concentration were determined in all stages of dogs naturally infected with VL compared to the dogs in the healthy group. No significant differences were found in TAC level, cholesterol and triglycerides concentration among groups. Increased oxidative stress and alterations in lipid profile were observed in dogs with VL. However, no significant differences were detected between dogs at different stages of disease. It has been concluded that changes in TOS value, PON-1 activity, HDL and LDL concentrations in dogs of all stages of VL should be taken into account in diagnosis of the disease and in the planning of treatment.

**Keywords:** dog, visceral leishmaniasis, oxidative status, lipid profile.

**Acknowledgements:** This study was summarized partially from the project that funded by Adnan Menderes University Research Projects Funding Unit with project number VTF-16003.

## **TWO COMMON TYPES OF VAGINAL MASSES IN FEMALE DOGS**

BILGINER TUNA<sup>a</sup>, TUĞRA AKKUŞ<sup>a</sup>, CEVDET PEKER<sup>a</sup>, EYYÜP HAKAN UÇAR<sup>a</sup>,  
AYŞE NUR AKKOÇ<sup>b</sup>

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary Medicine, Department of Obstetrics and Gynecology

<sup>b</sup> Adnan Menderes University, Faculty of Veterinary Medicine, Department of Pathology

[tugraakkus08@hotmail.com](mailto:tugraakkus08@hotmail.com)

The cases in this report consisted of sexually active two dogs that were delivered at least once (Case 1: 12-year-old Cocker and Case 2: 11-year-old mixed breed) presented to our clinic.

It was reported in the anamnesis of case 1 that there had been a swelling on the perineum for the last six months. Only mild leukocytosis (WBC:  $18.38 \times 10^3/\mu\text{L}$ ) and anemia (RBC:  $3.66 \times 10^6/\mu\text{L}$ ) were determined at laboratory analyses. During the inspection, perineum was asymmetric. One mass consisting of a big solid piece was determined on the left ventral region of vaginal wall at the palpation.

It was noted for case 2 that had its last estrous a month ago and vagina prolapsed at the same time. A significant leukocytosis (WBC:  $31.43 \times 10^3/\mu\text{L}$ ) and anemia (RBC:  $3.66 \times 10^6/\mu\text{L}$ ) were seen in laboratory analyses. A solid mass prolapsed from vulva was determined on the right ventral wall of the vagina during the clinical examination. At the ultrasonography of the mass, a solid areas was monitored resembles calcification.

After examinations, it was decided that the masses of both cases would be removed surgically. in case 1, the urethral canal was catheterized after anesthesia and an episiotomy was performed at 1 o'clock direction on the dorsal commissure of the vulva. in Case 2, because of the more cranial mass was entered median line. The masses were separated from peripheral tissues by blunt dissection. Vaginal layers, episiotomy and median lines were sutured with 2-0 absorbable sutures. Histopathological examinations showed that case-1 and 2 were fibroma and leiomyoma respectively. Two weeks after from surgery both of the dogs recovered completely without any complication. It is seen that both cases are not spayed and have advanced ages in this presentation. Therefore, these two factors can be important at the etiology of vaginal tumors in dogs.

**Keywords:** Leiomyoma, Fibroma, Vaginal Tumor, Dog

## ***POTENTIAL USE OF POTATO PULP AS A RUMINANT FEED***

---

HASAN HÜSEYİN ŞENYÜZ<sup>a</sup>, MEHMET AKİF KARSLI<sup>b</sup>

<sup>a</sup> International Center For Livestock Research And Training/Lalahan

<sup>b</sup> Animal Feed And Feed Disease Veterinary Faculty Kirikkale University

[hasansenyuzvet@yahoo.com](mailto:hasansenyuzvet@yahoo.com)

One of the main problems of Turkish animal industry is the cost of animal feed. One of alternatives to reduce fee cost is to find out cheap alterative feedstuffs, mainly by-products. Potato pulp can be one of these alternative feedstuffs. Potato cultivation has been made successfully for years in Turkey. But there isn't data about of fresh consumption and processing. Recently, potato industry has rapid development and provided products such as chips, frozen potato to and starch for consumer. Potato pulp is waste (by-product) of potato starch processing industry and it has great potential to food for animals, especially ruminants. The aim of this rewiev article was to evaluate the potential use of potato pulp as feed for ruminant animals. The nutrient content, proper conservation methods and the value of potato pulp and potato pulp silage for ruminant animals were discussed in this article.

**Keywords:** Potato Pulp, Potato Pulp Silage, Ruminant

## ***EFFECTS OF SUBSTITUTING BARLEY WITH POTATO PULP SILAGE PREPARED WITH GROUND BARLEY STRAW AND WHEAT BRAN ON FATTENING PERFORMANCE OF LAMBS***

HASAN HÜSEYİN ŞENYÜZ<sup>a</sup>, MEHMET AKİF KARSLI<sup>b</sup>, SERKAN ERAT<sup>c</sup>, ÖMER ONUR PARILDAR<sup>d</sup>

<sup>a</sup> International Center for Livestock Research and Training/LALAHAN

<sup>b</sup> Kirikkale University, Faculty of Veterinary Medicine, Department of Animal Nutrition and Nutritional Diseases

<sup>c</sup> Livestock Department Veterinary Faculty Kırıkkale University

<sup>d</sup> International Center for Livestock Research and Training/LALAHAN

[hasansenyuzvet@yahoo.com](mailto:hasansenyuzvet@yahoo.com)

The objectives of this study were to evaluate the effects of substituting barley with potato pulp silage prepared with ground barley straw and wheat bran on fattening performance of fat tail Akkaraman and long tail Kıvırcık x Akkaraman (G1) cross-breed lambs. To achieve this objective, a barley based diet (control diet) was prepared. Then, potato based diet was prepared by substituting 10 % of barley on dry matter basis with potato pulp silage. Both diets were iso-caloric and iso-nitrogenous. A total of 80, 6-7 month old, male, 28 Akkaraman and 52 Kıvırcık x Akkaraman (G1) cross-breed lambs were utilized in the study. Lambs from Kıvırcık x Akkaraman (G1) cross-breed were randomly allotted into one of two groups based on initial body weights and fed with one of two diets for a period of 55 days. Daily feed intake of each group was determined bi-weekly and kept equal based on dry matter. All of the lambs were weighed bi-weekly to determine weight gains and live weight gains, daily weight gains and feed efficiencies were calculated. Initial live body weights of lambs fed different diets were similar, (28.64 and 28.59 kg for potato pulp vs. barley). Overall total weight gains and daily weight gains of lambs fed potato pulp silage based diet were higher for both breeds compared with lambs fed barley based diet ( $P<0.05$ ). There was also feed\*breed inter action in terms of gains ( $P<0.05$ ). Diets had no significant effect on feed efficiency ( $P>0.05$ ), however, Akkaraman lambs had better feed efficiency ratios compared with those of Kıvırcık x Akkaraman (G1) cross-breed lambs. It can be concluded that barley can be substituted with energy of potato pulp silage up to 10% on dry matter basis without affecting fattening performance, even improving daily weight gain of lambs based on the results of the present study.

**Keywords:** Lamb, Potato Pulp Silage, Fattening Performance, Kıvırcık X Akkaraman (G1) Cross-Breed, Akkaraman

**EFFECT OF VOLATILE OIL OBTAINED FROM PINUS NIGRA ARN. SUBSP. PALLASIANA (LAMB.) HOLMBOE LEAVES ON PROTOSCOLEX OF HYDATID CYSTS**

ESMA KOZAN<sup>a</sup>, MERT ILHAN<sup>b</sup>, IBRAHIM TÜMEN<sup>c</sup>, ESRA KÜPELİ AKKOL<sup>d</sup>

<sup>a</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Parasitology

<sup>b</sup> Gazi University, Faculty of Pharmacy, Department of Pharmacognosy

<sup>c</sup> Bartın University, Faculty of Forestry, Department of Forest Products Chemistry

<sup>d</sup> Gazi University, Faculty of Pharmacy, Department of Pharmacognosy

[esmakozan@aku.edu.tr](mailto:esmakozan@aku.edu.tr)

Hydatid cyst, a larval form of *Echinococcus granulosus*, is a common zoonotic disease and an important health problem which causes deaths in many countries around the world. *Pinus nigra* J.F. Arnold subsp. *pallasiana*, which grows as a common species in western and northern part of Anatolia and Toros provinces in Turkey, is used for inflammations, coughing, bronchitis, stomach pain, diabetes, liver disorders, wound healing, fungal inflammations in skin tissue, deworming among the people. In this study, the scolocidal activity of the volatile oil obtained from the *P. nigra* subsp. *Pallasiana* leaves was investigated in vitro at a concentration of 10, 30 and 50 mg/ml, on protoscoleces obtained from the infected sheep liver. In the control group, the proportion of dead protoscoleces was found to be 2.27%. Percentage of dead protoscoleces at the 10mg/ml volatile oil concentrations at the 10., 20., 30. and 60. minutes were found 61.69%, 69.39%, 75.98% and 71.76%, respectively. At the concentration of 30mg/ml was 83.82%, 91.33%, 94.67% and 96.74% respectively. In the 50 mg/ml concentration of volatile oil, it was determined that all protoscoleces were killed at 60th minutes. Results show that, *P. nigra* subsp. *Pallasiana* leaves have the potential to be a novel naturally scolocidal product that can be used in hydatid cyst operations, which is an important health and economic problem for both human and veterinary medicine.

**Keywords:** Echinococcosis, Volatile Oil, Hydatid Cyst, Pinaceae, *Pinus Nigra* Subsp. *Pallasiana*



## **EFFICIENCY EVALUATION OF COMMERCIAL BIOFERTILIZERS FOR GROWTH OF BARLEY**

---

CENAP CEVHERİ, ÇİĞDEM KÜÇÜK

<sup>a</sup> Harran University Science and Art Faculty, Department of Biology, Şanlıurfa, TURKEY

[ccevheri@harran.edu.tr](mailto:ccevheri@harran.edu.tr)

Biofertilizers prepared from microorganisms are recognized as an important component of integrated plant nutrient management for sustainable agriculture. Nowadays, barley is being cultivated in the world and in our country to be used as an animal feeding feeder. The barley grain, which is in the first row among the cereals consumed as animal feed, is a very good food source. **in this present study** was investigated to the effects of biofertilizers containig Azotobacter, Trichoderma, liquid sea on growth of barley. This study was carried out in a randomized complete blok design. The results showed that microbial fertilizers had a more stimulating effect on growth and germination to control. Inoculation of barley seeds with microbial fertilizers significantly increased plant heights, shoot and root dry weight.

**Keywords:** Barley, Growth, Biofertilizer

## **PROTECTIVE ROLE OF BROMELAIN AGAINST NICKEL GENOTOXICATION IN RATS**

FÜSUN TEMAMOĞULLARI<sup>a</sup>, PINAR AKSU KILIÇLE<sup>b</sup>, ŞÜKRÜ GÜRLER<sup>c</sup>

<sup>a</sup> Harran University, Faculty of Veterinary Medicine

<sup>b</sup> Kafkas University

<sup>c</sup> Harran University

[farmafto@gmail.com](mailto:farmafto@gmail.com)

**Aim:** in this study the protective role of bromelain against nickel sulfate genotoxication was investigated. **Materials and Methods:** on purpose four groups were designed with six rats in each group as one control and three experimental groups: Group 1 (Control), Group 2 (Nickel sulfate 20 mg/kg i.p), Group 3 (Bromelain 20 mg /kg oral), Group 4 (Nickelsulfate,20 mg/kg, i.p.+ bromelain, 20 mg/kg, oral). Following ten days of experimental period, eleventh day the animals were euthanized. Bone marrow was used in micronucleus detection in our study. Bone marrow samples that obtained by dissection of both ends of femur bones of the animals were transferred into a centrifugal tube which contained 3 ml calf serum by an injector. Tubes with bone marrow sample centrifuged for 5 minutes in 2000 rpm and supernatants were taken. A drop of calf serum added over the rest of each tube and they were suspended. A drop sample of this suspension spreaded on clean lams. The lams were dried in air and fixed in methyl alcohol for ten minutes. Bone marrow samples were stained with May Grunwald and Giemsa, washed and waited for drying. 2000 polychromatic erythrocytes were counted randomly with 1000 magnification in Olympus CX21 model light microscope. The percentages of micronucleated polychromatic erythrocytes (MNPCE) in these series were determined. Statistical analysis was performed by one-way variance analysis (ANOVA) in SPSS 22 program. **Results:** All groups were compared according to only parameter, MNCPE. MNCPE level was statistically significant in Bromelain group compared to only nickel sulfate group ( $p<0.01$ ). The difference was statistically insignificant between nickel sulfate group and nickel sulfate plus Bromelain group ( $p>0.05$ ). According the data, it is suggested that Bromelain in administered dose (20 mg/kg) was not potentially preventive against genotoxic effects of nickel sulfate in admistered dose (20 mg/kg).

**Keywords:** Bromelain, Genotoxicity, Nickel Sulfate, Rat.

## **EFFECT OF SOME RISK FACTORS ON SUBCLINICAL MASTITIS IN DAIRY COWS**

RESUL KOÇYIĞIT<sup>a</sup>, OKTAY YILMAZ<sup>b</sup>, ERHAN ÖZENÇ<sup>b</sup>, MEHMET UÇAR<sup>b</sup>

<sup>a</sup> Ministry of Food, Agriculture and Livestock, Çankaya District Offices, Ankara/TURKEY

<sup>b</sup> Afyon Kocatepe University, Faculty of Veterinary Medicine, Obstetrics and Gynaecology Department, Afyonkarahisar/TURKEY

[mucar@aku.edu.tr](mailto:mucar@aku.edu.tr)

**The present study** was performed to investigate the subclinical mastitis incidence and to detect the effect of some risk factors on infections in different dairy farms. California Mastitis Test (CMT) was performed on 774 mammary quarters of 195 Holstein Friesian, Swiss Brown and Simmental dairy cows and at least one CMT positive 125 milk samples of 100 cows were included to the study. Milk samples were evaluated microbiologically and antibiotic sensitivity test was carried out. CMT positive cows rate was 51.28% and 63% of these animals showed positive microbiological growth. CMT positive samples percentage found 16.14% in all mammary quarters (n = 774) and 60.80% of milk samples collected from CMT positive mammary quarters showed microbiological growth. E.coli, Candida spp., S.uberis, coagulase negative staphylococcus, S.aureus, Proteus spp., and Bacillus spp. were isolated 28.9, 24.21, 19.53, 19.53, 3.9, 2.34 and 1.56%, respectively. According to farm localization, CMT positive cows did not show significant difference between lactation number/period and age. Moreover, farm localization, age, lactation number/period, breed and localization of mammary quarters did not affect CMT scores and microbiological results. Microbiologically positive samples showed that microorganisms were sensitive against amoxicillin+clavulanic acid and oxytetracycline, whereas resistant against gentamycin, ceftiofur, enrofloxacin and cefquinome. **In conclusion**, milking system, poor milking hygiene, and insufficient mastitis control programs were more important mastitis causing factors than age, lactation number/period and breed of cows in dairy farms. on the other hand, it is suggested that blind antibiotic therapy may be an important factor contributing the antibiotic resistance.

**Keywords:** Dairy Cow, Subclinical Mastitis, Risk Factors, Age, Lactation Number, Period, Mammary Quarter Position, Antibiotic

# **COMPERATIVE EVALUATION OF TYLOSIN TARTARATE AND TARANTULA CUBENSIS VENOM FOR THE TREATMENT OF BOVINE PAPILLOMATOSIS: A PROSPECTIVE, DOUBLE BLINDED AND MULTICENTERED STUDY**

**BUĞRA BEKİRHAN YAĞCI<sup>a</sup>, KEREM URAL<sup>b</sup>, ALİ EVREN HAYDARDEDEOĞLU<sup>c</sup>, TAMERCAN MORKOÇ<sup>d</sup>**

<sup>a</sup>Kirikkale University, Faculty of Veterinary, Department of Internal Medicine, Kirikkale, TURKEY

<sup>b</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine, Aydın, TURKEY

<sup>c</sup> Aksaray University, Faculty of Veterinary, Department of Internal Medicine, Aksaray, TURKEY

<sup>d</sup> İnterhas & İntermed Ankara, TURKEY

[bugrahanyagci@gmail.com](mailto:bugrahanyagci@gmail.com)

Bovine papillomatosis is a frequently observed viral disease characterized by development of multiple benign tumors, called warts. In the present study a precise diagnosis of bovine papillomatosis was confirmed by clinical and histopathological examinations of the warts. Four different therapeutic regimes were evaluated in enrolled groups, each of which had 20 cows: Regimen-I (theranekron (1:100/D2 1mg/ml Tarantula cubensis venom) at a dose of 10 ml s.c. for 2 times a week apart), Regimen-II (tylosin tartarate 20 mg/kg i.m. daily for 10 days), Regimen-III (tylosin tartarate 20 mg/kg i.m. daily for 10 days + theranekron at a dose of 10 ml s.c. for 2 times a week apart), Regimen-IV (placebo control). All cows in treatment groups were completely recovered at the 27th -98th post treatment days. Clinical recovery was confirmed by disappearance of warts and based on clinical scoring. The highest recovery was evident to those of 18/20 animals (90%) in Regimen-III, 16/20 animals (80%) in Regimen-II and 13/20 (65%) in Regimen I. The clinical scores were significantly decreased ( $p<0.001$ ) in Regimen III whereas there was no change in placebo group. We concluded that Regimen-III was the most effective treatment for combatting bovine papillomatosis based on regression of warts and the number of post-operative days elapsed for healing.

**Keywords:** Cattle, Tylosin, Papilloma Virus

## EYE AND EAR SURGERY IN CAMELS

---

NUH KILIÇ, ÖZDE KANDEMİR, BÜŞRA KIBAR

Adnan Menderes University, Faculty of Veterinary, Department of Surgery

[ozdekandemir93@hotmail.com](mailto:ozdekandemir93@hotmail.com)

Eye and ear surgery also gives the desired succesful result as in large animals. Eye related cataracts, glaucoma, corneal opacity, blindness; otitis-associated otitis interna, otitis media and medical treatment are preferred in infection disease. Surgical procedures applied at the eye and at the ear are as follows:

1. Inoculation in eyes globe, 2. Iris staphyloma, 3. Damage of eyelids, 4. Entropion, 5. Ectropion, 6. External ear injury.

Eye infection is indicated in painful glaucomatous eyes, large traumas causing loss of eye sickness, panophthalmic and non-panophthalmic penile wounds, tumor cases. Operation is extirpation treatment in clinical practice, although it is called as enchaemia. in extracuration, the eye lining, muscles, fat, lacrimal gland are removed while only the eye cure is removed. The iris staphyloma is the perforation of the cornea and the iris is prolapsed to the outside with the effect of intraocular pressure. If the trauma is performed with a pointed object, the cornea may prolapse with the iris. Operative treatment is necessary because damage to the eyelids can cause problems such as conjunctivitis. Exposure to stimuli (dust, sand, etc.) around the eye requires that the affected eyelid hang with the associated epifora and keratoconjunctivitis. When exposed to factors such as eyes, dust, and sand, epilepsy and keratoconjunctivitis, and sagging in the eyelids. Operative intervention is essential. There is long hair around the outer ear that prevents sand and dust. If the outer ear is damaged, these factors may damage the inner ear. Treatment of the damage caused by this is important.

**Keywords:** Camel, Eye Surgery, Ear Surgery

## **PROTOTYPES OF MODIFIED GAUZE IN CONTROLLING HEMORRHAGING IN SWINE**

---

ZBIGNIEW ADAMIAK<sup>a</sup>, DANUTA BUKOWIECKA<sup>b</sup>, PAWEŁ JASTRZEBSKI<sup>b</sup>, PIOTR  
HOLAK<sup>c</sup>, MAREK JALYNSKI<sup>c</sup>

A University of Warmia and Mazury

b Police Academy Szczytno

c University of Warmia and Mazury

[zbigniew.adamiak@wp.pl](mailto:zbigniew.adamiak@wp.pl)

**Purpose:** The aim of the presented study was to evaluate the effectiveness of prototype of modified gauze material in controlling hemorrhaging from the femoral artery in pigs. **Materials and Methods:** The study was approved by the Institute for Animal Welfare and the Bioethical Committee (Protocol 44/2014/N). The experiment was performed on 12 Polish Large White female pigs, body weight of 45 kg. The animals were divided on two groups. After general anesthesia femoral artery was incised and modified gauze in group first (6 pigs) was used. The second group it was control one, and Combat gauze was used. Every 15 minutes dressing was removed from the incision site to evaluate hemostasis. **Result:** Hemostasis was achieved in both groups. But modified gauze was less effective in promoting hemostasis comparing to Combat gauze. The results were processed statistically by the Mann-Whitney U test and indicated that in both group animals dressing materials in controlling hemorrhaging were effective. **Conclusion:** Examined, dressing materials demonstrated similar efficacy in controlling hemorrhaging. Modified gauze should be further examined for its application in veterinary medicine, police, military needs and combat field.

**Keywords:** Hemorrhage, Hemostatic Dressing, Swine

**Acknowledgements:** This study was conducted as part of research project founded by National Center for Research and Development entitled "Wound dressings designed for the uniformed services", No: DOB-BIO6/19/98/2014

*There is no financial interest or conflict in the whole area of presented study.*

## **HISTOCHEMICAL AND MORPHOMETRIC STUDIES IN GOOSE (ANSER ANSER) TESTIS**

SERAP ILHAN AKS<sup>Ua</sup>, YALCIN AKBULUT<sup>b</sup>, **EBRU KARADAG SARI<sup>c</sup>**, TURGAY DEPREM<sup>c</sup>

<sup>a</sup> University of Kafkas, Healthy Sciences Institute, Department of Histology and Embryology

<sup>b</sup> University of Kafkas, Faculty of Medicine, Department of Anatomy

<sup>c</sup> University of Kafkas, Faculty of Veterinary Medicine, Department of Histology and Embryology

[ekaradag84@hotmail.com](mailto:ekaradag84@hotmail.com)

The **aim** of this study was to determine the histological structure, histochemical and morphometric features of the testis in goose. **in this study**, 10 geese testis tissue were used as a material. Tissue samples were fixed in 10% formalin solution and embedded in paraffin. 5-6  $\mu$  serial sections were taken from paraffin blocks. For histological, histochemical and morphometric examinations Triple, Hematoxylin&Eosin (H&E), Periodic acid-Schiff (PAS), Masson Tricrome, Orcein (O) and Methyl Green Pyronin stainings were applied on the tissue sections. **It was observed** that the capsule covering the testis was not separate the testis body and containe any collagen fiber. in the seminiferous tubules, spermatogenic cells were observed to develop in a sequential manner and Sertoli cells were observed between these cells. Leydig cells and collagen fibers were seen in the connective tissue area (intertubular area) between the seminiferous tubules. Elastic fiber was not seen in the capsule and the interlobular area but in addition to Leydig cells, plasma cells and pyrinophilic cells were seen in the intertubular area. Morphometric measurements revealed that the right testis was smaller than the left testis and the diameters of the seminiferous tubules in the right testis were smaller than those in the left testis. **It was run across** histochemical studies on poultry testis such as rooster, turkey, quail species but was not run across any histological and histochemical study about goose testis. in conclusion in this study histological structure, histochemical and morphometric features of goose testis tissue are thought to contribute to literature knowledge.

**Keywords:** Goose, Testis, Histochemical, Morphometric



## BIOLOGICAL ACTIVITY OF THE CVS VIRUS IN CELL CULTURE

SOBIECH PRZEMYSŁAW<sup>a</sup>, ZHANSEK SULTANOV<sup>b</sup>, MAMBETALIEV M<sup>c</sup>,  
ROMASHEV K<sup>d</sup>, USSENBAJEV ALTAY<sup>e</sup>, KHIZAT SERIK<sup>f</sup>

<sup>a</sup> Ubniversity of Warmia-Mazury

<sup>b</sup> Kazakh National Agrarian University

[psobiech@uwm.edu.pl](mailto:psobiech@uwm.edu.pl)

Circovirus infection of pigs is a viral disease of piglets-weaners with a high influence to the health status, characterized by exhaustion, lag in growth, dyspnea, diarrhea, anemic and icteric skin. The purpose of our research was to select optimal infectious dose of the virus CVS-2 for the culture of Marc-145 cells with the aim of obtaining highly active virus-containing materials. Isolate № 17 of the virus CVS-2 isolated in a pig farm of the North Kazakhstan region of the RK was used in research. A transplantable Marc-145 cell line (MA-104 culture clone derived from a monkey kidney), Eagle's nutrient medium containing 5% inactivated fetal bovine serum has been used as a culturing system. Biological activity of the CVS-2 virus isolate №17 in cell culture depending on the multiplicity of the infecting dose

Infectious dose of the virus, TCD50/cells	Cultivation timing of the virus, day	Damage area of cells' monolayer, %	Biological activity of the virus, lg CD50/cm <sup>3</sup>
0,1	<b>4-6</b>	80-90	<b>7,25 ± 0,25</b>
0,01	<b>4-6</b>	80-90	<b>7,50 ± 0,12</b>
0,001	<b>5-7</b>	80-90	<b>7,00 ± 0,25</b>
0,0001	<b>8-9</b>	70-75	<b>5,91 ± 0,16</b>
<b>X ± m</b>			

It is seen that when the culture of Marc-145 cells was infected with isolate number 17 in doses from 0.1 to 0.0001 TCD50/cells observed the accumulation of CVS-2 virus in titres from 5.91±0.16 to 7.50±0.12 log TCD50/cm<sup>3</sup>. Value of biological activity differences of isolate №17 upon infection of the cell culture in doses from 0.1 to 0.001 TCD50/cells are not statistically significant (P>0.2). The use of a virus dose infection less than 0.001 TCD50/cells for production of a virus-containing suspension in the culture of Marc-145 cells should be considered inadvisable, since the level of virus accumulation is substantially lower ((5.91 ± 0.16) log TCD50/cm<sup>3</sup>) (P<0,02) in comparison with other tested doses and leads to an increase in the period of cultivation for 2-3 days.

**Keywords:** Circovirus, Dose, Cell Culture, Biological Activity

## **INVESTIGATIONS ON CRYPTOSPORIDIUM SPECIES IN DOMESTIC GEESE (ANSER ANSER) IN THE PROVINCE OF KARS, TURKEY**

SIBEL CAGATAY<sup>a</sup>, BARIS SARI<sup>b</sup>

<sup>a</sup> Institute of Health Sciences, University of Kafkas

<sup>b</sup> Faculty of Veterinary Medicine, Department of Parasitology, University of Kafkas

[bsari67@hotmail.com](mailto:bsari67@hotmail.com)

Kars province and the surrounding area are one of the most common geese breeding place in Turkey. Parasitic diseases are very important, contrain for a healthy and efficient goose production. Cryptosporidiosis is one of the common major intestinal protozoan infections of animals and man in the world. *Cryptosporidium spp.* has been identified in the respiratory tract, intestine, bursa of Fabricius, cloaca and conjunctiva of geese. This study was carried out in order to determine the status of *Cryptosporidium* species in geese in the province of Kars in which cryptosporidiosis is commonly detected in calves and lambs. **The study was performed** out in the Kars province in Northeastern region of Anatolia of Turkey. Faecal samples were collected from 188 randomly selected geese from May 2016 to December 2016. The animals were classified into four age groups: 0-1 months old (n=81), 1-3 months old (n=25), 3-4 months old (n=49) and 5-6 months old (n=33). Faecal sample was taken from each animal using cloacal swaps and deposited into disposable plastic bag. The samples were examined by carbol fuchsin staining and a commercial enzyme immunoassay (EIA) kit, the Remel ProSpecT *Cryptosporidium* Microplate assay (Thermo) techniques for *Cryptosporidium*. The incidence of the presence of *Cryptosporidium* among the geese was 3.72% (7/188) with carbol fuchsin staining and 38.2% (72/188) with EIA. *Cryptosporidium* infection was detected by EIA, 19.75%, 28%, 51.02% and 72.7 % of the geese aged 0-1 months, 1-3 months, 3-4 months and 5-6 months, respectively. Presence of *Cryptosporidium* species are reported **for the first time in this study** in domestic geese in Kars and Turkey. However, more extensive and detailed studies are required to identify *Cryptosporidium spp.* in species level in geese.

**Keywords:** *Cryptosporidium Spp.*, Goose, Carbol Fuchsin Staining, Enzim Immunoassay (EIA), Kars

**Acknowledgements:** This study was supported by Scientific and Technical Research Council of Kafkas University (2016-TS-88).

***PENTOXIFYLLINE AS A THERAPEUTIC ARMAMENTARIUM AGAINST ALOPECIA, CRUSTING AND PARTIAL TISSUE LOSS; DISEASES OF THE PINNA IN CANINE VISCERAL LEISHMANIOSIS***

---

GÖZDE BUDAK, KEREM URAL, SERDAR PAŞA, MEHMET GÜLTEKİN

Adnan Menderes University, Veterinary Faculty, Department of Internal Medicine, AYDIN

[gozdebudakk@gmail.com](mailto:gozdebudakk@gmail.com)

Canine ear margin dermatosis is a common cornification abnormality, characterized by seborrhea involving the pinna of the ear within several, small greasy plugs. Seborrheic changes which occur often in folded-eared breed dogs limited to the ear margin on early period indeed is capable of spreading along the pinna. It is stated that vasculitis causes the fissuring and serious crusting lesions. Canine Visceral Leishmaniosis (CVL) may cause systemic necrotizing vasculitis and histopathological changes depending on the impact of small arterioles in many systems, including the skin in addition to disorders of the many organs and systems. In this study it was aimed to define ear margin dermatosis in 17 dogs (to those of late 2014 to June 2016) which diagnosed with CVL. The dogs were classified according to Leishvet guidelines involving quantitative serology (antileishmania antibody levels/IFAT titers), renal profile [creatinine < 1.4 mg/dl; non-proteinuric: urinary protein/creatinine ratio < 0.5]. Among enrolled dogs further analysis revealed that all cases presented ear margin dermatosis to those of stage I (n=1), stage II (n=3), stage III (n=8) and stage IV (n=5) of CVL. IFAT titers ranged from 1/64 to 1/2048. Pentoxifylline treatment in addition to traditional domperidone administration, at a dose rate of 10 mg/kg with varying periods (14 to 40 days) resulted in complete remission in 14 out of 17 dogs in 11 to 42 days, whereas rest of the dogs presented partial recovery. It may be safely suggested that CVL may cause ear margin dermatosis and should be included in the differential diagnosis of disease. Besides pentoxifylline treatment in addition to traditional domperidone administration resulted in high cure rate.

**Keywords:** CVL, Alopecia

## ***EFFECTS OF HEXACHLOROCYCLOHEXANE (HCH-Y-ISOMER, LINDANE) ON THE REPRODUCTIVE SYSTEM OF ZEBRAFISH (DANIO RERIO)***

HAYATİ YÜKSEL<sup>a</sup>, ÜNAL İSPİR<sup>b</sup>, AYKUT ULUCAN<sup>a</sup>, CEBRAHİL TÜRK<sup>a</sup>, MEHMET REŞİT TAYSI<sup>a</sup>

<sup>a</sup> Bingöl University

<sup>b</sup> İnönü University

[aulucan@bingol.edu.tr](mailto:aulucan@bingol.edu.tr)

In this study, histopathological changes induced by lindane a gamma isomer of hexachlorocyclohexane and its intoxication associated with reproductive system and hormone levels were investigated in zebrafish. In all, 320 zebrafish adults approximately 1 year in age, (*Danio rerio*) obtained from a commercial entity were used in the study. Zebrafish were divided into 8 groups, each one containing 40 zebrafish. Groups were organized as 0 (the control group), 1 ml/L methanol, and 5, 10, 20, 40, 80, 160 µg/L/day lindane. In the study, the gamma-HCH-isomer was applied at rates of 5/10/20/40/80/160 µg/L/day as doses of immersion to each group for 21 days. Macroscopically, the drop in egg production was observed, especially in the 80 and 160 µg/L/day groups of female zebrafish. A microscopic decrease in ovulation and biochemical decreases in estradiol (E2) levels (40/80/160 µg/L) were also observed in the female zebrafish. As a result, lindane was found to cause changes in the reproductive system, and consequently, to cause hormonal disorders and to have significant effects on ovulation and fertilization in the female zebrafish.

**Keywords:** Zebrafish, Ovulation, Fertilization, Histopathology

## **DERMATOPHAGOIDES FARİNA OR DERMATOPHAGOIDES PTERONYSSINUS-SPECIFIC Ig E LEVELS IN ATOPIC DOGS**

KEREM URAL<sup>a</sup>, ÇAĞATAY TÜRK<sup>a</sup>, SERDAR PAŞA<sup>a</sup>, İLKER CAMKERTEN<sup>b</sup>  
ALI EVREN HAYDARDEDEOĞLU<sup>b</sup>, HASAN ERDOĞAN<sup>a</sup>, MEHMET GÜLTEKİN<sup>a</sup>,  
SONGÜL ERDOĞAN<sup>a</sup>

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary, Department of Internal Medicine,  
Aydın, TURKEY

<sup>b</sup> Aksaray University, Faculty of Veterinary, Department of Internal Medicine, Aksaray,  
TURKEY

[cagatayturkveth@gmail.com](mailto:cagatayturkveth@gmail.com)

**In the present article** the present authors retrospectively collected data regarding in vitro allergy test results for atopic dogs with special reference to house dust mites between February 2017 to June 2017. To those of 10 dogs, previously not treated, nor diagnosed within atopy or hypersensitivity were precisely diagnosed by Favrot criteria, relevant laboratory tests excluding flea bite hypersensitivity, recurrent pyoderma or mycotic infections, angioedema/urticarial and adverse food reactions. Striking but not surprising clinical sign was pruritus in all affected dogs. in vitro Polycheck test kits included Ig E concentrations (kU/L) *Dermatophagoides farina*, *Dermatophagoides pteronyssinus*, *Malassezia*, *Lepidoglyphus*, *Aspergillus*/ *Penicillium*, *Alternaria*/ *Cladosporium*, Ragweed (Ambrosia) pollen, Birch/ Alder/ Hazel pollen, Plantane/ Willow/ Poplar pollen, Parietaria (Wall pellitory) pollen, Rye pollen, 6 Grass-Mix, Stinging nettle pollen, Lambs quarter pollen, Plantain pollen, Mugwort pollen, Sorrel pollen, *Acarus siro*, *Tyrophagus*, Flea (*Ctenoceph.*). To those of atopic dogs Ig E concentrations for *D. farinae* involved n=3 Class 0 (<0.5): negative; n=1 cl. 1 (0.5-2.0): weak; n=4 cl. 2 (2.0-20.0): strong; n=2 cl. 3 (>20): very strong response. on the other hand, Ig E concentrations for *D. pteronyssinus* involved n=4 Class 0 (<0.5): negative; n=3 cl. 1 (0.5-2.0): weak; n=3 cl. 2 (2.0-20.0): strong response. Based on preliminary results it should not be unwise to draw conclusion that house dust mites must be taken into consideration within specific treatment modalities in atopic dogs.

**Keywords:** Atopic Dermatitis, *Dermatophagoides farina*, *Dermatophagoides pteronyssinus*, Dogs, IgE

## ***UNILATERAL PAPILLARY TYPE RENAL CARCINOMA IN A TERRIER BREED DOG***

TUNÇER ULUKARTAL<sup>a</sup>, BUĞRA BEKİRHAN YAĞCI<sup>b</sup>, İLKER CAMKERTEN<sup>c</sup>,  
KEREM URAL<sup>d</sup>

<sup>a</sup> Cat&Dog Veterinary Clinic, İzmir, TURKEY

<sup>b</sup> Kırıkkale University, FVM, Department of Internal Medicine, Kırıkkale, TURKEY

<sup>d</sup> Aksaray University, FVM, Dept. of Internal Medicine, Aksaray, TURKEY

<sup>c</sup> Adnan Menderes University, FVM, Dept. of Internal Medicine, Aydın, TURKEY

[bugrahanyagci@gmail.com](mailto:bugrahanyagci@gmail.com)

A-14 year-old, female terrier breed dog referred to Veterinary Private Clinic with the complaints of anorexia and urinary incontinence. Clinical ultrasonographic and radiologic assessments confirmed the unilateral renal enlargement and abdominal pain. Routine blood tests and control ultrasonography confirmed severe enlarged kidney. Experimental laparotomy total tumor resection and nephrectomy performed. Unilateral renal papillary carcinoma was proven by the histopathologic examination of the samples. in this case report; neo-plastic mass possibility in dogs with severe abdominal pain and urinary incontinence must be taken into consideration.

**Keywords:** Nephrectomy, Dog, Papillary renal carcinoma

## ***SYMBLEPHARON FORMATION AFTER CORNEAL WOUND IN A CAT***

---

MUGE BIRCAN AKKARTAL, ATILLA DOGAN, IREM ERGIN

Department of Surgery, Faculty of Veterinary Medicine, Ankara University, Turkey

[iremerg@gmail.com](mailto:iremerg@gmail.com)

Symblepharon is a partial or complete adhesion of the palpebral conjunctiva of the eyelid to the bulbar conjunctival and corneal surface. It occurs during a severe primary infection and herpesvirus conjunctivitis in cats. Especially severe symblepharon may result visual loss. For treatment, adhesions are removed from the corneal and conjunctival surfaces. Two years old, female, tabby cat was brought to Ankara University Animal Hospital with complaints of severe itching, pain and epiphora in its left eye. There was a severe corneal injury in its history 8 months ago. in ophthalmoscopic examination, there were blepharitis, conjunctival hemorrhage, chemosis and severe ulcer cornea. Also, third eyelid adhered to upper and lower palpebral conjunctiva. For medical treatment, amoxicillin-clavulanic acid was used orally for 5 days. Tobramycin, acetylcystein and cyclopentolate HCl was used in the left eye for 3 weeks. After medical treatment, it was seen that conjunctival tissue adhered to the cornea to cover the lesion. in surgical treatment, conjunctival adhesions were removed from the corneal surface. These conjunctival tissues cut edge sutured with 5/0 polyglactin material to the same side palpebral conjunctiva. Also, third eyelid was released from the upper and lower conjunctiva and sutured to the lower palpebral conjunctiva. After surgery, eye lubricant and ointment were used for 10 days. There was no recurrence for 2 months. Symblepharon is a pathology that can be repeated after treatment. For this purpose, a number of methods have been developed to minimize the risk of recurrence. Despite all these treatment options, conjunctival tissue may adhere to corneal tissue again. in this case, conjunctival tissues sutured to palpebral conjunctiva continuously. in this way, it was inhibited to readhesion of the cut edge of the conjunctiva to corneal surface. The cat is still being followed.

**Keywords:** Symblepharon, cat, treatment



## **DETERMINATION OF ANTIOXIDANT CAPACITY OF COMMERCIAL ANTIOXIDANT SUPPLEMENTS BY 2,2-DIPHENYL-1-PICRYLHYDRAZYL (DPPH) ASSAY**

HANDE SULTAN SAHINER<sup>a</sup>, MURAT BOYACIOGLU<sup>a</sup>, OZGE BARDAKCI<sup>a</sup>  
UMIT KARADEMIR<sup>a</sup>

<sup>a</sup> Adnan Menderes University, Faculty of Veterinary Medicine, Department of Pharmacology and Toxicology, Aydın, Turkey

[vet.hekim.hande@hotmail.com](mailto:vet.hekim.hande@hotmail.com)

The aim of this study was to investigate and compare the antioxidant capacity of selected commercial antioxidant supplements with the 2,2-diphenyl-1-picrylhydrazyl (DPPH) antioxidant capacity determination assay. There are many dietary supplements with potential antioxidant activity on the Turkish market. However, their antioxidant properties are rarely confirmed experimentally. Seven commercially available and labeled with antioxidant potential vitamin supplements were investigated in the three groups (Vitamin C, E and ester C). Each group of antioxidants were selected from same chemical formulation labeled by the manufacturers. Trolox was used as a standard. Each formulation was weighted and dissolved in methanol at different concentrations (0-400 µg/ml). DPPH was colorimetrically analyzed by UV-vis spectrometer at 517 nm. The EC<sub>50</sub> (efficient concentration) is the concentration of an antioxidant at which 50% inhibition of free radical activity was observed. The higher the EC<sub>50</sub> value indicates the lower antiradical activity. All supplements analysis run until the % inhibition value was stable. in our study that range was 50-400 µg/ml approximately. All measurements were performed in triplicate. The present study trolox was determinate 1,672 µg/ml. When compared the standard the highest DPPH scavenger was found the vitamin C. Three different commercially available vitamin C (ascorbic acid) was determined EC<sub>50</sub> values 1,665 µg/ml, 1,677 µg/ml and 2,426 µg/ml, respectively. Second of radical sweeping activity was determined the vitamin C-ester form. EC<sub>50</sub> values were 1,722 µg/ml and 1,968 µg/ml, respectively. The last DPPH scavenger among studied supplements was vitamin E (d-α tocopherol) and determined EC<sub>50</sub> values were 3,796 µg/ml, 4,110 µg/ml and 52,537 µg/ml, respectively. The result determinates that indicated contents of commercial antioxidant supplements may have different antioxidant capacities. However, the result indicated that commercial antioxidants, except vitamin E, gave similar values.

**Keywords:** Commercial antioxidant supplements, antioxidant capacity, 2,2-diphenyl-1-picrylhydrazyl (DPPH).

## **INCREASING THE PREGNANCY RATE IN BREEDING SEASON MIDDLE ANATOLIAN MERINO SHEEP OF NON-PREGNANCY**

ŞÜKRÜ DURSUN<sup>a</sup>, GAYE BULUT<sup>a</sup>, MEHMET KÖSE<sup>b</sup>, TAHİR KARAŞAHİN<sup>c</sup>

<sup>a</sup>Dept. of Obstetrics and Gynaecology, Faculty of Veterinary Medicine, Aksaray University

<sup>b</sup>Dicle University Faculty of Veterinary Medicine, Diyarbakır, TURKEY

<sup>c</sup>Aksaray University Faculty of Veterinary Medicine, Aksaray, Turkey

[sukrudursun70@hotmail.com](mailto:sukrudursun70@hotmail.com)

This study, it was aimed to reduce the number of infertile cattle in operation and increase the profitability of the enterprise. Middle Anatolian Merino sheep that are inseminated at least three times in the breeding season and not pregnant, control group (Group I, n = 26) and application (hCG) group (Group II, n = 48) were divided into two groups. Progesterone-containing sponge was placed in the application group for nine days. While administering 250 µM PMSG + 125 µg PGF2α concurrently with sponge removal, no application was made to the control group. All inseminated were done by natural mating with fertile coats. The diagnosis of pregnancy was made with USG 60 days after the initial insemination. in the study, oestrus, conception, pregnancy, birth, lamb yield, multiple birth rates and average number of lambs at one birth were investigated. in the control and hCG groups, respectively, 68.3 (28/41), 26.9 (7/26); 78.6 (22/28), 3.8 (1/26); 78.6 (22/28), 0 (0/1); 90.9 (20/22), 0 (0/0); 60.0 (25/41), 0 (0/0); 13.6 (3/22), 0 (0/0) and 1.14 (25/22), 0 (0/0). All properties except for the estrus ratio were found to be significant in favor of hCG (p = 0.001). **As a result**, progesterone-containing sponge (9 days) + 250 IU PMSG + PGF2α + hCG application was found to be beneficial in sheep that are inseminated at least three times in the breeding season and not pregnant.

**Keywords:** Breeding season, Middle Anatolian Merino sheep, hCG

## ***miRNAs AND BREAST CANCER***

---

**BERRIN SALMANOGLU, GİZEM ARALAN**

Dept. of biochemistry, Faculty of veterinary medicine, Ankara University, Ankara, TÜRKİYE

[berrin.salmanoglu@gmail.com](mailto:berrin.salmanoglu@gmail.com)

miRNAs are an important class of endogenous molecules which are involved in regulating expression of several genes inside a cell due to presence of complementary region against specific mRNA molecules.

They have also been confirmed in different cancers including breast cancer. They are involved in regulating expression of several genes inside a cell due to presence of complementary region against specific mRNA molecules. We can discuss role of miRNAs as uncontrolled division of cells, promotion, progression and metastasis in breast cancer.

miRNAs in eukaryotes are regulated 10-30% of total genes at post transcriptional level. in humans involvement of miRNAs in Cancer, nearly 200 miRNA molecules are involved in progression of cancers. Cancer is a polygenic disease caused by alterations in tumor suppressor and oncogenes either at genetic, epigenetic or expression levels. miRNA involvement has been observed in almost every type of cancer.

Since breast cancer is included as one of top five most prevailing cancers across the globe so can designed a comprehensive literature search to scroll all those miRNAs which are directly modulating this disease.

**Keywords:** miRNA, cancer, breast cancer, malignancy

## **GENE MODIFICATION WITH CRISPR; A SHORTCUT TO SUPER HUMAN?**

---

ELIF BULUT<sup>a</sup>, ALPER BULUT<sup>b</sup>, MURAT YILDIRIM<sup>a</sup>

<sup>a</sup> Kirikkale University, Veterinary Faculty, Microbiology Department.

<sup>b</sup> Ankara University, Faculty of Medicine, History of Medicine and Ethics Department.

[esozeri@gmail.com](mailto:esozeri@gmail.com)

Clustered Regionally Interspaced Short Palindromic Repeats (CRISPR), is an archaeal and bacterial acquired immune system against invading genetic elements. The repeats were firstly discovered in *E. coli* in 1987 and named as CRISPR in 2002.

It has been modified to recognize any short DNA sequence, cut it out and insert a new one and has gained attention in recent years due to its superiority to other methods such as zinc finger nuclease (ZFN) and transcription activator-like effector nucleases (TALEN). CRISPR is more efficient, less expensive and fast compared to previous techniques. CRISPR works with CRISPR Associated (Cas) proteins, mostly with Cas9 which is the cutting enzyme. Although there are still some discussions about classifications, mostly accepted classification has three types of CRISPR-Cas techniques which alter in mechanisms.

Though CRISPR's promising future applications, it is not clear yet whether it will arise de novo ethical issues apart from those which have been on debate about genome editing.

An International Summit on Human Gene Editing has declared remarks and called for an international group of involved to draw strategy for CRISPR applications. Still, there is not a consensus to prevent CRISPR use for eugenics.

Viewing up to date data and literature concerning CRISPR, we conclude that this promising technique applications may become a threat in terms of abuse and should be restricted to somatic cells to prevent eugenics. Establishing international committees to oversight, inspect and authorize institutes studying on CRISPR is mandatory.

**Keywords:** Gene Modification, CRISPR, human

***ICAVST SCIENCE AWARDS – 2017***

---

**The Researcher of the Year**

**TEVHİDE SEL**

**The Young Researcher of the Year**

**TUĞÇE SÜMER**

**ÇİĞDEM DİKEL**

**Best Oral Presentation**

**1st CENKER CAGRI CINGI, ABDULLAH RUHI SOYLU**

MEASUREMENT OF HEART FREQUENCY WITH PRACTICAL ECG DEVICE IN BRITISH HORSES

**2nd MUHAMMED KÜRŞAD BIRDANE**

DIAMETER OF FOLLICLES AND CORPUS LUTEUM, SERUM PROGESTERONE LEVELS, OESTRUS AND PREGNANCY RATES IN THE ANATOLIAN BUFFALO HEIFERS

**3rd MUSTAFA ÖZTOP, MEHMET ÖZBEK, FEYZULLAH BEYAZ, EMEL ERGÜN, LEVENT ERGÜN, ERGÜL ERGEN, FÜSUN ERHAN**

IMMUNOHISTOCHEMICAL EXPRESSION OF ATRIAL- AND BRAIN NATRIURETIC PEPTIDE IN ANATOLIAN GROUND SQUIRREL (SPERMOPHILUS XANTHOPRYMNUS) KIDNEY AND LUNG

**Best Visual Presentation**

**1st CANSU AKDOĞAN, İBRAHİM AKIN**

ALTERNATIVE THERAPY METHODS IN WOUND HEALING

**2nd MUSTAFA YİPEL, İBRAHİM OZAN TEKELİ, CEMİL KÜREKÇİ**

MULTI-CLASSES ANTIBIOTIC RESIDUE DETERMINATION IN CHICKEN MEAT SAMPLES BY LIQUID CHROMATOGRAPHY-MASS SPECTROMETRY

**3rd TUBA BAYGAR, NURDAN SARAÇ, AYSEL UĞUR, TAÇNUR BAYGAR, UYDU BALCI**

THE INHIBITION EFFECTS OF EUGENOL AND PULEGON ON STENOTROPHOMONAS MALTOPHILIA: AN OPPORTUNISTIC PATHOGEN

## MENTIONS

### Senior Researcher Mentions

**MEHMET FATİH BİRDANE**

**SERDAR PAŞA**

### Young Researcher Mentions

**SHEMEYEVA ULDANA**

**CİHAT TUNÇ**

**DUYGU BAKI ACAR, MÜRŞİDE AYŞE DEMİREL**

THE WITHITNESS OF CAT OWNERS ABOUT THE REPRODUCTIVE STATUS OF THEIR  
ANIMALS IN AFYONKARAHISAR AND ANKARA

AHMET CİHAT TUNÇ, FATİH MEHMET BİRDANE, CANGİR UYARLAR, FULYA  
ALTINOK YİPEL, EYÜP EREN GÜLTEPE, DURMUŞ FATİH BAŞER, **ABUZER ACAR  
(SR)**

THE EFFECTS OF INTRAVENOUS NOVACOC TREATMENT ON METABOLIC PROFILES  
DURING THE TRANSITION PERIOD OF DAIRY COWS

**ÇİĞDEM ALTINSAAT, ŞAKIR YILDIRAN**

IMPACT OF MATERNAL HIGH-FAT DIET DURING PREGNANCY AND LACTATION ON  
REPRODUCTIVE DEVELOPMENT OF THE MALE OFFSPRING

**NURI ALTUĞ, NAZMI YÜKSEK, CUMALI ÖZKAN, YILDIRAY BAŞBUĞAN, İHSAN  
KELEŞ, ZAHİD TEVFİK AĞAOĞLU, ABDULLAH KAYA, YAKUP AKGÜL**

SERUM POTASSIUM-LOWERING EFFECTS OF INSULIN PLUS DEXTROSE AND  
ADRENALIN TREATMENT THAT ENHANCE INTRACELLULAR POTASSIUM TRANSITIONS IN  
HYPERKALEMIC DIARRHEIC CALVES

**NURAN AYSUL, KEREM URAL, MEHMET GÜLTEKİN, ADNAN AYAN, SELİN  
HACILARLIOĞLU, SONGÜL ERDOĞAN, METİN PEKAĞIRBAŞ, GÜRKAN AKYILDIZ**

ß-GIARDIN ANALYSIS AND MOLECULAR TYPING OF GIARDIA DUODENALIS ISOLATES  
AMONG DOGS AND CALVES IN AEGEAN REGION OF TURKEY: PRELIMINARY RESULTS

HATICE MUTLU EYISON, **SUNA CEBESÖY, ERKUT KIVANÇ**

THE ANATOMICAL STRUCTURE OF APODEMUS FLAVICOLLIS SKULL



ILGIN ÖZSAHINOĞLU, PINAR MUMOĞULLARINDA DOYANÇ, **SUAT DIKEL(SR)**

EFFECT OF ALTERNATE PHASES OF CANOLA OIL AND FISH OIL LEVEL ON THE GROWTH PERFORMANCE AND FATTY ACID PROFILES OF JUVENILE EUROPEAN SEABASS (DICENTRARCHUS LABRAX L. 1758)

**NURAL EROL**, SİBEL GÜR, BAHATTİN TAYLAN KOÇ, SİBEL YAVRU

A SEROLOGICAL INVESTIGATION OF BOVINE ENTEROVIRUS-1, BOVINE HERPESVIRUS-1, BOVINE VIRAL DIARRHOE VIRUS AND PARAINFLUENZA-3 VIRUS INFECTIONS IN CAMELS (CAMELUS DROMEDARIUS) IN WESTERN TURKEY

**SERKAN ERAT**, BORA ÖZARSLAN, EVREN ERDEM

PRELIMINARY RESULTS OF COMPARISON OF SOME BODY MEASUREMENTS TAKEN ON BAFRA LAMBS WITH THE ONES TAKEN ON THE DIGITAL IMAGES OF THE SAME LAMBS USING IMAGEJ PROGRAM

**SEYED ALI GHORASHI**, MOHAMMAD SADEGH SAEIDABADI, HASSAN NILI, HABIBOLLAH DADRAS, HASSAN SHARIFIYAZDI, JOANNE CONNOLLY, MARY VALCANIS, SHANE RAIDAL

DIFFERENTIATION OF SALMONELLA ISOLATES USING PCR AND HIGH-RESOLUTION MELT CURVE ANALYSIS

**ABDURRAHMAN GÜL**, ŞEYMA GÜNYAKTI KILINÇ

THE INVESTIGATION OF THE PREVALANCE OF LICE SPECIES ON THE HAIR GOATS SLAUGHTERED AT BINGÖL MUNICIPAL SLAUGHTERHOUSE

AHMET ALI YAĞCI, **VEHBI GÜNEŞ**

THE INVESTIGATION OF D-DIMER LEVELS AND COAGULATION PROFILES IN DOGS WITH DISTEMPER

**HASAN HUSEYİN HADIMLI**, GOKCENUR SANIOĞLU GÖLEN, ALİ USLU

THE EFFECT OF IGY AND/OR BACTERIOPHAGE THERAPY ON CLINICAL PARAMETERS IN SALMONELLA INFECTIONS OF CALVES

SONGÜL ERDOĞAN, KEREM URAL, İLKER CAMKERTEN, GÜZİN CAMKERTEN, HASAN ERDOĞAN, DENİZ ALIC URAL, **ALİ EVREN HAYDARDEDEOĞLU (SR)**

POSTPARTUM 25-OH-D3 AND NEFA CORRELATIONS AMONG CATTLE AND OFFSPRING

TEVHIDE SEL, **GÖRKEM KISMALI**

PIPERLONGUMINE AND TRAIL SYNERGIZE TO PROMOTE CELL DEATH IN COLON  
CANCER CELLS

NAFIYE KOÇ, AYSE CAKMAK, **SERPİL NALBANTOĞLU**

FIRST RECORD OF NECROBIA RUFIPES (DE GEER, 1775) ASSOCIATED WITH PET  
CLINIC IN TURKEY

**TUBA ÇİĞDEM OĞUZOĞLU**, ONUR ÜLGENALP, BAHATTİN TAYLAN KOÇ

THE REPORT ABOUT ECTHYMA CONTAGIOSUM INFECTION IN SMALL RUMINANT  
HERDS FROM TURKEY

**ALI CESUR ONMAZ**, ALEXANDRA PAVALOIU, AYHAN ATASEVER, RENE VAN DEN  
HOVEN

THREE CASES OF EQUINE VASCULITIS

**BERRİN SALMANOĞLU**, ORHAN GÜVEN, SİNAN TOZOĞLU, UMUT TEKİN, ONUR  
GÜNEŞ

RELATIONSHIP BETWEEN ACTIVITY OF GLUTATHION PEROXIDASE AND NITRIC OXIDE  
IN SYNOVIAL FLUID AND THE PROGRESSION OF TEMPOROMANDIBULAR JOINT  
INTERNAL DERANGEMENT

**LEVENT SANGÜN**, O. İNANÇ GÜNEY

COMPARISON OF FACTORS AFFECTING SEAFOOD CONSUMPTION ACCORDING TO  
DEMOGRAPHIC CHARACTERISTICS

**SOBIECH PRZEMYSŁAW**, ZHANSEK SULTANOV, MAMBETALIEV M, ROMASHEV  
K, USSENBAYEV ALTAY, KHIZAT SERIK

BIOLOGICAL ACTIVITY OF THE CVS VIRUS IN CELL CULTURE

**UMUT TAŞDEMİR**, DENİZ YENİ, MUHAMMED ENES İNANÇ, FATİH AVDATEK,  
BESTE ÇİL, RUHİ TÜRKMEN, PÜRHAN BARBAROS TUNCER

SUPPLEMENTATION OF ROSMARINIC ACID HAS REDUCED OXIDATIVE STRESS ON BULL  
SPERMATOTZOA FOLLOWING THE FREEZE THAWING PROCESS

# **ICAVST SCIENCE AWARDS – 2017**

## **JURY**

---

### **President**

GÜZİN CAMKERTEN

### **Members**

ZEYNEP PEKCAN

DUYGU BAKİ ACAR

MERT PEKCAN

SİNAN AKTAŞ

ABUZER ACAR

# ICA-VET-ST

II INTERNATIONAL CONGRESS ON ADVANCES  
IN VETERINARY SCIENCES & TECHNICS



**ZENITH  
GROUP**  
[www.zenithgroup.ba](http://www.zenithgroup.ba)

**EUROPE  
CONGRESS**  
[www.europecongress.org](http://www.europecongress.org)

**TURKISH  
AIRLINES**

