

## **THE INTERPRETATION OF SOME BLOOD PARAMETERS IN COWS IN THE PERIPARTURIENT PERIOD**

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### **Summary**

This study was aimed for the evaluation of changes in the concentrations of total proteins, albumin, globulin and calcium in seven clinically healthy dairy cows in the period from one week before calving to one week after calving. Before parturition, the analysis of some blood biochemical parameters on seven samples (n=7) reveals an average of 77.29 g/l for proteins, 38.74 g/l for albumins, 38.54 g/l for globulins and 2, 41 mmol/l for calcium. The samples are homogeneous, the coefficient of variability (CV%) had values that fall within the range of 4.38-6.19% with the exception of globulins where it has a value of 14.49%. After parturition, the same blood parameters have slightly higher values, thus for proteins, albumins, globulins and calcium, an average of 80 g/l was recorded; 40.01 g/l; 39.97 g/l and 2.84 mmol/l respectively. The coefficient of variability has high values for calcium 39.94%, medium values for globulins, 13.82% and low values for proteins and albumins, 5.68 – 3.76%. Among the biochemical parameters analyzed, there are no significant differences ( $p \geq 0.05$ ) between the values recorded before and after parturition. These results showed dynamic changes in the serum protein electrophoretic pattern during peripartum period which show the physiological response of the organism to the variation of metabolic and immune functions occurring from gestational non-lactating to a non-gestational lactating state in periparturient dairy cows.

**Keywords:** cow, calving, proteins, biochemical.

## **THE ROLE OF GENETICS IN THE HEALTH PROTECTION OF PIGS ON COMMERCIAL FARMS (RESEARCH REVIEW)**

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### **Summary**

A healthy pig is a condition for the production of quality meat. In modern pig production, genetics aims to improve the production capabilities of existing breeds used on commercial farms, as well as the improvement of genetic, and therefore phenotypic, characteristics with greater potential to create a pure breed or to breed pigs even more successfully for commercial purposes. The discovery of mutant throats would result in their exclusion from the breeding program. In the majority of pigs whose karyotype was analyzed, we found the appearance of a transformed karyotype, which is characterized by the appearance of aneuploidy, polyploid cells and cells with structural chromosomal aberrations, most often of the monochromatid type.

**Keywords:** pig, karyotype, health status.

## **CLINICAL AND THERAPEUTIC ASPECTS IN CYTAUZOON FELIS INFESTATION IN DOMESTIC CATS-CASE REPORT**

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### **Summary**

In Romania, studies on the protozoan infestation of the species *Cytauxzoon felis* in domestic cats, taxonomically included in the class *Aconoidasida*, order *Piroplasma*, family *Theileriidae*, genus *Cytauxzoon*, are relatively few. The purpose of this paper is to highlight the clinical and paraclinical aspects regarding the evolution following the infestation with the protozoan *Cytauxzoon felis* in domestic cats, which presented symptoms of anorexia, fever (>40°C), jaundice, ataxia, idiopathic subcutaneous edema. The clinical signs, in the cats taken in the study, were not eloquent, that is why we resorted to paraclinical examinations regarding the complete blood count, blood biochemical examination, May Grunwald Giemsa-stained peripheral blood smear and PCR examination, following which it was identified, in two, from the cases of cats studied, the presence of the protozoan *Cytauxzoon felis*, along with *Mycoplasma haemofelis*. According to the bibliographic studies, in addition to general supportive treatment, etiological medication was also administered, using a combination of two antibiotics, Azithromycin and Atovaquone, in therapeutic doses. Due to the intolerance to Atovaquone, it was necessary to replace it with Clindamycin, in therapeutic doses, obtaining a symptomatic improvement and a negative result in the PCR examination.

**Keywords:** *Cytauxzoon felis*, blood analysis, PCR.

**MORPHOLOGICAL ASPECTS OF THE PELVIC CAVITY OF  
EUROPEAN BADGER (*MELES MELES*)**

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**Summary**

The gross anatomical techniques were used in the study and description of the morphological aspects of the pelvic cavity in three cadavers of european badger (*Meles meles*). The pelvic cavity is framed by the sacrum dorsally, and the hip bones ventrobilateral. The sacrum consists of three fused vertebrae whose spinous processes are not united. The gluteal surface of the wing of ilium is deep, while the sacropelvic surface is planiform. The greater ischiadic notch has two parts. Acetabulum is rounded and the acetabular notch very large. Obturator foramen resemble a bean-shaped contour. The ischiadic arch is convex and the ischial tuberosity doubled. The body of the ischium is twisted and the lesser ischiadic notch is linear. The badger's pelvic cavity showed different characteristics compared with the pelvis of other carnivores.

**Keywords:** morphology, european badger, pelvic cavity.

**EPIDEMIOLOGICAL STUDY ON THE EVOLUTION OVER A 10-YEAR PERIOD OF VARROOSIS IN BEES FROM MEHEDINTI COUNTY**

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**Summary**

Parasitic diseases of bees are a very serious problem in beekeeping today. The most important diseases are varroosis, braulosis, acarapiosis, and ascospherosis. Varroosis is an acariosis produced by *Varroa destructor*, which affects the honey bee and produces high mortality. This study was performed in Mehedinți County and presents data on the evolution of varroosis over a period of 10 years (2013-2023), in accordance with the data recorded at the Directorate for Sanitary, Veterinary and Food Safety (DSVFS). The laboratory diagnosis was made by examining the bees in order to identify the *Varroa* mite. The *Varroa* mite was identified annually in bees from Mehedinți County. The highest prevalence was in 2013 (4.76%), and the lowest prevalence was reported in 2018 (0.15%). Due to the decrease in production associated with the loss of bee colonies, varroosis is and remains a threat to the health of bees in Mehedinți County. The implementation of a new and complex strategy of parasitological control is a recommendation in accordance with the results obtained in this study.

**Keywords:** honey bees, varroosis, epidemiology, Mehedinți County.

**DETECTION OF *NEOSPORA CANINUM* IN MILK SAMPLES  
COLECTED FROM DAIRY COWS IN WESTERN ROMANIA**

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**Summary**

Neosporosis is a parasitic infection produced by the protozoan *Neospora caninum*, which is found in dogs (as definitive host) and mainly cattle and horses (as intermediate host), respectively. The disease usually evolves on farms with free roaming dogs, causing abortions in pregnant animals. The aim of the study was to assess the prevalence of *N. caninum* in milk samples collected from cows in three counties from western Romania (Arad, Timiș and Caraș-Severin). A commercial ELISA ID Screen® *Neospora caninum* Indirect kit from ID Vet France was used, according to the manufacturer instructions. A total number of 184 milk samples were tested as follows: 29 from Arad, 47 from Timiș and 108 from Caraș-Severin, respectively. The prevalence of *N. caninum* infection was 24.13% in Arad, 12.76% in Timiș and 5.55% in Caraș-Severin. Also, 10.34% of the milk samples from Arad were inconclusive.

**Keywords:** neosporosis, ELISA, milk, cattle, prevalence.

## THE INFECTION WITH *TRICHOPHYTON* SPP. TO CATTLE FROM A FARM IN TIMIȘ COUNTY

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### Summary

Dermatophytoses are caused by fungi belonging to the genera *Microsporum*, *Trichophyton*, and *Epidermophyton*. Trichophytosis is a dermatophytosis produced by the genus *Trichophyton*. The etiological agent responsible for trichophytosis in cattle is *T. verrucosum*. This disease is a zoonosis and is transmitted by direct contact. In this context, the purpose of this study was to evaluate the epidemiological situation and to identify the possible etiological agents of a parasitic nature in cattle from the didactic and experimental farm of the "King Mihai I" University of Life Sciences from Timișoara. 46 cattle (20 adults and 26 cattle of different ages) were examined. The results support that young cattle represent the category most susceptible to trichophytosis (45.65%) compared to adult cattle (4.35%). The resistance of the spores in the environment, the contagiousness, and the prevalence of this dermatophytosis represent a danger to animals and to humans. Epidemiological investigations, early diagnosis, proper sanitation of farms, and treatment of animals with and without skin lesions are the main actions of the parasitological control of trichophytosis.

**Keywords:** cattle, *Trichophyton* spp., epidemiology.

## **APPROACH OF REPEATABILITY, REPRODUCIBILITY AND COMPARISON WITH CLASSICAL ANALYSIS OF NIR PET FOOD HUMIDITY VALUES**

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### **Summary**

The study was carried out in order to optimize the non-invasive Near Infrared (NIR) technology in order to use the equipment for purposes of Animal production mobile laboratory for metabolic and nutritional advices in "2 Hours Farm Visits Program in West Romania". A sample of 22 pet feeds (10 samples with dog feed and 12 samples with cat feed from several producers and brands) was analyzed by classical physical-chemistry method and by NIR three parameters was calculated: 1. the repeatability limit ( $r$  value = 0.410), internal reproducibility limits ( $R_i$  = 1.583). By comparison with classical chemistry laboratory, also the reproducibility limits) was calculated ( $R$  value = 1.865). Practically, for an Animal production auto laboratory needs the estimation of repeatability and reproducibility limits can be effectuated for each type of feed, for any species including pets feed, concentrates for ruminants or swine or forages like silage or hay for dairy cattle sector.

**Keywords:** NIR, repeatability, reproducibility, humidity.



## **MORPHO-PHYSIOLOGICAL ASPECTS OF THE GASTROINTESTINAL TRACT IN MICE**

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### **Summary**

*Mus musculus* is the most used laboratory animal. The gastrointestinal system of the mouse is similar to the other members of the *Rodentia* family. Noted are the morphological aspects and physiological processes that take place in the digestive tract of mice. Each component of the digestive tract performs certain functions, directly correlated with the structures found in each segment. The focus of this study is to quantify data related to the morpho-physiological aspects of the digestive tract of mice. The information may be useful for physiological, anatomical and histological studies of the mouse gut, but also preclinical studies regarding pharmacology and toxicology, where surface area data is crucial (in example for dose translation towards humans). Also, the data might be of use to researchers planning to get acquainted with the mouse model for studies, or even veterinarians looking for an anatomical and physiological guide of the mouse gut.

**Keywords:** mouse, gastrointestinal tract, digestion.

## **DETECTION OF ANTHELMINTHIC RESISTANCE IN A SHEEP FARM FROM ARAD COUNTY**

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### **Summary**

Helminthic infestations in small ruminants are frequently the basis of the decrease in their production, but also in the increase of mortality in the youth in severe infestations. At the same time, anthelmintic treatments with various drug classes increase the selection pressure for resistance. This paper describes the research carried out in a sheep flock from Arad County to detect the presence of anthelmintic resistance to the most used drugs: albendazole and ivermectin. Three calculation formulas for FECRT were used, all giving very close results. Both albendazole and ivermectin provided results in the 90-95% effectiveness range. For both drugs used there is a suspicion of resistance.

**Keywords:** sheep, gastrointestinal nematodes, albendazole, ivermectin, resistance.

**IDENTIFICATION OF CYSTIC ECHINOCOCCOSIS IN SHEEP  
FROM VÂLCEA COUNTY – CASE REPORT**

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**Summary**

Cystic echinococcosis (CE) is a zoonotic disease caused by the larval stage of the species *Echinococcus granulosus*. This disease is found in various species of mammals, mainly in the liver and lungs, and is transmitted through carnivores, and definitive hosts. In this context, the purpose of this case study was to evaluate the parasite load in a slaughtered sheep in a household in Vâlcea County by classical parasitological methods. *Haemonchus* spp. and two hydatid cysts were identified at necropsy. Epidemiological and necropsy investigations on hydatidosis in sheep, as well as treatment strategies with anthelmintic drugs, especially on stray dogs, but also on owned dogs, are very important to prevent the spread of this disease.

**Keywords:** cystic echinococcosis, sheep, Valcea County.

**STUDY REGARDING THE INFESTATION WITH  
GASTROINTESTINAL NEMATODES IN FALLOW DEER (*DAMA  
DAMA L.*) FROM TIMIȘ COUNTY**

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**Summary**

The species do not live alone, at the habitat or ecosystem level they form a union, a conglomerate, together with other species between which various relationships or interactions are established. This interaction between two or more species takes various forms: competition, commensalism, mutualism, predation, or parasitism. From this point of view, the fallow deer (*Dama dama L.*) is no exception. In this context, the purpose of the study was to identify the possible presence of endoparasites in fallow deer from Timiș County using classical coprological methods, and macroscopic and microscopic examination of the gastrointestinal mass and organs. Identifying a high percentage of the morulated strongilid eggs (gastrointestinal nematodes) certifies the importance of parasitic endofauna with obvious repercussions on the health status of the parasitized host and, equally, with implications in its ecological relationships.

**Keywords:** *Dama dama L.*, endoparasitism, Timiș County.

**HAFNIA ALVEI - OPPORTUNISTIC PATHOGEN INVOLVED IN SEPTICEMIA IN THE RAINBOW TROUT *ONCORHYNCHUS MYKISS***

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**Summary**

In veterinary medicine, *Hafnia alvei* is associated with a number of infections in animals, including enteritis, septicemia, and respiratory infections in pigs and gastroenteritis in fish. This bacterium is part of the normal gut microbiota in many animals and has been associated with a number of infections in humans, including urinary tract infections, wound infections, and bacteremia. They survive in fresh and saltwater and are transmitted from fish to fish by direct contact or through contaminated food and water. *Hafnia alvei* infections are more common in fish that are stressed, have a weakened immune system, or live in poor environmental conditions. In a fish farm, increased mortality was observed in rainbow trout (*Oncorhynchus mykiss*) of different ages (2-16 months) without being clinically apparent. After microbiological examination Gram-negative, oxidase-negative, catalase-positive and lactose-negative bacterial strains were isolated. Using MALDI-TOF mass spectrometry (Biotyper® Sirius One, Bruker), all isolated bacterial strains were identified and assigned to the species *Hafnia alvei*. These opportunistic bacteria are not as well known as some other bacterial pathogens but can cause disease in certain situations and are therefore an important consideration for veterinarians and other professionals.

**Keywords:** *Hafnia alvei*, *Oncorhynchus mykiss*, septicemia.