

# **ABSTRACTS**

**Note:**

**The abstracts are presented in alphabetical order after the first author**

## **THE EFFECTS OF ENRICHING THE RAISING ENVIRONMENT ON PIG WELFARE**

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The purpose of this study was to track the effects of environmental enrichment on welfare growth for fattening pigs, as evidenced by the response induced physiological and behavioral indicators of welfare. The enriched environment for pigs may determine different responses of some welfare indicators.

While in the collection fold, the behaviour of pigs raised in boxes located in stimulating environment (A) was different from the ones exhibited by pigs raised in plain boxes (B) when they were moved in order to be mixed and later on transported to the slaughter house. The group B pigs spent more time on the move (9%) compared to group A pigs (6%), and manifested more aggressive behaviour (4%). Salivary cortisol levels also showed high values for pigs in-group B after being removed from their growth environment, as compared to its concentration for group A pigs.

These results indicate that a stimulating, enriched environment of the boxes may influence the animal welfare level even when these are taken out of their environment.

## **RESULTS OBTAINED AFTER USE OF TREATMENTS FOR INDUCING AND SYNCHRONIZING OESTRUS IN COWS**

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The authors induced and synchronized the oestrus and ovulation at a number of 157 Romanian spotted dairy cows, using in association preparations of PGF<sub>2α</sub> (Proliz) and GnRH (Receptal), according to four therapeutic schemes.

The lowest levels of oestrus manifestation (80,09) were shown in cows treated according to scheme I and the highest levels (93,61) appeared at scheme IV. Most of the cows and heifers synchronized after the scheme II manifested oestrus between 60 and 72 hours.

The lowest rates of pregnancy (46,15%) were observed at scheme III and the highest (53,12%) at scheme II.

In the experimental group, cows resumed the postpartum sexual activity in a natural manner, without hormonal intervention, the rate of gestation reaching 58,06%.

In USA, in dairy cattle farms with medium production, 50% of the cows pass the oestrus period unobserved (Stevenson 2005). Due to secondary effects generated by the application of several hormonal protocols (using progesterone, estrogen), the practice became oriented towards the use of hormonal protocols based only on PGF<sub>2α</sub> or the association of GnRH and PGF<sub>2α</sub>.

The administration of GnRH is followed by:

- The atresia of the dominant follicle;
- Ovulation (if the intervention was made during the luteal phase of the cycle);
- Stimulation of follicular maturation and ovulation of the dominant follicle by GnRH;
- Recruitment of a new follicular wave less than 4 days after treatment (Dolezel et al, 2002).

The Ovsynch procedure got its name because the GnRH- PGF<sub>2α</sub>-GnRH sequence assures synchronized ovulation (Pursley et al, 1995).

The Presynch procedure was proposed in 1998 and it is a modification of the Ovsynch procedure by completing its lacks (Thatcher et al., 1998). The rate of gestation is superior in the case of Presynch utilization (43%), comparing the results obtained ulterior of the Ovsynch use (29%) (Moriera et al., 2000).

## **THE IMPLEMENTATION OF MOLECULAR BIOLOGY TECHNIQUES IN DIAGNOSING FELINE RHINOTRACHEITIS**

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The identification of the Feline Rhinotracheitis Virus proved to be difficult to diagnose by traditional means because of nearly undistinguishable clinical symptoms when compared to other major feline respiratory diseases, like Feline Calicivirus and *Chlamydia psittaci*. Because of the time-consuming and/or expensive nature of most previous methods for virus identification, inaccurate and mostly clinical diagnoses were often performed, resulting in inappropriate and sometimes abusive approaches. Traditional antigen based techniques includes isolation of FHV-1 from nasal exudates, conjunctival or oropharyngeal swabs,

followed by inoculation on cell cultures, and fluorescent antibody on smear preparations from target tissues. The commonly used serological test requires biological samples to be taken 1 or 2 weeks apart in the acute and convalescent phase. The disadvantages of serological testing include the difficulty of taking sufficient quantities of blood from affected kittens, the length of time required to reach a detectable titre and the low antibody titre in convalescent cats and latent carriers. Molecular detection by PCR avoids many of the disadvantages of these other methods; PCR detection of FHV-1 is rapid, highly sensitive and very specific.

### **NOVEL ASPECT OF CYTEMIC DISCHARGE IN A WALDENSTRÖM LYMPHOMA**

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The author presents, for the first time in veterinary pathology, an anatomo-clinical case of Waldenström malignant lymphoma – well-known as having an acytemic development – in full cellular discharge in the blood circulation. The importance of the leukocyto-concentrate test is revealed which being steadily and currently applied made it possible to identify this novel aspect of cellular discharge in the peripheral blood. This fact has a great importance because it allows to easily monitorize the post-therapeutic evolution of the disease.

### **CYTOMORPHOLOGIC ASPECTS OF THE MALIGNANT LYMPHOMAS IN DOGS AND CATS**

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On the one hand, the authors draw a conclusion based on the statistic comparison of the malignant lymphoma in the two species, and, on the other hand, they present statistical data referring to the occurrence of the malignant lymphoma in the general oncologic context, as well as in the context of malignant oncopathy.

We will present the following cell forms of malignant lymphomas:

-Hodgkin lymphoma

- non-Hodgkin lymphoma : - B - cell - centrocytic

- centroblastic

- immunoblastoma

- plasmacytoma

- Waldenström disease

-T-cell - Mycosis fungoides

- Sezary

- N.K.-cell

- histiocitary

## **PRRSV AND PRV CONTROL PROGRAMS IN PROFESSIONAL SWINE HERDS**

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Usually, the control measures for PRRSV include the implementation of bio-security rules, the management of replacement gilts and the vaccination. These measures are helpful to reduce the risk of PRRSV spread within and between Romanian herds. According to the EU and OIE recommendations, the control strategies below was proposed: (a) in infected establishment: 30 days after removal of infected animals, all breeding animals will be tested using the ELISA PRV test (the results must be PRV negative on two successively tests, ruled 2 months later); (b) in establishments located in the 5-kilometre radius zone: a significant number of pigs from each establishment must be subjected to ELISA PRV test and all results have to be negative. Our initial investigations was carried out in a swine population about 4000 animals, divided in five groups: Suckling pigs, Gilts, Sows, Growing-finishing pigs (115 days) and Nursing/weaned pigs, 20 dead pigs (suckling pigs, young animals) were examined post mortem using the necropsy protocol. To asses the exposure to the PRRSV and PRV the following ELISA tests were used: HerdChek PRRSV-Ab Test Kit (IDEXX Lab, Inc., USA) and HerdChek Pseudorabies Virus gB Antibody Test Kit (IDEXX Laboratories, Inc., USA). The primary evaluation of swine herd was carried out on serum specimens, as follow: suckling pigs - 5 samples (samples 1-5), gilts - 4 samples (samples 6-9), sows - 6 samples (samples 10-15), growing-finishing pigs - 5 samples (samples 16-20) and from nursing/weaned pigs - 10 samples (samples 21-30). This paper presents the 12 month evaluation of SRRPV and PRV control programs implemented in a professional swine herd. The results are as expected and control programs are running in the farm.

## **IMMUNOLOGICAL DIAGNOSTIC IN SURVEILLANCE OF FELINE RETROVIRUSES IN ROMANIA**

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Feline retroviruses study remains one of the major items for worldwide researcher teams. The interest for tumor diseases with biotic etiology and feline immunodeficiency is continuous by their utility as a model for human oncology and AIDS studies. The diagnostic of FeLV and FIV infections is based on immunological methods, due to their Ab-Ag specificity, and from this group of

methods the most used are in-clinical tests. Our previously study suggests a low incidence of FIV and FeLV in Romania, but more cats from catteries need to be submitted to immunological investigations, if contamination is suspected or unknown. The use of rapid and low-cost in-clinical tests, with a great sensibility and specificity is an objective approach in epidemiological management of catteries, hospitals, shelters, or other similar houses. This paper describes the significance of feline retroviruses surveillance and the opportunity of in-clinical immunological test use for all feline population in Romania.

## **STUDY REGARDING CERTIFICATION OF SOME WILD RUMINANTS POPULATIONS FROM NEAMŢ COUNTY AS FREE OF BLUETONGUE**

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Bluetongue is an infectious disease that affect domestic and wild animals from many countries, but Romania is not one of them. That is why is very important to control animals that are imported from areas with restriction and not only. For these reason animals were serological and virusological tested in order to discover any potential risk. In the same time there were tested insects from *Culicoides* family because there are vectors for the bluetongue virus. After tests were made is was revealed the fact that all the samples tested were negative in all tests.

## **ASPECTS REGARDING SEROLOGICAL AND VIRUSOLOGICAL SURVEILLANCE OF THE MOVING BOVINES AND OVINES FLOCKS FROM TCE 3 BRAZI FARM**

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Domestic and wild ruminants can be infected by the bluetongue virus, but Romania is declared free of this infection. So, in order to maintain this state the animals were serological and virusological tested in order to discover any potential risk. In the same time there were tested insects from *Culicoides* family because there are vectors for the bluetongue virus. At TCE 3 BRAZI FARM was placed a trap to collect

vectors because the location had all the condition to attract insects. After tests were made is was revealed the fact that all the samples tested were negative in all tests.

**DELIMITATIVE MEMBRANE STRUCTURES OF LARVAR  
GERMINATIVE ELEMENTS IN PULMONARY  
HIDATIDOSIS IN CATTLE**

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Are presented preliminary results of a comparative cyto-histopathological study performed on membrane structures of uninfected and infected lung hydatid cyst, conducted on a total of 34 lung samples from cattle, Holstein breed metis, in the age limits of 6 - 14 years. In paper are demonstrated modification of topohistological relationships of the membrane delimited and polymorphocellular and epithelioid-giant cells layers, based on which the authors consider that the morphopathological symptoms of infected cyst hidatic belongs to a real granulomatous diffuse proliferation hidatic, in which the specific elements germiantive specific parasite Echinococcus granulosus can develop new hidatide. This morphopathological study of the membrane structures is considered by the authors as being particularly useful to those interested in practicing the technique of surgical therapy, all without risk, especially in in human lung hidatidosis, including videothoroscopic technique.

**RESEARCH ON THE I.C. AND S.P. IN RELATION WITH NUTRIENT  
PROFILE, GLUCOSE LEVELS AND CHOLESTEROL IN A COW FARM IN  
THE NORTH-EASTERN ROMANIA**

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Research has been conducted on a lot of 15 cows chosen randomly from a farm of 100 cows in the North - Eastern Romania. The presence of elevated glycemia (76 to 89.8 mg / dl) and cholesterol (187.9 to 278.5 mg / dl) in 6 cows of all the 15 (reference group) during the maximum production 34-35 liters milk / day coincided with the observation of S.P. between 46-87 days, the other cows that had values of these biochemical compounds within the normal limits, but lower than the previous ones, had an S.P. of 90 days.

## **EVALUATION OF PREGNANCY ASSOCIATED CHANGES OF CANINE SERUM GLYCOPROTEINS**

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Glycosylation pattern plays important roles in establishment and maintenance of pregnancy. During gestation there are produced many glycosylated molecules involved in communication between embryonic and maternal organisms.

This study aimed to evaluate the glycosylation degree of serum glycoproteins from different breeds of canine females at various pregnancy stages. A number of 25 samples were collected from 3 different breeders, from bitches ( Chow Chow, Bichon Maltese, Shih Tzu) at 20, 40, 60 days of gestation. Glycoproteins were assayed in accordance with Pierce Glycoprotein Carbohydrate Estimation Kit. Molecular polymorphism was evaluated by electrophoresis followed by glycoprotein staining.

The obtained results revealed that serum glycoproteins pattern and content changed during gestation. The yield of glycoprotein increased before 40 days of pregnancy and significantly decreased at 60. There were also recorded differences among studied races. The highest values were recorded for samples from Bishon Maltese, and the lowest for Shih Tzu in all gestation stages studied. Electrophoresis pattern of glycoproteins did not emphasized major differences among breeds, but changed as the pregnancy progressed. The most interesting result was that in 3 cases, the supposed pregnancy was not supported by the lower serum glycoprotein concentration at 20 days as compared to the other samples, and at one month the lack of pregnancy was confirmed by echogram examination.

## **THE COMPARATIVE STUDY OF IMMUNOSTIMULATING EFFECT OF LEPTIN AND CANTASTIM**

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Studies regarding the physiological actions of the leptin were made in the Romanian veterinary medicine and on the international plan, the study of the leptin functional correlations with the components of the immune system both at man and animals, was still not fully cleared up.

In this context, we draw the conclusion that the study of the functional relations of the leptin with the cellular components of the animals' immune system belongs to the field of the fundamental research papers and it represents an approach of significant priority in the Romanian veterinary medicine.



The aim of the present paper is to make a research about the leptin's effects on T and B lymphocytes' activity and sanguine phagocytary cells at Wistar rats. The groups of rats in the experiment were made in Canatcuzino Institute biobasis and the tests were processed at the Oncological Institute Prof. Dr. Al. Trestioreanu, Bucharest, at the Cancer Biology Laboratory using the direct immunofluorescence technique (double direct marking with different monoclonal fluorochromate antibody combinations).

This study guides us towards the conclusion that the improvement of the immune status is necessary, using either a treatment with cantastim or leptin.

### **APPLICATIONS OF THE HISTOMETRIC METHOD ASSISTED BY THE COMPUTER IN THE AVIAN DIGESTIVE TUBE INVESTIGATION**

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The objective of this research consisted in the use of a histometric method by analysis of computerized image on the epithelium of the small intestine mucosa in broiler chickens for the testing of the prebiotal effect of mannanoligosaccharides (Bio-Mos, Alltech). There were made assessments about the significance of the differences between the avian groups for four parameters (height of villi, the width of villi, the number of goblets and the depth of the crypts) in fragments sampled from two areas of the ileum. The obtained values were statistical processed. The results comparison of the two types of samples (A and B) revealed significant differences on the number of goblets ( $p < 0,001$ ), the height of the villi ( $p < 0,01$ ) and the width of the villi ( $p < 0,05$ ). The analysis of the obtained results between the animal groups was not conclusive because the comparison group was not known. The research conducted established the morphometric diagnostic method on the intestinal mucosa in birds, being the first paper on histometry application in veterinary medicine in Romania.

### **INCIDENCE OF SUBCLINICAL MASTITIS IN COWS ACCORDING TO PRODUCTION AND LACTATION**

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Milk production is influenced by the health of the cows mammary gland. Worldwide, the most spread mammary gland diseases are mastitis, inflammatory reaction of the mammary gland, often caused by bacterial infection (Hocquette J.F., S. Gigli, 2005).

Hygiene of whole technological process is necessary to prevent subclinical mastitis (Reneau, J.K., 2005).

Subclinical mastitis are desirable to be detected, so that milk should maintain its organoleptic properties (Bondoc I, E Şindrilar, 2002). The increased number of somatic cells and the high milk conductivity are supporting an early mastitis detection (Drugociu D., 2005).

The aim of this paper is to find the correlation between the number of somatic cells and milk electrical conductivity in cows mastitis detection.

### **MATHEMATICAL MODEL OF ENERGY AND PROTEIN METABOLISM IN POULTRY**

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The paper presents a new approach regarding the computer simulation of the metabolic processes in poultry. It provides a way to evaluate the feeding norms in terms of the rate of weight gain and of carcass quality.

### **A NEW METHOD TO CALCULATE THE FEEDING VALUE OF THE FORAGES FOR PIGS**

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The paper presents a new method to calculate the feeding value of the forages used in pig rearing. This model has a better accuracy of the productive potential of forages. Compared to other models, this model makes correction for the biological value of the protein and for the bacterial fermentescible matter, also making a dissociation of the net energy into protein energy and lipid energy, which can be produced by the analysed forage.

### **HISTOSTRUCTURAL DETAILS OF THE TONGUE IN *COTURNIX* *COTURNIX JAPONICA***

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The researches point to a series of microscopical particularities of the tongue in the japanese quail (*Coturnix coturnix japonica*). The structural details are analysed in histological sections that concern this segment, starting from the apical anterior region until its base. In the same time, the characteristic element for this level, age

depending, were surprised, insisting on the dynamic of the development. Initially, the study presents histostructural aspects of the lingual mucosa, that especially refers to the epithelium, then detailing the lingual body organisation, also presenting the salivary glands and the sustaining elements.

## **HISTOSTRUCTURAL STUDY CONCERNING THE OROPHARYNGEAL CAVITY IN COTURNIX COTURNIX JAPONICA**

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The histostructural particularities of all the elements that form the oropharynx in *Coturnix coturnix japonica* have been detailed in this study. Step by step, the aspects of the opening of the oral cavity that limit the two components of the beak are presented, then the floor, the ceiling and the walls of the cavity. The accent is placed on the chronological alteration suffered by the mucosa, starting from one day old and until the birds have reached the sexual and body maturity needed.

## **INVESTIGATIONS ON THE IMMUNOLOGICAL PROFILE AND GRAVIMETRICAL DETERMINATION IN CHICKENS SUBJECTED TO SUPPRESSION FACTORS**

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The investigations concerned the suppressing effects of cyclophosphamide administered three times, and of some stressing factors (restricted alimentation) on some parameters of the immune status of 50 days old chickens, at the beginning of the experiment. The birds were inoculated against infections bursitis and newcastle disease and observed along 40 days.

The modifications induced by vaccines and the other treatments were evaluated concerning the weight of some lymphoid organs, the leucocytes and the antibody levels against infectious bursitis and newcastle disease viruses. The birds' weight was significantly diminished in the group treated with cyclophosphamide, in comparison with the non inoculated and the stressed group. The weight of the bursa was diminished only in the group treated with cyclophosphamide; the bursal index was diminished in comparison with the control group.

The weight of the spleen and the splenic index were significantly smaller at both the experimental groups.

Experimental vaccination against infectious bursitis had determined a sensible increase other anti - newcastle virus antibody level, at control groups chickens. On the contrary, the restricted alimentation and the inadequate environment conditions induce a diminuation of the anti newcastle virus antibody level.

The results confirm the suppressing effect of cyclophosphamide treatment and of inadequate environment conditions on the immune status of birds.

## **NEW ASPECTS IN MYXOMATOSIS EVOLUTION**

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Is well-known that the classic form of myxomatosis is evolving in non vaccinated rabbits or, if the disease occur in vaccinated rabbits, the disease is usually less severe. In the last nine years, myxomatosis in rabbits population from Bucharest and Ilfov county area show new morpho-clinical and epidemiological aspects of disease. In the last years, in pet rabbits the disease often progresses more slowly and death occurred in less than 50% of clinical cases.

## **EPIDEMIOLOGICAL AND ANATOMOCLINICAL RESEARCHES INTO AN OUTBREAK OF MYCOPLASMAL SYNOVITIS**

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In one poultry farm of Timiș county, in a series of imported broilers, there were reported characteristic symptoms of mycoplasmal synovitis, losses by mortality and by reducing increase in weight. Epidemiological examination was carried out as epidemiological investigation, having the following objectives: identify the source of infection, detecting of the favourable factors and the ways of disease spreading, mortality and increase in weight. Clinical examination was done daily after the age of 14 days old, age at which began to appear first symptoms of the disease. Anatomopathological examinations were performed twice per week in broilers corpses, being noted the anatomopathological gross lesions.

Epidemiological examination carried out has marked out the possibility of horizontal and vertical transmission between broilers of the same flock and further by selling broilers to people, the infection could be transmitted to other birds in their household. Weekly cumulative mortality of broilers in the two shelters had maximum values in the IV<sup>th</sup> and V<sup>th</sup> weeks. At the end of the growth period, cumulative mortality was of 24,49% for A shelter and of 25,55% for B shelter. Symptoms occurred in broilers after 14 days of age. Chickens presented depression, poor appetite, adynamia, lameness, limps, uni- or bilateral arthritis in tarso-metatarsian joints. These joints have been increased in volume, fluctuating and sensitive. In the anatomopathological examination of broilers cadavers, performed twice per week, there were observed the following gross lesions: exudative synovitis in the joints of

fangs and fans. In incipient stage of arthritis, there is a viscous creamy to gray exudate, and in chronic evolution there is a caseous exudate that involves tendon synovial sheaths.

## **SEROLOGICAL RESEARCHES IN AN OUTBREAK OF INFECTIOUS SYNOVITIS**

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Research has been conducted in an outbreak of infectious synovitis that has evolved in one broilers series of a farm in Timiș county. Serological examination was performed to confirm the suspicion of avian infectious synovitis. Serological examination was performed to confirm avian infectious synovitis, epidemiological and anatomoclinical suspected, in the series of broiler chickens from the studied farm. Analyzing these results, we see that at the age of 23 days (BC 1) were positive 22, 91% of the analyzed sera, and at the age of 37 days (BC 2) 26,66% have been positive. At that age, the antibody titres expressed in O.D. were much higher as the proportion of positive sera. GM of titres at 37 days old was 10,92 times higher than the GM of titres at 23 days old.

## **INFLUENCE OF ENDOMETRITIS ON REPRODUCTIVE PARAMETERS AND FERTILITY ON COWS**

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After feding, fertility is considereded the factor with the largest economic effect on dairy farms.. Reproductive performance is one key component of dairy production management. Obtaining the reproductive performance requires the maintainance of the parameters at a constant high level Diagnosis and treatment of postpartum uterine disease and its putative impact on reproductive performance, have traditionally attracted considerable attention from veterinarians and producers. The porpose of this study is to evaluate the consequences of endometritis on reproductive parameters and cows fertilitys..Researches conducted on six lots of animals, formed depending on the number of treatments and type of endometritis had the folowing results: there were no differences between healty cows and those with a single treatment, the cows with more treatments had reproductive parameters with large deviations relative to the optimal (services per conception +0,83; first-service conception rate -12,6%; days open +40,9; calving-first insemination interval +14,2 days), endometritis type (E4, E3, E2) change in this order intervals calving-first insemination, last treatment-first insemination, last treatment-conception, days

open, services per conception). Cows with endometritis type 4 (result of retained placenta) presents the largest deviation: services per conception 2,77 ;days open 118,3 and the last treatment-conception interval 61,3 days, folowed by those with endometritis, type 3 and 2. Endometritis causes anestrus blocking lysis of the corpus luteum at 21,5 from animals (the lot X1), 5,2%(lot X1) face of 6,3% in the lot M (healty animals). Between the infertility factors, endometritis represented the highest percentage(3%), folowed by vaginal inversion and parametritis.

## **PSEUDOMONAS SPP. INDUCED LESIONS IN NON-VENOMOUS SNAKES**

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*Pseudomonas spp.* infection of captive snakes is considered opportunistic, meaning that it usually induces disease in compromised organism due to immune suppression, cool environment, malnutrition or viral infection.

Two young snakes (male of *Python molurus bivittatus* with 5-month-old and male of *Boa constrictor* with 18-month-old) were submitted for necropsy. Both individuals presented prior death restless movements, anorexia, obvious changes of skin colors turned into dark nuances. Death occurred 3 days after disease debut. The liver, kidneys, heart, small intestine and lungs were sampled for bacteriological, cytological and histological investigations.

The most relevant lesions observed in gross investigation were necrotizing enteritis, fat liver and discrete pulmonary acute edema. Cytological and histological findings revealed necrotic pneumonia and pulmonary edema, acute tubular necrosis with hyaline droplet degeneration of nephrocytes and into the tubular lumen and diffuse hepatic lipidosis.

There were no clinical or morphological evidence for Paramyxovirus infection or inclusion body disease (IBD). Pulmonary lesions did not exhibit hyperplasia and hypertrophy of septal and faveolar epithelial cells (specific for paramyxovirus infection). Even IBD is specific for pythons and boids, cytological and histological findings did not revealed oxiphilic or amphophilic inclusions into the epithelial cells (liver, pancreas, kidneys), smooth muscle cells or neurons. It seems that fat liver induced bad condition of snakes, generating opportunistic *Pseudomonas* infection.

## **DERMATOPHYTE SURVEILLANCE IN COMPANION ANIMALS: HORSES, DOGS AND CATS**

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Dermatophytosis is a highly contagious zoonotic skin disease produced by different genera of fungi (e.g. *Microsporum canis*, *Microsporum gypseum*, *Trichophyton*

mentagrophytes). The importance of those infections increase with regard of pets as cats, dogs or horses. Usually, dermatophytosis, generally referred to as tinea or ringworm, cannot be diagnosed only by the presence of skin lesions, and skin lesions of ringworm can mimic other diseases. The standard procedure for dermatophyte infection diagnosis is based on clinical exam suited by direct examination of hair and skin using a microscope, and, if necessary, isolation of the dermatophyte “in vitro” on appropriate medium. Dermatophytosis can only be confirmed based on the findings of a fungal culture and examination. Veterinary practitioners prefer simple and easy tests, able to confirm the diagnosis of dermatophyte infections. In this paper we present several strategies of diagnostic using in-house screening tests for the rapid identification of dermatophyte infections in dogs, cats and horses. These in-clinical tests consist in selective and differential mediums for dermatophytes, that contain an easy-to-interpret color indicator that changes from yellow to red when dermatophyte fungi are present in the patient sample. Usually, positive result evaluation is supplied in circa 72 hours.

## **IDENTIFICATION OF CANINE BLOOD GROUPS USING IN-CLINICAL MEHODS**

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The modern concept of transfusion protocols in pets veterinary medicine is based on blood group determination at all young animals and development of the blood bank facilities. The internationally accepted canine blood group system is the DEA (Dog Erythrocyte Antigen). There are 8 major blood groups in the dog, labeled as DEA 1 to 8. DEA 1.1 and DEA 1.2 are the most significant blood factors in the dogs. They are both antigenic, but DEA 1.1 is the most important in transfusion. In this paper we use an assay based on the agglutination reaction that occurs when an erythrocyte which contains a DEA 1.1 antigen on its surface membrane interacts with a murine monoclonal antibody proven specific to DEA 1.1 which is lyophilized on the test card (RapidVet®-H. Canine DEA 1.1, dmmlaboratories, inc. USA). It is a general opinion that acute hemolytic transfusion reactions only occur in dogs with DEA 1.1 and DEA 1.2 negative blood. These dogs, without naturally antibodies, will express a reaction only after sensitization through exposure to DEA 1.1 or 1.2 positive blood (antibody production takes 7-10 days after exposure). Because a number of dogs auto-agglutinate and because a very anemic dog may give equivocal results, typing prior to an urgent need for the information is indicated. The main objective of our study was to classify dogs as DEA 1.1 positive or negative as prevention facing a possible transfusion.

## **STRUCTURAL ASPECTS CONCERNING THE LIVER IN *GALLUS DOMESTICUS***

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The *Gallus domesticus* species is permanently regarded to as a reference point in the structural approach of the internal organs in other galinaceas and more. From this point, the importance of researching the macro- and microscopical elements is seen. The study presented here points out a series of anatomical aspects, especially the histostructure of the liver. The particularities of the two sides of the liver, the ventral and the visceral sides, are described, followed by the highlighting of the organization of the hepatic parenchyma in longitudinal and cross sections, which will later on facilitate the interpretation of the data concerning the pathology of the liver.

## **SOME HISTOPATHOLOGICAL ASPECTS OF THE LIVER IN BROILER CHICKENS AGED 34-36 DAYS**

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The patho-anatomical study of the liver coming from broiler chickens raised in intensive systems was interested in catching the macroscopical aspects especially the microscopical image which would define the problematic of slaughter losses due to feeding in the seven days before slaughtering. Therefore, from the total of daily slaughtered chickens, approximately 24000-26000 individuals, at least 500-1000 of them presented enlarged liver with pronounced friability. Histologically, a massive infiltration with lymphoid cells was noticed, evidentiating the hepatic macrophages and appearance of necrosis islets, along hepatosteatoses territories. The uncommercial, poor quality image, determined the slaughter products to be confiscated and send to be incinerated, causing great economical losses.

## **SELENIUM LEVELS IN FEED FROM TELEORMAN COUNTY, ROMANIA**

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The objective of our study was the measuring of selenium quantity from feed, and a number of 18 samples were subjected to analysis. The feed studied were: wheat grains, corn grains, barley grains and alfalfa hay. The samples were collected from



Teleorman county, Romania from 7 villages apart from each other. The sampling of the Se was done through the fluorimetric method with 2.3-diaminonaphthalene. The results have shown values lower (0.003 – 0.088 ppm ) than the normal level (0.15 – 0.30 ppm) of Se for all of the samples analyzed. The minimal value obtained by as was an a wheat grains sample and the maximal value was obtained an a single sample of alfalfa hay. It is well-known the importance of selenium for the prevention of the deficiency diseases caused by the lack of this element, and for a optimal health an animals and humans. Based an our results it can be said that our data indicate a state of deficiency and the need to supplement the feed with added Se.

## IN VITRO EFFECT OF ROMPARASECT FORTE

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The research was done using the product ROMPARASECT FORTE, for external use, produced by ROMVAC COMPANY S.A. The product is marketed as watery solution 2ml/liter of water and is used against acari species and insect ectoparasites. The research was done in Petri plates with diameter of 4.6 mm, in which round sheets of papers imbibed with 0.5 ml ROMPARASECT FORTE. Each plate was populated with 10 specimens of the studied species of ectoparasites. The efficacy of the product was determined against the following acari species – *Psoroptes cuniculi*, *Psoroptes bovis*, *Chorioptes bovis*, *Ripicephalus bursa*, *Dermanyssus gallinae* and insects – *Haematopinus suis*, *Linognathus stenopsis*, *Linognathus vituli*, *Damalinia bovis*, *Damalinia caprae*, *Menopon gallinae* and *Goniodes meleagridis*. After 2 hours of contact the product was 100% efficient against *Psoroptes bovis*, *Dermanyssus gallinae*, *Linognathus stenopsis*, *Linognathus vituli*, *Haematopinus suis*, *Damalinia bovis*, *Damalinia caprae*, *Menopon gallinae* and *Goniodes meleagridis*. After 2 hours of contact the product was 70% efficient against the tick *Ripicephalus*, 80% against *Psoroptes cuniculi* and 90% against *Chorioptes bovis*.

## EFFECT OF LOW-LEVEL LASER THERAPY ON WOUND HEALING IN DOGS

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The authors studied the effect of laser radiations with wave length of 635 nm on wound healing in dogs. The treatment was applied according to a protocol for 9 days at a power of 15 mW, for 300 seconds and from a distance of 0.5 cm from the

wound, using a multiple probe with 5 diodes placed in the shape of a star. The treatment was done daily starting with the first post surgery day. The treatment was done to 10 dogs (bitches) with post operation wounds. During the treatment we monitored the clinical evolution of the wounds by taking photographs of them and by digital processing of the images; at the end of the observation period biopsy samples were collected randomly and processed histologically. The results obtained after 9 days of treatment showed a favourable clinical evolution of healing. On day 10 post surgery, 90-100% of the animals treated with laser showed fully healed wounds in the absence of any local or general treatment with disinfectants, chemotherapy or antibiotics. The biopsy samples showed the presence of the granulation conjunctive tissue and the full epithelisation of the wound 10 days after surgery. In conclusion, we consider that laser therapy at 635 nm, applied according to the protocol established experimentally, stimulates the process of wound healing and shortens the period of hospitalization.

## **MATERIALS AND METHODS USED IN CARNIVORES DERMATOLOGIC PATHOPHYSIOLOGY RESEARCH**

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For the best therapeutical results, the etiology and the disease mechanism of the involved disease is needed. The veterinary medic needs a systematic approach, a thorough examination and appropriate diagnostic procedures. The techniques that have been used in this work were: clinical examination (including the dermatologic history records), dermatoscopic exam, cytologic exam, dermatohistopathology, electronic microscopy, serum biochemistry, endocrine tests, hemoleucograms, serum electrophoresis, allergy tests, and other. For the studies, 236 dogs and 87 cats were selected and recorded. All the exams used were useful in etiology and pathophysiology determination. Not only the skin tests are effective in dermatological diagnostic, but much more internal organs disfunctions testing can conduct us to the proper mechanism of disease. The pathological mechanisms can be multiple, more than one mechanism on the same patient.

## **THE EFFECT OF AMBIANTAL TEMPERATURES, DURING THE SUMMER SEASON, ON THE MILK FAT GLOBULE SIZE, IN DAIRY COWS**

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The aim of the present study was to study the effect of ambiental temperatures, during the summer season, on the milk fat globule size, in dairy cows. An experiment was performed during 20 days, during the summer season, using 10 cows. Milk yield was measured and milk samples was analyzed for fat content, mean fat globule numbers and mean fat globule size. The results of our experiment show

that milk yield was 13.9% greater (significantly) and the fat milk content was 9.37% higher (significantly), in the days with ambiental temperature lower 25° C, then the same parameters, measured in the days with higher temperatures. In the same time our experiment show that mean milk fat globule number was 2,8% higher (nonsignificantly) and the mean milk fat globule volume was 12,9% higher (significantly), in the days with ambiental temperature lower 25° C, then the same parameters, measured in the days with higher temperatures.

## **DYNAMICS OF GROWTH PARAMETERS IN LIPITAN BREED DEPENDING ON DIFFERENT INFLUENCE FACTORS**

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The researches presented in this paper were carried out during 2004 – 2008 and they proposed to underline the dynamics of the growth process of youngsters in Lipițan breed, reared in Sâmbăta de Jos, depending on different influence factors.

These will allow the knowledge of some useful aspects regarding the youth rearing technology and also the Lipițan horse breeding in this unit, so this breed could become a good breeder for the local horse population.

## **125 YEARS FROM THE DEATH OF CAROL DAVILA, FOUNDER OF THE HUMAN AND VETERINARY MEDICAL EDUCATION**

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Carol Davila holds a special place in the life and history of the Romanians. According to school records, Davila was born in 1828, in northern Italy, near Parma. Some historians believe he was born in Spain, in the small town of Avila, hence his name. Despite his activity, the sanitary state was unsatisfactory because of the lack of trained medical staff; therefore he returned to his older projects and in November 1855 he proposed to Prince Știrbei the establishment of a school of small surgery, surgery assistants, within the military hospital from Mihai Vodă; in parallel he demands the discontinuation of the school of civil surgery assistants from Eforie – Colțea hospital. In 1856 was established the pharmaceutical education, as section of the School of surgery. In the same year, Carol Davila established the School of veterinary surgery, because he had introduced veterinary education within the curricula of the school of medicine. In 1862, Davila established the Military Hospital, a chemistry laboratory not just for educational purposes, but also for forensic, food, mineral water and beverage analyses. The 1877 independence was

revealed even more the personality of Davila. With little means, sometimes starting from scrap, he manages to set up sanitary formations which amazed the reputed Russian medical personalities, such as Professors Pirogoff and Kocher, an even the Russian Emperor Alexandru II. The activity of Davila was multilateral, complex and exceptional; space and a correct interpretation of the historical phenomena are required in order to present it and to understand it. There is no medical, scientific, social, cultural, ethnographic, artistic and literary field exempt of his influence. His multilateral culture, his power to work, his brilliant mind and his prevision were too great to keep him from getting involved, usefully, in everything.

## **DIAGNOSIS OF PYODERMA IN DOG**

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Pyoderma is the purulent inflammation of skin and adnexa. The clinic and lesional variability can stand for a starting point of numerous misdiagnosis and inadequate treatment. The aim of this study was to highlight the cytological and histological aspects of the pyoderma in dog and to establish the incidence of pyoderma in correlation with certain factors. The study was performed on 75 dogs pathologically diagnosed with different types of primary and secondary pyoderma. The sampling for the cytological investigation used fine needle aspiration. Imprints and smears were May Grünwald Giemsa stained. The 4-6 microns thick histological sections were stained by trichromic Masson. Acute primary pyoderma was characterised by the presence of normal and degenerated neutrophils, activated macrophages, pyocytes and numerous degenerated keratinocytes. A long-term evolution of pyoderma was featured by a pyogranuloma-type cell population. Data offered by the histological sections made possible the classification of the pyoderma as primary or secondary. Pyoderma evolves mainly as folliculitis (6.6%), involving dominantly the males (68%) and the adult dogs (48%); deep pyoderma dominated the majority of evolution forms (99.33%) being often secondary to other lesions (72%).

## **THE INCIDENCE OF AFLATOXIN B<sub>1</sub> AND OCHRATOXIN A IN NON-ANIMAL PRODUCTS IN THE COUNTIES FROM THE WEST AREA OF ROMANIA IN THE PERIOD 2007-2008**

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Between 2007 and 2008 in the mycotoxins laboratory from the Sanitary Veterinary and Food Safety Directorate Timiș, 350 samples were analyzed for aflatoxin B<sub>1</sub> and ochratoxin A: 40 samples of peanuts, 36 pistachios, 95 nuts, 58 dried fruits, 45

roasted coffee, 38 ground coffee and 38 fruit juices. The study revealed that: there were no positive samples no positive samples of peanuts, pistachios, fruit juices and dried fruits in 172 analyzed samples; 15.8% of nuts contaminated with AFB1, not surpassing of maximum permitted level (MPL); 8.9% of roasted coffee and 5.6% of ground coffee were contaminated with OTA, but no positive sample was over MPL; the samples of dried fruits were analyzed for the presence of both AFB1 and OTA and no sample was cross contaminated.

### **THE INCIDENCE OF AFLATOXIN M<sub>1</sub> IN MILK AND DIARY PRODUCTS IN THE WEST COUNTIES OF ROMANIA IN THE PERIOD 2004-2008**

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Between 2004 and 2008 in the mycotoxins laboratory from the Sanitary Veterinary and Food Safety Directorate Timiș, 1322 samples were analyzed for aflatoxin M<sub>1</sub>: 815 raw milk, 147 consumption milk, 70 powder milk, 172 yogurts, 58 cheeses, 60 butter samples. The study revealed that: there were no positive samples in 290 analyzed samples of yogurts, cheeses and butter; 15.0% of raw milk samples were contaminated with AFM<sub>1</sub>, and 26.2% of the positive samples were over maximum permitted level; lower level than maximum permitted level of contamination in consumption and powder milk was registered.

### **HYSTOLOGICAL RESEARCHES OF THE TESTES AT THE COCKS 30-60 DAYS OLD**

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At the age of 30 days, the seminal epithelium is simple, and the dominated cells are the Sertoli cells and the spermatogoniums.

In some specimens were observed some lymphid nodules with different sizes and located immediately below the albuginea or in the depth of the testicular parenchyma.

At this age it have been highlighted the myofibroblastes, the circular lumen of seminiferous tubules and the nucleus of interstitial endocrinocytes are spherical, euchromatic, central willing, with obvious nucleolus.

At the age of 60 days in the testicular parenchyma ascertained seminiferous tubes which present simple epithelium and in individuals older than 30 days, and Sertoli cells are very obvious.

The albuginea and the basal membrane of seminiferous tubules are PAS positive. At the albuginea surface are arranged numerous blood vessels, capillary, arterial and small veins. There are not conjunctive septa only fine strands of connective tissue that separates the seminiferous tubes.

The microscopic investigations undertaken on permanent histological preparations made from rooster testicles aged 30 and 60 days, confirmed that at the birds, the testicle is covered by a fine fibro-elastic capsule, the albuginea tunic, which, unlike mammals, does not issue conjunctive septa so that no testicular lobules are identified and there was no mediastinal testis. The testicle is permanently placed into the abdominal cavity.

## **THE MORPHOLOGY OF THE PARIETAL LYMPHNODULES IN THE ABDOMINAL AND PELVIC CAVITY**

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There were sacrificed and dissected a total number of 14 rabbits, there were identified and studied the mural lymphnodes of abdominal and pelvic cavity, represented by the lombo-aortic lymphcenter and the epigastric lymphnodes along with the ileopelvin lymphcenter which are fickle.

The lombo-aortic lymphnodes are represented by the lombo-aortic renal lymphnodes, located between the aorta and the caudal cava vein.

The renal lymphnodes are very small, and are situated on both sides of the pelvis.

The epigastric lymphnode is located immediately above of the rim of the xifoidian appendix. This lymphnode have ovalar form and presents a hilus at one pole.

The ileopelvin lymphcenter is systematized into 3 limfonodale groups located between the terminal branches of the aorta and the deep iliac circumflex artery: the lateral iliac lymphnodes, the media iliac lymphnodes and the middle (sacral) iliac lymphnodes.

The iliac lymphnodes are located side by side and across the terminal bifurcation of the descending aorta.

The iliac lymphnodes are represented averages of 1-3 small lymphnodes and situated between the internal and external iliac arteries.

The middle (sacral) iliac lymphnodes are the well-represented separation angle in both iliac arteries (common) median arranged.

When it was injected at a single pelvis member, it was performed most often a bilateral staining of the lymphnodes, which advocates for a intense anastomoza of the lymphatic vessels.

## **ASSESSMENT OF IFN $\gamma$ SECRETION IN DOGS WITH TYPE I DIABETES USING ELISPOT ASSAY**

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Investigations were performed on healthy dogs and type I diabetes dogs, using a quantitative immunoassay ELISPOT for determination of single/cells secreting a cytokine (IFN gamma). It is suppose that type I diabetes on dogs is an immune disease where NK cells and T lymphocytes can lyse pancreatic islet cells.

## **THE STUDY OF THE INFLUENCE OF SELENIUM AND VITAMIN E IN THE APPEARANCE OF SOME MORBID ENTITIES AMONG CHICKENS BRED IN A SEMI – INTENSIVE SYSTEM**

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The research on the role of selenium and vitamin E in the occurrence of some morbid entities as the exudative diathesis, nutritional miodistrophy and encephalomacy were resumed by many researchers over the time, who reached the conclusion that selenium is active in exudative diathesis, only partially active in miodistrophy and ineffective in preventing encephalomacy. (Sevastre *et al*, 2005; Mihai, 2000; Sanders, 1986)

The conclusions were based only on the prophylactic and curative efficiency of these selenium sera towards these morbid entities.

Our research was based on the reproduction of these morbid entities by giving rations that are deficient in selenium and, at the same time, it was followed to what extent the combination between selenium and vitamin E intencifies the prophylactic and curative action when talking about these morbid entities.

To feed the poultry it was used some fodder ration based on tor, but there could not miss the corn flour which raised the selenium value of the ration. (Pârvu *et al*, 2003; Pârvu, 1992)

This determined us to add sodium sulfate and iron chloride in the basic ration, which acted as interferential and stressful factors for selenium and vitamin E. (Sklan and Donoghue, 1992)

When reaching 3 to 4 weeks of administration of the fodder ration, morbidity in exudative diathesis reached 45%, while for nutritional miodistrophy got to 12.5%.

It should be noticed that the relatively high morbidity percentages occur to young ages (1 to 2 days old), while for the 16 - 18 day old chickens morbidity is quite low; there was not registered any case of encephalomyelitis either.

To conclude, one can say that selenium is directly involved in the occurrence of exudative diathesis, its role in myodystrophy is questionable, and the fact that we could not reproduce encephalomyelitis, this allows us to draw the conclusion that selenium has no role in its occurrence.

## **THE STATUS OF SELENIUM AND VITAMIN E IN THE SANGUIN SERUM FOLLOWING THE ADMINISTRATION OF DEFICIENCY RATION IN CASE OF CHICKENS BRED IN A SEMI – INTENSIVE SYSTEM**

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The current study has proposed as an objective to determine the dosage of selenium and vitamin E in blood serum of chickens bred in a semi-intensive system and fed using fodder portions that were deficient in selenium and vitamin E.

The research was conducted on two batches of chicken, the control group was made up of 400 chickens that were fed using the standard 21 – 1 recipe and an experimental group that consisted of 600 chickens fed the same recipe from which microvitamins E and sodium selenite were taken off from the zoofort A3. (( Pârnu *et al*, 2003)

The dosages of vitamin E and selenium in serological tests were done by conventional methods, meaning the modified Hashin and collaborators method to set the dosage of vitamin E and the modified Cummings method to set the dosage of selenium. (Bruger, 1987; Sanders, 1986))

The results obtained show a close correlation between feeding a ration that has deficiencies in selenium and vitamin E and the serum levels of vitamin E and selenium that are much lower for the experimental group than those for the control batch.

Even clinically speaking, the experimental group presented starting from the 56th day of life ataxia, forced stretching of wings, muscular tremors, incapacity to walk and growing delays. (Rădoi, 2003)

After reintroducing in the fodder portions of the zoofort A3 with all its components (microvitamin E and sodium selenite), when the last biochemical determination was made at the age of 14 week old, there was noticed a spectacular increase of the serumal values of vitamin E and selenium, thing that proves once more that there is a close connection between the composition of the fodder ration and the status of vitamin E and selenium in blood serum. (Sklan and Donoghue, 1992)



## **SIGNIFICANT ASPECTS OF THE SURGICAL DISEASES DIVERSITY IN MAMMALS AND BIRDS**

**Ș. DINU**

Caracal Veterinary Clinic, Olt country

The selection of some uncommon issues arising from the consultation of a number of 104,330 animals and birds from which I operated 16,942 in a period of 25 years was the basis for this work.

The purpose of this work was to prove that it is possible to solve favorably the diseases of mammals and birds species through surgery performed on the anatomical regions: head, neck, thorax, abdomen, urinary-genital and breast area, limbs, even with a modest endowment that we dispose of in terms of current practice.

### **ASSESSMENT OF BACTERIAL COUNT FLUCTUATIONS FOR *STREPTOCOCCUS THERMOPHILUS* FROM YOGHURT DURING ITS SHELF LIFE**

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The investigated yoghurt samples revealed a decrease with approximately 1 log in bacterial count for *Streptococcus thermophilus*, during the shelf life of this product. The bacterial count was maintained above the minimal level of 10<sup>6</sup>UFC/ml, which is considered the minimal probiotic bacteria concentration that could still have benefits for consumer's organism.

### **NEW APPROACHES IN THE USE OF THE MEAT pH VALUE IN ITS ORGANOLEPTIC CHARACTERIZATION**

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It was determined the pH values of the pork, beef and chicken refrigerated and frozen meat carcasses in four sausage plants of medium and small size in Bucharest city. Some differences were found according to the freezing conditions of the

sausage plants. According to the obtained data, mean values of the pH were higher in the refrigerated meat vs. frozen meat, for any species (pork, beef or chicken). By comparing to the size and technological conditions, no differences were found: the percent normal pH values were framed in normal limits in the all the four monitored sausage plants.

## **DIAGNOSTIC OF ASTEROID HYALOSIS IN DOGS TROUGH INDIRECT OPHTHALMOSCOPY TECHNIQUE**

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Asteroid hyalosis is a degenerative status of the eye and imply on liquefaction of the vitreous body that appear as a sparkle precipitate in ophthalmoscope light.

The disease has an increased incidence in humans, dogs and chinchillas.

In the present study the ophthalmoscopic exam was made trough indirect ophthalmoscopy technique on dogs by different breed, brought to Surgery Clinic of Veterinary Medicine Cluj. The study period was 2008-2009, the animals presented different diseases not necessary from ophthalmology field. We diagnosed a few cases of asteroid hyalosis over the study, the incidence is lower if only 4 dogs from 60 presented the disease .The cause of asteroid hyalosis is incertain. Introductions From all domestic animlals the dog is the most predisposed to asteroid hyalosis.

The method used in the present study is indirect ophthalmoscopy applied with indirect ophthalmoscope Heine Omega 2C.

## **MORPHOLOGICAL CHARACTERISTICS OF HORSE AND DONKEY EYE FUNDUS**

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The morphologic and physiologic particularities of the eye fundus give him an important role in diagnostic of local and systemic diseases , because a big disturb of the body functions is perfect related at the eye fundus components .

Horses and donkeys too, can develop a variety of disease at the ocular level and sometimes are discovered too late or accidentally at a complete clinic exam .

A right diagnostic at the eye fundus level suppose a good knowledge of normal variations at the studied species.

The present paperwork proposes a horse and donkey eye fundus study with observations and notes the existent characteristics. We were interested the normal

morphological aspect of every components of the posterior globe segment with appreciation of the form, color and space localization.

The ophthalmoscopic exam was made at the Pathology Surgery Clinic of the Veterinary Medicine Faculty from Cluj.

The obtained results show that don't exist major morphological aspects between that two species from our study, the horse eye fundus is similar with the donkey eye fundus. Introductions

In the past , the ophthalmologic exam in horses consist by applications of different tests for visual testing when the horse is let free on a strange obstacle field .The identifications of ocular diseases in such appreciated species goes to implement of modern examination techniques that include obligatory eye fundus exam. Because in animals, eye fundus in particular to every species, in horses too exist some specie and age particularity's .

Used upon rarely, donkey, as a species, doesn't get the same attention in ophthalmology field as horses, and are a few dates about their eye fundus .

It is clear a thing: no matter of species, the research in ophthalmology field continues and the results are most over expectations.

## **THE EFFECT OF POLYPHENOLS FROM SOME PLANTS ALCOHOLIC EXTRACTS ON LIPID PEROXIDATION AND NONENZYMATIC HAEMOGLOBIN GLYCOSYLATION**

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The purpose of this study was to evaluate mistletoe (*Viscum album*), birthwort (*Aristolochia clematitidis*) and greater celandine (*Chelidonium majus*) as new potential sources of natural antioxidants. The alcoholic extracts were assessed for total phenolic content by Folin-Ciocalteu reagent, total flavonoids content, DPPH free radical scavenging, inhibition of lipid peroxidation and inhibition of haemoglobin glycosylation. The amounts of total phenolic compounds were higher in *Aristolochia clematitidis* ethanolic extract ( $21.04 \pm 3.39$  mg/g) than in *Viscum album* ethanolic extract ( $11.33 \pm 1.35$  mg/g). *Aristolochia clematitidis* and *Chelidonium majus* alcoholic extracts showed DPPH scavenging activity higher than *Viscum album* alcoholic extract. All the extracts presented significant results for lipid peroxidation inhibition in brain and liver homogenate, but the most important results were obtained for *Chelidonium majus* alcoholic extracts. Inhibition percentages of nonenzymatic haemoglobin glycosylation of alcoholic extracts were: *Aristolochia clematitidis*  $56.09\% \pm 12.00\%$ , *Chelidonium majus*  $68.26\% \pm 18.19\%$  and *Viscum album*  $55.34\% \pm 13.17\%$ .

## **REDUCING POWER, Fe(II) CHELATING ABILITY AND ANTIOXIDANT ACTIVITY OF SOME MEDICINAL PLANTS**

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Polyphenols are the most abundant antioxidants in human diets and they are widely found in medicinal plant. In this study, alcoholic extracts of nettle (*Urtica dioica*), wild pansy (*Viola tricolor*) and stag's-horn club moss (*Lycopodium clavatum*) were investigated for polyphenols and flavonoids contents. Ethanolic extracts were tested for reducing power, Fe (II) chelating ability and inhibition of lipid peroxidation in rat brain. Alcoholic extracts obtained from *Viola tricolor* showed the highest concentration on flavonoid compounds, while *Urtica dioica* alcoholic extracts showed the highest polyphenols concentration. The Fe<sup>2+</sup> chelating abilities of the alcoholic extracts obtained from the three tested plants were 63.35 % ± 15.09 % for *Viola tricolor*, 61.55 % ± 14.39 % for *Urtica dioica* and 14.55 % ± 4.55 % for *Lycopodium clavatum*. Fe<sup>3+</sup> reducing capacity was higher for ethanolic extract of *Viola tricolor* (1.3 ± 0.19 mM FeSO<sub>4</sub> equivalent/g of dry plant). In this study, Mo(VI) reducing power of the extract was found to be 179.52 ± 49.91 µg ascorbic acid/g (*Urtica dioica*), 159.32 ± 39.07 µg ascorbic acid/g (*Viola tricolor*) and 72.64 ± 23.18 µg ascorbic acid/g (*Lycopodium clavatum*). *Urtica dioica* inhibited the most lipid peroxidation (74.24% ± 8.41%), compared to the alcoholic fraction of *Viola tricolor* (68.91% ± 7.23) and *Lycopodium clavatum* alcoholic fraction (29.24% ± 3.81 %).

## **THE INFLUENCE OF REFRIGERATION TIME ON COMMERCIALY FRESH AND MATURATED BEEF AND POULTRY MEAT**

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Maturation and fresh poultry (breast) and beef meat samples were purchased from different food stores. There was not recorded information about maturation process and technology. Samples (5 samples of each, maturation poultry breast and beef, and also 5 samples of fresh poultry breast and beef) were preserved at 4°C and aliquots assayed every 12 hours for a period of four days. Crude extracts obtained by homogenization in PBS were assayed for the total soluble protein content, calcium and inorganic phosphorus. Agarose and polyacrylamide gel electrophoresis was performed for proteins polymorphism changes evaluation. The obtained results revealed a decrease of soluble protein content of both fresh and maturation poultry meat during refrigeration, while in extracts of maturation beef meat, at the end of the experiment, soluble proteins concentration was 120% higher than at the beginning. Electrophoretic profiles were in accordance with the variation of protein content,

emphasizing an increase of the number of fractions during refrigeration, for the beef samples, and a smaller number of fractions in the poultry meat extracts in the last samples. Both calcium and phosphorus levels increase during refrigeration. These results indicate that a refrigeration time longer than four days for poultry meat induces a depreciation of protein content, as compared to beef meat.

## **RESEARCH ON THE INFLUENCE OF ENVIROMENTAL FACTORS ON THE HEALTH OF RUMINANTS IN THE LOWER AREA OF THE OLT RIVER**

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After abandonment of the facilities for plantations of rice in the lower Olt-Siul-Danube meadow, in this area has established and extensive dessertisation, prevailing wind blew sand, depositen on pasture and very poorly developed vegetation, sand is ingested in grazing, especially in the rumen while making deposits, 30-60 kilo, causing paresis and even atonic of prestomach, especially at large ruminants.

For the prevention and removal phenomenon of geosedimentosis is recommended the elaboration an implementation a plan of an improvement agro-pedologycs area.

## **BLOOD BIOCHEMICAL PROFILE AS FISH WELFARE INDICATOR DURING TRANSPORT**

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The target of the present research was to compare the effects of two types of trout transportation upon welfare, on the basis of the blood biochemical profile. The first type of transport was one accomplished with a vehicle between two farms at 600 km distances, in 2 fish tanks of 3 m<sup>3</sup> each, with a density of 250 kg/fish tank (crowding conditions) and a transport period of 18 hours. The second one was made on water using immersed cages with normal fish density, the transport period being similar to the first one.

From both tanks and from the transport cage there were harvested 6-8 fish from which, after stunning, there was collected blood by caudal vein puncture (CVP), about 1-2 ml blood/fish. The blood was mixed, resulting in two samples: one from fish transported by vehicle and one from fish transported with cages. The samples were transported to laboratory, where the blood biochemical profile has been established by using Vetest 8008, being analyzed 12 blood chemistry indicators: blood urea nitrogen (BUN), phosphatemia (PHOS), calcium (CA), magnesium (MG),

albumine (ALB), aspartate aminotransferase (AST), alanine transaminase (ALT), cholesterol (CHOL), triglycerides (TRIG), glucose (GLU), lactate dehydrogenase (LDH) and alkaline phosphatase (ALKP).

The results led to the following conclusions: the values of ALT, AST, ALKP and LDH were over the normal values no matter the transport type – for the trout transport with vehicles it was noticed in addition overvalues of PHOS, TRIG and GLU revealing high levels of stress; some of the overvalues (LDH, PHOS, ALKP) are due both to the dehydration and intense muscular effort during angling and restraining; the values of all analyzed indicators were significant higher for the fish transported with vehicles in comparison with values for fish transported using cages from fishnets (with a maximum 44.25 times higher for LDH) – this fact shows that welfare of trout transported by vehicle was unacceptable – the major cause of blood biochemical profile altering being transport stress and crowding.

### **CASE STUDY – ENCEPHALITIS IN A 4 YEAR OLD HUSKY**

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In this paper we are discussing the case of a 4 year old female Husky dog, which first arrived in our clinic with fever and neurological symptoms. After taking the case history, the clinical, neurological and complementary exams, the diagnosis given was that of encephalitis and the appropriate treatment was started (the treatment was adapted from human medicine).

### **DETERMINATION OF CORRELATION BETWEEN BLOOD BIOCHEMICAL PARAMETERS IN NEWBORN PUPPIES**

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The neonatology in domestic carnivores in veterinary medicine is weak development. Neonatal illnesses in the dog have less specific clinical signs.

This study suggests that complementary test analysis of the dynamics of certain blood biochemical parameters in the pup during its first eight weeks of life.

The results observed showing usual values in pups are completely different from those observed in the adult.

Using biostatistics methods to examine the correlation between parameters and target values were obtained by comparing the biochemical profile of adult dogs.

The discussion around the study includes assumptions of explanation of the actual values and approaches the breed differences observed.

## **MAGNETIC SEPARATION OF THE FAGOCITORY CELLS FROM HORSE BLOOD SAMPLES**

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Magnetic microparticles (iron or iron oxides) are characterized by an intense magnetic moment, thus with the use of an external magnetic field gradient, they migrate and are able to transport biological active mixes and particular immobilized cells. The use of magnetic microparticles in the field of biological science is based on the size compatibility with that of the cells, viruses and proteins.

The functionality testing for the „in vitro” blood cells in the presence of stimulants or cellular inhabitants requires the separation of the diverse populations of cells present in blood, by techniques based on the physico-chemical particularities of said cells. On the horse, the application of the usual blood cells separation techniques meets a series of difficulties caused by the enzymatic particularities and the cell's high friction coefficient to solid surface.

An alternative to the classic cell separation and isolation methods can be found in magnetic separations techniques.

## **TRICOTHECENES – ANIMAL AND HUMAN HEALTH RISK**

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Trichothecenes are a class of more than 180 structurally related sesquiterpenoid metabolites produced by food borne and environmental fungi. More than 40 naturally occurring trichothecenes are produced by fungi belonging to the genus *Fusarium*. Trichothecenes are classified into four groups (A, B, C and D), the most important being the ones belonging to the A and B group: T-2 toxin (the most toxic, A type trichothecene), nivalenol (NIV, less toxic than T-2 toxin, B type trichothecene) and deoxynivalenol (DON, the most prevalent trichothecene, contaminating grain worldwide, B type trichothecene). Toxicological effects associated with trichothecene mycotoxin poisoning in animals and humans include anorexia, gastroenteritis, emesis, hematological disorders, cytotoxicity and immunosuppression. This paper is an overview of the chemical and biochemical characteristics, toxicity, health impact and legislative limits of the most common trichothecenes found in cereals that pose a risk to the animal and human health.

## **THE TOPOGRAPHICAL CORELATIONS BETWEEN TYMPANIC BULLA AND REGIONAL CRANIAL NERVES IN DOG**

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In the lateral or medial osteotomy of the tympanic bulla the injuries of the regional cranial nerves may be presented especially in the lateral access to the tympanic bulla due to dissections of the parotidian region where are passing by the caudal auricular and superficial temporal arteries, while the ventral access is made among the digastric, hypoglos and styloglos muscles (3).

The knowledge of the topographical relationship between tympanic bulla and surrounded nervous structures are very important to protect the extracranial structures of the 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> cranial nerves and of the cranial cervical ganglion.

## **ANATOMIC AND CLINIC ASPECTS IN THYROIDIAN CARCINOMA IN DOGS**

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The authors present aspects of thyroidal adenocarcinoma in dogs. This study included 4 cases form the medicine Department of the Faculty of Veterinary Medicine Bucharest. Every patient benefits of an ample physical examination and an ultrasound evaluation. In advance, it has been done a serology dosage of thyroxine T4 and triiodthyronine, T3. The final diagnosis was given by the cytological examination, the results were: thyroidian adenocarcinoma and follicular carcinoma. After the surgical intervetion on the thyroid gland, samples collected were send for the histopathologic examination.

## **A CLINICAL CASE OF TOXOPLASMIC ENCEPHALITIS IN A CAT**

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The authors reveal clinical aspects of encephalitis in an young adult cat presented in the Internal Medicine Department of The Faculty of Veterinary Medicine Bucharest. It can be pointed the peracute onset of neurological clinical signs that rapidly progresses. The cat benefit from an acurate physical examination, ultrasound evaluation, hemogram and serum chemistry determinations. The imaging findings of



the MRI that determined the portion of the brain most affected by an encephalitic process, in concordance with the clinical signs, and the positive result of the serologic test of anti-toxoplasmic antibodies established the final diagnosis. The patient responded to the specific therapy for toxoplasmosis and that confirm the diagnosis.

### **MORPHO CLINICAL AND LABORATORY DIAGNOSIS OF THE NATURE OF NUTRITIONAL AND METABOLIC OSTEOCONDRAFIE IN YOUNG PIGS SEMIINTENSIVE FARMED**

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Osteocondrodistrophia have an economical importance.

The main osteocondropatia of nutritional-metabolic nature at young pigs is the rickets. The diagnosis of osteocondropatia in rickets is established by clinical criteria. It was established the blood serum concentrations of the principal trophic elements: total protein, albumin, calcium, phosphorus, magnesium and alkaline phosphatase.

The proves from young pigs with rickets it was revealed major results; lower for calcium and higher for alkaline phosphorus.

Biochemical modification where in proves from young sows and young boars with osteomalacia and arthosis.

The main cause of osteomalacia established by clinical tests fodder analysis and nutritional investigation was the deficiency of phosphorus and D vitamin of ration.

### **THE DYNAMICS OF HAEMATOLOGICAL AND BIOCHEMICAL PARAMETERS IN SERUM SUIN YOUTH INCREASED SEMIINTENSIV SYSTEM**

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They were examined more hematological parameters and serum biochemical at young pigs aged of 35-60 days; at these were registered anormal evolution during 60 days of live. The results revealed the next important modifications hemoglobine`s amount and hematocrit were under the normal limits – these show a deficiency anemia hipocrom type; these can be the cause of the moment deficiency in some microelements with hematopoeza role (Fe, Cu, Ca, Mg).

The reserches showed that in some situations the level of serum calcium is at the lower limit, even under the minimum limit of reference. This result shows an inefficiency in calcium; a frequent disorder of absorption of this element.

The most frequent is hipophosphoremia at the young pigs that were investigated too. Serum magnezimia was in normal limits in all the cases – in conclusion serum magzium is well adjusted by homeostatic mechanisms at pigs.

### **THE VARIANCE OF SELECTED HEAVY METALS CONTENT IN DIFFERENT MEAT TYPES DETERMINED BY ICP-MS AND DR-ICPMS**

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The objective of this research was to determine the levels of cadmium, lead, iron, zinc, selenium, manganese, copper and molybdenum in different cuts of beef, pork, lamb, chicken and foal collected from supermarkets and butcheries in our country. The values of concentration for manganese, copper, molybdenum, zinc, iron, selenium, cadmium and lead were determined by inductively coupled plasma mass spectrometry (ICP-MS) after microwave digestion. From the obtained results, the calculation of the mean values and their respective coefficients of variation. The results showed for cadmium and lead ranges from 0.6 to 3.9 mg/100 g and 1.0 to 2.1 mg/100 g, respectively. The values of concentration ranged between 0.5 and 3.3 mg/100 g for iron, 0.7 and 5.1 mg/100 g for zinc, 9 and 44 mg/100 g for selenium, 3.1 and 16.7 mg/100 g for manganese, 0.3 and 132 mg/100 g for copper and 0.9 and 3.2 mg/100 g for molybdenum. The differences found in the concentration values, obtained for meat from different species as well as between the individual meat portions were noteworthy for iron, zinc, selenium and copper. The manganese concentrations had a high variability within muscles and species, while molybdenum concentrations were higher in chicken meat in comparison with the mammalian meats. The highest coefficients of variation were found for manganese (13% to 142%) and copper (13% to 224%), while the lowest was found for zinc (4% to 45%). In conclusion, in order to provide an accurate overview and to be able to calculate reliable dietary intakes, it is important to include the variability in food composition data.

### **DETERMINATION OF HEAVY METALS CONTENT OF MEAT AND MEAT BY-PRODUCTS BY USING NEUTRON ACTIVATION ANALYSIS AND ATOMIC ABSORPTION SPECTROMETRY**

**GHIȚĂ MARILENA, STANESCU V., TUDOR L., ILIE L. I., GALIȘ ANCA MARIA**

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By using neutron activation analysis and atomic absorption spectrometry, there were determined the following elements: As, Cd, Co, Cr, Fe, Hg, Ni, Pb, Sb and Zn from meat, intestine and liver of cow and goat, as well as in broiler and local breed chicken. Mercury was first separated by radiochemical techniques. The results

revealed that the essential elements studied (i.e. Cr, Cu, Fe, Zn, Co and Ni) had a higher concentration in liver and intestine than in the meat, but these levels were in normal ranges. Meanwhile, the toxic elements, As, Cd and Pb were impossible to detect in all the prelevated samples.

## **USE OF MICRO DILUTION METHOD FOR IDENTIFICATION AND SUSCEPTIBILITY TESTING OF BACTERIA”**

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Bloodstream infections are life-threatening conditions which require the timely initiation of antimicrobial therapy. Inappropriate initial antimicrobial therapy of septic patients is associated with adverse outcomes. Automated blood culture systems that monitor blood culture bottles continuously for bacterial growth minimize the time necessary to detect positive blood cultures. Once bacterial growth is detected in blood cultures, rapid identification and susceptibility testing of the isolate are important tasks for the clinical microbiology laboratory. Reducing the turnaround time of microbiological analysis by using automated systems can lead to significant reductions in patient morbidity, mortality, and costs.

Direct AST of gram-negative bacilli and gram-positive cocci from positive blood cultures with the MICRONAUT system is a reliable technique that allows for the omission of repeat testing of subcultured isolates. Thereby, it reduces the time to results of blood culture testing and may have a positive impact on patient care.

While standard antimicrobial susceptibility testing (AST) of bacteria commonly involves pure overnight subcultures, preparation of the inoculum for automated susceptibility testing directly from the positive blood culture appears extremely attractive with respect to the time to results.

A significantly higher rate of disagreement between direct and standard testing results for gram-positive cocci than for gram-negative bacilli was found. Reporting of false susceptibility of staphylococci to oxacillin and of enterococci to various antibiotics is a major problem with enormous clinical relevance. Since gram-positive cocci cause the majority of bloodstream infections, rapid and reliable automated susceptibility testing of gram-positive bacteria is highly desirable.

The MICRONAUT system is an automated microtiter broth dilution susceptibility testing system that is distributed throughout Germany and Europe in private and hospital-based laboratories. The testing is performed with 384-well microtiter plates. This system allows the determination of real MICs of up to 25 substances and the testing of two bacterial isolates on one plate. Bacterial growth in the wells is monitored photometrically at a wavelength of 620 nm, and a density above the cutoff value for the respective medium is interpreted to indicate bacterial growth.

# **ELISA AS AN ALTERNATIVE METHOD FOR THE DIAGNOSIS OF BRUCellosIS IN SHEEP WITH THE POSSIBILITY TO DISCRIMINATE BETWEEN VACCINATED AND NATURALLY INFECTED ANIMALS**

**GREXA ONDREJ**  
BIOMEDICA MEDIZIN PRODUKTE WIEN

*Brucella melitensis* is the main causative agent of caprine and ovine brucellosis.

The infection is spread world-wide. Some country-wide campaigns have been adopted in order to control rucellosis in sheep and goat, which include vaccination with *B. melitensis* Rev 1 strain, which may lead to a persistent serological response against Brucella O-polysaccharide.

This leads to false positive results using traditional serological tests in prevalence and incidence studies. Currently the traditional Rose Bengal Test (RBT) and Complement Fixation Test (CFT) tests are the most widely used. However, these can not discriminate

between vaccinated and infected herds and cross-reactivity against other gram negative bacteria is another drawback.

Several ELISA tests have been developed, but yet none of these have been accepted by the Office International des Epizooties (OIE) for international trade.

The EU commission has recommended that more trials are required to fully validate such assays for use in sheep and goat. This study was performed in order to evaluate two commercial assays, one indirect (I-ELISA) and one competitive ELISA (C-ELISA), on sheep sera. Both assays are manufactured by Svanova Biotech AB, Uppsala, Sweden.

The competitive ELISA is based on an assay developed by the Animal Disease Research Institute (ADRI), Ottawa, Ontario, Canada. The study included a comparison with commonly used traditional tests.

## **SVANOVIR™ Brucella-Ab I-ELISA & C-ELISA**

The tests were performed according to the manufacturer's (Svanova Biotech AB, Uppsala, Sweden) kit instruction manual.

The Brucella-Ab I-ELISA test was slightly modified using a HRP conjugated monoclonal mouse antiruminant IgG replacing the standard anti-bovine-IgG1 conjugate in the kit.

The high sensitivity and specificity figures obtained in the step 1 evaluation on sheep samples with the C-ELISA is in agreement with previous studies on the ADRI based ELISA (Biancifiori *et al.* 2000), reporting a sensitivity and specificity of 99.4 and 99.8 %, respectively.

## **RESEARCH REGARDING COLLECTION AND ISOLATION OF CANINE MESENCHYMAL STEM CELLS FROM THE UMBILICAL CORD**

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The purpose of this paper was to collect, isolate and cultivate canine umbilical cord blood mesenchymal stem cells as well as to cryopreserve them and test their viability after thawing. Canine umbilical cord blood cells were collected using two different methods and cultivated using DMEM or  $\alpha$ MEM until confluency, when passages were made with trypsin. 50% of the cells obtained after each passage were cryopreserved using DMSO and viability of cells was assessed after thawing. Results show a better influence of the  $\alpha$ MEM on cell development in culture as well as cell viability after thawing. We recommend this medium to be used in order to cultivate canine mesenchymal stem cells obtained from umbilical cord blood.

## **AN ARCHAEOZOOLOGICAL STUDY CONCERNING THE ANIMAL BREEDING AND DIET IN THE ROMAN ARMY**

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The study aims to combine the data obtained through archaeozoological analyses with more general information concerning the ways in which the Roman soldier managed to strongly influence the social and economic system. Therefore, the database focuses on archaeozoological analyses concerning the sites directly connected with the Roman army, more precisely forts and civilian settlements depending on them. The study includes a short inventory of the data concerning archaeozoological investigations from sites belonging to the three Roman provinces bordering Dacia (Pannonia, Moesia)(the ratio of bones in the assemblages, relevant osteometrical data, as well as the main characteristics of the identified animals – slaughtering age, morphology etc) and, as a separate subchapter, a synthesis of the results of archaeozoological analyses in forts and civilian settlements depending on the forts from the Dacian provinces.

The study includes a comparison of the information resulted from the archaeozoological analyses of the assemblages coming from the sites in Dacia with those obtained in the neighbouring Roman provinces.

The general percentages of all identified species have been compared, as well as those of the three main species (cattle, capriovids, swine). It is rather clear that, aside from a few small numerical differences (perhaps dictated by the local settings), the percentages identified in the Roman sites are quite similar to those observed in the military sites.

It is interesting to compare the impact of the morphological characteristics of the animals. In this way certain aspects, which are more relevant than those reflected by the percentages (the latter being often subjective), can be identified. Therefore in the first instance the data regarding the species having significant alimentary importance will be analysed and then the so-called secondary species (mainly horses and dogs). Starting from the previously mentioned types of observations, the study takes into consideration the information concerning the impact of the Roman soldier on the domain of animal care and breeding.

## **HEARTWORM SCREENING METHODS IN DOGS, CATS AND HUMAN**

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Heartworm disease ( a zoonosis disease which must be discovered and treated early enough in order to prevent its spreading ) represents a real challenge for veterinary practitioners because of its common clinical signs and most of all because of its cronical evolution. The fact that mosquito's bite is the most frequent cause of heartworm infection makes that the spreading area of the disease to be a large one ( we can find *dirofilariosa* in every area where temperature and humidity are high) . The purpose of this paper is not only to raise awareness about the importance of heartworm diagnosis but to describe one of the most efficient diagnostic tool. Diagnostic methods should detect both microfilariae and antigen.

## **THE IMPLEMENTATION OF THE STANDARD MICROSCOPIC AGGLUTINATION TEST APPLAIED IN THE SEROLOGICAL DIAGNOSIS OF LEPTOSPIROSIS IN THE NATIONAL REFERENCE LABORATORY**

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The microscopic agglutination test (MAT) is the standard serological test recomanded to be used for the diagnosis of leptospirosis, based on the determination of the antibody level, which react with the antigen represented by the different serovars of the *Leptospira spp.*

It is the reference test against which all other serological tests are evaluated.

The study consisted of the assimilation, implementation, optimisation and the *in house* validation of the methodology, regarding the carry out of the MAT, based on the recomandations of the OIE Terrestrial Manual, 2008.

The comparative study was carry out with the national omologated and accredited method, used at present in the serological diagnosis of leptospirosis for animals and people, in Romania.

274 sera samples from different species of animals were examined and also 15 international reference hiperimmune rabbit sera, 23 commercial hyperimmune sera, eight leptospiric hyperimmune sera samples made in IDSA and five sera samples sent by Royal Tropical Institute for the International Leptospirosis MAT Proficiency Testing Scheme.

The performance indicators of the method were evaluated by statistical analysis of the results.

The specificity was 100% and the sensitivity was 68% for the herds with leptospirosis suspicion, 93% for the vaccinated animals and 100% for the experimentally infected animals with various serovars of *Leptospira spp.*

The evaluation of the level of antibody by standard microscopic agglutination test (MAT), appliaed in serological diagnosis of leptospirosis, based on recomandations of the OIE Terrestrial Manual, 2008, is proper for the proposed aim.

## **ALLERGIC CONTACT DERMATITIS, IN DOG (CASE REPORT)**

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In dogs and cats this type of sensibilization has to be differentiated from irritant dermatitis that is quite difficult taking into account the same substance is simultaneously irritant and allergenic.

Our findings revealed a case of allergic contact dermatitis to anti-flea collar in a Shar pei dog, 1 year old. The neck lesions are present after 4 days since the application of the collar. Clinical anamnestic data and the results of paraclinical tests combined with symptomatic therapy supported a hypersensitivity to the antiparasitic compound of anti-flea collar.

## **THE RESULTS OF THE PARACLINICAL INVESTIGATION IN SOME LIVER DISEASE IN DOGS**

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This work presents clinical and paraclinical investigations by comparison in healthy dogs, dogs with acute hepatitis and with chronic hepatitis. The study was made on

34 dogs with clinical signs of acute or chronic hepatitis. The results of our investigations revealed the necessity of the paraclinical exams.

### **FINDINGS REGARDING THE PRURITIC DERMATITIS IN DOG**

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Cutaneous pruritus often causes an unpleasant sensation in pet, alarming the owner on a potential systemic or dermatological disorder. The lack of specific features and developing of complications make difficult the confirmation diagnosis in pruritic dermatitis which needs a systematic and differential approach to identify the primary source of the lesions.

This study performed on 89 dogs of different breeds and ages intended etiologic classification of the pruritic dermatitis in dog. The statistics revealed a high incidence of bacterial and ectoparasitic dermatitis by comparison fungal, allergic and other origins of dermatitis (immune, endocrine).

### **THE RESULTS OF THE CLINICAL AND PARACLINICAL INVESTIGATIONS IN ICTERUS IN DOGS**

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There are many different causes for icterus, but they can be divided into three categories based on where they start-before, in, or after the liver (prehepatic, hepatic and post-hepatic). When bilirubin begins its life cycle, it cannot be dissolved in water. The liver changes it so that it is soluble in water. These two types of bilirubin are called unconjugated (insoluble) and conjugated (soluble). Blood tests can easily distinguish between these two types of bilirubin.

### **THE PREVALENCE OF *TOXOPLASMA GONDII* INFECTION IN CATS FROM HUNEDOARA COUNTY**

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To establish the prevalence of *Toxoplasma gondii* infection in cats from Hunedoara county, 42 samples of serum and faeces were tested serological and coproscopical.



From all samples, 59.52% were positive and 40.48% were negative. The seroprevalence was higher in household European breed adult male cats from rural area fed with raw meat.

Coprospectically, we didn't detect *T. gondii* oocysts in any sample.

## **INTENSIVENESS AND EXTENSIVENESS OF PARASITE ELEMENTS IN FOXES FOR FUR, BRED UNDER INTENSIVE SYSTEM AND THE RISK OF DISEASE TRANSMISSION IN HUMANS**

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Faculty of Veterinary Medicine Iași

Investigations were carried out during 2005-2007 on foxes for fur, bred under intensive system, in order to study the intensiveness (EPG) and extensiveness (E%) of intestinal parasites and the risk of their transmission in humans. Therefore, we have taken coprological samples from foxes according to age and analysed them by qualitative (Willis) and quantitative (Mc. Master) flotation methods. We have also studied epidemiological case studies and data were introduced in tables and expressed graphically. The obtained results have shown the presence of protozoa from *Cryptosporidium* genus (EPG: 50-300) in 53,33 % of the studied samples, *Isospora* genus (EPG: 50-100) in 13.33%, nematodes from *Ancylostoma* genus (EPG: 50-150) in 20%, *Uncinaria* genus (EPG: 50-100) in 6.66% and *Toxocara* genus (EPG: 50-150) in 10.00%. The microscopic pictures were photographed with a digital camera.

The value of EPG shows a reduced infestation, typical of the subclinical evolution or the quality of carriers and removers of invasion elements, which is sufficient for providing human contamination and disease.

## **HISTOPATHOLOGICAL ASPECTS FOUND IN SUBCLINICAL PARASITARY ENTEROPATHY OF FOXES FOR FUR**

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Investigations were conducted on 50 dead bodies of foxes for fur, slaughtered for economic valorisation, in order to point out the parasitary aggression on the mucous of the small intestine in subclinical parasitary enteropathy. We have taken samples from the small intestine (duodenum, jejun, ileon) and mesenteric limphonodes that were preserved in formaldehyde 10% and have been processed for the histopathological examination. Fragments were cut at 5  $\mu$ m and coloured by HEA and MGG methods. Examination and taking microphotographs were done at microscope, using 10 x ob. 10, 20, 40.

The histopathological examination of the intestinal mucous membrane has shown a variable intensity aggression on the intestinal structures: epithelial desquamation, basal membrane discoloration, villosity apex decapitation, progressive atrophy of mucous membrane till the disappearance of villosities and pointing out glandular crypts, inflammatory infiltrate in *lamina propria*, hypertrophy of intestinal glands. In the glandular epithelium, they found schizogonic stages (trophozoites and schizonts), as well as mature disporic, tetrazoic oocysts belonging to *Isospora* genus. The subclinical evolution has shown a varied aggression of different intensity on the mucous membrane of the small intestine, capable to start clinical episodes.

**HOOKWORM (*UNCINARIA* SPP.) PARASITISM IN CALIFORNIA SEA LION (*ZALOPHUS CALIFORNIANUS*) AND NORTHERN FUR SEAL (*CALLORHINUS URSINUS*) PUPS ON SAN MIGUEL AND ST. PAUL ISLANDS**

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Comparative prevalence surveys for hookworms (*Uncinaria spp.*) in California sea lion (*Zalophus californianus*) and northern fur seals (*Callorhinus ursinus*) pups on San Miguel Island (SMI), California, and prevalence of hookworms in northern fur seals pups on Saint Paul Island (SPI), Alaska, were performed.

Intestines and peritoneal cavity of dead pups were examined for adult hookworms. The findings verify the low current prevalence (6.25%) of *Uncinaria spp.* in fur seals on SPI, and a high prevalence rate of *Uncinaria spp.* in both species of pinnipeds from SMI.

Current data indicate that hookworm infections is still a health problem in pinnipeds on SMI, where in 2008 pup mortality rates to 4 months of age were 15% for California sea lions and 32% for northern fur seals; in Saint Paul Island, a tremendous decline of the pinniped populations, and an associated lower prevalence and intensity of hookworm infestations are registered.

**MOLECULAR IDENTIFICATION OF SMALL STRONGYLE  
(STRONGYLIDA: CYATHOSTOMINAE) SPECIES USING A PCR-BASED  
REVERSE LINE BLOT HYBRIDIZATION ASSAY**

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A PCR-based Reverse Line Blot (RLB) hybridization assay has been applied for molecular identification of equine strongyle species in a farm from Central Kentucky (USA), using eggs and larvae. Strongyle eggs were harvested from feces from naturally infected horses; larvae were obtained from coprocultures in the laboratory. Additionally, four strongyle adults, morphologically identified, were included as positive controls in the assay. DNA was extracted from eggs in groups of thousands and larvae in group of seven. The ribosomal DNA intergenic spacer was amplified by the polymerase chain reaction using primers derived from conserved regions within the flanking 18S and 26S rRNA genes. The PCR-amplicons were used for a non-radioactive hybridization with 13 species-specific oligonucleotide probes, and one genera-specific oligoprobe (for *Strongylus*). Nine cyathostomin species were molecularly identified by RLB assay: *Cylicocycylus nassatus*, *Cylicocycylus insigne*, *Cylicocycylus leptostomum*, *Cylicocycylus ashworthi*, *Cylicostephanus longibursatus*, *Cylicostephanus goldi*, *Cylicostephanus calicatus*, *Cylicostephanus minutus* and *Coronocycylus coronatus*. The results of this study show the efficacy of the PCR-RLB assay to determine distribution and species-specific occurrence of cyathostomins under field conditions and to discriminate them from the large strongyles, indicating an invaluable way to furthering drug-resistance studies.

Equids can harbor over 100 species of internal parasites (Krecek et al, 1987). About one-half of these species are in the strongyle group, the great majority (64 of 83 species) being members of a single family, the *Strongylidae* (Lichtenfels et al, 2008).

The equine strongyles (Nematoda: *Strongylidae*) consist in a large group of intestinal parasitic nematodes with relevant importance in equine clinical practice. The *Strongylidae* of horses includes two subfamilies: *Strongylinae* ("large strongyles") and *Cyathostominae* ("small strongyles").

The large strongyle group (strongylins) in horses historically was composed of three species in the genus *Strongylus* (*S. vulgaris*, *S. edentatus*, and *S. equinus*). In the actual classification 14 species of *Strongylinae* of domestic equids are organized in 5 genera (Lichtenfels et al., 2008). One important characteristic of larval stages, especially of *S. vulgaris*, is that they migrate into blood vessels. This can result in occlusion of the blood vessels and periodic colic; even death of infected horses may occur. However, following the introduction of ivermectin in 1983, which is highly effective against migrating larval stages of *Strongylus* spp., a further and dramatic reduction in the prevalence and intensity of *Strongylus vulgaris* occurred (Herd et al., 1990). As a result, *S. vulgaris* is no longer considered an important cause of colic in

managed horses and is uncommonly diagnosed except on farms where parasite control is severe neglected (Kaplan, 2002).

Therefore, the decline of *S. vulgaris* and the rise of drug-resistant cyathostomes have changed the view of the relative importance of these nematodes; cyathostomes are now considered the principal parasitic pathogens of horses (Herd, 1990; Love et al., 1999; Uhlinger, 1990).

### **THE COMPARATIVE STUDY OF SOME ISOLATION METHODS OF PERIOSTEAL CANINE CELLS**

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This study has as objective the determination of the most efficient methods for the isolation of the periosteal cells because there is little information in this direction. The research compares two methods for isolating the cells from the periosteum fragments: the first is the explant technique and the second is the enzymatic digestion of the periosteum fragment. The explant technique supposes a period of four days of subculture in the DMEM medium before the cells can be isolated, while the digestion technique is more rapider the isolation the morphological characters of the cells are the same fibroblast like cells, but after a few days of cultivation of the isolated cells in DMEM medium, the density is higher in the wells with cells isolated from explant.

### **TOXIC SUBSTANCES - TRIGGERS OF EPILEPTIFORM EPISODES IN DOGS AND CATS**

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Epileptic manifestations appear due to an abnormal and hypersynchronous neuronal activity in the central nervous system. This type of activity is known in specialized literature as “neuronal electric storms”. Recurrent seizures are one of the characteristic manifestations of any nervous system which has an individual sensibility to a specific type of stimulus. No connections were found between type of seizures and the trigger (days of the week, the phases of the moon, vacations), but there are well-known triggers which are: flashing lights, lack of sleep, starvation, big noise, toxic substances.

In the present study we took into discussion a cat and a dog with epileptiform manifestations caused by a intoxication with several toxic substances. Seizures episodes appeared several hours after the toxic substance ingestion in both cases.

In the cat, we applied a therapy with antiepileptic drugs because the seizure episodes were numerous and this therapy was supplemented with supportive treatment. In this case we managed to make an MNR examination, and it reveals an abnormal area in the frontal cerebral lobe, with edema. Cerebral edema was sustained once more by the ophthalmologic exam which revealed a retinal edema.

The dog in the study had a dermatologic affection and needed a very toxic medication. The dog was neglected after the medication and it ingested the toxic substance. Its clinical manifestations were seizures, hypersalivation, loss of behavior. The dermatologic treatment was immediately interrupted and the therapy applied consisted in antiepileptic drugs and supportive treatment.

Within several days, both the cat and the dog recovered and never had such type of problems although the antiepileptic drugs were gradually withdrawn.

## **HYPOGLYCEMIA – CAUSE OF EPILEPTIFORM EPISODS IN DOGS**

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Epilepsy is a disease characterized by recurrent seizures (two or more) originating from the brain. Seizure activity arises as a sequel to abnormal hypersynchronous electrical activity of the neurons in the brain. Epilepsy is, above all, a consequence of an imbalance between excitatory and inhibitory mechanisms in the brain.

The present study's objective was to explain and to state the manifestations, treatment and the way were evolving the three patients which had epileptiform episodes consecutive to severe hypoglycemia.

We studied three dogs and we applied a hypoglycemia supportive therapy. We aimed to gain control of seizure activity by applying the right treatment. This therapy was made up of glucose, phenobarbital and hyperglycemic substances.

One of the cases ended with death due to the severity of the illness but another case in on continuous treatment and has a good quality of health and life.

The treatment including glucagon, a hyperglycemic hormone, borrowed from human medicine, which proved its efficiency in maintaining the glycemia at values compatible with a good function of all organs, especially the brain.

This therapy was supplemented with dexamethasone and diprophos administration, two antiinflammatory drugs with hyperglycemic effect. The whole scheme led to obtaining good results in controlling the epileptiform manifestations in severe hypoglycemia in dogs.

**COMPARATIVE STUDIES AND RESEARCH TO DETERMINE THE  
SCRAPIE RESISTANCE OF SHEEPS IN RUSETU AREEA  
AND HATEG COUNTRY**

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Breeding for scrapie resistance is still being encouraged, although obligatory use of ARR/ARR rams was suspended in 2007. The Animal Breeding and Genomics Centre (ABGC) has produced a report presenting general recommendations on how to continue breeding for scrapie resistance. The recommendations depend on the population size and the percentage of ARR in the population. In breeds with too few ARR animals, there is low selection intensity; otherwise there is a risk of excessive inbreeding in the population. In breeds with a great deal of double ARR, the selection can be stronger. In our study and research, the best genotype class G1 (ARR/ARR) and G2 (ARR/ARH) it was display in the samples of Hateg Country in percentage of 37,37%. In Rusetu area the genotype class G2 it was display in the samples of 42,85%.

**THE HOG CHOLERA EPIDEMIOLOGY AND DIAGNOSTIC**

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The classical swine fever (CSF) is an infectious disease, recorded in the WAHO database which causes major losses among the pig populations in some member states of the European Union and in other countries of the world. At the end of the eighties, the CSF was considered nearly eradicated in the European Union. In 1990, concomitantly with the creation of the Common Market, the countries which have still used anti-CSF live vaccines were required to stop the vaccination, for the creation of a common status in the all member states. During the past decade, several major CSF epidemics occurred in the European Union, and the Romanian CSF outbreaks were 843 in 2005, 1458 in 2006, and 159 in 2007.â

## SEROLOGICAL AND ENTOMOLOGICAL MONITORING OF BLUETONGUE IN ROMANIA

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Bluetongue (BT) is an infectious disease, noncontagious, that is transmitted through the prick of some midge species from the *Culicoides* genus. It has been found at the ruminant species especially in sheep and, with a lower frequency, in bovines and goats. Serological monitoring in 2008 demonstrated that the Romanian status for BTV is the free country. Although the presence of BTV vectors was confirmed in Romania, the vectors are still BTV-free. The risk of transboundary contamination by vectors or animals recommend maintaining of actual BT control measures in Romania.

## IMAGING IDENTIFICATION OF PERFORATING CUTANEOUS ARTERIES IN THE ABDOMINAL REGION IN RATS

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**Abstract:** Skin grafts in mice are an experimental model widely used in histocompatibility studies, cellular immunology, immunofarmacology, etc. This goal of this paper aims towards fundamenting practical, theoretical and experimental knowledge of our research team, at perfecting already existent methods of covering substance defects but mostly at finding new perforating vessels that are able to vascularise individual skin flaps on different body parts. Therefore, we insisted on the topic of widening the scope of use of local and regional skin flaps, topic that will largely contribute to achieve another big goal of substance defects surgery: using tissue that is as similar as possible to those that lack, to cover up the defects. Also, we have aimed towards using imaging techniques as methods in detecting the main perforating vessels in certain body parts.

## **RESEARCH ON POLYMERIC MATERIALS BIOCOMPATIBILITY**

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We were carried out research in experimental models watching the reaction of tissue to contact with materials polymer impregnated with different substances of protein nature. Histopathological, electronmicroscopy and immunohistochemistry tests were performed.

The research has shown the evolution of the tisular tissue in contact with polymeric materials with possible applications into the prosthesis and implants manufacturing. Was used 4 rats batch and performed comparative analyses achieving hypodermically implants. In vivo testing of the tissue response has demonstrated the appearance of a conjunctive capsule with variable dimensions which is correlated with the hypodermically tissue reactivity.

## **RESEARCH ON UNILATERAL HYDRONEPHROSIS SURGICAL TREATMENT OF THE DOG**

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Five dogs were studied after unilateral hydronephrosis diagnosed by clinical examination and supplementary in some cases, with ultrasound. Biochemical examinations of blood and urine did not reveal significant changes. On the opening of the abdominal cavity, were found large structures, containing blood serum or purulent, bold walls, compressing the other viscera, peritoneal reaction without detectable macroscopical peritoneal reaction. Affected kidney cortex was strongly thickened, presenting itself as a fibrous membrane, with dilatated blood vessels. And one case has been diagnosed with bilateral hydronephrosis, which present serious uremia (Urea 420 mg / dl, creatinine 3.9 mg / dl). It shown a history of serious urinary transit disturbances and it couldn't be saved.

## **VALIDATION OF PCR-BASED METHODS FOR GMO IDENTIFICATION AND QUANTIFICATION**

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Validation is the process establishing the suitability of an analytical method for a particular purpose. Various guidelines defining procedures for validation of



molecular methods have been developed. However, there is no universally accepted practice for assay validation, and often, subjectivity plays an important role in the interpretation of validation studies' results. The key to rational validation studies relies upon the harmonization of procedures for their design and interpretation of results.

The recommendations on how methods for genetically modified organism (GMO) analysis shall be evaluated and validated by the Community Reference Laboratory for Genetically Modified Food and Feed (CRL-GMFF) in the context of Commission Regulation (EC) No. 1829/2003 can be helpful in such respect. The scope of the validation studies outlined in this paper was to evidence that GMO testing methods used in our laboratory meet the acceptance criteria described in the ENGL document "Definition of Minimum Performance Requirements for Analytical Methods of GMO Testing" (13 October 2008).

### **ASSESSMENT OF THE QUALITY OF INTRAVENOUS PYELOGRAPHY AND OF THE IOHEXOL DYNAMICS IN CAT**

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There was assessed the quality of pyelograms in the time frame of 0 to 120 minutes after intravenous injection of 600mg/kg iohexol solution. The time of every radiography is strictly recorded and visibility of organic structure (renal cortex, calices, renal pelvis, ureters, urinary bladder) is evaluated. The study revealed that first adequate pyelography is obtained after 4 minutes and 49 seconds and the last one is obtained after 27 minutes and 46 seconds. The last radiography to suggest the presence of contrast medium is obtained after 1 hour, 55 minutes and 13 seconds. Regarding the position of the animal during x-ray exposure, it is recommended to execute lateral radiography and also dorso-ventral radiography in order to better assess full length of ureters. During examinations there were difficulties in evaluating the full length of one ureter that was behind the colic fecal mass, in lateral view, supporting the idea of two positions pyelogram.

### **RESEARCH AND OBSERVATIONS ON THE INTERFERENTIAL CURRENTS STIMULATION FOR THE TREATMENT OF INFLAMMATORY JOINT PAIN IN DOG**

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Interferential therapy in fighting acute and chronic pain of the locomotors apparatus is a well-known and explored domain in human medicine, which is why we try

putting it in practice and in veterinary medicine. Interferential therapy is a method that involves overlapping two currents of medium frequency slightly delayed (up to 100 Hz). In this way results a low frequency current (interferential) whose amplitude modulation occurs with a frequency of 0 to 100 Hz.

Observations were made on a number of 5 dogs with different acute or chronic inflammatory joint diseases (spondylitis, arthritis, osteoarthritis). Treatment was performed with the electrotherapy device Med-Mode System Interferenz 3, mark BOSCH, with circular suction electrodes.

After setting the diagnosis and the seat of pain by clinical and paraclinical methods, has been established a therapeutic program for each individual, which has further been modulating depending on the response of each individual part.

Patients haven't expressed any discomfort conditions during treatment application, and to the skin were not observed any injury due to currents shift. Recovery was good, being a temporary remission of symptoms (after applying the treatment for 1-3 hours) during the first week, for towards the end of the third week to be permanent.

## **IN VITRO DIFERENTIATION OF PERIOSTEAL CANINE CELLS**

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Isolated periosteal cells, approximately 30.000 cells in suspension, were placed in the differentiation chambers with osteogenic culture medium. In order to analyse osteogenic differentiation of cell cultures there was established an alkaline phosphatase activity, type I collagen, and extracellular matrix mineralization. A storage for 10 days in the differentiation chambers provide sufficient time for the osteogenic capacity development. A positive alkaline phosphatase activity in the case of differentiated cells to osteoblasts suggests an intense osteogenic activity. Also, the morphology of these cells, the polyhedric and cubical appearance, as well as a vertical growth in the differentiation medium are characteristics of the osteoblasts. Confirmation of results obtained from the review of alkaline phosphatase activity was obtained through the Von Kossa reaction, which has revealed the presence of calcium deposits in the cells membrane and in their vicinity. Identification of type I collagen needs a specific anticollagen antibody to react primary with the canine collagen.

## **THE INFLUENCE OF TIME AND TEMPERATURE STORAGE ON THE BACTERIOLOGICAL LOAD OF SEVERAL CATERING PRODUCTS**

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This study followed the influence of time and temperature storage on the bacteriological load of several catering products, which were storage at room temperature for 6 hours from the ending of the preparation process.

The study was performed during 01.01.2008 – 31.12.2008 in to a catering unit from Bucharest with Romanian traditional food which undergo thermal treatment: chicken soup, chicken rolls with spicy sauce, pork schnitzel, grill Bleu Shimel, chicken legs in pot, perch fingers, French fries with cheese, Serbian risotto, omlet with bacon and bell peppers, pancakes with sweet cheese and raisins.

The temperature, which is not correctly monitored, is the main factor that supports the growing of pathogenic germs responsible for foodborne outbreaks, so it is essential to have a control on the temperature in order to minimalize the risk of food contamination.

## **EVALUATION OF THE BACTERIOLOGICAL CONTAMINATION FROM RAW MEAT USED IN OBTAINING CATERING PRODUCES**

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The degree of contamination of raw meat during cutting, boning and preparation of the meat used in the production of catering, depends on the hygienic conditions with which these operations are performed.

The study was performed between 01.01.2009 - 31.08.2009 in a catering establishment in Bucharest on the raw meat that originates from the four species of animals: cow, pig, sheep and poultry on 64 samples with five subunits.

The bacteriological parameters determined were TBC, *E. coli* and *Salmonella* spp and were analyzed using SR EN ISO 4833, ISO 16649-1 or 2 and SR EN ISO 6579 according to Regulation EC 2073/2005.

Following the analysis of a significant number of samples of raw meat used for the preparation of catering, the conclusion was that it was conform so that bacteriological agents incriminated in the main producing food poisoning were absent.

## **A BETTER USE OF INDIGENOUS PLANTS FOR GETTING BIOSTIMULATIVE FOOD**

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**Abstract:** This paper presents a way of better yield for the *Cichorium intybus* (mainly), blended with some indigenous medicinal and aromatic plants in order to obtain a flavored soluble natural concentrate that can successfully be used within the sanogenetic nutrition as biostimulative soft drinks.

The special rich chemical composition of chicory: inuline, glycoïdes, poliphenols, sugars, proteins, lipids, superior terpenoides, vitamins (C, B1, B2, B5), minerals (K, Na, Mg, P, Fe) it is the main reason for its use in the food and pharmaceutical industries.

The natural concentrate of chicory, blended with medicinal and aromatic plants, it has a trophic, biostimulative, energizing, and choleric action, and it can be used for the preparation of soft drink, fruit juice, syrupus; it has a delicious taste and the pleasant flavor is given by the roasted chicory, medicinal and aromatic plants within the product recipe.

The technological process doesn't involve much energy consumption, it is simple and economical and can be performed using the current equipment of the food industry; it doesn't require a special previous preparation and it may be easily controlled concerning the quality of the raw material and finished product during the technological flow.

The industrial concentrate production enables the superior capitalization of some indigenous vegetal raw materials at high quality, high taste, and low cost as food products.

## **TRACE ELEMENTS IN ORGANS AND TISSUES OF DOLPHINS STRENDEN ON THE BLACK SEA COAST**

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The distribution of metals (Pb, Cd, Cu and Zn) were investigated in various tissues and organs obtained from dolphins stranded along the Black Sea Coast from Romanian during 2007-2009, founded by prowl car of the "Oceanic Club" NGO Constanta.

Metals were determined by atomic absorption spectrophotometry inside the Zonal (Regional) Veterinary Laboratory for Residue Control Constanța. Lead

concentrations were generally high in the flipper, intervertebral disc, testicle, ovary, intestine, stomach, spleen, liver, brain, bone and low in melon, lung, tongue, heart, kidney, bubbler . Some metals showed organ-specific accumulations: copper and zinc exhibited high concentrations in liver, the highest cadmium concentration was observed in liver, kidney, intervertebral disc, flipper. Pathological, microbiological and parasitological surveys were performed on this dolphins. It was not possible to relate dolphin death to a specific cause, or to contaminants; however, the accumulation of metals may contribute to certain pathological alterations and represents a risk factor for dolphins. The main cause of stranded dolphins represented their catching with fishing gears (gill nets).

## **CONTAMINATION WITH POLYCHLORINATED BIPHENYLS (PCBs) AND ORGANOCHLORINE PESTICIDES OF DOLPHINS STREDED ON THE BLACK SEA COAST**

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This study realives the contamination with polychlorinated biphenyl and organochlorine pesticides in bubbler samples from dolphins streded on the Black Sea Coast (*Tursiops truncatus ponticus*, *Phocena phocena* and *Delphinus delphis* ), founded between 2007 to 2009, by prowler car of the "Oceanic Club" N.G.O Constanta. Residues are determined by gas chromatography with electron capture detection, inside the Zonal (Regional) Veterinary Laboratory for Residue Control Constanța. Polychlorinated biphenyls and organochlorine pesticides were determined in bubbler samples from 18 dolphins streded. The highest concentration of organochlorine pesticides was registreted at lindane (4,320 mg/Kg lipid weight), beta HCH (12,151 mg.Kg lipid weight ) and DDTs (47,260 mg/Kg lipid weight). PCBs concentrations ranged from 0,818 to 9,504 mg/Kg lipid weight.

## **THE USE OF PROGESTERONE IN MANAGEMENT OF DIARY COWS REPRODUCTION**

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Poor fertility in dairy herds results in extended calving intervals and increased culling of cows not in-calf. This is estimated to cost the UK dairy industry 557 million EUR per year (data published in 2004., by the Department of Agriculture and Rural Development, Gov. UK).

The aim of this presentation is to quantify the costs of poor fertility of dairy herds and highlight opportunities for the dairy farmer to improve herd financial performance.

Most farmers take a break from breeding cows for a few months during the year.

In spread winter calving herds breeding starts again at around the same date each year, for example 1 December, 1 January. Voluntary waiting period is the second factor affecting a cow's eligibility for service. Most farmers do not serve a cow until she is at least six weeks calved, or possibly longer in higher yielding herds. This period allows uterine involution (repair of the reproductive organs post-calving) to take place. This period is known as the voluntary waiting period (VWP) and cows become eligible for breeding after this period of time.

Having a high submission rate is a key element of good fertility performance.

Good heat detection and service of cows seen on heat is required to achieve a high submission rate. The submission rate of a herd can be calculated using a good paper-based herd recording system throughout the breeding season. Good heat detection efficiency is the key to achieving a high submission rate, although research evidence suggests that cows now have shorter and less obvious signs of heat, making heat detection more difficult. Other cows may be anestrus and have no regular estrous cycles or show signs of heat.

Since cows frequently have heats lasting less than 10 hours, it is important to observe them at least twice a day for at least 30 minutes each time. Ideally, heat detection should be timed to coincide with the times of the day with greatest mounting activity, particularly in the evening. The greatest improvement in heat detection rate comes from increasing the time spent at each observation.

A wide variety of heat detection devices are available, from tail paint to sophisticated physiological heat detection aid, such as Milk progesterone testing that can help to identify cows in heat. Progesterone concentrations fluctuate during the estrous cycle but are low in the days around time of heat.

Progesterone testing kits are available and routinely used by veterinary practitioners as part of herd fertility programs. It is very important to get an indication of heat detection efficiency as together with conception rate, these have a major effect on overall reproductive efficiency of the dairy herd.

## **WATER QUALITY AS FISH WELFARE INDICATOR IN POTOCI FISH FARM**

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Water quality has a major role in fish evolution. Considering this background, from Potoci fish farm there were collected water samples at different depths in juvenile and adult trout's floating cages. From the collected samples, there were determined the following physical-chemical parameters: dissolved oxygen, residual chlorine, pH, phosphates, nitrates, nitrites, ammonia, phenols, sulphates, copper and detergents, as

well as water microbiological parameters: aerobic plate count (APC), fungal plate count (FPC) and total coliforms.

Water samples were collected by using a vertical point sampler for the ones at 20 and 35 m depth and by using PSB4 portable sampler for the others. Water physical and chemical parameters assessments were made by using Spectroquant Nova 60 photocolorimeter and the microbiological ones by running Compact Dry TC (total counts), YM (Yeasts and Molds), CF (coliforms) tests.

These assessments led to the following conclusions: most of the physical and chemical parameters (dissolved oxygen, pH, nitrates, nitrites, copper and detergents) recorder values which range within the admitted limits for trout, except for the residual chlorine in the depth samples which recorded overvalues by 2.33 times, the phosphates in the adult trout floating cages by 1.5 times and sulphates in all samples by 3.2 - 4.4 times.

The water microbiological test shows a high load of total aerobic bacteria, fungi and total coliforms.

In Potoci trout farm, the water as fish environment (less the microbiological issue) ensures a good welfare of fish stock.

### **WATER QUALITY AS FISH WELFARE INDICATOR DURING TRANSPORT**

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The present study aimed the water quality during a trout transport accomplished in order to repopulate a fish farm, with individuals of 90 g average weight. The transport was made between two farms at 600 km distances, in recipients with a total water volume of 6 m<sup>3</sup> (2 fish tanks of 3 m<sup>3</sup> each), with a density of 250 kg fish/tank. The transport period was 18 hours.

From the two fish tanks there were collected water samples for assessing the physical-chemical parameters (dissolved oxygen, residual chlorine, pH, phosphates, nitrites, nitrates, ammonia, phenols, copper, sulphates and detergents), as well as microbiological parameters (Aerobic plate count - APC, Fungal Plate Count - FPC and total coliforms).

The water physical-chemical parameters analyses were done by using Spectroquant Nova 60 fotocolorimeter and the microbiological ones by using Compact Dry TC (Total count), YM (Yeast and Molds) or CF (total coliforms) rapid assays.

The researches led to the following conclusions:

- dissolved oxygen shows quite high values (14.9 - 15.3 mg/l), having in view that the minimum admitted limit for trout is 6 mg/l;
- residual chlorine and ammonia exceed the maximum admitted limits for trout for 12 times, respectively 14 times;
- phosphates exceeded the admitted limit for 22 times and copper for 2.3 times;
- regarding the microbiologic properties, the water in the two fish tanks was appropriate.

The inadequate water physical-chemical parameters during the transport, the high mortality rate which was recorded and overcrowding (very high fish density) prove poor welfare of trout stock during the transport.

## **APPROACHING FOOD-BORNE PARASITES STATUS IN THE WORLD AND ROMANIA**

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Food-borne parasitic zoonoses have a major impact on the health and economy, with an widespread in the context of actual changes of the complex socio-economic and socio-cultural factors. Globalization of the food supply, increased international travel, increase of the population of highly susceptible persons, change in culinary habits, but also improved diagnostic tools and communication are some factors associated with the increased diagnosis of food-borne parasitic diseases worldwide. Zoonotic parasites found in food animals include a wide variety of protozoa, trematodes, cestodes, and nematodes. These foodborne parasites reach the human beings through the **consumption of raw infected food** such as muscle tissues of different animal species (*Toxoplasma gondii*, *Sarcocystis hominis*, *Sarcocystis suishominis*, *Diphyllobothrium latum*, *Taenia solium*, *Taenia saginata*, *Opisthorchis felineus*, *Anisakis* spp., *Pseudoterranova* spp., *Trichinella* spp.), or **vegetables** (*Fasciola hepatica*), and **contaminated food and water resources** (*Giardia duodenalis*, *Cryptosporidium* spp., *T. gondii*, *Echinococcus granulosus* sensu lato, *Echinococcus multilocularis*, *T. solium*, *Taenia multiceps*). **Meat of fish, reptiles and amphibians** can be infected with a variety of parasites, including trematodes (*Opisthorchis* spp., *Clonorchis sinensis*, minute intestinal flukes), cestodes (*Diphyllobothrium* spp., *Spirometra*), nematodes (*Gnathostoma*, spp., anisakine parasites), and pentastomids that can cause zoonotic infections in humans when consumed raw or not properly cooked.

The current status of the main food-borne parasites, with registered prevalence of infection in different countries and areas of the world, and the economic losses resulting from this, is reviewed in the first part. In the second part, the situation of some zoonotic diseases registered in Romania, is presented.

The complex of effective measures for monitoring and control of food-borne parasites, including education of farmers, shepherds and consumers, improving of farming conditions, a control of sewage sludge on pastures and of drinking water resources, improved transportation and distribution systems of food, accompanied by a new technology in food processing, specialized inspection associated with a



supplementary standardized surveillance, is needed to further reduce the incidence of these diseases.

### **STUDY CONCERNING BLOOD PRESSURE IN CLINICALLY HEALTHY AND CONSCIOUS CATS MEASURED BY OSCILLOMETRIC METHOD**

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The aims of this study were to determine the arterial blood pressure of clinically healthy cats and to set up reference values for clinical application. The arterial blood pressure was measured by oscillometric method in 159 clinically healthy cats. Cats were between 11 months and 14 years old, and the mean was  $5.96 \pm 3.48$  years and the group was consisted of cats of different breeds. The mean systolic blood pressure (SBP) was  $124,7 \pm 8,54$  mmHg. The diastolic blood pressure (DBP) and the mean arterial blood pressure (MBP) were  $75,4 \pm 10,08$  mmHg,  $91,9 \pm 8,45$  mmHg respectively. Feline SBP between 113,7 -135,6 mmHg and DBP between 61,6 - 89,2 mmHg are indicative of normotension. In the clinical setting, SBP/DBP values that are higher than 141,7/95,5 mmHg are strongly suggestive for arterial hypertension , and the decrease of SBP/DBP below 107/55 mmHg indicates the tendency to hypotension. In cats of this study, there is a slight but significant correlation, between age and systolic, diastolic and mean blood pressure.

### **RESEARCH AND OBSERVATION ABOUT CALLUS BONE FORMATION AFTER ELONGATION IN SHEEP**

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A study has been effectuated about the manner of bone callus formation and remodeling, after repeated elongations.

For this purpose 12 sheep were used adulthood who performed at the mandibular symphysis osteotomy. After that sectioned fragments were then fixed to the jaw by a 2 branches elongated conical screws with 4 screws. Elongarea was performed daily 0.5 mm. Remodelarea mandibular bone between the two areas began through a primary callus which gradually ossified. Primary callus has gone since week 4 to week 8 after completion lungimii. The healing of the bone was observed by clinical examination and X-ray examination carried out successively for 12 weeks.

## **A STUDY OF BRAINSTEM AUDITORY EVOKED POTENTIALS (BAER) IN CATS**

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The passing of an acoustic stimulus from the ear to various structures within the nervous system generates a series of electrical signals with latencies of several milliseconds to hundreds of milliseconds. The aim of this study is to establish reference values for the latencies of waves I, III and V, as well as for intervals I-III, I-V and III-V on a group of five cats. The data analysis shows that the latencies of wave I as well as III and V increase with lower stimulus intensity ( $p < 0,05$ ). In the case of binaural stimulation, the latency of waves III and V was greater as compared to monaural stimulation (left or right) -  $p < 0,01$ , and relatively unchanged for wave I ( $p > 0,05$ ).

The statistical analysis of the BAER interwave latencies according to the intensity of the applied stimulus showed that regardless of the intensity, the interwave latency was constant, with insignificant differences between the results ( $p > 0,05$ ).

## **RESEARCHES REGARDING REPRODUCTIVE ISOLATION, INBREEDING AND PROPER RELATIONSHIP IN TWO RHODE-ISLAND HEN LINES**

**IULIANA NEAGU, C. CULEA, DANA TAPALOAGA, A.  
MARMANDIU, P. R. TAPALOAGA.**

U.S.A.M.V.Bucuresti

The present paper has proposed to study some aspects of the genetic history and dynamics in two Rhode - Island hen lines, under selection for many generations.

As a main goal of many researchers was the establishing of the genetic status of these lines, predicting some indicators which frame the genetic history: reproductive isolation range, total achieved inbreeding, inbreeding achieved per generation, current and non-current inbreeding, relationship and subdivision index.

## **RESEARCHES REGARDING INBREEDING IN A LAYING HEN LINE**

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TAPALOAGA, A. MARMANDIU**

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The present researches have proposed to study the genetic history and dynamics in a Leghorn laying hen line, under selection for many generations.

As a main goal of many researchers was the establishing of the genetic status of this line, predicting some indicators which frame the genetic history: possible inbreeding, line inbreeding, subdivision index, current and non-current inbreeding.

## **BEHAVIOR INTERFERENCES IN SHEEP, ACCORDING TO PHYSIOLOGICAL STATUS, ONTOGENETIC DEVELOPMENT AND SOCIAL ORGANIZATION-A REVIEW**

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In many countries, sheep has a millenary tradition. Sheep (*Ovis aries*) can be increased and operated without major investments in different areas.

After the compared research of the instincts - researchers turned their attention primarily on the behavior, genetically imprinted. In sheep, the social hierarchy is established in a relatively short time, they having well defined positions within the group. Sheep are known to herd instinct, because they are timid and frightened animals. This instinct varies according to breed.

Generally, the sheep form stable social groups and social organization influence the type of grazing herd. Age studies conducted on the aggressive behavior of sheep indicates that older animals are more involved in fighting.

Sheeps like to maintain a distance, or safe zone, between themselves and others. Flight distance is defined as the space between themselves and others. Because of their instinct to stay close together sheep will move toward another sheep.

This work assemble the main data from literature concerning general sheep behaviors according to their physiological status, ontogenetic development and social organization

## **LEGISLATIVE BASIS OF THE PRIVATE VETERINARY PRACTICE IN BULGARIA**

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In this work the legislative basis concerning the formation and the development of the private veterinary practice was investigated for the period from 1878 to 2008.

The social and economic prerequisites for the rapid development of the private veterinary practice and clinics after the democratic changes in the country during 1989 – 1990 were analyzed.

The division of the local veterinary units and the allocation of the veterinary clinics and dispensaries were investigated in every administrative region in Bulgaria. Conclusions and suggestions were made for the elaboration of the private veterinary practice and its interaction with the state veterinary service.

## **THE INFLUENCE OF TEMPERATURE AND GAS MIXTURES ON GROWTH AND SURVIVAL OF *CAMPYLOBACTER JEJUNI* IN CHICKEN MEAT**

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*Campylobacter* germs are a common cause of food-borne outbreaks in the EU; in 2007, campylobacteriosis was the most frequently reported zoonotic disease in humans.

The growth and the survival of *C. jejuni* were studied using various thermal schemes and different gas mixtures. The samples were incubated at 37°C, 20°C and 4°C, in vacuum atmosphere, aerobic conditions and optimal conditions for the growth of *Campylobacter spp.*

At 37°C, the cell counts of *C. jejuni* strain increased regardless of atmospheric composition, while at 20°C and 4°C the strain survived during 4 and 20 days storage, respectively. However, in the same heat treatment, there were recorded differences: the highest number of *C. jejuni* was obtained in microaerobe conditions and the lowest number by keeping the samples under aerobic conditions.

Although the refrigeration is used to control bacterial growth in foods, the researches proved that it can not be a substitute for safe handling and production measures and for proper cooking of meat.

## **THE INFLUENCE OF FOUR SELECTIVE CULTURE MEDIA ON THE ISOLATION OF *CAMPYLOBACTER SPP.***

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According to the E.U. reporting on zoonosis, germs of *Campylobacter* genus represent at present the main zoonotic agent involved in the appearance of gastroenteritis in humans.

Culture media for the isolation of *Campylobacter* usually contain various selective agents, designed to allow these bacteria to grow whilst suppressing the growth of other microorganisms. For example, cefoperazone, vancomycin and polymyxin B are antibiotics incorporated into *Campylobacter* culture media in order to inhibit the growth of competitor germs.

In this study, the selectivity of four *Campylobacter* culture media was studied by quantifying the growth of *Campylobacter* strains and the suppression of potential competitor microorganisms.

The used strains of *Campylobacter* (*C. coli* and *C. jejuni*) developed well on the four agars, there were not inhibited by antibiotic substances contained within selective media, while the flora of association was differently suppressed, depending on the used medium.

mCCD agar and Preston agar provided a better selectivity for *Campylobacter jejuni* and *Campylobacter coli* than Skirrow agar and Karmali agar. From the four tested selective media, the less selective was Skirrow agar. The selectivity of culture media can be attributed to the influence of basic medium, growth promoting additives and inhibitory supplements.

## **ANTIMICROBIAL ACTIVITY OF EXTRACTS OBTAINED FROM SEA BUCKTHORN**

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The replacement of synthetic additives with plant polyphenols is nowadays an important scientific objective. Recent studies demonstrated that polyphenols extracted from leaves, fruits, seeds and roots of different plants can manifest an antimicrobial activity. Sea buckthorn fruits (*Hippophae rhamnoides*) contain important quantities of flavonoids and phenolic acids.

The purpose of this study was to determine the antibacterial capacity of polyphenols from sea buckthorn fruits (*Hippophae rhamnoides*).

The researches were performed upon 5 bacterial strains (*Salmonella typhimurium* ATCC 14028, *Escherichia coli* ATCC 25922, *Staphylococcus aureus* ATCC 25923, *Bacillus subtilis* ATCC 6633 and *Bacillus cereus* ATCC 11778) that were tested using diffusimetric method in order to evaluate their sensitivity/resistance to a polyphenolic extract obtained from sea buckthorn fruits.

The obtained results showed that the polyphenols extracted from sea buckthorn fruits have antibacterial properties. The most sensitive bacteria to the action of sea buckthorn polyphenols were *B. cereus* and *B. subtilis*. *S. typhimurium* and *S. aureus* presented intermediary inhibition areas to the action of sea buckthorn extract. *E. coli* was the most resistant bacteria to polyphenols extracted from sea buckthorn fruits.

## **DEUTERIUM DEPLETED WATER EFFECT ON CHROMIUM, CALCIUM AND MAGNESIUM LIVER LEVELS IN CHROMIUM (VI) INTOXICATED RATS**

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The chromium toxicity depends on the oxidation stage and its solubility. Cr(VI) is more toxic than Cr(III) (Trivedi and Saxena, 1989). Cr(VI) reduction to inferior

oxidation stages causes ADN lesions, thus rendering the Cr (VI) compounds carcinogenic.

The present paper deals with the study of the deuterium depleted water treatment effect on the liver levels of calcium and magnesium, after chromium(VI) intoxication.

The effect of the DDW (30 ppm) treatment on rats intoxicated with  $K_2Cr_2O_7$  in only one dose (20 ppm Cr(VI)/kg b.w.) has been observed.

Chromium(VI) administration in experimental groups (eight groups of 12 female rats each) showed a strong augmentation of this toxic metal content in liver (24 times as control), suggesting its high bioavailability. Calcium liver average values were 2.8 time higher at Cr intoxicated group as control. Similar values of magnesium were registered in all tested groups; DDW (30 ppm) treatment maintained both calcium and magnesium average values at the control (L1) levels after 60 days of *ad libitum* administration.

Because deuterium depleted water is non-toxic, the decreasing of deuterium level in the organism can be accomplished very easy by consuming DDW instead of tap water (Somlyai *et al*, 1989)

## **THE PROTECTIVE EFFECT OF SEA BUCKTHORN ALCOHOLIC EXTRACT UPON PROTEINS AND LIPIDS FROM REFRIGERATED BEEF AND PORK**

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Muscle tissue refrigeration evolution is characterized by biochemical reactions that affect proteins and lipids.

The purpose of the researches presented in this paper was to investigate the effects of sea buckthorn alcoholic extract on proteins and lipids from refrigerated beef and pork muscle. The proteolytic degradation was investigated by sodium dodecyl sulfate polyacrylamide gel electrophoresis and the course of lipid peroxidation was monitored by measuring conjugated dienes (CD), peroxide value (PV) and thiobarbituric acid reactive substances (TBARS) levels.

The sea buckthorn polyphenolic extract had a protective action upon proteins from refrigerated beef and pork. Sea buckthorn polyphenols protected unsaturated fatty acids from refrigerated beef and pork against lipid peroxidation. Due to these actions, sea buckthorn polyphenols can be used in food industry to protect minced meat against proteolytic and oxidative processes.

## **CARBON BALANCE AND THE ATMOSPHERE GREEN HOUSE EFFECT**

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The global heating of the earth is due to the increasing concentration of green house gases (CO<sub>2</sub>, CH<sub>4</sub>, C<sub>2</sub>F<sub>6</sub>, and N<sub>2</sub>O) in atmosphere. CO<sub>2</sub> and CH<sub>4</sub> are Carbon compounds produced by live beings. There are voices claiming for decreasing the farm animal livestock in order to protect against global heating. The Carbon balance on the Earth shows that Carbon is found under ground as diamond, as lime or other mineral salts and as organic compounds forming the fossil fuel (coal, oil, and natural gases). This Carbon is blocked to having relations with the atmosphere. On the Earth surface Carbon is found as stored in dead organic matter, as deposited in the body mass of the living beings and as mineral gas compounds in atmosphere. Only atmospheric gas compounds of carbon have green house effect. Photosynthesis uses CO<sub>2</sub> to format live organic matter, diminishing its quantity in atmosphere. This organic matter has to be mineralized in CO<sub>2</sub>, H<sub>2</sub>O and N. Nature delays mineralization by the autotrophic and by the heterotrophic nutrition nets protecting Earth from the global heating. More living beings on the Earth mean more deposited Carbon and more protection against global heating. This fact is true for the farm animals as well. Bio fuel is a shortcut in mineralizing organic matter. Emission of CH<sub>4</sub> results from anaerobic fermentation. Ruminant farm animals are producing CH<sub>4</sub> during the rumen digestion of fodder. Since anaerobic bacteria mineralizing organic matter up to H<sub>2</sub> and C perhaps don't exist, vaccination against methane emission seems to be utopia. Animal farming produces CH<sub>4</sub> when manure is collected hydraulically and is fermented anaerobic. Humans protect the Earth against global heating if increase green plans culture, if use less fossil fuel, if avoid anaerobic fermentation of animal farm manure, if improve feed conversion in useful animal products.

## **STUDIES CONCERNING THE BIOLOGICAL EVOLUTION OF ITALIAN BEES IN REPLACEMENT, GROWTH AND SWARMING PERIODS**

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The study was conducted on Italian bee families comparative with the Carpathian bees. The bees were housed in multi-storey hives. The following parameters were

studied: the queen bee prolificacy, the flight intensity during harvesting and during bad weather, the irascibility, the behaviour of the bees during the survey and the predisposition to swarming. Queen bee prolificacy and the rate of old bee's replacement were significantly higher in Italian bees. On the other hand, flight intensity during bad weather was 22.4% higher which caused high losses during the overcast periods. This breed didn't display the swarming instinct.

## **PROBIOTICS: AN OPPORTUNITY FOR SWINE HEALTH AND PERFORMANCE**

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Making a bibliographic study on probiotics has aimed to clear in what extent they can be an opportunity for health and performance in pigs.

The relationships of the microbiota with the host body is dominated by competitive production of energy and amino acids and from bacterial fermentation in the cecum and colon, with competitive inhibition of potentially pathogenic micro-organism and positive immunomodulation.

Intestinal dismicrobism occurs under the influence of biotic or abiotic stress factors and the balance is restored by adding the optimum combination of probiotics.

The qualities of the probiotics used in pigs are linked with the ability to survive along the digestive tract with high adhesion for colonization and benefic effects on the host organism and high stability after the first administration.

It is generally accepted that the stimulating effect of lactic bacteria is beneficial for their attachment to the intestinal lining that will protect animals from gastro-enteric infections.

In pigs, probiotics have the next effects: nutritional, sanitary, dis-metabolic effect for pathogens by disruption of enzymatic activity and secreting antibiotic substances (lactic bacteria) and general and local immunological effects. Evaluation of probiotics in animal nutrition is made by "in vitro" and "in vivo" tests in animals and by safety tests.

## **EFFECT OF PROBIOTICS ON PERFORMANCE AND HEALTH PARAMETERS IN SWINE**

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The aim of this study was to observe the efficacy of probiotics, based on genus bacillus and lactobacillus in sows, suckling pigs and fattening pigs following the protocol: "I" probiotal solutions containing lactobacillus was administrated to new



born piglets and “b” probiotics premix containing bacillus wick was administered to pregnant and lactant sows and to fattening pigs.

The results were the significantly reduction of the mortality caused by diareea and the lowest mortality in piglets in comparison with the control batch,a raise in the daily weight gain,and the shortening of the fattening period.

The therapy and nutritional prophylaxis with probiotics,from bacillus and lactobacillus strains affected the health and performances of sows ,piglets,and fat pigs,being an alternative method on antibiotics as growth factors.

## **MONITORING OF THE PHARMACO THERAPIC INTERVENTIONS IN CERCOPITECUS GROUP IN BUCHAREST ZOOLOGICAL GARDEN**

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The experiments regarding the incidence of the diseases met in Cercopitecus group in Bucharest Zoological garden were carried out during 2007-2009. There were made perodic examinations of the animals by clinic diagnosis methods, which were correlated to the results of the analyzes done in the own laboratory of the unit ( blood and urine examinations, ovoidelminoscopic exams).

The enteritis cases, generally involved two patogenous microorganism species: Shigella and Salmonella and it was noticed that the maladies appeared in the individuals under stress, being considered the main pathogenetic factor in these diseases appearances.

The treatment consisted initially only in the management of nutrition and intense rehydration. The results of the treatment were positive to the alopatic medicines, respective for Cotrimoxazol ( trimetoprim - sulphamethoxazol), in the order of their efficiency being Colimicin, Gentamicin and Kanamicin.

Whithin all the pneumonia forms in the winter season in Bucharest Zoological Garden they optimize the hygienic and dietary conditions; the sick animals were isolated in separated cages, well aired and at 18-22 degree Celsius. The treatment were carried out before the establishing of the etiology with products based on Tetracilin, this therapy being justified by the fact that the Tetracilin group is active beside all the patogenous agents responsible to pneumonia incidence.

In the case of Bobita, the cercopitecus, a male of 22-23 years old, during this year were noticed alterations of the health status, it is important to mention the fact that the main reason was considered its age. The treatment were carried out with vitamins, liver trophics, calmants and rehydrating salts but they not lead to a favourable effect and when it was noticed the cardio respiratory insufficiency the euthanasia was induced , using T 61 product, in a dose of 10 ml (a sedative agreed by the whole European Community).

## **THE TOPOGRAPHICAL ASPECTS OF THE RIGHT AZYGOS VEIN AND ITS TRIBUTARIES IN DOG**

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The right azygos vein together with its origin and tributaries can be considered an important venous system of the thoracic cavity.

In the lateral thoracotomies the passage of the right vein and its relationship with aorta and intercostal arteries and their affluent is very important to avoid arterial and venous hemorrhages.

## **POTASSIUM DICHROMATE IMPACT ON SOME MARKERS OF FEMALE REPRODUCTIVE SYSTEM PERFORMANCES (LITTER SIZE, SEX RATIO) AND PHYSICAL DEVELOPMENT (VAGINAL OPENING) IN FEMALE RATS EXPOSED *IN UTERO***

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Hexavalent chromium administration in drinking water during gestational period in female rats revealed significant decrease of alive pups number at birth, increase of dead rat pups, sex ratio perturbation in female favor; delayed puberty – dose dependent - over aged female offspring at sexual maturity (the vaginal opening moment), tardily reaching the necessary body weight for this physiological process.

## **RESEARCH CONCERNING THE HISTOSTRUCTURE OF ORGANS AT SWINE EMBRYO AGED OF 50 AND 60 DAYS**

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The authors have studied the histological structure of organs of the thoracic and abdominal cavity in swine embryos aged of 50 and 60 days after having used a fixing solution of saline formol a paraffin inclusion and after the serial division into section of the organs.

The sections have been coloured with HE methods, Mallory trichromical method, silver impregnation Gömöri method and cold Giemsa method.

The thymus has no separated lymphoblasts in the cortical zones of the thymal lobes and no structured Hassal corpuscles in the medular zone.

The liver has hepatical cells as Remack strings which converge towards the centrolobular vein, but have no clear delimitation of the Kiernan spaces and the

perilobular conjunctive tissue. Into the hepatic sinusoids can be found eritroblasts, eritrocites and other figurative elements.

The stomach is formed only of mucosa, muscular and serous. The absence of mucosa muscularis leads to no delimitation between the chorion and the submucosa. The organ have no glandular elements.

The testicle is organised, delimited by albuginea. The seminiferous tubule are delimited well by the mesenchymal conjunctive tissue. Into the stroma the are interstitial cells. Into the seminiferous tubule the supporting cells prevail and the spermatogony are placed on the base near the membrane.

### **TESTING GALLIMUNE 201 IBD + REO INACTIVATE VACCINE EFFECTIVENESS AGAINST INFECTIOUS BURSAL DISEASE (IBD) AND AVIAN REOVIRUS FLU**

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World Organisation for Animal Health (OIE) introduced avian infectious bursal disease in List of diseases, being the object of annual information by Word Animal Health because of the economic loss that it produces to the poultry farming through its immunosuppressive effects, as well as the morbidity and mortality. Even if a bird survives the initial acute infection, many problems can occur. The harmed immune system is much less able to defense against infections with normal pathogen agents and is likely that the bird suffers or dies because of any of a number of secondary infections. Herds that have experienced disease are usually underweight, lack of uniformity and have a higher mortality from various causes. The infectious bursal disease virus can not be controlled with antibiotics and is almost impossible to be removed from the shelter with disinfectants. By the state of immune suppression that it creates, the infectious bursal disease virus cause a negative effect on the development of antibodies that appear after prophylactic vaccination, against Newcastle disease, and dramatic reduction of nonspecific resistance to the conditional pathogen germs. This condition is very common at broilers and in the first phase at the replacement young chicken. These immune-depression states are favored by larger fluctuations which occur in the quality and quantity of feed. Reovirus infections in birds are frequently associated with increased mortality, viral arthritis / tenosynovitis and an overall decrease in performance, including profit growth in weight, poor feed conversion, unequal growth rates, confiscation at the slaughterhouse and a poor recovery, at the market, for the affected birds. The product tested is an inactivated vaccine against: avian infectious bursal disease (VMJO strain) and avian reovirus flu (S1133 strain).The product is recommended for active immunization of laying hens against infectious bursal disease and avian

reovirosis flu. The vaccine is administered in laying birds with 2-4 weeks before entering the laying. To obtain an optimal “booster” effect, the birds will be vaccinated initially with a live vaccine against infectious bursal disease and avian reovirosis flu. Best results are obtained if vaccination with inactivated vaccine is made after at least 4 weeks after administration of a live vaccine. It will be vaccinated only the healthy birds. Before using, the vaccine is brought at a temperature of 15 – 25 °C and before and during use, it is homogenized. The vaccine will use clean and sterile equipment. No equipment will be used for vaccination with the composition of rubber because the excipient can affect all types of rubber. Do not mix with other vaccines. It will be given with 2-4 weeks before entering the lay.

## **HISTOLOGICAL ASPECTS OF THE ESOPHAGUS IN STRUTHIO CAMELUS**

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In the literature, the information on the digestive system histology of ostrich (*Struthio camelus*) is rare, most data referring to the species *Gallus domesticus*.

Histological structure of the esophagus to the ostrich is largely similar to the species *Gallus domesticus*. Esophageal wall is composed of four layers: mucous membrane, submucous membrane, muscular, adventitious or serous.

The organs mucous are covered by a pluristratified epithelium that presents numerous longitudinal folds, and between them appear displaced esophageal glands, which are a type mucous aspect saciform. The submucous membrane is poorly represented.

The muscular membrane is highly developed and presents striated muscle fibres in the third superior part and in the rest of the oesophagus there are smooth muscle fibres arranged in two levels: internal circular and external longitudinal.

The adventives is non-uniformly developed, is composed of lax subjunctive tissue, blood vessels and nerve formation.

Knowing in detail the elements of the cells, tissue or organ at certain ages, allows a proper explanation and interpretation of various physiological and pathological aspects related to the studied structures.

## **THE STUDY OF SOME DETAILS REGARDING THE MASETER MUSCLE IN SHEEP**

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The masseter muscle in sheep can be separated in three parts. The superficial part has their origin on facial tubercle by means of a tendon which becomes widened in lower part, transforming into an aponeurosis of which oral border pass under the

middle part of their muscle. The middle part is covered by a thin fascia, which is attached from ventral border of zygomatic arch and from caudodorsal border of superficial part. The middle part is the most developed. Distally have it insertion on the lateral side of vertical part of mandibular branch. The smallest deep part, with vertical fibers, has their origin from the ventral side of zygomatic arch, behind the middle part and their insertion on ventral part of mandibular branch in proximal half.

## **SCIENTIFIC ACADEMIC RESEARCH IN THE PRESENT INFORMATIONAL CONTEXT**

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The scientific research processes currently carried out in academic environments are undergoing a period of radical changes, being increasingly brought into question the role of academic scientific research in society and the directions of development that it should follow. In this development a key role is played by the equilibrium of the relationship between society's expectations on academic research and the informational background where it is placed. Scientific research conducted in universities is and will continue to be a primary source of information and knowledge, without which no other form of research can survive. The new knowledge obtained through scientific research process is the basis of the development and the foundation of social and historical progress, and of the human prosperity.

## **HISTOLOGICAL RESEARCHES REGARDING THE VENTRICLE AT THE PHASIANUS PHASIANUS SPECIES**

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In the specialty literature the information regarding the histostructure of the common pheasant's ventricle are extremely rare, most of the dates are regarding the Gallus domesticus species.

The pheasant ventricle shows histostructural particularities witch stands at the basics of the physiological or pathological matters witch are characterizing this species.

The cuticle has a laminar organization on two lairs. The slides from the shallow lair are orientated parallel to the muscle membrane and those from the deeper lair are orientated perpendicular, entering into the muscle membrane's glands.

The muscle membrane shows a simple, prismatic epithelium with high cells and oval nucleus situated at the basics with the long axle orientated perpendicular to the basal membrane. The surface epithelium continues with another epithelium witch delimitates the lumen of the simple, tubular glands.

The ventricle (the muscular stomach) has a mucous membrane with no muscles and in the lamina propria are present many simple tubular glands which are almost occupying it.

The ventricle's muscularis externa, which is neat, has its maximum thickness at the level of the organ's outer surface. Between muscle fibers we can see straps of connective tissue which can be filled with fat. The lymphoid cells are in small numbers. The muscle fibers are disposed in 3 layers, not very well delimited: an external thin layer, longitudinal orientated a massive circular layer in the middle and an internal oblique layer. Between the external and the middle layer we may see a nervous plexus very well represented.

The muscle fibers are in physical continuity with a layer of dense connective tissue, existing a gradual passing from the muscle to the collagen fibers.

The lymphoid cells are in small numbers in the ventricle's structure, being placed in the sub peritoneal connective tissue.

### **HISTOLOGICAL RESEARCHES REGARDING THE THIN INTESTINE AT THE PHASIANUS PHASIANUS SPECIES**

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The histostructure of the thin intestine's wall, at the pheasant, doesn't show big differences between the duodenum, the jejunum, and the ileum.

The intestinal wrinkles and villosityes are found on the whole surface of the intestinal mucous membrane. In the duodenum and in the jejunum we can see more villosityes that are very long, on the 2/3 of the thickness of the mucous membrane.

The intestinal glands (the Lieberkühn crypts) are short, little flexible and are occupying the volume, from the basics of the villosityes and the mucous membrane's muscle. Between the glands it is a little quantity of lax conjunctive tissue with blood and lymphatic vessels, nerves and lymphoid cells which are disposed diffuse or in lymphatic nodules. This tissue accedes in the villosityes axle.

In the ileum mucous membrane is present the Peyer plates. At their level the ileum doesn't show villosityes but a reduced prominence – domul, covered with a simple, prismatic epithelium.

Sub mucous membrane is reduced being in a very thin layer of conjunctive tissue.

The muscle contains neat muscular fibers disposed in a circular internal layer and a thicker external longitudinal one. In the two layers we can find conjunctive tissue with the nervous plexus mienteric.

At the surface of the intestine we can find the mezothelium of the visceral peritoneum subseros conjunctive tissue with vessels and nerves.

## **COMPANION ANIMALS ROMANIAN EPIDEMIOLOGICAL SURVEILLANCE NETWORK: PetEpiNetVet**

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In clinical practice, there is a daily need for valid, up-to-date, information about diagnosis, therapy and prevention. The epidemiological studies using large clinical and laboratory data allow vets to estimate the risk of infection for pets in their area and to perform individualized risk assessments for vaccination or therapy. The current epidemiological concepts explore and assimilate the new information technology services, and some of those resources have already been integrated in companion animal medicine. In this paper we propose a classical and easy to use network designed for companion animal veterinary practitioners whose acronym is PetEpiNetVet (**Companion Animals Romanian Epidemiological Surveillance Network**). The main objective of PetEpiNetVet is to collect and share in real-time the epidemiological data of infectious and parasitic diseases in companion animals: dogs, cats, horses, and exotic animals. The network is designed to provide information, support the utilization of national and regional resources, to improve communication between veterinarians, to contribute to the search for partners, to support the experience exchange and to improve the research in veterinary and biomedical disciplines. PetEpiNetVet is open to field veterinarians, university teachers, research institute, staff members, laboratory diagnosticians and advanced students.

## **RAPID ACCESS SYSTEM OF BLOOD DONORS IN VETERINARY EMERGENCY MEDICINE**

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The transfusion technology for companion animals developed during the nineteenth century, and the request for blood or blood products increased over the last several years. Transfusion can be life-saving in some situations, such as massive blood loss due to trauma, severe anaemia or thrombocytopenia caused by a blood disease, or can be used to replace blood loss during surgery. In this paper we present our approach in creation of the first animal blood bank in Romania to meet the needs of the field veterinarians and most of their patients. Our purpose is to provide veterinarians with safe blood products, transfusion supplies and knowledge about transfusion. Our goal is to provide the best in patient care, in partnership with veterinarians. This full-service blood bank will provide blood components and supplies for transfusions to

veterinary clinics. The program is focused on providing: clinical efficacy use of compatible blood components for patient needs, professional consultations by specialists, patient safety, donor protection against environmental exposure to blood-borne pathogens and control, donor compatibility (our donors must have universally compatible blood type), product availability for critical emergencies through local clinics that stock blood products.

**CLINICAL AND PATHOLOGICAL ISSUES ON GUINEA PIGS  
SENSITIZED WITH *M. bovis* AN5, USED TO ASSAY OF POTENCY OF  
WORKING STANDARD BOVINE PPD COMPARED TO INTERNATIONAL  
STANDARD PPD-BOV**

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This study proposed to emphasize the necessity of the utilization in the campaigns for tuberculosis eradication of bovine PPD tuberculins, with different origins, but with a potency (biological value or revealing capacity) that is identical or close to that of the *International Standard PPD-BOV*, supplied under freeze-dried state by the National Institute for Biological Standards and Control (NIBSC) from Weybridge (England), against which they have to be calibrated. In addition, clinical and pathological data observed by us, both during the experiment, and subsequent slaughter and examination of guinea pigs, coming to confirm previous data on pathogenesis and diagnosis of tuberculosis.

Each of two series working standard bovine PPD (E.N.1 – 0.96 mg protein/ml and E.N.2 – 1.01 mg protein/ml) were calibrated against International Standard PPD-BOV (E.I.) on each sensitization group of 6 guinea pigs, through intramuscular injection with 0.001 live bacilli wet weight from AN5 strain of *M. bovis*. After 42 days, each guinea-pig was intradermally inoculated with 0.1 ml from each dilution (1:100, 1:500 and 1:2500) of the two tuberculins (E.N.1 or E.N.2 and E.I.). The reading of the allergic reactions 24 hours after the inoculation, the calculation of the allergic reactions for each tuberculin and each dilution have been statistically evaluation assessed by the parallel line method. Results it was expressed by percentage against the *International Standard*. Potency of working standard, assay to guinea pigs were 93.54 % (30,400 U.I./ml) and 94.85% (30,800 U.I./ml) from the PPD-BOV value (32,500 U.I.).

After 7 days from DHT reading, 10 sensitized guinea pigs were sacrificed. Necropsy examined reveal hipertrofia of the internal organs and popliteal lymph nod, and the presence of tuberculosis granulomas on the spleen, liver, kidney. There is a big variability concerning of the numbers and the size of tuberculosis granulomas on *M. bovis* AN5 guinea pigs sensitization.



**IMMUNOENZIMATIC TEST FOR ASSAY OF GAMMA-INTERFERON,  
USED FOR DETECTION BOVINE POTENTIAL INFECTED WITH  
*Mycobacterium bovis*. FACTORS WHICH AFFECTING TEST'S  
PERFORMANCE**

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Tuberculosis, recognised official as zoonosis, continue to be in present a major problem for human and animal health. The high risk for transmission of the tuberculosis from animals to man (by consumption of raw milk) lead to the increase of the effort for the improvement of the detection and diagnostic means and the optimization of eradication program for tuberculosis.

In this work the sensitivity and specificity of immunoenzimatic assay for detection of interferon-gamma (EIAs- $\gamma$ IFN) from the whole blood of naturally infected cattle with *Mycobacterium bovis* only and coinfection *M. bovis* and leucosis virus (BLV) were estimated.

The sensitivity (95.19%) and specificity (88.0%) as well as the advantages of EIAs- $\gamma$ IFN suggest the utility of this method fellowship the tuberculin test to eradication program of the disease. Also, another factors with effect on the test performance were discussed.

**POTASSIUM DICHROMATE CHRONIC EXPOSURE IMPACT ON RAT  
SPERM QUALITY**

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The aim of the study was the evaluation of potassium dichromate cumulative and differentiate intake on integrity and performances of male reproductive system biomarkers. All assays with animals were conducted in accordance with present law regarding animal welfare and ethics in animal experiments (143.400/2002; 471/2002; 205/2004; 206/2004; 9/2008; 86/609/CEE). The study carried out on 28 white Wistar male rats divided in three experimental groups which received potassium dichromate in drinking water for six months as followed E<sub>1</sub>: 25 ppm (LOAEL); E<sub>2</sub>: 50 ppm (2 x LOAEL); E<sub>3</sub>: 75 ppm (3 x LOAEL) and one control group which received tap water, not containing chromium, pointed out: significant decrease of sperm count comparative to control group and in inverse correlation to exposure level; significant decrease of total and progresive motility comparative to

control group and in inverse correlation to exposure level; significant increase of sperm anomalies comparative to control group and in direct correlation to exposure level. Both, primary (detached head, flex head) and secondary anomalies (bent tail, broken tail, curl tail, tail without head, tail disintegration and fragmentation) were found with predominance of the secondary one.

### **CONCENTRATION OF SERUM PROTEIN AND PROTEIN FRACTIONS IN HOLSTEIN CATTLE IMPORTED FROM EUROPEAN UNION IN A COMMERCIAL DAIRY FARM DOLJ DISTRICT**

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The aim of this research was to assess total protein and its fractions concentrations in the blood serum, to monitor adaptation stress in Holstein cattle imported from European Union, in a commercial dairy farm. Three groups of animals each consisting of ten animals were studied in march 2008. The animals were from different countries in different physiological stage and after different time of adaptation to the new environment. Group I (n=10) pregnant heifers, 30-21 days (d) before parturition [7 from Germany (DE) and 3 from Czech Republic (Cz)], group II (n=10) fresh primiparous cows 0-21 days post partum(p.p.)(5 from DE, 4 from Cz, 1 from France(F)), and group III lactation primiparous 21-40 days post partum (p.p.) ( 5 from DE, 3 from Cz and 2 from F). The mean content of total serum protein was 6,73g/dl in group I, 6,75g/dl in group II and 6,90g/dl in group III. With regard to serum protein fractions the mean content of albumin was 3,24g/dl in group I, 2,73 g/dl in group II and 2,79 in group III and globulines were 3,49 g/dl in group I, 4,03 g/dl in group II and 4,10 g/dl in group III. During this research period the low content of total protein and albumin in blood serum in case of cows after calving may reflect an inadequate protein intake relative to requirement in p.p. period. Also lower albumin: globulin ratio in p.p. primiparous cows suggests inadequate protein intake or the protein is not digested or absorbed properly.

### **RESEARCHES CONCERNING THE EFFECT OF CERTAIN NUTRITIONAL FACTORS ON THE CHEMICAL COMPOSITION OF THE CHICKEN SKELETAL MUSCLE TISSUE**

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Several researches targeted the effects exerted by the usage of certain diet types on chickens growing performances, while meat composition has been neglected. Our researches evaluated the effect induced by the usage of certain kinds of diets

(standard, protein enriched, starch enriched, fat enriched) onto the skeletal musculature composition in chickens.

120 "COBB-500" chicken broilers have been used as biological material and raised within the standard intensive technological system, divided in 4 groups (according to the used diets, 30 chickens/group). At 42 days old, the broilers have been slaughtered and muscular samples have been detached from carcass, in order to run chemical assessments (water and dry matter content, ashes and organic matter-fats, proteins content). The musculature issued from breast, wings, thighs and shanks have been thus analyzed for chemical composition. Other tests have been also run, such as: Nessler, Kreiss and H<sub>2</sub>S identification.

High dietary fat concentrations induced the production of meat reach in fat and poor in other compounds like water and proteins. Concerning the composition of certain carcass parts, it has been found that breast musculature is richer in nitrogen than limbs, while the shanks and thighs had the highest fat percent. Enriched protein diet did not affect the muscular composition in nitrogenous matters but influenced the growing process, resulting in higher weight gain

## **RESEARCHES CONCERNING THE CORRELATIONS BETWEEN THE ALTERATION OF MUSCLE TISSUE COMPOSITION AND THE MORPHOLOGIC BLOOD TRAITS, UNDER THE INFLUENCE OF CERTAIN NUTRITIONAL FACTORS**

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The paper emphasizes on the changes induced in the blood serum parameters of the chicken broilers, by the usage of certain types of diet (standard, protein enriched, starch enriched, fat enriched).

We used as biological material 120 "COBB-500" chicken broilers reared within the standard intensive technological system. Blood has been sampled when they turned 40 days old. The data issued from automatic biochemistry assessments (BS-200 unit analyzer) have been statistically processed.

Several biochemical blood parameters were examined: blood glucose concentration, cholesterol and total lipids level, certain proteins level (albumins and globulins), uric acid content and calcium content.

Glycemia was higher in the group fed with increased starch levels. Cholesterol and lipids were increased at high dietary energy and fat levels, while serum albumins, globulins and uremia were found in higher concentrations in those blood samples issued from the chickens fed with proteins in excess. Lowest calcium quantity in blood serum was observed in samples from the group which received fat enriched diet, possibly suggesting an inverse correlation between calcium absorption in gut and the dietary fat levels.

## **A SURVEY ARTICLE ON REPRODUCTIVE CYCLE AND MATING PATTERN OF *URSUS ARCTOS***

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The brown bear shows specific physiologic and behaviour characteristics during the reproductive period. Female exhibit a seasonal polyestrus cyclicity during which she mates promiscuously. The act of copulation triggers an induced ovulation, and once the fertilisation is made, the embryo enters into a slow developing phase called embryonic diapause. With the mother's winter sleep the embryo finally attaches to the uterus, entering in a normal gestation development. Due to complete fasting and limited resources the mother gives birth to small cubs after a short post-implantation period ( $\approx$  two months). To assure better cub survival rate, the female protects them for a long period (up to 3.5 years), time in which she will show no estrus. By practicing sexually selected infanticide males are able to shorten the time to the female's next estrus. This paper summaries data already published and present an overview of brown bear's reproduction.

## **STUDY ON THE MICROBIOLOGICAL CHARGE OF COLOSTRUM IN PRIMIPAROUS COWS**

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Colostrum represents the secretion of mammary gland in the first days after parturition. It is essential for the survival of new-born and for its adaptation to extrauterine life.

Theoretically, colostrum must be microbiologically sterile, especially at primiparous cows, females in which mammary gland is virgin; practically, it is admitted a microbial charge of 100,000 colony formation units (CFU)/ml.

There are data demonstrating that colostrum from primiparous cows contains high bacterial charges and they are predisposed to develop mastitis in the first days postpartum.

In this study, colostrum was sampled from primiparous cows in order to appreciate its salubrity, which is an important criterion of quality.

The obtained results confirmed the existence of a high microbial charge, beyond admitted limits. Thus, from all 40 examined samples, 5% mammary quarters were unfunctional, 17.5% mammary quarters were sterile and 77.5% mammary quarters were not sterile, with values of CFU ranging between  $2.6 \times 10^5$  and  $1.56 \times 10^6$  CFU/ml. The existence of microbial pollution over the admitted limits in colostrum sampled from primiparous cows denotes the infectious pressure in the studied farm and the high risk of intramammary infections on all categories of lactating cows.

## ADVANTAGES AND LIMITS OF TONOMETRY AT THE DOG

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The intraocular pressure (intraocular tension, ophthalmotonus) at the dog is dependent on the equilibrium between the production and drainage of the aqueous humour. Its normal values are between 16 and 22 mmHg, with variations correlated to the individual (race, age, animal's behavior, day period) or the type of tonometer used for its measurement. (3, 6, 7, 9, 10, 16)

The grown intraocular pressure is present at the great majority of primary and secondary glaucoma cases. The low intraocular pressure is frequent at uveits and during anesthesia, generally.

Presently, we use the following tonometers for the measurement of IOP in the practical ophthalmologic veterinary medicine: Schiotz, Perkins Mk2, Tono-Pen XL and Tono vet.

The measurement technique of the intraocular pressure at the dog depends on the type of tonometer. So as to accomplish the tonometry, the way of contention of the animal can be mechanic or by using drugs. Depending on the type of tonometer, the measurement of the IOP can be unique or multiple (successive determinations with the display of their average value). (7, 10, 13, 14)

The authors present in this paper a comparative study of the advantages and limits of the different types of tonometers used for the measurement of the intraocular pressure at the healthy dogs. They consider the main features of each tonometer type and make an evaluation on a scale from 1 to 10.

## MICROBIAL BIOFILM ON THE SURFACES FROM FOOD PROCESSING PLANT

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In this paper we try to put into evidence the bacterial biofilm on different surfaces in two meat and milk processing plants utilizing the fluorescence microscopy. For the researches two processing plant was chosen: a milk processing plant and a meat processing plant. The surfaces with different level of polish were chosen for sampling. Also, from the equipment surfaces we sampled sanitation samples for *total number of germs, enterobacteria number* and *germs for Pseudomonas genus*

*number* determination. For the biofilm identification the samples were taken by scrapping the surfaces with a knife. For each point of sampling were taken two probes in the similar manner. The first series of slides were staining with acrydine orange and the second series of probes were stained by Gram method and examined to optic microscope. In the milk processing plant the microorganisms aggregate included in biofilm were observed on following surfaces: internal surface of cooling tank, internal surface of creamer, floor surface, internal surface of pipe-line, at rubber garniture before the milk pump, the surface of paddle from milk cooling tank. In the meat processing plant, the microcolonies included in biofilm structure were observed on following structure: plastic cover of knife sterilizer, internal surfaces of knife sterilizer, worker rubber apron. In all samples the Gram positive cocci and Gram negative bacilli and cocobacili were isolated.

### **THE CRYOPRESERVATION OF THE PERIOSTEAL CANINE CELLS**

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The main goal of this study was to select and design the method to preserve the periosteal cells without compromising their viability because there is a lack of studies regarding the cryopreservation of the canine periosteal cells. The researches were carried out on isolated cells using two methods, and cultivated for six weeks in the nutritive medium DMEM. Cells morphology and cells viability were assessed. The cultured cells were cryopreserved for four months. After thawing the cells viability was assessed again. The data obtained in this study demonstrates that the method of cultivation in DMEM medium permitted the obtaining of an optimal cell density for cryopreservation and later to maintain the number of cells at a sufficient level - 1 million/ml – for the stage of differentiation in 75% of the samples included in the work.

### **HYPERTROPHIC OSTEODYSTROPHY IN FOUR DOGS**

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The signalment, clinical signs, radiological, laboratory and histopathological findings, aetiopathogenesis and treatment of canine hypertrophic osteodystrophy (HOD) are discussed in the face of four clinical cases with HOD.

## **HISTOLOGICAL REACTIVITY OF DIGESTIVE MUCOSAE ASSOCIATED LYMPHOID TISSUE IN OCHRATOXICOSIS OF BROILER CHICKENS<sup>1</sup>**

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In 3 groups, each of 15 broiler chickens ochratoxine A (OTA) was given orally, in sunflower oil suspension, daily, for 21 days in doses of: 5µg/kg b.w. for group E1, 35 µg/kg for group E2 and 100µg/kg for E3. Control group (of 15 chickens) received only sunflower oil. 5 chickens from each group were killed after 7, 14 and 21st day of the experiment. Gut mucosa samples were prevealed from duodenum, jejunum and coecal tonsils. All samples were prepared for paraffin embedding and stained with: HEA, PAS, PAS and Alcian blue and May Grunwald Giemsa and lymphoid associated tissue was examined.

In duodenum, the cryptae from lamina propria showed numerous immature young cells, with nucleus rich in euromatine, with 3-4 nucleoli. The enterocytes had a large nucleus rich in euchromatine, with 3-4 nucleoli. Many goblet cells were observed into duodenal mucosa. Progressively with the age and OTA dosis the lipidic droplets from the axis of the villi and proportion of degenerated enterocytes are increasing and simple epithelium is replaced by stratified epithelium, with many immature cells. The coecal tonsils in E2 group, after 14 days of OTA poisoning showed lamina propria populated by small lymph cells. Some of the lymph cells show nuclear lesions like: cariorhexis, cariolyysis and other show apoptotic aspects. Into the lymphoid agglomerations some cells with nuclei rich in euromatina, with 4-5 nucleoli were observed.

## **HISTOLOGICAL LESIONS IN GOAT ECHINOCOCOSIS**

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Histological lesions of the liver, mesenteric lymph nodes, lungs, cord, cord and small intestine were studied in 5 goats naturally infested with *Echinococcus granulosus*. Tissue samples were fixed in formaldehyde 10 %, embedded in paraffine, sectioned at 5µm, and stained by: HEA, PAS, Hematoxiline Phloxine Safran (HPS) and Gomori. In the liver we observed: a severe thickening of bile chanel by fibrosis and prolipheration of the epithelium, (hyperplasia bile chanel) and lymphoid and eosinophilic infiltrations around it. Hepatic lobules showed oedema, with enlarged Disse

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<sup>1</sup> Researches financed by grant PN II Idei 1118/2008

spaces and some degenerated hepatocytes, with picnotic nuclei. The hidatic cyst showed a classical structure: proligerous membrane, cuticula and adventice. Like in sheep, the adventice was very rich in fundamental substance and the cysts were much smaller than those from bovine. Small degenerated cysts were seen into *lamina propria* of bile bladder and in the lungs. Intestinal epithelium was denudated, and showed lymphoid and eosinophilic infiltrations in *lamina propria*. In mesenteric lymph nodes a marked thickening of interfollicular and intercordonal septa, infiltration with eosinophils and necrosis of lymph cells from medullar zone was observed. An associated nephritis was also observed

### **EVALUATION OF SWINE HELTH, FROM INTENSIV REARING SYSTEM BASED ON BLOOD PARAMETERS**

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The intensiv rearing ssystem was mainly created to focused on the achievement of maximal production results. Recently the European consumers are expressing there concern towards animal welfare and food safety. The intensive animal production is forced to produce a high quality product with special attention towards pig health and food safety. Growth, product quality and animal welfare are influenced by subclinical multifactor diseases and stress. The common diagnostic techniques are not always useful to screen the health status of the pigs. Other diagnostic blood parameters can be an alternative option.

### **ASPECTS OF LYMPHATIC MICROVASCULARISATION OF THE MAMMARY GLANDS IN BITCH**

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The lymphatic system comprises an immense network of lymphatic canals, lymphnodes, spleen and a series of smaller lymphoid structures spread allover the organism. The lymphatic vascularisation forms a secondary circulatory system, that plays an important role in the tisular homeostazy, metabolism, immune response towards pathogenic agents, being considered one of the disseminating pathways of the metastatic spreading of the tumoral cells.

The present study deals with the anatomic, topographic and morphologic elements of the lymphatic vascularisation of the mammary gland and also with the lymphatic vascular pattern, mammary gland-specific revealed by using the intravital dye Evas



blue. The dye has a special tropism for the lymphoid structures and a good biological insertion, without causing secondary side-effects, both at the injection point or systemic. By administering the dye both subcutaneously and intramammary (inside the parenchima), one could reveal the lymphatic vessels that form the superficial and deep lymphatic networks of the gland and also the plexiform or reticular model of those vessels.

These knowledge we consider useful in a highly-aplicative character research, leading to easier diagnostic methods and treatments for the lymphatic system disorders and also for better understanding of the tumoral metastatic process.

### **RESEARCHES CONCERNING THE EFFECTS OF EXPERIMENTAL CORTICOSTEROID TREATMENT UPON THE EVOLUTION OF SOME METABOLIC ENZYMES IN pregnant SHEEP**

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It was determined the activity of some enzymes involved in the protein metabolism (TGO – glutamate oxaloacetate transaminase, TGP – glutamate piruvate transaminase, GGT – gamma glutamil transpherase), ALP – alkaline phosphatase, ACP – acid phosphatase and a glycolytic enzyme (LDH – lactic dehydrogenase) in cortisol treated pregnant sheep. The results showed differences according to the physiological status and the type of the metabolic enzyme: involved in protein metabolism, mineral or in glycolytic metabolism.

### **THE INFLUENCE OF ADVANCED GLYCATION END PRODUCTS (AGEs) ON DERMAL EXTRACELLULAR MATRIX**

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The major structural components of dermal extracellular matrix are collagen I and III, accounting for over 70 and 15%, respectively, of skin dry and providing the dermis with tensile strength and stability. Collagen metabolism is a complex process requiring balanced synthesis and degradation by, for example, matrix metalloproteinases (MMPs), and the action of cytokines like transforming growth factor-beta 1 (TGF-β1). In diabetes and aging, advanced glycation end products (AGEs) may act as a pathogenic factor in tissue fibrosis, including skin by unknown mechanisms. The present study has examined the effects of soluble AGE-BSA (*in vitro* glycated bovine serum albumin) on TGF-β1 and MMP-2 in relation to type I

collagen gene regulation and protein expression in cultured skin fibroblast cells (CCD-1070Sk).

Total RNA was extracted from fibroblasts incubated for 12 and 24 hours with AGE-BSA or BSA (control) at concentrations between 50-200 µg/ml and mRNA expression of procollagen α2(I) and (TGF-β) was analyzed by quantitative real-time PCR. The conditioned media was concentrated and type I collagen was assessed by Western immunoblot, TGF-β protein levels was determinate by ELISA and the gelatinolytic activity and protein levels of MMP-2 were analyzed by zymography and Western immunoblot, respectively.

The concentration of 50µg/ml AGE-BSA upregulated the mRNA and protein expression of TGF-β1 and procollagen I, whereas at higher ones, this effect was diminished. In the other hand, the gelatinolytic activity and protein levels of MMP-2 increased with the increase of AGE-BSA concentration and with the decrease of TGF-β1 level.

Thus, TGF-β1 may function as a key signaling intermediary in the AGE-up-regulated collagen gene expression pathway in fibroblasts. It seem, that TGF-β down-regulate protein expression of MMP-2 and its increased activity could be due to the reactive oxygen species formation in the presence of increasing AGE concentration.

### **EFFECTS OF EXPERIMENTAL CORTISOL TREATMENT ON THE EVOLUTION OF SOME BLOOD PARAMETERS IN pregnant SHEEP**

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The evolution of main blood parameters (RBC, WBC, Hb, Ht, PLT, Lym, Mo, Gran, VHS, albumins, globulins, calcium and magnesium) was searched in advanced pregnancy sheep (4.5 months pregnancy age) following a short term (three administration of two days intervals) of 100 µg/capita of cortisol hemisuccinate treatment vs non-treated pregnant sheep. The results show significant decrease of WBC and RBC number, Hb, gamma-globulins levels, significant increase of PLT, VSH value, albumins levels while the other searched parameters remained relatively constant. No influence on clinical physiological status of the sheep was observed.

### **COMPARING ASPECTS CONCERNING THE DIAGNOSE VALUE OF CT SCAN AND MRA TEHNIC IN A CASE OF DOG TETRAPLEGY.**

**ŞINDILAR E.-V., VULPE V., PASCA S.**  
FMV IASI

In this study is presented a clinical case of cervical syndrome displayed by tetraplegy in which there were used the CT scan and MRA in order to determine an accurate diagnose. The investigation performed showed osteophytes developed in

the cervical spinal canal, that put pressure in the spinal cord, the illness being called spondylosis deformans.

### **RESEARCHES REGARDING THE OVINE METIS YOUTH RAISED IN SEMI INTENSIVE SYSTEM**

**TĂPĂLOAGĂ DANA, CULEA C., NEAGU IULIANA, MITRĂNESCU ELENA, MARMANDIU A., PĂUNESCU ILEANA, TĂPĂLOAGĂ P. R., MUSTAFA NADIR, CHISA EUGEN**

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The present paper has as aim to emphasize the role of increasing the farmers budget by the lamb fattening using an semi intensive system despite their slaughtering at a very early age, around the Easter holiday. Also, it is underlined the role of the crossing between the local breed Palas Merino, a breed especially used for wool in our country and other breeds, specialized in the meat production.

### **BIOFEEDBACK IMPLICATIONS IN PRACTICAL VETERINARY HOMEOPATHY IN DOGS**

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This article shows the use of biofeedback tehnic in veterinary homeopathy practice. We wanted to demonstrate that using the scanning of a large variety of frequencies from the animal's body, we can identify with much more accuracy the modalities and miasms used in clasical homeopathic diagnosis. We compared and supplemented the case history acquired from the owner with the biofeedback results and decided on the best remedy for that case in that certain moment. We obtain the results faster and more precise than in a clasical clinical observation.

### **LH AND TESTOSTERONE SERIC LEVEL DYNAMICS IN MALE RATS CONSECUTIVE THREE MONTHS POTASSIUM DICHROMATE (CR VI) INTAKE**

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The aim of this study was the biochemical biomarkers of testicular function evaluation: seric LH and testosterone level. The study was carried out on 28 white Wistar male rats divided in three experimental and one control group: E<sub>1</sub>: 25 ppm Cr

(LOAEL); E<sub>2</sub>: 50 ppm Cr (2 x LOAEL); E<sub>3</sub>: 75 ppm Cr (3 x LOAEL); control group received tap water without chromium content. Experimental groups received potassium dichromate (Cr VI) in drinking water for three months. All assays with animals were conducted in accordance with present laws regarding animal welfare and ethics in animal experiments (143/400/2002; 471/2002; 205/2004; 206/2004; 9/2008; 86/609/CEE). Exposure to Cr VI determined: significant increase of seric LH level comparative to control group and in direct, significant correlation to exposure level, excepting at 1.5 times increased dose; significantly decrease of seric testosterone level comparative to control group and in inverse correlation to exposure level, significantly only when exposure level increased from minimum to maximum.

**POTASSIUM DICHROMATE IMPACT ON SOME MARKERS OF FEMALE REPRODUCTIVE SYSTEM PERFORMANCES (LITTER SIZE, SEX RATIO) AND PHYSICAL DEVELOPMENT (VAGINAL OPENING) IN RATS (F<sub>1</sub> GENERATION)**

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The study was carried out on F<sub>1</sub> generation white Wistar female rats derived from 20 white Wistar adult female rats (exposed three months before mate and during pregnancy and lactation) to 25 (LOAEL), 50 and 75 ppm Cr VI), mated with white Wistar male rats exposed to same chromium levels along three months before mating.

F<sub>1</sub> generation was further exposed to the same chromium levels until sexual maturity. The study pointed out: significant decrease of alive pups number/increase of dead pups number, impaired sex ratio in male favor, significant delay of puberty onset: late vaginal opening and decreased body weight.

**VISCERAL LEISHMANIASIS AMONG DOGS IN BULGARIA**

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Canine visceral leishmaniasis was investigated in Bulgaria, but the disease has not been detected. In 2006, autochthonic visceral leishmaniasis has been detected in two dogs, and until the end of 2007 – another 10 cases were diagnosed, one of them transborder. Again, a complex diagnostic approach was used (epizootic history, clinical signs, ultrasonography, serological assays, PCR, isolation and typization of *Leishmania infantum*, haematological and blood biochemistry changes, gross anatomical findings). A nosogeographical map of *Leishmania infantum* distribution in border regions of Bulgaria with Turkey and Greece (Petrich, Svilengrad) as well

as in Greek (Orestiada-Alexandroupolis) and Turkish (Edirne) regions was made. Subclinical course of leishmaniasis has also been observed.

### **RESEARCHES CONCERNING HEAVY METALS IN PARTICULAR FISH SPECIES, IN MEAT AND MEAT PRODUCTS**

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GHITĂ MARILENA, GALIȘ ANCA MARIA**  
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By using modern techniques, such as inductively coupled plasma-optical emission spectrometry (ICP-OES), Selenium, copper, nickel, zinc, cadmium, manganese, iron, copper and lead contents of several edible fish species, meat and meat products were analyzed. The results revealed various concentrations of these elements, their order in the analyzed samples being the following, in  $\mu\text{g } 100 \text{ g}^{-1}$ : Fe (57.7–156.4) > Zn (20–159) > Ni (8.2– 24) > Pb (11.5–13.5) > Cr (8.44–9.51) > Cu (7.18–10.01) > Cd (0.77–1.04) > Mn (3.98–10) > Se (1.32–4.6).

The concentration values found in fish are very close to the ones comprised in the international standards. The highest values for the elements analyzed in this investigation was found in meat products (sausages), albeit the lowest concentration values were observed in fish species, like *Trachurus trachurus* (saurel). The iron concentration values are higher than the recommended ones.

### **THE LEVELS OF HEAVY METALS DETECTED IN CANNED MEAT PRODUCTS**

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GALIS ANCA MARIA**  
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Considered very toxic and, thus, dangerous to the human health, heavy metals were assessed in this study by the purpose of the metallic container influence on the levels of such elements in the food products contained, i.e. meat products. The determinations were carried out using the flame atomic-absorption spectrophotometry with deuterium arc background correction for Zn, Cd and Pb, while the results were treated by applying the Statistical Package for the Social Sciences compiled and linked in the software of a Digital VAX/VMS 11/780 (V.4.8) computer.

As there were no significant differences revealed between samples taken from the surface and those from the interior of the products, for each of the meat products, the highest values of the concentration were found to be on Zn and Fe, (the ranges being wide), and at the same time Cd was the lowest, with mean values below 100 ppb in every product. Considering the results revealed on Mn, Ni, Cu and Zn, these show considerably higher data in comparison to the rest of the products, but no significant differences in what concerns the data observed for Cd and Pb.

## EPIDEMIOLOGICAL AND CLINICAL FEATURES REGARDING DIROFILARIOSIS IN DOG

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The aim of the paper was to present the epidemiological data and clinical features of dirofilariosis in dogs in Bucharest area. *Dirofilaria immitis*, the nematode of genus *Dirofilaria*, with worldwide distribution, has been found in tropical, subtropical and temperate regions. In Romania, in the past years it was noticed an increasing number of this disease affected dogs. The study was carried out from May 2008 to April 2009. The anamnesis revealed that all dogs lived in gardens or yards, most of them being used as guard dogs. *D. immitis* infection diagnosis was established corroborating the clinical signs with the radiographic data and the microscopic identification of microfilaria. For detection of microfilariae in the canine peripheral blood, a modified Knott's test was performed. Identification of *D. immitis* microfilariae was performed according to their morphological characteristics. 35 cases were confirmed as positive, 62.86% were males and 37.14% were females. Within the positive dogs, 37.14% (13/35) were 1-3 years and 62.86% (22/35) were aged more than 3 years. Clinical signs detected on physical examination of 35 dogs with dirofilariosis were: tachypnoea (45.71%, 16/35), decreased appetite (34.29%, 12/35), fast tiredness (31.43%, 11/35), dry cough (25.71%, 9/35), dyspnoea cases (25.71%, 9/35), weakness (20.0%, 7/35). The radiographic dates detected of positive dogs were represented by enlargement of the pulmonary vessels (25.71%, 9/35) and easy right heart dilatation (11.43%, 4/35).

## ECTOPARASITES INFESTATION STUDY IN DOGS FROM BUCHAREST

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Some species of arthropods that live as ectoparasites in dogs can produce cutaneous lesions or may have a vector role in passing over some severe diseases both in animals and humans. This study investigated ectoparasites species and their prevalence in dogs from Bucharest and neared areas. Along year 2008 there have been 134 dogs diagnosed with ectoparasites (71 males and 63 females), aged between one month and 12 years. There have been identified 5 species of ectoparasites: *Ctenocephalides canis*, *Demodex canis*, *Otodectes cynotis*, *Sarcoptes scabiei* and *Trichodectes canis* with an infestation rate of 45.52%, 35.82%, 20.15%, 14.18% and 6.72% respectively. From all the dogs examined 76.12% were infested with a single ectoparasites specie and 23.88% with two or more species of

ectoparasites. 35.82% have been aged less than 6 months, 26.12% were between 6 and 12 months, 20.90% were between 12 and 24 months, 11.94% were between 24 and 36 months and 5.22% had more than 36 months old. Most of the cases were registered in the hot season in comparison with the cold season. Regarding the consequences of these parasites presence in dogs, both to veterinary medicine and human medicine, we recommend periodic checkups over the animal health and also informing the owners about the zoonotic risk.

### **THE PURIFICATION AND THE CHARACTERIZATION OF PIG'S IMMUNOGLOBULIN G (IGG) AND ALSO OF PIG'S ANTI-IMMUNOGLOBULIN G SERUM FOR USING THEM IN DIAGNOSIS TESTS**

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The pig's G immunoglobuline purifying was made by ammonium sulfate precipitation and chromatography on ion changers (DEAE cellulose). The purity assay of the obtained IgG was made by ion exchange chromatography and immunoelectrophoresis (IEF) toward a rabbit serum total pig antiserum and sodium dodecyl sulfate poliacrylamide electrophoresis (PAGE-SDS). A single precipitation arch was obtained with cathodic migration to IEF and a fraction with the molecular mass of 150 KDa at PAGE-SDS suitable to IgG. The anti-IgG serum was obtained by rabbits hyperimmunization. The IgG antibodies level quantification was made by the immunoenzymatic technique (ELISA) and we obtained raised values of the optic densities which showed an high level of antibodies. The rabbit's anti-IgG pig serum obtained will be used as reagent in the immunodiagnosis tests of high sensibility and specificity.

### **MOLECULAR DIAGNOSTIC OF FOOT AND MOUTH DISEASE**

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Epidemiologic importance of Foot and Mouth Disease (FMD) raised the necessity of establishing fast and accurate diagnostic of the disease in the initial phase, as well as the need for diagnostic techniques that can be further applied at a large scale, especially for virus identification in clinical specimens from the field. Among all the

diagnostic tests that can be used for such cases, reverse transcription polymerase chain reaction (RT-PCR) techniques represent the method of choice mainly due to the sensitivity, specificity and rapidity.

## **A COMPARATIVE RISK ANALYSIS BETWEEN AVIAN INFLUENZA AND NEW HUMAN INFLUENZA OF SWINE ORIGIN**

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Diseases caused by influenza viruses classified in Orthomyxoviridae family, of any type, are very common for human and animal populations, some of them being related to seasonal incidence. Influenza A strains that can infect mammals (eg, pigs and humans) may undergo genetic reassortment through contact with avian strains. The reassortment of an avian strain with a mammalian strain may produce a chimeric virus that is transmissible between mammals; such mutation products may contain haemagglutinins and/or neuraminidase proteins that are unrecognizable to the immune systems of mammals. This antigenic shift results in a much greater population of susceptible individuals in whom more severe disease is possible. Such antigenic shifts can cause a pandemic event. The most striking of these pandemics was the 1918 Spanish influenza, which infected one third of the world's population and caused approximately 50 million deaths. The next reassortment of influenza viruses between H2N2 of avian origin and H1N1 human origin caused a new pandemic trend in 1957, followed by Hong-Kong influenza attack in 1968 inside a new reassortment of H2N2 of human origin and H3 avian origin. A new type of H5N1 avian influenza virus caused, starting with 2003, dramatic losses in avian livestock all over the world but a real psychosis in a virtual event of its pandemic development. Since April 2009 a new strain of influenza A virus with unknown origin caused dramatic events in North America, then in Europe, Africa and finally Asia by its highest morbidity and sometimes lethality in humans. A comparative risk analysis has been performed by our specialists in order to identify the similarities and differences between these five influenza waves. This comparative study reveals important differences regarding the origin of outbreaks, way and mode of virus transmission for different reassortant strains as well as the pattern of risk emission and risk exposure, involving different risk consequences and so different management approaches based on particular selected measures for preventions and control.



## **AN ATTEMPT TO PERFORM A RISK ANALYSIS FOR NEW SWINE ORIGIN HUMAN INFLUENZA**

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Diseases caused by influenza viruses classified in Orthomyxoviridae family, of any type, are very common for human and animal populations, some of them being related to seasonal incidence. Based on type of haemagglutinins and neuraminidase the influenza viruses are classified in A, B, C influenza viruses affecting different animal species or human beings. A new type of H5N1 avian influenza virus caused, starting with 2003, dramatic losses in avian livestock all over the world, but at the same time, a real psychosis in a virtual event of its pandemic development. Since April 2009 a new strain of influenza A virus with unknown origin caused dramatic events in North America, than in Europe, Africa and finally Asia by its highest morbidity and sometimes lethality in humans. The sequential genetic analyses of this new type of viruses isolated in Mexico and USA denote that combinations of the 8 influenza gene segments in the novel strain had not been previously described in either human or swine viruses and revealed the genetic reassortment of three low pathogenic strains viruses of human, swine and avian origin. An attempt to draw up a risk analysis for this new human influenza A of swine origin, called "new human influenza" has been performed by our specialists. In this framework the model Corvello Merkhofner risk analysis has been performed in order to define the risk level for Romania and to design national policies and strategies in the field. The crucial step of this pattern is to clearly define risk identification especially to settle the risk factors with can contribute to spreading of virus. Following this step the part of risk management has been specified, to be able to elaborate and presents practical options to the making-decision operators giving them the possibility to select the most accurate measures to prevent and control this new human swine origin influenza virus.

## **THE INFLUENCE OF POLLUANT FACTORS ON THE ERYTRONE IN MILK CATTLE FROM THE AREA OF VALCEA**

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The industries that developed after using the natural resources, have become the biggest pollution sources with great consequences on the environment although they represent the basis for the economics growth of Valcea county. The urban areas are

the most affected by pollution, the main sources being the chemical industry, the traffic, the fuel burning (methane gas, fuel, combustible liquid) and the waste burning, etc.

The aim of the investigations presented in this paper was to follow the changes brought by pollution to the erythron and its use in observing the welfare of milk cattle from this part of the country.

The month of June was chosen to make the hematological investigations taking into consideration that the animals have passed over the stalling period to graze where it is possible for the hematological values to be modified by the environment's state, taking into consideration the soil-plant-animal relation.

### **AGAROSE GEL ELECTROPHORESIS CHANGES IN RABBITS IMPLANTED WITH HELLEBORE ROO (HELLEBORUS PURPURASCENS)**

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They were studied the results of serum electrophoregrams in rabbits of different races and sexes, aged 6 months. An subcutaneous implant has been performed, Blood testing was performed before the implant and on 3, 5 and 7 days after implant.

The results of serum electrophoregrams distinguished:

- to the experimental batch the rate variation of albumin was from 53.65% before implanting, to a decreasing to 46.81% 5 days after implanting, and a return to 52.35% after 7 days from implanting;
- the rate variation of  $\alpha_1$  globulin was from 7.47% before implanting, to 4.61% 5 days after implanting, and 7.15% 7 days after implanting;
- the rate variation of  $\alpha_2$  globulin was from 8.3% before implanting, an increase to 11.63% 5 days after implanting, and a return to 8.62% 7 days after implanting;
- the evolution of  $\beta$  globulin was from 12.74% before implanting, 18.62% 5 days after implanting, and 8.62% 7 days after implanting;
- $\gamma$  globulin registered values of 17.82% before implanting, 18.31% 5 days after implanting, and 18.52% 7 days after implanting;

After the results we can see that the  $\gamma$  globulin from blood serum doesn't sustain a meaningful increasing after hellebore implanting.

### **TEMPORAL ESTROUS SYNCHRONIZING BETWEEN DONOR AND RECIPIENT COWS**

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In this study we revealed the results obtained after we applied 4 protocols of poliovation and estrus synchronization, in batches being formed each one of 15 donor cows and 64 recipients (a total of 60 donor cows and 256 recipients), from Montbeliarde and Prime Holstein breed.

We tried to establish estrus synchronization between donor and recipient in terms of time, females were observed to detected the heats, occurring as a consequence of the 4 poliovulation protocols. Recipients presented estrus with 18.04 hours before the donors, with variability between 6 and 44 hours for Protocol 1.

The estrus occurred, in protocol 2, at 17.96 hours, with variability between 3 and 32 hours.

In protocol 3, estrus occurred, on average, at 11.51 hours with a variation from 2-31 hours.

Protocol 4 has the effect of estrus emergence on average at 13.44 hours, with variations between 3-33 hours.

The best synchronization was obtained in protocol 3, and the timing was poor in protocol 1 (11.51 hours versus 18.04 hours).

### **THE INFLUENCE OF THE FREEZING PROCESS ON THE STALLION SPERM HEAD CITOMOPHOMETRY**

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The evaluation of sperm quality is useful in predicting the fertility of sperm and is of great importance in maximizing reproductive efficiency. This work used semen samples collected from 20 stallions and assessed for sperm morphometry (length, width, area, perimeter and ellipticity, rugosity, elongation, regularity) before and after cryopreservation, using the Sperm Class Analyzer Sistem (SCA<sup>®</sup>), with two freezing extenders and then compared. Cryopreservation succes was different between freezing methods. Sperm head dimensions were significantly ( $p < 0.05$ ) smaller in cryopreservated samples that in the fresh ones. These data suggest that changes in sperm head morphometry might reflect spermatozoa injury during cryopreservation.

### **BALCANIC ENDEMIC NEPHROPATHY IN ACTUALITY**

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The actual situation of a specific disease called *the Balcanic Endemic Nephropathy* in some regions from South and South-West of Romania is discussed in the paper.

The disease which appeared in 1950's period, in some areas from Romania, Bulgaria, and Yugoslavia former, was described by prof. I. Adamesteanu (1957). An increased number of cases was registered during of 1960 period, determined by collectivization process and reduction of the lands for hay. The number of cases decreased after that period, but a new increase was registered after 1995, with a maximal value in 2009.

This fact was associated with grubbing and developing of brushwood and underbrush, which are consumed by animals, especially ruminants, during the spring and autumn. This vegetation has a toxic potential by his content (tannin, ether oleo, like terebentin), that affect the animals, especially cattle and goats, which consumed it, and by milk of these animals, these substances reach also into humans. This fact has determined a significant increase of cases with nephropathy in the affected area. It was estimated that in 2009, in Mehedinti county, this nephropathy is extended on 22.44% of area, and 17.87% of human population is on the risk. 90 cases of 150 with dialysis were with Balcanic Endemic Nephropathy.

In these conditions, the problem of a certainty diagnostic of the disease, especially the differential diagnostic with other disease (babesiosis, arthropod-borne viral disease), and prophylactic measures are required.

### **THE MONITORING AND INSPECTION OF FOOD ADITIVES (2007)**

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Food additives are substances added intentionally in foodstuff for technological purpose. The use of food additives in Romania is ruled by specific normatives. In the frame of the national activity of monitoring additives, the local public health authorities followed the presence of these substances, by looking for them on food labels, at the level of main producing companies from each county. After the verification of the additive list, the conclusion was, in all cases, that the additives were used in conformity with the law in force. The incorrect marking of additives on food labels was found 1373 times (11, 41%), drawing attention to this aspect. Hence, it must be investigated with care during the inspection activity. Respecting the normatives regarding the use of additives is a priority, being important and necessary in supervising quality of foodstuff and in preserving consumer's health.

### **USUAL MATERIALS USED IN ROMANIA FOR PACKAGING MEAT PRODUCTS AND THEIR SAFETY (2005, 2008)**

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Safety in packaging is a priority in modern food science, in order to ensure the innocuity for the consumers of the materials entering in the package composition. In Romania, as in other countries from the European Union, there are several directives

applicable in this field of interest. In the present paper, it is presented the monitoring of the materials used in packaging meat and meat products, in 2005 and 2008. Polyamide (PE), a very stable type of plastic, is used most frequently than other products. The conclusions of the observation are that all the materials found on market during the above period of time are stable, both the type, and the value of global migration of components respecting the requirements of the law in force. (10 mg/dm<sup>2</sup> or 60 mg/kg food).

## **THE URINAR APPARATUS HISTOSTRUCTURE IN SIX MONHTS OLD PHASIANUS PHASIANUS**

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The authors have studied the kidney and the ureter histological structure of Phasianus phasianus species 6 month old. The histological pieces sampled have been hitted in neutral salt formalin, included in paraffin and 6 micra divided. The sections have been coloured by HE and Giemsa methods.

It was considered oportune this study regarding the pheasant kidney and the ureter normal microscopically issues because it might be a premise which offer theoretical and practical information in finding and interpreting the pathological changes at this level, because incognisance of microscopically normal aspects, characteristic of species, creates confusions in injury diagnoses.

The kidney offers the three types of the nephrons : cortical, medullar and intermediary having specialised all the structural morphological elements. The kidney particles are located in cortical renal zone, while the collector tubes and Henle loops are located in medullar aria.

At the ureter level appears constituted the 3 components: mucous, muscular and the adventitions.

The epithelial cells of the urethra's mucous ( cube basal cells and perismatic secretive cells of mucigen) are located, the mucosecretory activity of epithelium has been disclosed by highlighting of secretive granules at the apical pole of the perismatic cells.

The secretion manner of mucigen of epithelial secretive cells at the urethras level compared with mucigen of the collector channels mucous of the kidney medullary area are arguable.