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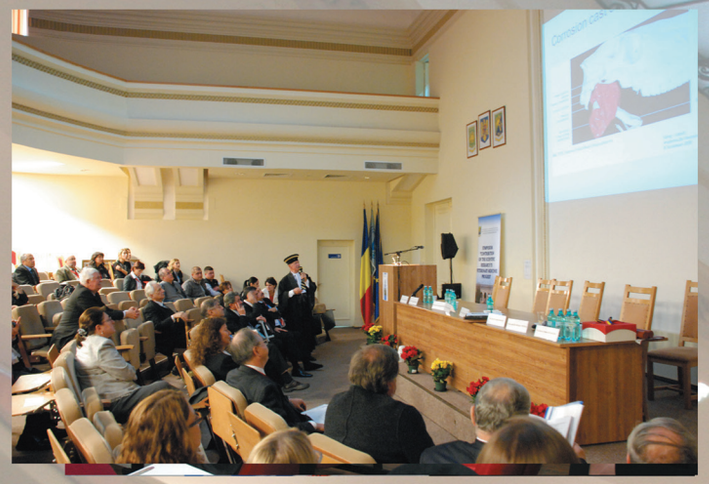

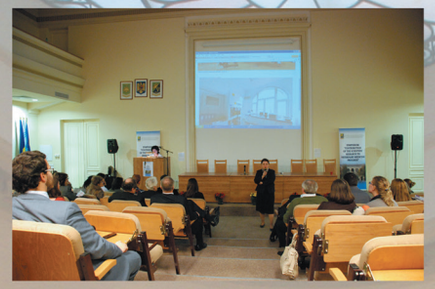

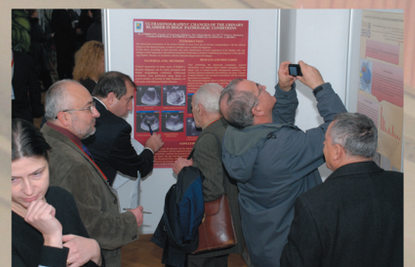

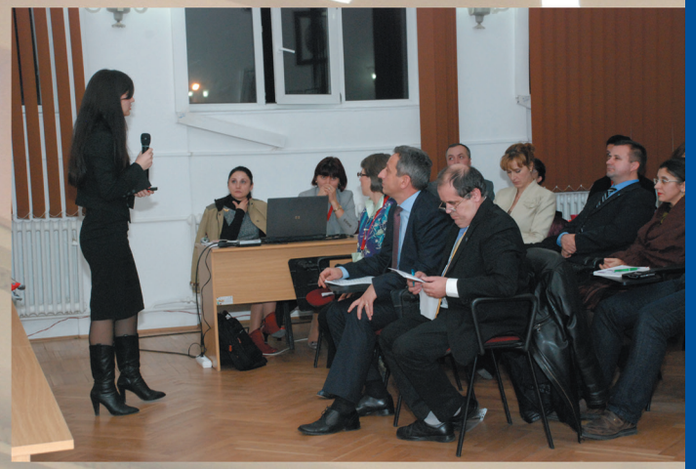

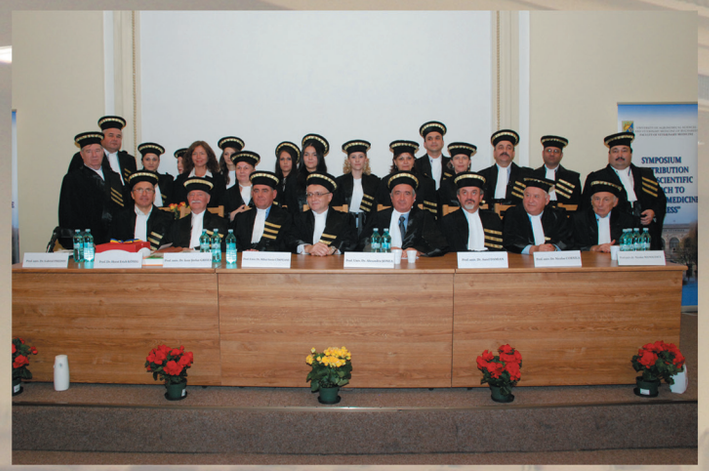

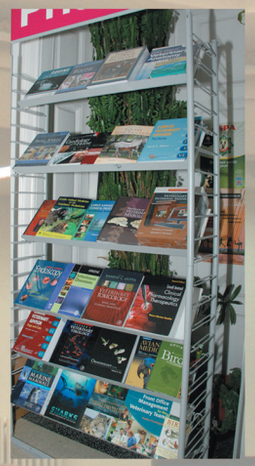

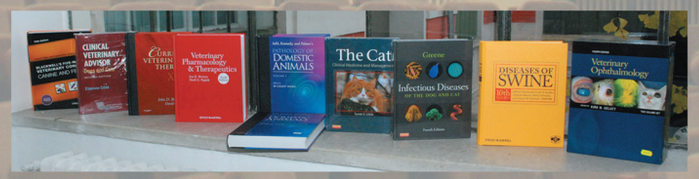

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November, 21-22, 2013

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SUMMARY

FUNDAMENTAL SCIENCES

HISTOLOGICAL RESEARCHES ON ASSESSMENT OF SOME STAINING HISTOLOGICAL METHODS USED FOR DIAGNOSIS OF BOVINE TUBERCULOSIS

Florica Barbuceanu[1], A. Popovici[1], Cristina Diaconu[1], Crina Hotoiu[1], Daniela Stamate[1], Ştefania Raita[2], Daniela Denişan[1], G. Predoi[2]
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Introduction. Tuberculosis of cattle is a infectious disease transmitted to humans, caused by bacteria of the genus Mycobacterium bovis. In terms of morphopathology, the disease is characterized by the emergence of specific proliferative granulomatous lesions in different tissues and / or organs.

Materials and methods. The present study was carried out on samples represented by organs / tissues from 7 cattle. The test matrix were subjected to histological staining methods used for the diagnosis of tuberculosis in cattle, represented by histological staining modified Ziehl Neelsen, Carbol Fuchsin ZN and TB Fluorescent Stain II methods.

Results and conclusions. Following research, was conducted a comparative study of the assessment of the three staining techniques for the highlighting of the alcohol-acid-resistant bacilli and the changes induced by the presence of these bacterial insults.

STAPHYLOCOCCI RESISTANT PHENOTYPES OF THE INTERMEDIUS GROUP ISOLATED FROM DOGS

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Introduction. Dogs have frequently infections with coagulase-positive and coagulase-negative staphylococci with different locations. Most common are the Intermedius Group staphylococci. They are coagulase-negative staphylococci and are part of the resident flora of the dogs.

Materials and methods. A total of 45 samples consisting of pathological skin, auricular and genital secretions were bacteriologically examined using standard methodology. 25 strains were isolated and based on the main phenotypic characters were included in Intermedius Group. The isolates were tested by disk diffusion Kirby-Bauer method, on which were used biodiscs with 18 antibiotics from different groups, and the results were interpreted according to the CLSI Standard.

Results and Conclusions. The results showed that the tested strains had a variable antibiotic resistance. Thus, all the strains were susceptible to novobiocin and resistant in variable proportions to rifampicin, pristinamycin and lincomycin. The tested strains were susceptible to cefoxitin and cefaclor and to other beta-lactams the antibiotic resistance was variable. 8 methicillin-resistant strains were identified, highlighting the zoonotic risk of Intermedius Group stpahylococci, with this phenotypic character, present in dogs. The

strains had a maximum susceptibility to gentamicin, kanamycin and ciprofloxacin and a variable resistance to erythromycin, tetracycline, doxycycline, polymyxin, and vancomycin.

The staphylococci strains isolated from dogs were susceptible to the antibiotics rarely used or not used in the therapy of diseases.

The isolates were methicillin-resistant strains, thus emphasizing the movement of these strains and also the zoonotic risk.

PHENOTYPIC CHARACTERIZATION OF STAPHYLOCOCCI ISOLATED FROM SMALL RUMINANTS

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Introduction. Staphylococcal infections are common in small ruminants and are represented by localized infections of the skin, hooves and mammary gland. These infections are caused by *S. aureus. subsp. aureus* and less often by other staphylococci species.

Materials and methods. Pathological samples were taken from a total of 37 sheeps and goats with different lesions and the primary inseminations were made on agar with 5% sheep defibrinated blood. The clumping factor was revealed by a fast kit, mannitol fermentation was tested on Chapmann medium and other biochemical properties were revealed by API Staph system. The isolates were tested against novobiocin and methicillin using the Kirby-Bauer method with biodiscs.

Results and Conclusions. A total of 32 isolated strains formed yellow colonies and produced β haemolysis while 5 strains formed white unhaemolytic colonies. All strains were Gram positive and on the bacterioscopic examination, the bacterial cells were grouped in clusters and, rarely, in pairs. The isolated strains fermented the mannitol and produced clumping factor. *S. aureus subsp. aureus* and *S. xylosus* species were determined by the API Staph system. All the strains were susceptible to novobiocin, and a total of 21 strains were methicillin-resistant.

37 strains of staphylococci were isolated by the used methodology, which based on the phenotypic characters were included in *S. aureus subsp. aureus* species (32 strains) and in *S. xylosus* species (5 strains).

The isolated strains were susceptible to novobiocin, a constant character that differentiates the *Staphylococcus* genus from *Micrococcus* and *Streptococcus* genus.

16 methicillin-resistant strains were identified that belong to those two staphylococci species, confirming thus the epidemiological circuit of these strains also in small ruminants.

COPROLOGICAL PREVALENCE OF INTESTINAL PARASITES AND STRONGYLE EPG PROFILES OF WORKING HORSES FROM NORTH-EASTERN AND SOUTH-EASTERN ROMANIA

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Introduction. Horses are hosts to a variety of internal parasites. Some of these parasites, usually depending on their abundance, are known to cause problems ranging from reduced performance and condition up to abdominal disease such as colic or severe diarrhoea.

Materials and methods. A coprological study was performed in 148 working horses from 13 villages in northeastern and southeastern Romania. The aim of this research was to determine the prevalence of intestinal parasites in working horses and, additionally, to establish strongyle EPG profiles for the horses based on the strongyle eggs per gram of feces (EPG) counts. For this, fresh fecal samples, collected over a 5-months (June-October) period in 2013, were analyzed qualitatively for presence of intestinal parasites using sodium chloride flotation technique, and quantitatively, for strongyle EPG using a modified McMaster egg counting technique.

Results and Conclusion. Fecal samples of 104 horses (70.3%) were positive for parasite eggs, with an overall prevalence as follows: 70.3% for strongyles, 12.2% for *Parascaris equorum,* 4.1% for *Strongyloides westeri,* and 2.7% for Anoplocephalidae. The highest intensity rate belonged to strongyles, with the EPG counts varying from 25 to 2775. Of them, 58.6% had the EPG count <250, 23.1% between 250-1000, while for 10.6% of the positive animals the EPG counts ranged between 1000–2000, and for 7.7% was bigger than 2000. The average (%) of EPG-positive animals by age group was: <1year (5.8%), 1-5 (20.2%), 6–10 (29.8%), 11–15 (32.6%), and >16 years (11.5%). This research showed the value of strongyle EPG profiling for the working horses, important base for further studies in designing and monitoring sustainable control program of equine parasites.

HISTOSTRUCTURAL IDENTIFICATION OF THE FORESTOMACH ASSOCIATED LYMPHOID CELLS IN SHEEP

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Introduction. The research concerning the forestomach in sheep studied the localization, density and organization of lymphoid cellular populations in each compartment, but also in theirs transitional regions.

Materials and Methods. In this study, the pieces collected and processed using conventional histological techniques, were harvested from ovine (*Ovis aries*) indigenous race Ţurcană, the white variety. Numerous seriated slides were obtained, and later analyzed and photographed.

Results and Conclusion. The whole epithelial contour of the ruminal mucosa is accompanied by loose connective tissue, in which rare lymphoid cells can be observed. Only on very restricted areas, in the proximity of the papillary base, the lymphoid cells have some tendencies to concentrate. The most frequently discovered lymphoid cells are small lymphocytes and plasmocytes.

In the mucosa of the reticulum, the *lamina propria* presents lymphoid cells that can display a discrete tendency of lymphonodulary organization, focused towards the base of the pleats.

In the omasal wall, as in the jonctional area between the omasum and the abomasum, lymphoid cells can be identified, both in the *lamina propria*, but also transepithelial. Most frequently, the lymphoid cells agglomerate diffusely, this tendency being also discrete.

The most numerous lymphoid cells were observed in the junction area between the abomasum and the omasum, then in the reticulum, the rumen and the omasum, respectively. They populate the *lamina propria*, but sometimes they reach in the epithelium, towards the surface of the cornified epithelial layer.

THE RUMINAL MUCOSA IN SHEEP: A MICROSCOPICAL STUDY

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Introduction. In this study, the mucosa of the ruminal wall was analyzed and measured, in the areas of the ventral sac, of the pillars and in the intermediary area between the reticulum and the rumen.

Materials and Methods. Sheep from the white variety of the indigenous Ţurcană ovine race (*Ovis aries*) were used, the pieces of interest being collected and processed using conventional histological techniques, obtaining numerous seriated slides stained with Hematoxylin-Eosin and modified Mallory methods, then photographed and analyzed.

Results and Conclusion. In the structure of the mucosa, we could identify cornified stratified squamous epithelium, *lamina propria*, and a densification of connective fibers. All three components of the mucosa form the ruminal papillae.

In the ventral sac area, the majority of the papillae reach the maximum height.

The studied sections reveal the presence of some papillae of different shapes and sizes, that we tried to classify in organized groups, according to their average shape, length and width, by the thickness of the epithelium that covers them, and the proportion occupied by the connective axis.

In the area of the pillars, the ruminal papillae are missing. The mucosa has the tendency to form extremely reduces pleats, based on the thickening of the epithelium, that will subsequently attract the *lamina propria*.

In the rumino-reticular jonctional area, the papillae are reduced to the average length of 496 μm. The connective densification disappears, and in the deep layer of the mucosa, muscle fibers that detach from the superficial layer of the *tunica muscularis* and that will constitute the future papillary muscle, can be observed.

ANATOMICAL ASPECTS REGARDING THE PARTICULARITIES OF THE VENTRICULAR PAPILLARY, ATRIOVENTRICULAR CUSPS AND TENDINOUS CHORDS SYSTEMS OF THE SHEEP (*OVIS ARIES)* HEART

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Introduction. Observations made on the anatomical features of the heart in different species of domestic animals have shown the existence of both species-dependent and intraspecific, individual, particularities.

Materials and Methods. In this case, we focused on sheep. The present study underlines particularities shown by clinically healthy sheep of different ages and both sexes. The ventricular cavities were accesed by two longitudinal incisions parallel to the paraconal groove.

Results and conclusion. Examining the atrioventricular valvular system reveals the incomplete division of the cusps system and a difference of development between the cusps of the atrioventricular orifices. There is also a difference concerning the distribution system of the valvular tendinous chords. A great variability is seen in the ventricular papillary muscles that are simple, two-headed or dispersed. This aspect reflects upon the developmental and distribution variability of the tendinous chords of the cusps.

There is great individual variability, with regards to the placement of the ventricular papillary muscle formations. We have underlined the placement of these formations on a single ventricular wall. There is also a great variability of the ventricular septomarginal trabeculae and the trabeculae carnae of the apex.

The observations comprised in this study can be correlated to the stages of the embryonic development of the heart. The individual particularities of the myocardial structures can be taken into account when considering physiological functional, physiopahtological, semiological and clinical aspects regarding the heart.

We can conclude that the heart, similar to other organic systems, presents great morphological individual variability.

CLINICAL AND HISTOPATHOLOGICAL MONITORING OF DEXTRAN SULFATE SODIUM COLITIS IN CD1 MICE

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Introduction. Mouse models of inflammatory bowel disease (IBD) are important tools in the study of this yet misunderstood pathology. The dextran sodium sulfate (DSS) colitis model has several advantages, however, like any animal model, thorough experimental set-up is required. We aimed to set-up a DSS colitis model and to establish means of monitoring disease progression, with or without the influence of oral vitamin D3 supplementation.

Materials and methods. Adult Balb/c and CD1 male mice were used and colitis was induced by oral administration (p.o.) of 2,5% concentration of DSS in drinking water for 5 days. CD1 mice were also given 5% DSS in drinking water together with vitamin D3 supplement by oral gavage. Clinical signs and body weight were monitored daily. Histopathological analysis of colon sections was performed using hematoxylin-eosin staining.

Results and Conclusion. Compared to inbred Balb/c mice, which succumbed to 2,5% DSS treatment without specific signs of colitis, outbred CD1 mice did not develop characteristic manifestations of disease at the same concentration of DSS. A regimen of 5% DSS, for 5 days, induced sustained weight loss and the full spectrum of clinical colitis, an effect which was reversible by both prophylactic and curative oral vitamin D3 treatment. Histopathology of colon sections showed different degree of leukocyte infiltration and mucosal alteration.

Our preliminary results showed that the CD1 mouse strain is more suitable for DSS colitis model than the Balb/c strain. The established model may be a useful tool to elucidate the mechanisms involved in disease development and for therapeutic efficiency testing.

ELEMENTS OF MINERAL METABOLIC PROFILE IN CATTLE EXPLOITED IN MICROFARMS

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Introduction. Seasonal variations are important factors that can significantly affect the minerals intake in animals, as a result of composition changes, growth stage of the plants and pastures availability, together with the percentage change of soil humidity. Overcoming homeostasis borders involves disorders establishment, that, clinically manifest, do not always occur at the beginning or even no in time and which raises serious problems of diagnosis and in the same time of prevent and combat.

Materials and Methods. The studied group was composed of 12 young fattening calves (aged 8-12 months), from two private dairy microfarms from Mehedinţi county,

who presented as clinical manifestations restlessness, hypersensitivity, muscle stiffness, tetany and exophthalmia. According to the anamnesis, the animals consumed young and lush grass or were exclusively fed with concentrate feed, given *ad libitum*, or corn excess associated with wheat bran.

Results and Conclusion. The mean of hematological values, showed no statistically significant changes (P>0.05), while at the biochemical exams, observed hypocalcemia (7.86±0.14 mg/dl), hypomagnesemia (1.10±0.22 mg/dl), average values that were significantly lower than the mean values of the control group (P<0.05). In the same time, in calves from the studied group was registered hyperkalemia (25.4±0.5 mg/dl). In this case the increase was statistically significant (P<0.05). After a diagnosis based on the analysis of feeding conditions and on the basis that it is a disease that occurs more winter to spring, complemented by the presence of intermittent tetany accesses has been regard to the amendment the causal complex and optimization of therapeutically methods.

Hypomagnesemia in studied calves was due to exclusively concentrates feeding, administered at discretion or consumption of lush green grass, which triggered intermittent tetany access in these animals. In the sick animals been recorded hypocalcemia and hyperkalemia. To amend the clinical signs, the treatment consisted of the administration, in the excitation or crisis phase of the barbiturates and tranquilizers, together with intravenous administration of calcium, magnesium.

METABOLIC PROFILE ASPECTS IN SHEEP

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Introduction. Absence, or the existence of small quantities of copper in the animal feed, determines a deficiency in these trace elements. Cause of copper deficiency is considered to be a serious nutritional problems, especially because of low copper concentration in animals diet and/or because of the high concentrations of elements that are copper antagonistic, such as molybdenum, sulfur and iron.

Materials and methods. The study was conducted on 20 sheep, from a herd of 46 animals, reared in semiextensive system that grazing on pastures with native vegetation and, occasionally, the basic diet was supplemented with corn straw, corn bran wheat bran. In order to the nutritional metabolic monitoring, hematology and biochemistry tests were performed randomly, in some sheep from the studied flock.

Results and Conclusion. After biochemical exams, in randomly selected sheep from the herd, it was noted that in these animals, the mean serum copper (86 ±5 mg/dl) was significantly lower (p<0.05) compared with the average of the control group. In contrast, the mean serum zinc (98±10 mg/dl) values were close to those of the control group (105±10 mg/dl). Thus, after biochemical exams performing, in randomly chosen sheep from these group was observed that, the mean values of serum copper was significantly lower (p<0.05) compared with the control group and mean values of serum iron present statistically significant increases (p<0.05) compared with normal values,increase, which contributed to copper deficiency, due to the antagonism caused by serum levels of iron, which reduced the availability of copper in ruminants.

For this reason, it was recommended, food adding of mineral supplements (which contain copper), which can reduce the incidence of clinical signs in sheep from the studied flock, but can not completely prevent the occurrence of this disease.

The clinical signs were caused by excessive consumption of iron in sheep, as a result of the eating habits in this species, which, by grazing, they cut the grass close to the ground and, thus, can consume grass mixed with soil, leading to increased of serum iron level.

OF THE CONCERNS OF OUR ANCESTORS IN THE CARPATO-DANUBIO-PONTIC REGION FOR ANIMAL BREEDING (From the ancient times until the Romans leaving Dacia)

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I. **From the bronze and iron ages**

About some 6,000 years ago, in Romania, the Cucuteni culture developed on the present territory of Moldova, being considered "one of the most interesting and outstanding Neolithic cultures in Europe". This was a population of agricultural workers and animal breeders living in fortified fortresses, using large furnaces to get heat and prepare food, and to burn ceramics in various shapes. The population of the Cucuteni culture was hunters and agriculturists and handicraftsmen such as weavers, pottery workers and toolmakers.

The archaeology Museum from Piatra Neamț and the Museum of the Palace of Culture from Iași display several artefacts or paintings on ceramics picturing the animal species used by the people of that time: A zoomorphic representation; Zoomorphic picture; Zooomorphic vessel.

II. From the period of the Roman occupation (1st – 3rd centuries)

Interesting aspects regarding the concerns of the forefathers of the Romanian people can be seen on the Column of Trajan, historic monument from Rome built upon order of Trajan Emperor in commemoration of his victory from Dacia, by Apolodorus de Damasc and preserved until our present time. Reaching the apogee of the historic Roman bas-relief, the 124 episodes carved in spiral on the Column, illustrating the *Commentaries* of Trajan about the Dacic wars (De bello dacico), by their character of historic document, are a true document about the concerns of the Dacians for the breeding and use of horses in defence. Some interesting scenes depict domesticated animals used for sacrifices or for food.

Another important monument is the "Triumphal Monument" of King Buerebista, located north of Adamclisi commune in Dobrogea, in an area of forested hills. It was built in 106-109 AD and it shows the culture of industriousness of the Dacians, forefathers if the Romanian people.

Their existence proves the causes of the battle and motivates the importance of the Dacian victory over the invaders, thus justifying the construction of the Adamclisi Monument as symbol of the salvation of the Dacian people. Among the bas-reliefs from Adamclisi one may notice those showing groups of sheep and goats, species loved by the people who inhabited and still inhabits these places.

III. Historiography using terminology from the Romanian linguistic.

The apicultural terminology is largely of Latin origin and it is one of the strongest arguments for understanding the stable life of the Romanians.

ALBINA (bee), Latin *alvina*, *apis, apem*. STUP (Beehive), Latin *stups.* FAGUR (honey comb), Latin *favulus-um*, diminutive of *favus*. MIERE (honey), Latin *mel*, *melem*. CEARĂ (wax), Latin *cera*, *-am* (în ir. *tsere* şi ar. *ţeară*). PĂSTURĂ (maiden wax), Latin *pastura* (from *pastus* „food").

Following are several bee breeding words of Slav origin: PRISACĂ (bee garden), *stupină* (apiary). MATCĂ (queen), the Bulgarian *matka-mother*, scr. *Matca.* TRÂNTOR (male bee), *trontu* + agent suffix – *tor*. ROI (swarm), *roj.* homonymous *samă*. BEZMETIC (wandering aimlessly), Ukr. *bezmatoc* „beehive with no queen". Other Slav terms with the same meaning: *ulei* (oil), from the Bg. *uleju* in Oltenia; *ştiubei*, from Ukr. *stub* + suf. *–ei*, in Moldova and Bucovina; *coşniţă*, from the old Sl. *kosnica*, in Transylvania and Banat.

RESEARCH REGARDING THE HISTOSTRUCTURE OF THE NASAL CONCHA ON BIRDS ANTIGENICALLY STIMULATED

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Introduction. The nose cone of a bird shows a cartilaginous skeleton. Hyaline cartilage type is defined by an obvious pericondru. The mucosa that covers the nasal concha has an pseudostratified columnar ciliated epithelium. In the histological sections attention we can easily notice the abundance of the simple or compund alveolar tubular glands that open directly to the surface epithelium.

Materials and Methods. Research has been lungs from poultry, control or stimulated antigen, normally developed, clinically healthy.For this purpose an experiment was initiated which included 3 groups of birds from breeding industrial environments.Fragments collected were processed as usual histological techniques and stained with Goldner methods - Szekelly, Mucicarmin Mayer, trichrome Gomorrah, PAS ,Orceina, Alcian Blue.

Results and Conclusion. Rostral nasal concha presents stratified squamous cornified epithelium. It consists of a basal cell layer cube, slightly irregular. It goes to the surface of cell columns perpendicular to the basal layer. The skeleton is composed of hyaline cartilage cones and lamina propria contains numerous blood vessels.

Middle nasal concha is located in the respiratory region of the nasal cavity. Presents a hyaline cartilaginous skeleton, bounded by a thickened pericondru. It is covered with a respiratory type mucosa and with ciliated columnar pseudostratified epithelium with goblet cells. In the structure of the alveolar mucosa lists numerous large aspect mucous glands that open directly to the surface epithelium. Goblet cells are rare and their function is taken over by alveolar glands. In the conjunctive space between glands and basement membranes we find limphoid cells nucleis represented by: lymphocytes, plasma cells and macrophages.

Lamina propria or chorion comprises a tissue rich in collagen and elastic fibers, evenly dispersed lymphoid cells.

DETERMINATION OF SPECIFICITY FOR SOME SEROLOGICAL ASSAYS IN SURVEILLANCE OF FOOT-AND-MOUTH DISEASE IN WILDLIFE

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Introduction. Foot-and-mouth disease is the most contagious disease of mammals, causing severe economic loss in susceptible species – mainly ruminants and pigs. Identification of foot-and-mouth disease virus serotype O in wildboars at the border between Bulgaria and Turkey at the beginning of 2011 reopened the series of debates on the role of wildlife in the emergence and maintenance of FMD in areas of cohabitation with livestock.

Materials and Methods. Blood samples from wildboar were tested by assays for detection of antibody against structural proteins and nestructural proteins of FMD viruses.

Results and Conclusions. The results obtained were used în validation activities, taking into account also the influence of the quality of the samples taken from wildlife (often with intense hemolysis and bacterial contamination) on testing using commercial kits.

DETERMINING OF SPECIFIC GROWTH RATE AND GENERATION TIME OF TWO *LACTOBACILLUS SALIVARIUS* STRAINS ISOLATED FROM DENTAL ROOT CANAL AND SOME PROBIOTIC *LACTOBACILLUS* STRAINS BY INTESTINAL ORIGIN AT PH 8,0

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Introduction. The lactobacilli are considered the most acidoresistent lactic acid bacteria. They grow best in slightly acidic conditions with an initial pH of 6.5...5.4 and even under 5.0. In this study we investigated the specific growth rate (h^{-1}) and the generation time (h) of two strains with dental origin compared with some probiotc strains at pH 8.0 and 7.0.

Materials and methods. Two *Lactobacillus salivarius* strains isolated from dental root canal (G1 and G2) and two probiotic *Lactobacillus* strains by intestinal origin (*Lactobacillus salivarius* probiotic and *Lactobacillus rhamnosus* GG) were grown in MRS medium and were incubated at 37ºC for 24h, in 5% CO_2 atmosphere at pH 8.0 and 7.0. The DO_{600} values were determined in the moment of inoculation (T0) and than hourly (for moment T1, T2, T3 etc.). The DO_{600} values were plotted on logarithmic graphic and the growth curves were obtained. The specific growth rate (μ) and generation time (Δt) were calculated.

Results and Conclusions. *Lactobacillus* strains showed smaller values of generation time at pH 7.0 (ranged between 0.59h and 1.13h and the average time was 0,798h) compared with those at pH 8.0 (ranged between 1.15h and 4.74h and the average time was

2.45h). The values of specific growth rate of *Lactobacillus* strains with dental origin were higher than those of probiotic strains at both pH values. The values of generation time were smaller at *Lactobacillus salivarius* strains isolated from dental root canal than those of probiotic strains at both pH values. Between the specific growth rate and the generation time there is a high negative correlation. The correlation Pearson factor r = -0,95.

Higher values of specific growth rate at 7.0 pH were registered for all *Lactobacillus* investigated strains compared with those at 8.0 pH.

The strains with dental origin showed biger specific growth rate values at both pH values compared with the probiotic *Lactobacillus* strains.

The values of generation time for all *Lactobacillus* strains were smaller at pH 7.0 (the average time was 0.798h) than those at pH 8.0 (the averahe time was 2.45h).

A strong negative correlation between specific growth rate and generation time at both pH values was observed. Pearson factor was r=-0.95.

PHISIOLOGYCAL EFFECTS OF VEGETAL FAT ENRICHED DIETS ON THE RABBIT SKELETAL MUSCLE: (I) COMPOSITION AND STRUCTURE

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Introduction. Although lipids suffer important gastrointestinal hydrolysis processes and intraepithelial re-esterification of fatty acids absorbed across the intestinal wall, forage fat still retains some unchanged properties. The purpose of this paper was to determine the measure in which the diet fat influences the composition and structure of skeletal striated muscles in rabbits.

Materials and Methods. The experiment concerned in feeding for 20 days of three Supercuni experimental rabbit groups aged 11 weeks using vegetal fat (linseed) enriched diets for different percent of fat (3%, 5% and 7%) by comparing with a control rabbit group fed by a forage recipe containing 2% vegetal fat and a PD/ED ratio = 12.33 / 2,548. Skeletal muscle (*Biceps femoris*) composition (protein, fat, water and ash), *p*H and histology were analyzed.

Results and Conclusions. The percentage of muscle fat was 1.12% in the control group, 1.21% in 3% supplemented group, 2.38% in 5% supplemented group and 2.54% in the 7% fat supplemented group. The protein content of muscle for the control group amounted to a rate of 22.92%, showing a decreasing trend in the fat supplemented groups. Water content of muscle in the control group was 76.87%, while the experimental groups the values were reduced: 76.31%, 75.53% and, respectively 75.30%. The mineral salts in the control group amounted to a value of 1.27% while the experimental values were as follows: 1.22% in 3% fat supplemented group, 1.16% in the 5% supplemented group and 1.1% in the group of 7% fat supplemented rabbits. The final *p*H values of muscle have relatively growth, proportionally to the concentration of fat. Histological analysis reveals an increase of the percentage of slow oxidative to fast oxidative (glycolitic) cells. It is also constantly found an increase of the connective tissue and the appearance of small aggregates of fat cells among the muscle cells.

Feeding the rabbits by fat enriched diets led to specific modifications of the striated skeletal muscle composition and structure, respectively, increase of fat content and decrease of protein and water and ash contents, accordingly to the diet fat percent. Histological changes of the skeletal muscle were also noted.

PHISIOLOGYCAL EFFECTS OF PROTEIN ENRICHED DIETS ON THE RABBIT SKELETAL MUSCLE: (I) COMPOSITION AND STRUCUTURE

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Introduction. Effect of diet composition on skeletal muscle structure, composition and physiology must be assessed through the relationship PD / ED (digestible protein / digestible energy), protein quality and structure and relationship with the other compounds of the diets. With regard to food proteins, the exact effects on skeletal muscle for a species, age, sex or physiological status are not exactly known. The aim of this study was to find the effects of protein enriched diets on the composition and structure of the young domestic rabbit skeletal muscle.

Material and Methods. Research has been conducted using the Romanian Supercuni hybrid rabbits, aged seven weeks: a control group fed by a standard recipe and two experimental groups (A and B) fed with a receipt forage enriched vegetable protein with soy meal. Experiment duration was 20 days. After the slaughter of animals in a slaughter house the muscle samples were taken from *Biceps femoris*. The muscle tissue was analyzed for protein, fat, water and mineral salt contents. The samples were processed for histological study than they were Giemsa stained. It was also monitored the evolution of muscle tissue *p*H using a Hanna *p*H meter.

Results and Conclusion. Feeding rabbits with high protein level diets resulted in an increase of the protein and mineral composition of the striated skeletal muscle with a corresponding decrease of water content. The *p*H values were higher in high protein level diet fed groups and maintained at superior values for the next 24 hours after slaughtering. Histological analyses reveled a more uniform cross-sections of muscle cell samples from groups fed by protein supplement diets. At the same groups, there is less inter-fascicular connective tissue.

Feeding young rabbits with protein-rich forage diets alter the composition of skeletal muscle tissue, highlighting the increased protein content, maintaining relatively constant fat content and corresponding decrease in water content and mineral salts. Differences regarding the evolution of muscle tissue *p*H are also noted. Histological structure of the muscle changed by the ratio of different muscle fiber types.

DIFFERENCES IN MORPHOMETRIC PARAMETERS OF POLISH KONIK MARES

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Introduction. The Polish Konik horse breed is a valuable genetic reservoir of exterior features and wide environmental adaptation abilities unique for this breed. Stable housing and preserve housing methods are described for this horse. Numerous utilization advantages depending on local environmental factors, such as strong herd behavior in preserve horse herds, low housing requirements, low quality feed conversion are typical for the Polish Konik. The aim of this study was a description of the exterior morphometric parameters for mares.

Materials and Methods. The investigations were carried out on 126 Polish Konik mares from five breeding centers in Poland: Popielno, Roztocze National Park, Sieraków, Dobrzyniewo and Kobylniki. The mares were divided into age groups: 3-5 years old (N = 50), 6-9 years old (N = 50) and 10≥years old (N = 26). Each animal was characterized using 40 morphometric parameters.

Results and Conclusion. Statistical analyses proved differentiating influence of 15 out of 40 studied parameters. 5 out of 40 parameters differentiated the mares at significance level $p \leq 0.01$ (distance between the vascular notch and the oral angle; distance between the *basihyoideum* and the *apertura thoracis cranialis;* thorax circumference; forearm circumference and distance between the *margo coronalis ungulae* and the *margo solearis ungulae* of the thoracic limb). 10 of 40 parameters – at significance level $p \leq 0.05$ (back height; thorax depth; distance between the auricular base and the half length of *spina scapulae*; metacarpal circumference; metacarpal length; leg circumference; distance between the fetlock joint and the *margo coronalis ungulae* of the pelvic limb; forearm length; pelvis width and pelvis length). The results indicate creation of morphotypes within the analyzed population.

CRANIOMETRIC CHARACTERISTIC OF NORTH AFRICAN FENNEC (*VULPES ZERDA* ZIMMERMANN, 1780)

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Introduction. Fennec (*Vulpes zerda* Zimmermann, 1780) belongs to order Carnivora, family Canidae and genus *Vulpes*. This species is classified under the genus *Canis* or its

own genus *Fennecus*. Molecular data suggest that fennec is within *Vulpes*. The fennec lives in the northernmost tier of African countries, from Morocco through Algeria, Tunisia, Niger, Libya, Egypt, and Sudan. The objective of this study was to characterize fennec's skull.

Materials and Methods. Craniometric measurements (in centimeters) were carried out on an adult male skull from North Africa. Material was obtained from Tel-Aviv Zoological Institute. Currently the skull is included in an exposition of the Anatomy Museum, National University of Life and Environmental Sciences of Ukraine in Kiev. 38 measurements were conducted on the skull and 18 on the mandible, with accordance to von den Driesch (1976) methodology.

Results and Conclusion. This paper presents selected results and is an exordium to a larger work on Canidae. Total length: 8.67, zygomatic breadth: 4.78, postorbital breadth: 1.88, maximum width of neurocranium: 3.86, breadth at the canine alveoli: 1.28, facial length: 5.82, upper neurocranium length: 3.50, viscerocranial length: 3.60, greatest length of the nasal: 2.82, frontal breadth: 2.35, length of the upper tooth row: 3.75, condylobasal length: 8.68, basal length: 8.29, least palatal breadth: 1.25, height of the occipital triangle: 1.95, length of lower tooth row: 4.18, mandible length: 6.43, mandible height: 2.12.

CRANIOMETRIC CHARACTERISTIC OF BLACK-BACKED JACKALS (*CANIS MESOMELAS* SCHREBER, 1775) FROM NAMIBIA

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Introduction. Black-backed jackal (*Canis mesomelas* Schreber, 1775) is a predatory mammal of the Canidae family. It is an endemic species for Africa where it occurs in Angola, Botswana, Djibouti, Eritrea, Ethiopia, Kenya, Lesotho, Mozambique, Namibia, Somalia, South Africa, Sudan, Swaziland, Tanzania, United Republic of Uganda, Zimbabwe. The discussed species is not included in the CITES and has no legal protection except for protected areas. It is a least concern species, numerous and common. Two subspecies can be distinguished: *Canis mesomelas mesomelas* Schreber, 1775 (Southern Africa) and *Canis mesomelas schmidti* Noack, 1897 (East Africa). The aim of this study was a craniometric characteristic of *Canis mesomelas* specimens absent in Europe.

Materials and Methods. Research material consisted of two skulls belonging to adult jackals *Canis mesomelas* Schreber, 1775, of different genders originating in Namibia. These skulls, obtained from a leather craftsman in Kiev, Ukraine, were in very good condition and complete. 38 measurements were conducted on the skulls and 17 on mandibles, following von den Driesch (1976) methodology. Outcomes were compared between the recognized sexes.

Results and Conclusion. With sexual dimorphism poorly pronounced, slightly higher values were obtained for the male. In 4 cases values of the analyzed traits were equal for both sexes (upper neurocranium length 7.30 cm, maximum width of neurocranium 5.17 cm, greatest breadth of the palatine 4.75 cm and palatal length 7.73 cm).

DISTRIBUTION OF THE VEGETATIVE NERVOUS ELEMENTS IN THE FIBROUS FORMATIONS OF THE AUTOPODIUM IN CATTLE

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Introduction. Fibrous formations of the autopodium in cattle have a neuro-vascular apparatus of high capacity for adjustment, which includes nerve fibers of vegetative origin. Using histochemical methods allows the differentiated study of components which innervates the bodies and establish functional membership of nerve fibers, by highlighting the catecholamine and acetylcholinesterase activity.

Materials and Methods. Selective detection of nervous conductors in the fibrous formations of the autopodium in cattle, with adrenergic components, was done by histofluorescence method (J.G. Torre, J.W. Surgeon, 1976). To outlining the cholinergic component of the vegetative innervation was applied Gomori histochemical method (G. Gomori, 1952; А.Г. Пирс, 1962).

Results and Conclusion. A thorough study of the preparations, showed that the adrenergic nerves enter the fibrous tissue and periosteum, drawing on the path leading into blood vessels, and some of them are dispersed in the periosteal substrate as varicose thickening. Adrenergic nerves, penetrating periosteum, manifests itself architectural in the paravazal networks form. The highest concentration of these nerves was observed in the vascular bifurcations. All thickening luminescent containing high amounts of catecholamines, goes into the composition of the diffuse synapses and of the terminal networks._Acetyl-cholinesterase activity - one of the main enzymes that hydrolyze acetylcholine causes nerve structures belonging to the cholinergic system. Cholinergic nerve trunks entering the periosteum and joint capsules, either directly or through vascular-periosteal, musculo-articular, periosto-articular nerves.

Histochemical investigations and analysis of bibliographic sources have allowed more complete disclosure histoarchitectonics components adrenergic and cholinergic innervations of the articular capsule and periosteal bone of the autopodium in cattle. Adrenergic and the cholinergic plexus resemble each other, both are composed of nerve fibers that multiple and multidirectional intersecting, usually forming perivascular networks.

COMPARATIVE ELECTROPHORESIS OF SERUM PROTEINS IN RATS TREATED WITH TWO ORALLY DELIVERED LECTINS

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Introduction. Protein electrophoresis is a common technique to determine the protein components of serum or plasma in laboratory animal medicine. Serum protein bands visualized by electrophoresis are: albumin, alpha 1, alpha 2, beta and gamma globulins. The aim of this study was to evaluate these protein fractions and the changes induced by lectin's administration.

Materials and Methods. Sera samples fromWistar rats that have been treated with orally delivered lectin preparations obtained from potato shoot and beans pods, and of the sera from the control group, were analyzed by an agarose gel electrophoresis system. The serum samples were diluted 1:6 in running buffer and applied to the Cormay agarose gel. The electrophoresis was performed for 20 minutes at 200 V. After migration the gel was fixed, dried stained and destained. The protein fractions were evaluated using a densitometer (Sebia DVSE, electrophoresis).

Results and conclusion. Both lectins induced an increase in albumine's percentage, accompanied by a slight decrease in alpha 1 and alpha 2 globulins. A major change was recorded for beta-globulins, their level being decreased in the case of both administered lectins. The most important conclusion is that even when lectins are orally administrated they may influence organs' function (increase of albumins percentage, reflecting liver function, or pancreatic function revealed by the slight decrese of alpha 1-globulins). Electrophoresis should more often be used in evaluating research's results, at least for orally administered preparations.

QUANTITATIVE ASSESSMENT OF DOG SALIVARY LYSOZYME IN STAPHYLOCOCCAL DERMATITIS

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Introduction. Lysozyme is a glycoprotein, functioning as an antibacterial agent by catalyzing the hydrolysis of specific glycosidic linkages in peptidoglycans and breaking down some bacterial cell walls. Lysozyme is also present in saliva and is an important local protective factor. The lysozyme concentration can be correlated with the state of functionality of granulocytes. The main aim of our study was to determine the possible correlation between the level of salivary lysozyme from dogs diagnosed with staphylococcal dermatitis and evolution of the disease.

Material and Methods. Tests were conducted on samples of saliva collected from stray dogs adult with stafilicocical dermatitis lesions which animals could lick them, and

clinically healthy animals. Determination the level of lysozyme was performed by spectrophotometric method.

Results and Conclusion. The average level of salivary lysozyme determined to clinically healthy dogs was within the normal range of the specie (110-135 μg/ml). In animals with staphylococcal dermatitis the level of lysozyme was significantly lower than those recorded in healthy animals ($P < 0.05$). The lowest level of salivary lysozyme was registered in animals with clinical specific signs indicating a chronic pathogenic process. These results highlight a strong correlation between the level salivary lysozyme and the severity of the staphylococcal dermatitis evolution in dogs.

A VALIDATED HPLC METHOD FOR DETERMINATION OF FURAZOLIDONE AND OXYTETRACYCLINE IN THE PRESENCE OF RELATED SUBSTANCES

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Introduction. This paper describes the development and validation of a simple and efficient method for simultaneous determination of furazolidone, oxytetracycline and related substances in veterinary formulation samples using high performance liquid chromatography with photodiode-array detection (HPLC-DAD). This formulation was submitted to accelerated degradation studies under acidic, alkaline and oxidative conditions, exposure to light and thermal stability. The proposed HPLC method was statistically validated with respect to linearity, ranges, precision, accuracy and selectivity

Materials and Methods. Effective chromatographic separation of furazolidone, oxytetracycline, 4-EATC, TC, α- AOTC, β-AOTC was achieved using a Hypersil BDS-C18 (4.6 x 250 mm, 5 μm) column with gradient elution of the mobile phase composed of 80 mM phosphate buffer (pH 7.5) and methanol with a 25°C column temperature. Under these experimental conditions, the substances could be separated and detected at 254 nm within 30 min. Calibration curves were linear in the ranges 10-200 % for furazolidone and oxytetracycline respectively, with correlation coefficients > 0.999. The LOD and LOQ were found to be 0,029 μg/mL furazolidone and 0,086 μg/mL oxytetracycline and 0,097 μg/mL furazolidone and 0,286 μg/mL oxytetracycline respectively. The % recovery for furazolidone was 99.59% and 99,87% for oxytetracycline. There was complete separation of the degradation peak and furazolidone and oxytetracycline, which demonstrate the specificity of the assay method .

Conclusion. The objective of this study was to develop and validate a simple, rapid, economic and accurate HPLC method for the estimation of furazolidone and oxytetracycline in veterinary formulation.

MORPHOLOGICAL CHARACTERISTICS OF ADIPOCYTES IN WHITE ADIPOSE TISSUE IN DIFFERENT STAGES OF INDUCED OBESITY IN MICE

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Introduction: Adipocyte cell size is the key factor of adipocyte function. The current study aims to assess the differences in size and number between adipocytes from significant metabolically body fat depots.

Materials and Methods: Samples from mesenteric, omental, retroperitoneal and inguinal subcutaneous adipose tissue were collected from obese NMRI mice (obesity induced at 1 (lot O1) and 2 months (lot O2), and control group mice. The histological slides were evaluated by light microscopy and analyzed by computerized cell morphometry. The number of adipocytes, as well as the minimum, medium and maximum diameters of adipocytes were calculated for each microscopic field (10x). The differences between the mean diameters were statistically evaluated by t-test and Mann-Whitney test.

Results and Conclusion: The diferences between the mean, minimum, maximum diameters and the number of adipocytes from the evaluated fat deposits were statistically significant ($p<0.0001$) between the control group and lots O1 and O2. The area under the ROC curve evaluated by Wilcoxon method was 0.79 for omenatal adipose tissue in lot O1. The values of the diameters of adipocytes suggest different mechanism of adipose tissue expansion for various stages of induced obesity in mice.

Computerised morphometry is a reliable method of adicpocyte reactivity in obesity. The alteration of adipocytes morphology is obvious in omental fat deposit.

MOLECULAR EVIDENCE FOR ZOONOTIC PATHOGENS IN HARD TICKS INFESTING DOGS IN SOUTHEASTERN ROMANIA

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Introduction. Ticks can carry a large number of different pathogens (bacteria, viruses, protozoans), which can affect both animal and human health. Their impact as diseases vectors on human is second only to that of mosquitoes, and their effect on livestock, wildlife and domestic animals is immeasurably greater. The aim of this study was to use molecular techniques to assess the prevalence of vector borne pathogens in ticks infesting dogs in south-eastern Romania.

Materials and Methods. A total of 160 ticks (maximum 10 ticks per dog), including *Rhipicephalus sanguineus* (n=118), *Dermacentor reticulatus* (n=37), and *Ixodes ricinus* (n=5), were molecularly screened for animal and human tick-borne pathogens by real-time polymerase chain reaction (PCR) for the presence of *Anaplasma phagocytophilum*,

Anaplasma platys, *Ehrlichia canis*, *Borrelia burgdorferi* sensu latu, and by PCR and subsequent sequencing for *Rickettsia* spp., and *Babesia* spp.

Results and Conclusion. Overall, 52 of the 160 ticks (32.5%) were positive for at least one pathogen. *Babesia* spp. was detected in 16.3% of the examined ticks (*D. reticulatus,* n=19, *R. sanguineus*, n=6, and *I. ricinus,* n=1), *E. canis* in 16.1% (*R. sanguineus,* n=19), and *Rickettsia* spp. in 4.4% (*D. reticulatus,* n=5 and *R. sanguineus,* n=2). One *R. sanguineus* and three *D. reticulatus* ticks were co infected: *E. canis* + *Rickettsia* spp. and *Rickettsia* spp. + *Babesia* spp., respectively. Subsequent sequencing, three rickettsiae of the Mediteranean and spotted fever group of zoonotic concern were identified for the first time in Romania: *Rickettsia conorii* in *R. sanguineus* and *Rickettsia slovaca* and *Rickettsia raoultii* in *D. reticulatus*. The findings emphasize the potential high risk of exposure to infection with these agents.

HISTONE ACETYLATION REGULATES NEOVASCULARIZATION OF ENDOTHELIAL PROGENITOR CELLS IN VITRO

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Introduction. Histone acetylation regulates gene expression patterns affecting cell function and differentiation. Neovascularization depends on the activation/inactivation of genes associated with proliferation, adhesion, migration, and invasion of endothelial progenitor cells (EPCs). In this study, we examine the role of histone acetylation in diferentiation and neovascularization potential of EPCs.

Materials and Methods. Endotehlial progenitos cells were treated with the histone deacetylase inhibitor Valproic Acid (VPA), and subjected to morphological, gene expression and functional tests.

Results and Conclusions. The level of histone acetylation was highlighted by western blot assay. Quantitative RT-PCR showed that VPA down-regulated the expression of endothelial genes involved in adhesion and angiogenesis such as VE-cadherin, CD133, ICAM-1, Tie-2, VEGFR-2. Furthermore flow cytometry analysis ilustated that VPA reduce the expression of surface markers CXCR4, CD31, CD133, CD117, VEGFR-2. MTT and Xceligent impedance mesurements shows that under acetylation state EPCs proliferation and invasion was decreased. Furthermore, migration and capacity to form capillary tube-like structures *in vitro* was diminished after treatment with VPA. Acetylation plays an important role in stem cell diferentiation, understanding these mechanisms will improve stem cell applications for tissue regeneration therapies.

COMPARATIVE MACROSCOPIC ASPECTS OF REGENERATION IN SKIN LESIONS TREATED WITH PLASMA RICH IN PLATELETS IN RABBITS

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Introduction. Plasma rich in platelets (PRP) is a biological material that contains high levels of platelets, blood cells that are rich in growth factors involved in the initiation of the healing process. PRP can be used on a large number of lessions, including those induced on the skin.

Materials and Methods. The efficasy of the product was tested on an experimental lot of rabbits of the same age, wheight and gender. Lesions consisting of incisions and excisions were induced on the skin of the rabbits of both a control and a test group, in the dorsal thoracic region. This sites were then subsequently treated with PRP every 7 days over a period of 4 weeks, in the test group only. The procedure was performed by perilesional inoculations with activated plasma, watching the comparative evolution of the healing process within the 2 groups: control and test.

Results and Conclusion. The results revealed an acceleration of the healing process in the tested group. Positive characteristics were noted regarding: retraction of the wound, the presence and thickness of the crust, peripheral erythema, hair regeneration and the visibility more or less pronounced of the scars. In this study we have found beneficial aspects after using platelet-rich plasma, consisting of an acceleration of the healing process and a pronounced anti-inflammatory effect, features that recommend its use in the skin lesions.

RESEARCHES CONCERNING AN INACTIVATED VACCINE AGAINST HORSE LEPTOSPIROSIS

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Introduction .Researches were undertaken in order to develop a vaccine for the immunization of horses against the most frequent strains of *Leptospira*.

Materials and Methods. *Leptospira interrogans* strain serovars *canicola, icterohaemorrhagiae, pomona, australis and grippotyphosa,* each grown separately in Korthof medium. In-process tests were performed in regard to purity, identity, titer and sterility. The bacterial harvests were inactivated, blended and aluminum hydroxide gel was added to the final bulk.

Safety and efficacy of the vaccine were assessed in three groups of 10 horses, aged over two years. The animals were vaccinated twice, at a 2 weeks interval. Five horses

from each group were inoculated once with a double dose, for safety testing. Blood samples were drawn before first administration, before the booster and every two months after, up to 8 months since the first administration. The immune responses were evaluated by the microscopic agglutination lyses reaction, using six *Leptospira* serovars: *pomona, icterohaemorrhagiae, canicola, hardjo, grippotyphosa and australis*, as required by NSVFSA regulations.

Results and Conclusion .The analytical interpretation of the results shows that the vaccine elicits a protective immune response starting at 21 days after the second administration, with antibodies against all five serovars, and lasting over a period of 6 months. No adverse reactions were recorded while administering a double dose.

The vaccine complies with the tests for identity, sterility, safety, inactivation and potency. Upon completion of all stability tests, Romvac Company intends to submit applications for manufacturing and marketing authorizations.

STUDIES ON CYTOTOXICITY AND ANTIBACTERIAL EFFECT OF ARTEMISININ

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Introduction: Artemisinin, an extract of sesquiterpene lactone endoperoxide obtained from *Artemisia annua*, is routinely used in the treatment of malaria and various forms of human cancer. In order to extend its therapeutic range, studies were done on Artemisinin cytotoxicity on chicken embryo fibroblasts (CEF) in parallel with tests on Vero cells, and the effect assessment on *Salmonella* spp strains of avian origin.

Material and methods: The cytotoxicity tests were carried out on monolayers of chicken embryo fibroblasts (20,000 and 10,000 cells / ml), and Vero cells (10,000 cells / ml). Artemisinin (dissolved in DMSO, DMF respectively, mixed with PBS or MEM) was placed in contact with the cells for 15 minutes and 1 hour, in concentrations of 177.10, 17.71, 8.85 and 4.43 nM. Evaluation of cytotoxic effect was performed by MTT assay, reading at 540 nm at intervals of 15 minutes, 1, 2 and 21 hours post-treatment. The antibacterial effect was tested by Kirby - Bauer disk diffusion assay, according to SFM, on four strains of Salmonella enteritidis, two of S. typhimurium and one strain of S. gallinarum of avian origin, in concentrations of 80 and 160 ug / disk.

Results and Conclusions: On CEF, there were noticed differences due to the solvents used, for the same amount of Artemisinin and a cytotoxic effect was recorded at the concentration of 177.10 nM. The cytotoxic effect was recorded on Vero cells including concentration of 4.43 nM, regardless of the organic solvent used. In disk diffusion antibiogram the two concentrations had no anti-Salmonella effect (inhibition diameters were of 6-9 mm).

PREVALENCE OF ECTOPARASITES INFESTATION IN DOGS FROM MORENI – DAMBOVITA AREA

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Introduction. Dogs are representative for numerous specific hosts of ectoparasites, which can cause skin conditions represented by erythema, papules, crusts in conjunction with prurit.

Materials and Methods. The objective of this study was to assess the prevalence of ectoparasitic infestation in dogs in Moreni – Dambovita area. Investigations were carried out during July 2012 - June 2013 on a total of 155 dogs of various breeds and ages belonging to both sexes. Each animal was identified based on data obtained from the owners. The animals were examined clinically (inspection, palpation), for the presence of ectoparasites. Ectoparasites were collected in plastic bottles with alcohol for future investigation. When skin changes were detected, scraps following microscopic examination were carried out.

Results and Conclusion. A prevalence of 70,97 % (110/155) of ectoparasitic infestation was identified. Ectoparasites identified either species were represented by: *Ctenocephalides canis* 88,18 % (97/110), *Trichodectes canis* 26,36 % (29/110), *Ixodes ricinus* 19,09 % (21/110), *Dermacentor marginatus* 14,54 % (16/110), *Demodex canis* 17,27 % (19/110), *Sarcoptes scabiei* 0,90 % (1/110). Regarding the number of ectoparasites present on a specific individual: 42,72% (47/110) with a single parasitic species, 36,6 % (40/110) with two parasitic species and 4,54% (5/110) with three parasite species.

The results had shown a high prevalence of ectoparasitic infestation in the studied area, which requires better information on the owners of dogs and need regular deworming.

STUDY REGARDING ENDOPARASITES INFESTATION IN DOGS FROM HOUSEHOLD IN MORENI – DAMBOVITA AREA

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Introduction. Dogs can be carriers of a wide range of intestinal parasites of some species may be transmitted to other animals and humans.

Materials and Methods. The objective of this study was to assess the prevalence of endoparasitic infestation in dogs. The study was performed on 155 samples of dog feces collected from dogs in households in Moreni - Dambovita . The samples were collected from each individual in plastic bottles labeled with the harvesting time, breed, age and sex of the animal. Samples were examined by flotation and Mc Master methods.

Results and Conclusions. After microscopic examination, a prevalence of 72,25 % (112/155) was established, with identification of the following species: *Ancylostoma caninum* 60,71 % (68/112), *Trichocephalus vulpis* 45,53 % (51/112), *Uncinaria stenocephala*

23,21% (26 /112), *Toxocara canis* 8,92% (10/155), *Toxocara leonine* 7,14% (8/155).

In 44,64 % (50/112) of positive cases one parasitic species was indentified and in 33,92 % (38 /112) two parasitic species were indentified.

The investigation had shown a high prevalence of endoparasitic infestation in dogs, studied area indicating a potential zoonotic risk.

GROSS LESIONS AND HISTOLOGICAL CHANGES IN THE DIFFERENT ORGANS OF NATURAL INFECTED DUCKS TO *SALMONELLA SEROTYPES TYPHIMURIUM*

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Introduction. *Salmonella* infections of food animals play an important role in public health and particularly in food safety, as food products of animal origin are considered to be the major source of human Salmonella infections. Special programmes have been implemented for surveillance of poultry, swine and cattle and include the surveillance of healthy animals that may be subclinical carriers of Salmonella organisms (OIE Manual, 2010).

Materials and Methods. In this study, material consist in postmortem examinations of 6 dead ducks. Gross pathological changes at necropsy were carefully observed and recorded. The tissues of different organs were preserved in 10% neutral buffered formalin for histopathological studies. The sections were stained with routine hematoxylin and eosin staining and Pappenheim staining and finally the sections were studied with light microscope.

Results and Conclusions. In present study, the gross lesions of 8 *Salmonella* infected ducks were variable. During necropsy, livers were friable, bronze discoloration with white focal necrosis, intestines were hemorrhagic to catarrhal enteritis, lungs were severely congested and pneumonic, spleens were enlarged and discolored. The tissues of different organs were selected for histopathology and in this paper we describe the histopathological findings of different organs.

MARKET SURVEY CONCERNING ORGANIZATIONAL CONDITIONS OF VETERINARY PHARMACEUTICAL UNITS IN BUCHAREST

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Introduction. Currently, in Romania, retailing medicinal and other veterinary products is an important part of veterinarians' activity. The aim of this study was the analysis of compliance with the operating and organizational conditions of veterinary pharma-

ceutical units in Bucharest, according to regulations specified by national and European legislation in force.

Materials and Methods. The study was conducted from March to September 2013 in 20 veterinary pharmacies in Bucharest. The analyzed issues were related to: location, number of rooms, size, connection to mandatory utilities, drugs regime, arrangement of medicinal products on the shelf, conditions of microclimate, holding the required documents, filing records, employed personnel.

Results and Conclusion. Of the 20 veterinary pharmacies analyzed, 15 were located at the basement of residential buildings and had separate access than the one of tenants, while the remaining 5 pharmacies were located in separate buildings. All veterinary pharmacies were connected to sewer, water and electricity, and 13 pharmacies were secured with anti-theft systems. None of the analyzed veterinary pharmacies had laboratory, which means that none of these pharmacies prepared medicines. Veterinary pharmacy's warehouse was equipped with temperature and humidity insurance systems in 12 pharmacies. In 8 pharmacies, microclimate parameters were recorded in special registers. Veterinarians were employed in all studied pharmacies, while in 7 units the personnel includes also veterinary technicians. Lockers for the storage of substances included in *Separanda* and *Venena* lists were present in 16 pharmacies.

The study of 20 veterinary pharmaceutical units in Bucharest showed that they largely respect the organizational conditions specified by law; however, there are a relatively small number of units fully complying with legislative requirements.

COMPARATIVE EVALUATION OF BETA-LACTAM ANTIBIOTICS RESIDUES IN COW MILK BY IMMUNOENZYMATIC AND MICROBIOLOGICAL TESTS

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Introduction. The presence of antibiotic residues in milk and milk products is a current concern of international regulatory bodies for food safety and security. The aim of this study was the comparative analysis of the results obtained by two methods applied on milk samples fortified with known concentrations of beta-lactam antibiotics.

Materials and Methods. Fortification of milk samples was performed using four antibiotics that are most often found as residues in milk, namely penicillin G, ampicillin, amoxicillin and oxacillin. Analyzes were performed using enzyme immunoassay technique (MaxSignal Beta-Lactam ELISA Test Kit) and a microbiological method (ECLIPSE microbial qualitative test). Fortification of milk samples was performed with the following concentrations of antibiotics: 4 μg/kg, 8 μg/kg, 16 μg/kg and 32 μg/kg (for penicillin G, ampicillin and amoxicillin) and 30 μg/kg, 60 μg/kg, 120 μg/kg and 240 μg/kg (for oxacillin).

Results and Conclusion. Following testing of milk samples fortified with beta-lactam antibiotics by ELISA, residue concentrations were found to be almost equal to those of samples for penicillin G and ampicillin; significant differences were detected for amox-

icillin and oxacillin. After applying ECLIPSE microbial test on the same milk samples fortified with different concentrations of beta-lactams, all reactions were considered positive, variations of colour not being registered; thus, this method provides only qualitative results, the major disadvantage being represented the inability to identify the antibacterial substance and its concentration in the analyzed samples.

Beta-lactam MaxSignal ELISA Test Kit is well suited for beta-lactams with cross-reactions close to 100% (penicillin G, ampicillin) and is less specific for beta-lactams with lower percentage of cross-reactions (oxacillin and amoxicillin).

USE OF SOME HEMATOLOGICAL AND BIOCHEMICAL TESTS TO MONITOR THE HEALTH STATUS OF ORNAMENTAL BIRDS THAT UNDERGO PHARMACEUTICAL TESTING USING PRODUCTS BASED ON METRONIDAZOLE AND OXYTETRACYCLINE HYDROCHLORIDE

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Introduction. Metronidazole, synthesis chemotherapy drug, acts by preventing anaerobic microbial cell's production of hydrogen ions, and oxytetracycline hydrochloride, synthesis tetracycline, has only broad-spectrum bacteriostatic action. These active substances are used in compounded drug formulations for treatment of several forms of ornamental birds' enteropathies. As a consequence, the present study aims to assess the hematological and biochemical profile of ornamental birds under Enteroguard M-administration, a pharmaceutical product based on metronidazole and oxytetracycline.

Material and methods. The investigations consisted of hematological and biochemical testing of 4 groups of healthy ornamental hens, yellow Orpington breed, aged between 1 and 3 years. Through basilar vein puncture, blood samples were collected on EDTA for haematological tests (hematocrit, hemoglobin, total RBC, MCV, MCH, MCHC, total number of white blood cells, leukocytes) and on lithium heparin for determination of biochemical parameters (AST, BA, CK, UA, GLU, CA, PHOS, TP, ALB, GLOB, K +, Na +) using automatic analyzer type VetScan with Avian Profile Plus kits.

Results and Conclusion. The evolution of tested parameters showed insignificant differences between different lots of birds tested, that have shown a haematological- biochemical profile corresponding to a good level of health and welfare throughout the observation period pre- and post-treatment. Finally it was concluded that ornamental birds show high tolerance to the tested product expressed by lack of any type of adverse effect or toxicity secondary to preventive and curative doses.

EFFECT OF COOKING METHODS ON POLYPHENOLS CONTENT AND ANTIOXIDANT ACTIVITY OF SOME VEGETABLES

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Introduction. Polyphenols with antioxidant activity are common constituents of foods of vegetal origin. Polyphenols can prevent cardiovascular diseases, neurodegenerative diseases and cancer. Vegetables are a good source of polyphenols, but cooking method can affect their structure and antioxidant properties.

Materials and Methods. Mushrooms, broccoli and capsicum were cooked in microwave, in the oven (in aluminum foil, in Jena glass vessels and in metal trays) and in Teflon pans. Cooked vegetables were then subjected to extraction with 60% aqueous ethanol. Total phenolics, reducing power, DPPH• scavenging activity and Fe^{2+} chelating activity were investigated.

Results and Conclusion. Cooking method influenced total phenolics content, reducing power, DPPH• scavenging activity and Fe^{2+} chelating activity. After cooking, the highest content of total phenolics was determined for capsicum cooked in microwave, for mushrooms cooked in oven in Jena glass vessels and for broccoli cooked in oven in aluminum foil. Reducing power, DPPH• scavenging activity and Fe^{2+} chelating activity depended on the vegetable type and on the cooking method.

Cooking method affects total phenolic content and antioxidant activity for mushrooms, broccoli and capsicum**.**

COMPARATIVE VITAMIN C ASSESSMENT: TITRIMETRY, SPECTROPHOTOMETRY, VOLTAMMETRY

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Introduction. Vitamin C is a hydrosoluble, antioxidant vitamin, with a γ-lactone structure, and represents the L enantiomer of ascorbic acid, the biochemically and physiologically active form. It fights against free-radical induced diseases, can scavenge singlet oxygen, or act as chelating agent. Due to a L-gulonolactone oxidase deficiency, humans, some other primates and guinea pigs need to take it from diet.

Materials and Methods. 100 ml Fe^{3+}-1,10 phenantroline reagent prepared from 200 mg 1,10-phenantroline and 0.16 g $NH_4Fe(SO_4)_2$; Carl Zeiss Jena Spekol 11; potentiostat-galvanostat; three electrodes electrochemical cell with Pt disc working electrode; potential was scaned beween -100 and 1000 mV; ascorbic acid 100 mM stock solution.

Results and Conclusions. The absorbance variation is due to the reduction by different ascorbic acid amounts, of Fe^{3+} to Fe^{2+}. The absorbance of the resulted Fe^{2+}-1,10-phenantroline complex, at 515 nm, increased with ascorbic acid concentration, with

linearity obtained between 0.2 and 1.2 mg/l. With respect to the voltammetric method, the anodic peak corresponding to ascorbic acid oxidation occurs at about 500 mV vs SCE. Its height increases with the analyte concentration with linearity obtained between 0.1 and 10 mM. The greatest vitamin C content of analysed samples was obtained for fresh citrus juices.

The results obtained by the voltammetric method were consistent with those obtained by spectrophotometry and by the standardized titrimetric method with 2,6-dichlorophenolindophenol. The electrochemical method is characterized by rapidity, simplicity of procedure, minimum interferences. Nevertheless, some compounds commonly present in fruit juices determine peak displacement towards more positive potential values.

EVOLUTION OF HORMONAL CONTROL OF CALCIUM AND PHOSPHORUS METABOLISM IN HENS ACCORDING TO AGE AND EGG PRODUCTION

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Introduction. The aim of this work was to determine the relationship between the calcium and phosphorus metabolism and the levels of the main hormones involved in their blood regulation in laying hen.

Material and Methods. Two breeds of hens were used in this work, 22 weeks aged each one: White Cornish (CRN), as a breed of low egg production and White Leghorn (LGH), as a breed of higher egg production. The hens were raised in industrial system and they were fed according to the technologic diets. The hens were monitored from 22 to 44 weeks of age for the evolution of the parathormone, vitamin D, calcium and phosphorus levels in the blood plasma.

Results and **Conclusions**. Analysis of the hormone evolution relieves a peak of the PTH level in LGH hens, around 30 weeks of age (amounted to 392 pg/mL vs. 198 pg/mL in CRN hens). This peak of PTH is behind the laying peak and it is significantly higher in LGH hens vs. CRN hens. It was remarked that the LGH hens reached the peak of the PTH one week sooner vs. CRN hens. Regarding vitamin D, its plasma level presented a relatively constant evolution in CRN, while in LGH it presented an increase around 30 – 32 weeks-of-age up to 142 pg/mL, then it decreased slowly. Accordingly, in LGH hens, the level of calcium (in mg/dL) raised from 9.9 at the beginning of the laying cycle to 34.4 in the peak of the laying, decreasing then, to 18.0 toward the end of the monitoring period. In CRN hens, at the same age, the values of the plasmatic calcium were: 6.2, 12.9 and 18.0, respectively. The calcium/phosphorus ratio presented an ascendant evolution in both, LGH and CRN breeds, indicating an increasing of the free calcium content of the blood plasma.

Higher demands of calcium and phosphorus during the laying cycle in hens with high egg production are supported by high levels of PTH and vitamin D, the main hormones involved in the homeostasis of these two minerals. In the same time, the levels of

vitamin D seem to be not essentially modified in nor for low do neither for high egg production breed.

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EFFECT OF VARIOUS LEVELS OF DIETARY CALCIUM ON BLOOD CALCIUM CONCENTRATION AND HORMONAL STATUS IN WHITE CORNISH AND WHITE LEGHORN HENS

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Introduction. In the life cycle of the hen the serum calcium varies considerably. It approximates the mammalian level during the growth period, rises markedly when egg-laying commences, and returns to the normal level in the moulting period. To realize and to maintain a higher concentration of calcium in laying birds, it involves undoubtedly a speedier turnover of this mineral, which can be realized only by involving supplementary hormonal mechanisms. Diet calcium level is hypothesized to play a major role in its own homeostasis.

Material and Methods. Two hen breeds, White Cornish (COR) and White Leghorn (LEG) 34-week-aged were used in this experiment. The basic diet of these hens contained 3.8% Ca. This basic diet was supplemented for an experimental period of 8 days with 0.0, 1.0 and 2.0 and, respectively, 3.0% calcium. During the experimental period the plasma blood levels of Ca, phosphorus, parathormone, calcitonin, vitamin D and estradiol were monitored.

Results and Conclusions. The results relive a significant increase of the blood plasma levels of Ca and phosphorus in both COR and LEG hens beginning form the 2% calcium dietary supplementation. Phosphorus levels increased too, but the Ca/P ratio indicated an imbalance for the calcium. In the same time it was found a significant decrease of the plasma level of parathormone in both 2% and 3% Ca supplemented CRG and LEG hens. Blood plasma level of calcitonin doesn't follow a clear increasing in any experimental group, neither for CRH nor for LEG hens: statistical analyses between day one and 8^{th} day of the experimental periods didn't relive any statistical significant difference in any experimental group for this hormone. Plasma vitamin D levels followed a statistical significant ($P<0.05$) increase for both 2% and 3% calcium supplemented diets in both CRN and LEG hens. Estrogen levels were found significantly elevated in LEG hens vs. CRH hens, but the differences were not in relation to the blood calcium concentrations.

Diet calcium levels in hens influences the parathormone and vitamin D secretions but its influence on the calcitonin and estrogens is not clear. Further experiments are recommended to find the exact mechanisms of blood calcium regulation in birds.

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THE EFFECT OF REFRIGERATION ON CAROTENOIDS AND LIPIDS IN EGG YOLK

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Introduction. Hens' eggs represent a rich source of important nutrients, including lipids and carotenoids. Lipid composition of hens' eggs is influenced by genetic factors, age, and diet. Lipids of egg yolk represent an important source of animal fat for humans. Carotenoids are the pigments of egg yolk, and their concentration is an important attribute, since the consumers associate an intense colour with eggs that are both healthier and of higher quality. Since carotenoids are not produced by animals, their level in animal products, including egg yolk, is related strictly to diet. They play numerous physiological roles in both the laying hen and developing embryo.

Materials and Methods. Analyzed eggs, both fresh and stored for 30 days at temperatures below 12°C, were obtained from hens fed with the same type of forage. The study was conducted in January and February, and the parameters analyzed were egg lycopene and β-carotene, conjugated dienes and trienes, peroxides and TBARS (thiobarbituric acid reactive substances).

Results and Conclusion. The amounts of β-carotene and lycopene found in refrigerated and fresh eggs were very low. Conjugated dienes concentration was higher then conjugated trienes concentration in refrigerated eggs yolk. TBARS concentration was higher for refrigerated eggs yolk samples compared to fresh eggs yolk samples.

In the present research, we found that the refrigeration period has no significant effects on carotenoids concentration and also on lipids quality reflected by primary (conjugated dienes and trienes and peroxides) and secondary lipids peroxidation products (TBARS). Peroxidation products appeared during refrigeration period affect egg macromolecules' quality, probably due to damage of egg's antioxidants.

THE INVOLVEMENT OF DOMESTIC BIRDS IN WEST NILE VIRUS CIRCULATION IN ROMANIA

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Introduction. West Nile virus (WNV) circulates between mosquitoes and birds as main vertebrate hosts.

Materials and Methods. A number of 2198 sera of domestic birds from 46 localities (3 cities and 43 rural localities) in Romanian Plain and Dobrogea have been investigated in 2009-2011 by epitope-blocking ELISA technique for the evaluation of the seroprevalence of IgG antibodies against WNV.

Results and Conclusions. The general seroprevalence of antibodies against WNV in domestic birds had a value of 17.9 %. The higher general seroprevalence level of the antibodies against WNV in domestic birds was detected in Dobrogea (20.7 %) in comparison to Romanian Plain (15 %) and this fact shows the more intense circulation of the virus in Dobrogea, where the virus enters usually the country. Micro-focuses with intense enzootic circulation of the virus (seroprevalence over 28 % in domestic birds) were detected in Tulcea and Giurgiu areas. The seropositivity rate in domestic birds, especially hens, correlates often proportionally with the number of human infection cases in different areas. That is why the domestic birds represent a good indicator for the amplification level of the virus in different periods or habitats, working as efficient sentinels, because they permanently live in the environmental conditions of respective area.

The research conducted by us had shown that the domestic birds represent an extremely important element for the WNV circulation in Romania. They are the essential amplification hosts of the virus in the micro-focuses of transmission to humans, showing the risk level in the anthropic ecosystems.

HISTOSTRUCTURALE AND HISTOCHEMICAL RESEARCH ON THE GLANDULAR STOMACH OSTRICH

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Introduction. Histostructurale research data on the digestive tract on species *Strutio camelus* are rare in the literature, more research on the structural aspect on this subject most common is seen from the species *Gallus domesticus*.

Material and Methods. For this study samples were collected from 3 glandular stomach ostrich carcasses from Suraki farm, Giurgiu. After fixation in 10% formalin, the samples were included in paraffin, according to specific histological techniques. Histological sections of 5-6 m were stained with different histological and / or histochemical staining methods to highlight some citohistological and histochemical structural aspects.

Results and Conclusions. The ostrich, as in other birds, the stomach consists of two parts: the anterior chamber (proventriculus) or glandular stomach and posterior chamber - the muscular stomach (gizzard or mechanical portion).

This paper presents the histological structure and histochemical aspects observed in the glandular stomach of the ostrich . Have been noted and will be presented some differences in the histostructura glandular stomach of the *Strutio camelus* against *Gallus domesticus*.

A RETROSPECTIVE CASE STUDY OF MACROSCOPIC AND MICROSCOPIC ASPECTS IN AN OUTBREAK OF AVIAN CAMPYLOBACTERIOSIS

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Introduction. Avian campylobacteriosis is an infectious disease found in many species of birds, manifested by general disorders and decreased egg production and pathologically by the presence of necrotic foci in the liver and lesions of catarrhal, catarrhal-hemorrhagic or necrotic fibrin enteritis.

Materials and Methods. Samples were represented by 20 corpses of birds that necropsy was performed. Depending on the pathological changes encountered were harvested organ pieces that have been processed by histological staining method trichromic and Pappenheim staining method.

Results and Conclusions. This paper presents the issues encountered histopathological harvest organs from birds to Campylobacter jejuni has been identified, in 2008, at the Avicola Crevedia. Because the cytohistopatological changes observed are not specific infection with Campylobacter spp., study will continue through the optimization of immunohistochemical techniques for detection of this bacterial injury.

THE PLACE AND ROLE IN THE PATHOLOGY OF AVIAN CAMPYLOBACTERIOSIS

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Introduction. Campylobacteriosis is a significant enterocolitis of people frequently acquired through consumption of undercooked poultry meat contaminated with Campylobacter jejuni. It is the leading bacterial cause of sporadic enteritis in developed countries. It can also be acquired from handling backyard poultry as well as diarrheic companion animals and from contaminated water. The organism colonizes the intestine of chickens, turkeys, and waterfowl but is generally nonpathogenic in birds. Some strains of C. jejuni have been reported to cause enteritis and death in newly hatched chicks and poults.

Materials and Methods. Material and methods are considering laboratory investigations and epidemiological statistic situations.

Results and Conclusions. Report of the European Food Safety Authority (EFSA), dated March 2012 shows that the number of cases of disease in humans due to

Campylobacter infections increased gradually until 2010 (the latest year for which such data, which is why the European Commission currently carrying out a comprehensive investigation on control measures for the bacteria at different stages of the food chain. To achieve disease surveillance program should apply to surveillance laboratory tests and general preventive compliance.

IMMUNOSUPPRESSIVE EFFECT OF OCHRATOXIN A ON THE INTESTINAL MUCOSA LYMPHOID TISSUE IN EXPERIMENTALLY POISONED BROILER CHICKENS

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Introduction. Ochratoxin A (OTA) is the metabolite produced by some species of fungi belonging to genus *Aspergillus* and *Penicillium*, especially *P. viridicatum*. OTA is strongly nephrotoxic, hepatotoxic, neurotoxic, teratogenic and carcinogenic.The cytotoxic and immunosuppressive effects of ochratoxin A on the intestinal mucosa lymphoid tissue in the experimental intoxicated broilers were studied.

Materials and Methods. Eighty broiler chickens (Ross 308) randomly separated into four groups (20 subjects each) were treated with ochratoxin A (OTA) for 28 days. The immunosupresive effect was estimated by identification and counting of immunohistochemically stained CD3, CD8, TCR1, TCR2 lymphocytes whereas the cytotoxic effect by evaluation of intestinal structural changes.

Results and Conclusions. OTA toxicity caused the decrease of the body weight, changes of the leukocyte formula, decrease of the lymphocyte counts and alteration of the normal intestinal mucosa architecture. After 14 days of exposure to ochratoxin A, the immunohistochemistry tests showed a significant reduction of the lymphocyte counts in the intestinal epithelium and in the lamina propria. After 28 days of exposure, an increase of the CD3 and CD8 values in both jejunum and duodenum of chickens from E1 and E2 groups was observed. TCR1 and TCR2 lymphocytes showed a significant reduction after 28 days. No significant changes were observed in the E3 group.

The exposure to OTA decreased the weight of chickens, altered the leukocyte formula and changed the mucosal architecture of duodenum, jejunum and ileum, also reducing the intestinal lymphocyte populations TCR1, TCR2, CD3, CD8.

QDS AS FOREIGN BODIES: EXTRACELLULAR MATRIX REMODELING AND THE PROTECTIVE CONTRIBUTIONS OF HSPS AGAINST HEPATIC OXIDATIVE DAMAGE ALONG WITH THE ANTIOXIDANT ENZYMES

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Introduction. Quantum dots (QDs) fluorescence and resistance to photobleaching recommends them in research imaging, although toxicity issues are a concern.

Materials and Methods. After a 2 mg/kg body weight single intraperitoneal dose of QDs, nanoparticle accumulation in carp liver were highlighted by fluorescence microscopy. A panel of oxidative stress markers and enzyme activity were evaluated by spectrophotometry. Heat shock proteins (Hsp) protein and genic expression were evaluated by western blot and QRT-PCR respectively.

Results and Conclusion. After one week the levels of oxidative stress markers indicated the onset of oxidative stress. The second and third week, these parameters recovered to values close to the control fish group (injected with 0.7% NaCl). This oxidative stress markers profile shows the early onset of redox imbalance, despite increased activity of the antioxidant enzymes. Hsp90, Hsp70 transcriptional and translational expressions up-regulate, especially after 1 week from QDs injection, preventing oxidative related alterations of protein native structure. Matrix metalloproteinases are involved in inflammation related extracelular matrix remodelling. MMP-9 mRNA expression biphasic increase in the first and third week, suggests its involvement in the initiation and resolution of the inflammatory process. MMP-2 is involved regeneration and remodeling, and the decreased gene expression of MMP-2 we observed could allow matrix deposition in the newly regenerated liver tissue.

Oxidative stress related alterations in carp hepatic tissue generate evokes an array of countermeasures, including the management of an inflammatory response as well as the activation of antioxidative mechanisms and the effects of chaperoning HSPs.

PREPARATION AND CONTROL OF AVIAN TUBERCULIN AVIAN ROMTUBER PPD

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Introduction. In order to broaden its range of diagnostic products and increase its customers satisfaction, Romvac Company S.A. has developed a tuberculin purified protein for the diagnosis of tuberculosis in cattle, by comparative intradermal assay - Romtuber PPD Aviar.

Materials and Methods. The *Mycobacterium avium* strain purchased from ATCC, code 15769, was cultivated in a static system at 37 °C in Sauton fluid medium. Extraction

and concentration of the tuberculoprotein from the inactivated cultures were carried out by successive centrifugation, filtration and cross flow ultrafiltration.

Purification was performed by precipitation with trichloroacetic acid and re-solubilization in pH 7 phenolated phosphate buffer solution. The purified protein derivative was diluted in phosphate buffer down to a concentration of 1.1 mg protein/ml in order to obtain the finished product.

The PPD was tested both in laboratory and in field, as per the requirements of the European Pharmacopeia 7th edition. The parameters observed were: sterility, protein content, pH, real-time stability and stability under accelerated aging conditions, safety in Guinea pigs and mice, sensitizing effect in Guinea pigs, efficacy in sensitized Guinea pigs, product safety in cattle, young and adult chickens. Potency of Avian Romtuber PPD was tested against other two similar products commercially available (P1 and P2) and against the international standard provided by the National Institute for Biological Standards and Control Blanche Lane – Great Britain.

Results and Conclusion. The potency value was 92% against P1, 131% against P2 and 81.5% against the International Standard. According to the European Pharmacopeia, 7th edition, the admissibility condition for the potency of avian tuberculin should fall within the range of 75-133% as compared to the international standard. The product remained stable throughout the stability tests.

Avian Romtuber PPD manufactured by Romvac Company S.A. complies with the requirements of the European Pharmacopeia for tuberculin and application for its marketing authorization is under way.

CLINICAL SCIENCES

THE EFFECT OF AGE ON THE MARE'S PRE-OVULATORY FOLLICLE DIAMETER

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Introduction. One of the factors often reported to have an effect on mare's reproductive performance is the age. The purpose of this paper was to evaluate the average number of pre-ovulatory follicles and their average diameter in a large group of mares.

Materials and Methods. Research has been carried out during 2011-2012 on 240 ovaries collected from 120 slaughtered mares divided into seven groups according to age. Follicles were measured and classified into 4 categories. The mean diameter of the follicles and average weight of the ovaries was calculated.

Results. For each category of follicles the average values of follicles diameter according to age of donors were calculated. For category 1 values ranged from 0.2 to 0.8, for category 2 the data were placed between 1.2 and 1.7. in the case of category 3 the results were between 2 and 2.8 and for category 4 the values ranged from 3.12 and 4.78. Regarding the average number of follicles presented on the ovary, data indicate that the highest average value (4.7 follicles/ovary) was obtained in G2 and the lowest average (2.4 follicles/ovary) was registered in G7.

Considering the average weight of the ovaries, was observed that the highest weight (113 g) was recorded in G1 and the lowest weight (68 g) was observed in G4.

Conclusions. The maximum values of follicular diameter of different age categories have been reported in mares belonging to the first 3 groups.

The minimum values of follicular diameter of different age categories were recorded in mares belonging to older age groups.

COLLECTION AND MATURATION OF MARE'S OOCYTES IN FOLLICULAR FLUID

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Introduction. The use of follicular fluid (FF) as a substitute for serum in IVM medium ensures increasing embryonic development regardless of follicles size (large or small follicles). The aim of the study was to evaluate the role of follicular fluid as a medium during oocyte maturation and to improve the morphological stage of oocytes compared to the degree of maturation.

Materials and Methods. Research was carried out in 2012 on 158 mare's "cultivable" oocytes collected from ovaries of slaughtered animals. Oocytes were collected by aspiration technique. The number and the quality of oocytes was determined according

to their morphological characteristics. Based on morphological examination performed after the incubation period (24 h) oocytes were classified into two quality categories.

Results. Based on morphological aspects, oocytes were classified into two quality categories: "mature" oocytes and "degenerated" oocytes. At the end of the maturation period only 45 oocytes (28.57%) were classified as "mature" and 113 oocytes (71.43%) were included in degenerated category.

Conclusion. Follicular fluid collected from ovarian follicles, filtered and used as culture medium support the appropriate achievement of the degree of oocytes maturation because it contains specific constituents represented especially by steroids and glycoproteins synthesized by follicular cells necessary for oocytes developing.

ANISOCORIA: CLINICAL SIGN OF AN OPHTHALMIC OR NEUROLOGICAL DISEASE?

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Introduction. Unequal or asymmetrical sized pupils can sometimes be the only clinical sign of a disorder. This paper reviews the clinical approach to anisocoria in order to establish if it is a clinical manifestation of an ophthalmic or neurological disease.

Materials and Methods. Initially in order to evaluate anisocoria, it is determined which pupil is abnormal by noting pupil size under light and dark illumination.

A diagnostic approach to patient with anisocoria include complete physical, ophthalmic and neurologic examination. A complete ophthalmic examination is performed using Schirmer tear test, fluorescein test, magnification, IOP measurement, evaluation for foreign body, ophthalmoscopy.

Having ruled out primary ocular disease as a cause of mydriasis or miosis, a neurologic cause is further investigated using neurologic examination, chromatic pupillary light response. Pharmacologic testing is helpful in distinguishing pre-ganglionic from post-ganglionic lesions.

Depending upon the type of anisocoria found, other complementary tests are performed to localize the underlying disease (laboratory testing, Rx, ultrasound, ERG, MRI).

Results and Conclusion. Primary ocular diseases resulting in mydriasis are iris atrophy, synechia, glaucoma, retinal detachment, PRA, optic neuritis.

Corneal ulcer or ocular irritation, uveitis, synechia are primary ocular diseases manifesting with miosis.

Unilateral mydriasis and blindness are caused by a neurologic afferent lesion of retina or optic nerve (pre-chiasmal). Lesions of optic chiasm, and optic tract do not cause anisocoria. If it is an efferent lesion (internal, external ophthalmoplegia), the pacient is visual.

Neurologic causes of a miotic pupil include Horner's syndrome. Intracranial lesions (trauma, cerebral edema, VCD, neoplasia) often present with anisocoria.

Anisocoria can be a clinical sign of both ophthalmic and neurologic diseases, the primary disease is identified by a correct and thorough clinical approach.

CARDIAC TAMPONADE SECONDARY TO INTRAPERICARDIAL TUMOR IN DOG – CASE REPORT

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Introduction. Presence of intrapericardial tumor can produce effusion accumulation creating pressure over the myocardium and reducing the cardiac diastole. This process is called cardiac tamponade and brings together a series of changes, both in cardiac activity and in entire cardiovascular system. The most frequent causes of pericardial effusion in dog are cardiac tumors (57.1%) (hemangiosarcoma, chemodectoma, etc.), followed by idiopathic pericarditis (19%) and other primary cardiac pathology (11.9%).

Materials and Methods. A 12 years old male Mioritic Sheppard dog was presented to the Clinics of Veterinary Faculty of Iași, with anorexia and severe dyspnoea for four days prior to examination.

We performed clinical and radiological examination, cardiac ultrasonography and electrocardiogram examination. Due to the pericardial effusion we performed also pericardial centhesis, then the cytologic interpretation of the liquid established the diagnosis.

Results. Clinical examination revealed severe dyspnoea with abdominal respiratory efforts, fatigue and cyanosis. In auscultation, cardiac sound was dimmed. Femoral pulse palpation revealed cardiac asynchrony. X-ray showed enlargement of the cardiac silhouette and pulmonary oedema. Electrocardiography indicated ritmic sinusal rithm with high heart rate, without electrical alternance of the R wave amplitude. Echocardiography revealed high amounts of pericardial effusion and a hyperechoic structure attached to the right cardiac wall epicardium. Two hundred milliliters of sanguine liquid were extracted during pericardiocenthesis. Cytology of the pericardial hemoragic effusion revealed cells populations characteristic to hemangiosarcoma.

Conclusions. Hemangiosarcoma is the most frequent cardiac neoplasm diagnosed in dogs, with predilection affecting the German Shepard dogs. This is the first report of hemagiosracoma in Mioritic Shepard dog and from clinical, echocardiographic and cytologic point of view is the same of literature description.

USUTU VIRUS RISK OF EMERGENCE AND ITS OPTIONS OF SEROSURVEILLANCE IN ROMANIA

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Introduction. Since 2001, several European countries reported the emergence of *Usutu virus* (*USUV*) in wild birds and developed programs of active surveillance of this

virus in their countries. *USUV* is a zoonotic *Flavivirus* belonging to the Japanese encephalitis virus group.

The aim of study was to perform a systematic review of diagnostic methods (serologic, cell culture or genomic amplification) for the detection of *USUV* in samples from birds and arthropods, and to identify the best schedule for *USUV* surveillance in Romania.

Materials and Methods. Only 18 articles were select from 1597 articles analysed in PubMed and Google Academic databases.

The research method followed three main steps: the scientific databases research of the relevant articles concerning *USUV* surveillance and diagnostic; the analysis and the selection of the relevant data; the extraction and the summarization of the results.

Results and Conclusion. All 1597 articles described techniques used in diagnostic and/or surveillance by serology, cell culture or genomic amplification using biologic samples from arthropods and/or wild animals (birds). The most significant data for the Romanian programs of surveillance and diagnosis were obtained from the procedures described by researcher from Austria, Italy, Hungary, Switzerland, Czech Republic and Poland (18 articles).

The current programs of *USUV* surveillance can be develop by adaptation of the *West Nile virus* (*WNV*) programs designed to detect the virus in mosquito pools and wild birds by genomic amplification. Nevertheless, European studies suggest that other species of mosquitoes, bird or mammals could be involved in the natural cycles of *USUV*. Serological tests used on the field did not been completely investigate for the surveillance of *USUV* infection.

CRITERIA USED IN PRIORITISATION OF POTENTIAL EMERGING OR RE-EMERGING ZOONOTIC PATHOGENS DUE TO CLIMATE CHANGE IN ROMANIA

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Introduction. Several studies was carried out up concerning identification of the suitable criteria to estimate how likely are diseases to emerge or re-emerge in specific areas connected to the climate change. Using specific methodology of collecting opinion from different health care groups (e.g. Delphi, survey, and working group), multi-criteria decision analysis (MCDA) were conducted in order to select diseases for surveillance, prevention or control.

Materials and Methods. Different associations of keywords "emerging/re-emerging zoonotic pathogens", "climate change" and "multi-criteria decision analysis" has been used to obtain result in Google Academic and Medline databases. Twelve scientific papers or reviews were select from over two thousand results.

The research method followed four steps: (1) Google Academic and Medline databases research; (2) analysis and selection of emerging and re-emerging zoonotic

pathogens; (3) analysis and selection of criteria that can be used to prioritise pathogens; (4) the extraction of relevant zoonotic pathogens and drafting of the MCDA tool.

Results and Conclusion. Sixty-two zoonotic pathogens were select for MCDA analysis, and 22 criteria have been select for Delphi study. Criteria were designed to collect opinions concerning: the ability of pathogen, vector and/or animal hosts to survive in current climatic conditions in Romania, the ability of pathogen to survive if the temperature and/or precipitation will increase or decrease, and the risk of pathogen and/or vector to be introduced by wind.

The data obtained in this review support multi-criteria decision analysis in order to select diseases for surveillance, prevention or control.

IMAGISTIC AND CYTOLOGICAL DIAGNOSES IN A CASE OF MEDIASTINAL MESENCHIMAL NEOPLASIA IN DOG

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Introduction. This paper presents the case of a female dog with a mediastinal mass. Clinical, imagistic and cytological evaluation of the patient are presented.

Matherial and method. A 4 years old female Rottweiler was referred to FMV Iasi Clinics with signs of respiratory distress resistent to treatment. Radiographs of the thorax were taken, ultrasound guided fine needle aspiration of the observed mass and the cytology of the specimen were performed.

Results. Clinical examination of the dog revealed paroxostic, productive cough, harsh respiratory sounds, fever and regurgitation. Radiographs of the spine and thorax in right and left latero-lateral and dorso-ventral incidence were taken. They revealed a large mass ocupying the cranial mediastinum and left cranial thorax, pushing the heart and the carina caudally and the esophagus and the trachea laterally, to the right. The mass that measured 9 cm in diameter had a mineralised center measuring 3/4 cm. The esophagus was dilated cranially due to external mass compression and aspiration pneumonia signs were found in the lung. Endoscopy of the esophagus and trachea revealed the integrity of these organs and external compression. Ultrasound examination showed an hiperechoic heterogenous mass. Ultrasound-guided fine-needle aspiration of the mass was performed. The cytological examination of the samples showed necrosis and a pleomorphic cell population with obvious malignancy criterias: macrocytosis, anisocytosis, anisocaryosis, multiple nucleoli, numerous mytosis, high N/C ratio. The pleomorphic aspect of the mesenchymal cell population prevented a clear classification of the tumour but revealed a high malignancy mesenchymal mediastinal neoplasia.

Conclusions. The differential was made between extraskelethal osteosarcoma / chondrosarcoma, hemangiopericitoma and fibrosarcoma.

COMPARATIVE STUDIES OF THE NEUROCRANIUM FOR DIFFERENT SPECIES OF WILD ANIMALS

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Introduction. The study has been carried out in order to assess the anatomic characteristics specific to the neurocranium in some wild species: wolf (*Canis lupus*), marten (*Martes foine*) and fox (*Vulpes vulpes*). The differentiation of the neurocranium is made very difficult in the mentioned species, for reason which it is important to know the morphological peculiarities of the skeleton of these wild carnivorous animals.

Materials and methods. For this study, we have used corpses of animals of different genders and ages, originated in woodlands and zoos from Transylvania. They have been processed through known anatomic techniques until bone parts have been obtained in the Laboratory of Comparative Anatomy within the Veterinary Medicine Faculty of Cluj-Napoca. The methods used during the dissection and the processing of the bone parts consisted of visual observation and macroscopic analysis of each and every bone.

Results and Conclusions. The sagittal crest and the mastoid process are well developed at the three species studied. Two side holes have been noticed on each side of the occipital condyle at wolf, while these do not exist at marten and fox. The zygomatic process of frontal bone is little developed at marten, the supraorbital hole does not exist in all the examined species, and the external protuberance of the occipital has been only noticed at fox and marten, as a distinct entity. The study has highlighted some characteristics of the bones which are part of the neurocranium, that will lead to exact assessment of the skull descent species in wolf, fox and marten.

COMPARATIVE ANATOMICAL STUDY OF THE SMALL INTESTINE IN CHINCHILLA AND DOMESTIC RABBIT

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Introduction. The species that belong to the *Rodentia* and *Lagomorpha* orders present visible differences on the morphology in the digestive tract, especially in the small intestine. The purpose of this study was to obtain a complete anatomical description of the differences between these two species and also to complete the knowledge about chinchillas. It is known that both chinchillas and domestic rabbits have lately become animal models for research, but also raised as a pets.

Materials and methods. The reseach has been carried out in the Comparative Anatomy Laboratory of the Faculty of Veterinary Medicine in Cluj-Napoca. The study was performed by dissection and macroscopic examination on five chinchillas and five rabbits.

Results and Conclusions. Both species have the small intestine divided into: duodenum, jejunum and ileum. In rabbits, the duodenal ampulla is not so developed as in chinchillas. In chinchillas, the ileum, the ascending segment of the large intestine and the cecal body, do not make a common block. But, in rabbits, because of a greatly developed ileocecal ligament, the ileum is attached to both of the aforementioned anatomical formations. Also, the terminal segment of the ileum of this species is represented by a *sacculus rotundus*, which is absent in chinchillas. Following this study, we observed differences in the morphology of the small intestine segments of these two species, that are particulary important in understanding and, also, solving the various digestive disorders that are usually found in both species.

CLINICAL APPROACH OF A CAT WITH LINGUAL AND PULMONARY LESIONS- CASE REPORT

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Introduction. Lingual and pulmonary lesions can be often seen in cats with different diseases. Whether they have the same etiology or they are produced by different agents, knowing the cause is not always the most important thing.

The purpose of this paper is to establish a treatment protocol for a cat with oral and respiratory lesions.

Materials and Methods. The case was reported in the Surgery Clinic of Faculty of Veterinary Medicine from Bucharest. The patient presented: apathy, loss of appetite, weight loss, fever, dyspnea, salivation and oral ulcers. Clinical examination was performed by direct methods: inspection of the oral cavity, auscultation of the lungs and palpation and indirect methods: radiography, blood tests, oral swab and bronchoalveolar lavage. For the last procedure, the cat was intubated and anesthetized. A nasoesophagial feeding tube was placed.

Results and Conclusion. Inspection of the oral cavity showed the presence of a red, ulcerated and bloody lesion on the dorsal side of the tongue. Several small aphthae could also be seen on the free edge of the tongue. Blood tests indicated only the presence of *Bartonella spp.* Radiological examination showed diffuse lung peribronchial densification. Bronchoalveolar lavage revealed the presence of bacteria, without any other abnormal changes in the pneumocytes morphology.

The cat was treated with Cefalexin and Propolis tincture with glycerin and vitamin A. After one month, no lesion could be observed.

Artificial feeding was essential, lingual lesions being a significant condition in cats because of oral discomfort.

CHRONIC KIDNEY DISEASE IN A BURMESE CAT – A CASE STUDY

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Introduction. Chronic in the context of chronic kidney disease means an irreversible and usually progressive loss of kidney function and/or structure (S.J. Ettinger,E.C. Feldman, 2010).

The aim of this case study was to assess changes in symptomatology and biochemical parameters characteristic for renal function (blood urea nitrogen, creatinine) in conjunction with various systemic parameters such as alanine aminotransferase, alkaline phosphatase, amylase, total protein and glucose in a 17 year old Burmese cat diagnosed with chronic kidney disease over a period of one year.

Materials and Methods. A 17 year old female Burmese cat was admitted inside the Veterinary Medicine Clinic in Bucharest, with clinical signs such as vomiting, inapetance, polyuria, polydipsia and constipation.

Routine serum biochemistry tests were performed, on blood collected by venipuncture in standard tubes. Assessment of biochemistry parameters included blood urea nitrogen, creatinine, amylase, alanine aminotransferase, alkaline phosphatase, glucose.

Results and Conclusions. Chronic kidney disease was established by continuous increase in blood urea nitrogen (36-155 mg/dl), creatinine (2.9-9.5 mg/dl) and total protein (7.4-9.4 mg/dl) in conjunction with clinical signs such as vomiting, inapetance, hypothermia, polyuria, polydipsia, ultrasonography examination and urine specific gravity assessment.

Other biochemistry markers registered modified values correspondent to the etiopathogenesis, in this case diabetes mellitus, with decrease (26-69 mg/dl) and increase (159-191 mg/dl) of glucose values and increase in amylase levels up to 2077 U/L. Chronic kidney disease monitoring must consist in regular assessment of blood urea nitrogen, creatinine and total protein serum levels in conjunction with investigations of parameters characteristic to the etiopathogenetic factor.

RESEARCH ON EVOLUTION AN OUTBREAK OF INFECTIOUS BURSAL IN BROILERS

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Introduction. Avian infectious bursitis is a disease producing significant economic damage by mortality, by reducing weight gain, reduced feed conversion and post infectious immunosuppressive condition that favors the development of secondary bacterial infections.

In recent years, *in ovo* was practiced vaccination with a live vaccine containing Winterfield 2512 strain used in hatcheries via embryos at 18 days.

Materials and Methods. Researches were made on a flock of broilers, 10500 heads COBB hybrid, that have been bred at the ground, existing in a farm in west of our country.

The chicken effective was monitored epidemiologically, clinically, pathologically, serologically (immunoassay) and by RT-PCR test, throughout growth, being suspected infectious bursitis.

Results. In the farm have been detected several sources of primary and secondary infections and extrinsic factors that have favored the emergence and evolution of the outbreak. Cumulative mortality have been high in the third and fourth week and the clinical symptoms have been very accentuated.

Anatomopathological lesions were represented by: catarrhal inflammation and catarrhal hemorrhagic in Fabricius bursa, bleeding in the calf muscles and deposits of urates in the kidneys and urethras.

By RT-PCR has been detected five strains belonging to very virulent pathotype and by immunoenzymatic test has been detected specific antibodies with M.G. 453 at the age of 21 days and M.G. of 9519 at the age of 35 days.

Conclusions. The results have showed that the vaccine that was used and administered *in ovo*, has not induced in the vaccinated broilers, a protective immune response against highly virulent strains of the BIA virus.

Laboratory tests have confirmed the presence of infectious bursitis and detected many very virulent pathotypes strains placed in the BIA itself.

RESEARCH ON EVOLUTION AN OUTBREAK OF INFECTIOUS BRONCHITIS IN BROILERS

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Introduction. Infectious bronchitis is a highly contagious disease, that affects hens regardless of the age. The mutant strains (Qx, 4/91, It02) have appeared in different countries witch have been designated more recently as pathotypes that triggered outbreaks in chickens, youth and adults.

Materials and Methods. The research has been carried out on a flock of 10500 broilers. Broilers have been raised, COBB hybrid, from a farm in the west of our country. The flock has been analyzed epidemiological, pathological, clinical, serological (by the imunoenzimatic test) and by the RT-PCR test. The infectious bronchitis has been under surveillance on the all period of his evolution.

Results. The epidemiological examination has revealed the presence of several sources of infection, on the farm, and the cumulative mortality was highest in the third week. The symptoms were almost respiratory and the morphopathological lesions have been presented inside of the respiratory tract and in the kidney. It has been concluded that all of these lesions have suggested the presence of BI virus witch affected the respiratory and renal system. By RT-PCR have been detected four strains belonging to pathotype Qx, whose identity was 98.9% phylogenetic against standard strains. Immunoenzimatic test has showed that M.G. titers of antibody at the age of 26 days were 369.99, and at the age of 40 days were 6522.87. These results suggest a protective immune response after infection.

Conclussions. In the analyzed effective of broilers has occurred an outbreak of BI witch was confirmed by laboratory exams. The presence of strains belonging to the pathotype Qx were detected by laboratory tests and the serological test has showed a post infectious immune response in the epidemiological dynamic.

PROTECTIVE EFFECT OF ERGOTHIONEINE ON DNA DAMAGE OF POST-THAWED MERINO RAM SPERM

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Introduction. Freezing of semen has been widely used as a vital tool of livestock industry, particularly in conjunction with the dissemination of genetic material and the banking of genome resources to preserve valuable transgenic lines. The objective of the current study was to evaluate the effects of antioxidant ergothioneine added to cryopreservation extender on DNA integrity of Merino ram sperm.

Materials and Methods. Semen samples from 5 mature Merino rams (1 and 2 years of age) were used in the study. Semen samples, which were diluted with a Tris-based extender containing ergothioneine at different doses and no antioxidant (control), were cooled to 5ºC and frozen in 0.25 ml French straws. Frozen straws were then thawed at 37ºC for 20 s in a water bath for evaluation.

Results and Conclusions. The addition of ergothioneine at doses of 1, 2 and 4 mM resulted in lower sperm with damaged DNA (5.4, 4.7 and 3.2%, respectively) than that of control (7.9%), thus reducing the DNA damage ($P<0.01$). Findings of this study showed that the increasing doses of ergothioneine supplementation in semen extenders, was of great benefit to DNA integrity of frozen-thawed ram sperm.

PRODUCTION OF VIRAL ANTIGEN MASS ON CELL CULTURES

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Introduction. The relationship between humans and dogs has been and continues to be an important component of human psychology and sociology. Thus when a large number of dogs simultaneously began to die in three different geographical areas, this elicited widespread interest. The causal agent was labeled as canine parvovirus type 2.

Materials and Methods. The infectious agent used was parvovirus, working strain CPV-N-88 (Romvac laboratories). CPV-N-88 was grown on the CrFK cell line. The cell line was grown in a static monolayer. We regularly monitored the evolution of the cellular monolayer. The virus was inoculated according to the physiological and the chronological age of cultures. The cell layer was microscopically monitored to record the cytopathic effect (ECP). The hemagglutination test (HA) was used to quantify the viral antigen.

Results. The used monolayer exhibited a relatively homogeneous structure, elongated, bipolar cells, scattered over the entire surface of the flask, thus gaining a confluent appearance. Post inoculation, two distinct forms of ECP were seen. The first is characterized by cell rounding and detachment while the second form exhibits cytolysis and cell degeneration. HA reveals an increase in viral titre by two log units after each passage.

Conclusion. Maximum virus titre does not correlate directly with the extent of degeneration observed in the monolayers. Higher titer after the second passage is correlated with the replicative capacity of the cell culture.

FREQUENCY OF *SALMONELLA SPP.* MOBILE SEROVARS ISOLATED DURING 2009-2012 FROM BROILER FLOCKS

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Introduction. Implementation of a strategy to reduce mobile Salmonella infections in broiler farms is a major objective that will contribute to the decrease in food poisoning cases caused by consumption of poultry meat.

Materials and Methods. During 2009-2012, an epidemiological study was conducted based on primary data collected from broiler holdings in the country.

Samples represented by disposable (special) footwear were submitted to bacteriological examination according to ISO 6579-2002 / Amendment 1:2007 in accredited SVFSD laboratories. Isolates were sent to IDAH for serotyping according to Kaufmann-White classification.

Results. 2275 strains within the species *Salmonella Enterica subsp. Enterica* were isolated. Following the serotyping, the strains were categorized under 34 serovars. 1127 strains, representing 49,5%, were categorized under serovar *S. ifantis*, 106 strains were categorized under serovar *S. Enteritidis* and 5 strains were categorized under serovar *S. Typhimurium,* as serovars relevant for broiler flocks. Other serovars had a varying frequency.

Conclusions. From the samples taken for the Official Control Programme conducted in the broiler flocks, strains belonging to the two relevant serovars (*Salmonella Enteritidis* - 4,6% and *S. Typhimurium* 0,21%) were isolated.

One strain of *S. gallinarum* isolated from a broiler flock was the result of vertical or horizontal transmission or spread within the farm through people or wild birds.

FREQUENCY OF *SALMONELLA SPP.* MOBILE SEROVARS ISOLATED DURING 2009-2012 FROM BREEDING HENS FLOCKS

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Introduction. Mobile *Salmonella* infections are the most frequent and important zoonoses, while the sources of infection are poultry meat and eggs. The European legislation aims at both protecting consumers and controlling such infections in poultry holdings.

Materials and Methods. During 2009-2012, an epidemiological study was conducted based on primary data collected from breeding hens holdings.

Samples represented by faeces, dust and disposable footwear were delivered to county SVFSD laboratories accredited to perform bacteriological examinations according to ISO 6579-2002 / Amendment 1:2007. Isolates were sent to IDAH for serotyping according to Kaufmann-White classification.

Results. All 159 isolates belonged to the species *Salmonella enterica subsp. enterica*. The results show that serotyped mobile Salmonella strains classified serologically into 16 serovars circulated within the breeding hens farms. 18% of the isolated serovars belonged to *S. enteritidis*, 5% belonged to *S. ifantis,* 2,5% belonged to *S. typhimurium* while the incidence of other serovars was much lower.

Conclusions. Out of the 5 serovars specified by the National Control Programme, 3 relevant serovars were isolated and identified from the samples.

3 relevant serovars (*S. enteritidis, S. ifantis and S. typhimurium)* were isolated while the relevant serovars *S. hadar* and *S. virchow* were not identified.

Exotic serovars such as *S. livingstone, S. thompson* were also identified, as a result of the trade in materials of poultry origin and feed from EU and non-EU countries.

SPECIFIC THERAPY IN CANINE PARVOVIRUS INFECTION

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Introduction. Canine Parvovirus (CPV) continue to produce several outbreaks in Romania. Veterinary practitioners prescribe and breeders usually accept CPV vaccination. Despite these measures, some litters of puppies do not develop a protective response after vaccination and develop intestinal form of disease.

This paper aims to present a protocol for diagnosis and specific treatment in intestinal form of CPV infection in puppies with non-protective titers of antibodies.

Materials and Methods. Diagnosis and specific treatment in intestinal form of CPV infection in puppies with non-protective titers of antibodies has been bone in one litter of Rottweiler puppies [one female (15 kg) and two males (17 kg and 20 kg)] 25 weeks old, with gastroenteric syndrome (vomiting and bloody diarrhea) and vaccinated against

canine distemper (D), infectious hepatitis (H), parvovirosis (P), parainfluenza (Pi), leptospirosis (L) and rabies (R). Method used for CPV antigen detection were PARVO IC (Agrolabo S.p.A., Italy), and for CPV antibodies semi-quantitative titration were ImmunoComb® Canine Parvo & Distemper IgG Antibody Test Kit (Biogal-Galed Labs., Israel). Three transfusion bags (250 ml) collected from mother and maternal aunt of puppies [with high level of CPV-Ab (>6 in Comb scale)] were used in specific therapy of CPV. Mother, maternal aunt and puppies were DEA1.1 negative (RapidVet-H, Agrolabo S.p.A., Italy).

Results and Conclusions. The following information from case history was significant: immunization with DP vaccine to 49 days and 63 old, DHPPi vaccine to 77 days old and DHPPi-LR vaccine to 91 days old. PARVO IC test (Agrolabo S.p.A., Italy) revealed CPV-Ag in stool of all puppies. ImmunoComb test revealed very low CPV-Ab (0-1 Comb scale) in blood of puppies. Each puppies received general treatment and specific therapy (250 ml whole blood; complete **transfusion** within 90 minutes). Seven days of taking blood transfusion all the dogs were clinically recovered (vomiting and diarrhea resolved).

These data suggest the usefulness of blood with high titer of CPV in Comb scale in therapy of intestinal form of CPV.

CRITICAL POINTS IN CLINICAL AND ULTRASONOGRAPHIC APPROACHING OF THE GASTROINTESTINAL DISEASES IN DOGS

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Introduction. In addition to clincal evaluation of the gastrointestinal diseases, the imagishique exams can provide many details regarding to the thickness of the gastric and\or intestinal wall, the maintaining or the destroyng of the wall architecture, and the particular wall changes (uniform thickness, nonuniform thickness, infiltrative changes, edematous changes) or motility aspects. The gastrointestinal disturbances involves morphologic and functional changes, which in many cases raises serious problems of diagnosis, according to their lack of specific or pathognomonic clinical expression.

Materials and Methods. The study was performed on 76 dogs of different breeds, age or sex, who presented as main clinical signs, digestive intolerance, vomiting, diarrhea, abdominal pain, malabsorbtion and\or maldigestion.

The clinical signs were recorded and classified according to their intensity, and the affected segment.

The ultrasonographic examinations were performed using ultrasound devices with linear or convex probes, of 5 to 18 MHz frequencies.

Results. In order to confirm the diagnosis and to perform and accurate evaluation for the parietal changes of the gastric and\or intestinal diseases, the sonographic changes revealed important and specific changes in direct correlation to the wall changes and gastrointestinal tonus and motility.

Conclusions. In the described frame, the maintaining of the parietal tonus accompanied by a superficial parietal reaction is characteristic for the acute inflammation (gastritis, or enteritis).

The reducing\losing of the parietal tonus accompanied by the deeper parietal components is usual characteristique for the chronic inflammations.

The stasis of the intestinal content (by additional dilation of the intestine) is specific for the ileus changes. In these changes, the parietal structure (architecture) is maintained.

In neoplastic changes the digestive tract can be local or diffuse affected, with thickening and losing of the specific architecture.

COORDINATES IN SONOGRAPIC EVALUATION OF THE FOCAL PARENCHIMATOUS CHANGES IN DOGS

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Introduction. The correct evaluation of the parenchymatous diseases, can be performed by using different imagishique methods, which can provide details regarding the alteration of their structure, density, or volume. The sonographic changes are vere specific for the parenchymatous lesions, even if these are diffuse , or more accurate for the focal changes. In case of focal changes of the kidney, liver or spleen the changes of echogenicity and\or of echotexture are easy to be pointed out.

Materials and Methods. The ultrasonographic changes were registered and evaluated in 53 dogs of different breeds, age or sex, with different degrees or stages of hepatic or kidneys failure (clinic and serum biochemical confirmed), suspected of parenchymatous affections. The identified focal changes were registered and classified according first to their echogenicity, and after that, to their specific artifacts inducing changes.

The sonographic examinations were performed using ultrasound machines with convex probes, of 5 to 10 MHz frequencies.

Results. In case of neoplastic parenchymatous diseases the sonographic changes registered important and significant aspects, regarding to the volume, echostructure and echogenicity alterations, in order to indicate or to confirm the morphologic injuries. The other focal changes, cysts, hematoma, hemocysts, calcifications, focal fibrosis and abscesses were also registered, with an obvious degree of specificity in establishing the diagnosis.

Conclusions. The relevance and the specificity of focal changes is proven by the accurate revealing of the structural changes of the parenchymatous organs.

The neoplastic lesions are indicated by the presence of unique or multifocal changes, as primary or secondary tumor, in accordance with their specific artifacts.

The cystic lesions are specific, and dominated by round or oval anechoic areas, with obvious distal enhancement. The abscessation recognizes also characteristique features, especially by the type of capsule and the inhomogeneous anechoic content.

THE INFLUENCE OF HOOF PATHOLOGY ON BOVINE REPRODUCTION

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Introduction. The reproductive function is a luxury function of the domestic animal females. As a result, for a cyclic reproductive activity, a female must be healthy and beneficiate of the best environmental and nutritional conditions. The aim of the present study was to emphasize the negative impact of acropodial diseases on the reproductive function and, indirectly, on the productivity in bovines.

Materials and Methods. The study was carried between September 2012 and May 2013, in the dairy farm of

S.C. Ecoferm S.R.L. Boldeşti-Scăeni (Prahova county). There were evaluations on the modified reproductive parameters (service-period and the number of A.I./gestation) and some reproduction issues (the medium time for the fetal membranes to be expelled, uterine subinvolution, etc.). The animals were divided into four groups, depending on the moment in which the acropodial issues were detected (group A-witness n=12, no podal affections, group B-experimental, n=10, with podal affections diagnosed before parturition, group C-experimental, n=14, with podal affections observed in the puerperal period and group D-experimental, n=16, with podal diseases diagnosed in which the cows are prepared for artificial insemination).

Results and Conclusions. The number of A.I./gestation was 1.83 for witness group compared to group B, 2.3 A.I., to group C, 3.07 A.I. and to group D, 3.68 A.I.. The longest service-period was observed in group D (podal diseases diagnosed in which the cows are prepared for artificial insemination):173.37 days, compared to group A (witness), 84.75 days. The longest medium time for fetal membranes to be expelled was signaled in group C (with podal affections observed in the puerperal period), 10.05 hours. 50% of the cows from group B (with podal affections diagnosed before parturition) were diagnosed with uterine subinvolution compared to 28,58% in group C.

CLINICAL STAGING EXPRESSION OF CHRONIC KIDNEY DISEASE IN DOGS

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Introduction. Chronic kidney disease (CKD) is the most commonly recognized form of kidney diseases in dogs, characterized by morphological disorders of the renal parenchyma (of different degrees) with or without renal failure functional type (clinically detectable). CKD occurs in systemic or organ diseases, usually associated with morphological and/or functional disorders.

Materials and Methods. The study was made on a total of 20 different ages dogs diagnosed with CKD, whose clinical signs were revealed by CKD staging, that was based on serum creatinine values.

Results. CKD incidence was 45% in dogs aged over 12 years, 35% in dogs aged 10-12 years, 15% in dogs aged 8-10 years and 5% in dogs aged 6-8 years.

In stage I and II were not registered clinical signs of kidney dysfunction, except PU/PD. In the stage III appeared the first signs of extrarenal clinical and paraclinical signs, and: decreased appetite, dehydration, vomiting, anemia, hyperphosphatemia, hypokalemia were most important. Also, a moderate increase in systolic and diastolic blood pressure value was noticed. In stage IV the clinical signs were: anorexia, stomatitis with mouth ulcers, gastritis, enterocolitis, diarrhea, hypertension uremic cardiomyopathy, blepharoconjunctivitis, and signs of uremic encephalopathy – pre comatose states appeared as a result of uremic "intoxication". Also, there were registered paraclinical modification as: hyperlipidemia, metabolic acidosis, hyperphosphataemia in all dogs.

Conclusions. CKD progression had not a know a timeline, and also a well defined sequence with high incidence in dogs aged over 12 years.

In CKD I-III stages there were no specific clinical renal signs, while in stage IV gastrointestinal, neuromuscular, cardiac, ocular, metabolic, hidroelectrolitic and hematologic signs were found, due to uremic "intoxication" and possibly due to some systemic diseases.

CONTRIBUTIONS TO THE PERI-OPERATIVE SUPPORTIVE CARE AND ANESTHESIA FOR UROGENITAL SURGERIES IN SMALL ANIMALS

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Introduction. Individualized care for patients that undergo urogenital surgeries provides the recognition of anesthetic risks and supports the management of this cases. It can be achieved trough complete evaluation and monitoring of the patient, correct anesthesia protocol, optimal timing for surgery. A complete and correct management in the peri-operative period for urogenital surgery is the key for good results.

Materials and Methods. This study presents the peri-operative anesthesia and analgesia protocols, along with all the support addressed for individual patient needs, used in the Clinic of Obstetrics and Gynecology at the Faculty of the Veterinary Medicine of Bucharest. A number of 71 patients (51 dogs, 19 cats, 1 rabbit), aged from 3 month to 17 years old, were presented in our clinic for urogenital surgeries from May 1st 2013 to November 1ST 2013.

Results. Safe anesthesia and surgery can be achieved only after a correct evaluation of the patient. Monitoring anesthetized patients for evaluate oxygenation, ventilation, tissue perfusion, cardiac rhythm and rate, muscle relation, body temperature and urinary output is extremely necessary.

Urogenital patients have special needs for low anesthetic dosages and concentrations, careful uses of fluid and electrolyte therapy, high risk for hypothermia. Dissociative anesthetics, such as ketamine impaired renal clearance and we avoid them.

Measures such as good support of circulatory system, individualized fluid therapy, metabolic and nutritional support, intra-operative support, postoperative support, pain

management and infection control were applied for all the patients and recovery time was assessed. Delayed recovery from anesthesia was commonly encountered due to hypothermia and metabolic disorders, in geriatric cases.

Conclusions. Safe anesthesia and surgery in urogenital cases needs correct evaluation of each patient, best anesthetic protocol available and carefull monitoring.

IATROPATIC DISEASE INDUCED BY WRONGLY ADMINISTERED CHEMOTHERAPY

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Introduction. Administering the cancer therapy is a dangerous technique both for the patient and the doctor. Knowing the risks and the possible side effects is the prime purpose of out research thanks to which we have developed strict protocols and specific ways of administering the cytostatic medicine for pets.

Materials and Methods. Holoxan and Doxorubicine - have been administered as followed: puncture the vein with a cannula or a micro perfusion butterfly (pay attention to cytostatic drugs incompatible with polyvinyl chloride) and by "washing the blood vessel". First of all the doctor must check the vein permanently and check if the canula or the micro perfusion buterfly is still in the vein by repeatedly aspirating blood in the catheter tube. After the chemotherapy had been administered, a lavage is performed again with 10 to 20 ml of sterile saline solution.

The information was gathered from a total of 35 dogs treated with doses of chemo i.v. checked every 2 weeks for a total of 3 months. The patience were split in 3 different groups: cooperative, aggressive and agitated. The first groups of 22 patients ages between 9 and 14 both male and female presented cooperative and had no local side effects from the i.v. administration of the chemotherapy drug with a micro perfusion butterfly. The second group of 6 patience ages between 7 and 9, 5 males and 1 female presented aggressive and restless. Post administration of the chemotherapy drug with a micro perfusion butterfly there have been sign of local irritation and hematomas, but these disappeared in the 2 weeks up to the next session. Finally the last group of 7 patience aged between 8 and 10 presented agitated and we have decided to use a cannula for the chemotherapy drug administration. Post treatment there were no signs of irritation or inflammation.

Results and Discussions. Some anti-cancer chemotherapeutic agents such as Ifosfamide, Cyclophosphamide, 5-fluorouracil, Streptozocine, consecutive extravasation causes only local irritation - reversible effects. The treatment for extravasation of vesicant cytostatic drugs in perivenous tissue is a specific antidote administered for each chemotherapy drug in the subcutaneous tissue. For the Vinca alkaloids: Vincristine, Vinblastine apply warm local compresses, 150 U/ml hyaluronidase is injected s.c. for each

1 ml of cytostatic drug extravasated. Also Hyaluronidase ointment is used for external use. In case of Doxorubicine and other anthracyclines extravasation apply Hydrocortisone ointment locally.

Conclusions. The toxicity and the complications of the cytostatic treatment determine varied and complex clinical aspects in relation to the chemical structure, the action mechanism, number and ways of administration, the doses and the time pasted between two consecutive treatments, the moment of the treatment, the result of the blood work and the features of the species.

Local cytotoxicity and proteolytic phenomena at the injection site are common side effects of chemotherapy if the protocol is not strictly followed. Local irritation action is determined by perivenous extravasation or administration by routes other than the specific ones of vesicant anticancer agents or irritants. They cause reversible pathological tissue phenomena in case of irritating agents – the initial appearance of redness, swelling, pain or, irreversible phenomena triggered by vesicants such as phlebitis and even necrosis.

We recommend an adaptation of the treatment administration method to the type of patient you have. Both micro perfusion butterfly and cannula are indicated for the chemotherapy but none of them should be used more than a few minutes for the treatment. Cytostatic solution may reside in cannula or micro perfusion butterfly tube and that may lead to local irritation or even necrosis.

THE CYTOSTATIC DISEASE CONSECUTIVE TO CHEMOTHERAPY IN THE ONCOPATHOLOGY OF PET ANIMALS

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Introduction. The cytostatic medication is one of the most important ways to inhibit tumor cell proliferation and suppress the immune response at the same time. This therapy is mandatory and required in both pre- and postoperative cancer cases with relatively low adverse effects only if in compliance with therapeutic doses.

Materials and Methods. A number of 8 dogs divided into 4 groups have been administered cancer therapy in different ways using Holoxan, Farmarubicine and Carboplatine in both intraperitoneal and intravenous administrations. The intratumoral anticancer therapy is administered in the neoformation vessels of superficial solid tumors. The intraperitoneal or intrathoracic treatment aproach is used for mesothelioma or organ tumors. The support treatment is also given intravenous. Biochemical analysis performed before and after treatment revealed an improvement in the pacients health, without the high level of chemotoxicity brought on by cytostatic medicine overlapping the patient's poor health.

Time of administration was at 24 midnight being the ideal moment in the circadian body-time when cellular metabolism allows high dose cytotoxic therapy on tumor cells with minimal toxic effects on healthy cells.

Antineoplastic treatment was performed differently according to histopathological type and TNM stage of the cancer, namely: intratumoral neoformation vessels of solid superficial tumors and intraperitoneal and intrathoracic in cases of tumors such as mesotethelioma or cavity tumors. Supportive treatment was administered intravenous. Diagnostic screening and surveillance was conducted as follows: hematological and biochemical analysis performed before and after treatment.

Results and Discussion. We have explored original ways of drug administration for pacients with grave paraneoplatic syndrome manifestations in which the classical intravenous approach would have been too risky.

Our observations may compete to determine: individual doses, the selected time elapsed between doses and the avoidence of overlapping or cumulation of toxicity for each chemotherapy drug in normal tissues.

Conclusions. The veterinarian is bound to check every few sessions over the course of treatement protocol the animal`s clinical state and also to administer correctly the supportive medication and the immunotherapy. The supportive medication must target the organs in relation to the type of toxicity of each chemotherapy drug. The cytostatic disease must not be mistaken for the neoplastic disease and must be addressed differently for each case.

Cytotoxic lesion changes are reversible at therapeutic doses. Alterations that are part of the cytostatic disease should be mandatory considered along with the paraneoplastic phenomena of which gravity is graded according to clinical staging of the tumor.

THERAPEUTIC MANAGEMENT OF PARASITIC DERMATITIS IN DOMESTIC CARNIVORES

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Introduction. The study aimed to analyze the therapeutic management of parasitic dermatitis in domestic carnivores in several veterinary clinics from Bucharest.

Materials and Methods. The study was conducted on 14 dogs and 6 cats which were administered different therapeutic protocols according to the involved etiological agent. To diagnose scabies and demodecosis, preparations were made from deep scrapings of lesions, which were examined microscopically. To confirm the diagnosis of cheyletiellosis, microscopic preparations were made from scraping skin, scabs and hair, while confirming the infestation with arachnids and insects was made by examination of the skin and fur of animals using a magnifying glass. To diagnose microscopic fungi, Wood's lamp examination or mycological examination were performed.

Results. Of the 20 studied cases, 9 cases were diagnosed with demodecosis (from which one case complicated with dermatophytosis and one with malasseziosis), dermatophytosis - 5 cases, sarcoptic scabies – 4 cases, cheyletiellosis - one case and one case of otodectic mange. In the case of demodecosis, antiparasitic products were combined using three treatment protocols, applied depending on the disease severity and affected areas. In otodectic mange, an antiparasitic substance was associated with a chlorhexidine otic

solution, as well as in cheyletiellosis. In the case of dermatophytosis, imidazole derivatives with antifungal activity have been used as therapeutic agents, as well as chlorhexidine shampoos.In sarcoptic scabies, antiparasitic preparations were used in various formulations, associated with chlorhexidine.

Conclusions. In the treatment of dermatitis caused by mites, the best results were obtained by using formamidines associated with ivermectin and imidacloprid. In the treatment of dermatophytosis, good results were achieved by using imidazoles with antifungal action in various topical formulations.

RISKS AND BENEFITS OF NONSTEROIDAL ANTI-INFLAMMATORY THERAPY IN DOGS

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Introduction. Overall, of many currently used drugs, nonsteroidal anti-inflammatory substances occupy a special place in therapeutics and in the pharmaceutical industry. The aim of this study was to assess the body's response and therapeutic evolution in different canine patients that received an anti-inflammatory therapy, correlated with the disease, as well as its side effects.

Materials and Methods. The researches took into account 21 dogs with various conditions that justified the use of nonsteroidal anti-inflammatory medication. Following the diagnosis, the following anti-inflammatory products were used: Arcoxia (etoricoxib), Algocalmin (metamizole), Metacam (meloxicame) and Rimadyl (carprofen). Anti-inflammatory formulations were used according to the diagnosis and the development of disease in the dose specified by the manufacturer.

Results. The use of nonsteroidal anti-inflammatory substances in the form of mono- or polytherapy for various diseases in dogs contributed, if not always to the recovery, but at least to the improvement of the patient's comfort. In acute diseases, anti-inflammatory, antipyretic and analgesic effects were quickly installed, compared to chronic diseases that required long-term therapy and not always were followed by healing of the patient. Adverse reactions consecutive the use of nonsteroidal anti-inflammatory substances occurred with a low frequency (3 cases of 21 - 14.28%). Adverse reactions encountered in the studied patients consisted in allergies, gastrointestinal and renal disorders; these adverse reactions disappeared with cessation of treatment.

Conclusion. Nonsteroidal anti-inflammatory drugs represent substances that provide numerous benefits for veterinary therapeutics, but they can cause side effects that may be avoided or controlled through a judicious use.

A COMPARATIVE STUDY ON THE SURVIVAL TIME IN TWO CASES OF IRIS MELANOMA IN RUSSIAN BLUE CAT

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Introduction. Feline iris melanoma is a primary intraocular tumor with a high potential risk for metastasis, arising from pigmented areas on the anterior surface of the iris, eventually involving the iridocorneal angle, causing secondary complications such as uveitis, glaucoma, buphthalmia.

Once the complications have occurred, the metastasis risk is higher. Usually the metastasis occurs in the regional lymph nodes, visceral organs and to the skeletal system.

This study reveals the different evolution of iris melanoma, before and after the enucleation, in two Russian Blue cats, 6 years old, with the impairment of the left eye.

Materials and Methods. Two Russian Blue cats, males were examined and primary diagnosed with iris melanosis. The progression from iris melanosis to malignant melanoma was different: two years, respectively five months. Enucleation was performed in both cases, followed by cytological and histological examinations, in order to confirm the neoplastic disease.

Ten months after the enucleation due to declining clinical condition, the second cat was euthanized, followed by necropsy examination, while the first cat is clinically healthy.

Results and Conclusions. After enucleation the cytological and histological examinations confirmed malignant melanoma in both cases.

The second cat presented signs of respiratory distress: dyspnea and tachypnea, 10 months after enucleation. The findings on thoracic radiographs confirmed the presence of pleural effusions, and thoracocentesis was performed, for therapeutic and diagnostic purposes. The cytological evaluation of the fluid revealed melanocytes, which confirmed the thoracic metastases.

The necropsy examination revealed metastases in lungs, spleen, splenic lymph nodes, mediastinal and tracheobronchial lymph nodes, and modified transudates in pleural and peritoneal cavities.

Histological examination confirmed metastases in visceral organs, and revealed hepatic metastases.

Despite the metastasis risk, ocular globe enucleation represents the only treatment option for iris melanoma.

This study conclude that iris melanoma with rapid evolution presents a higher risk of metastasis.

CONTRIBUTIONS TO THE TREATMENT OF TRAUMATIC ORTHOPEDIC DISORDERS IN BIRDS

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Introduction. Currently, there are few studies regarding the healing of fractures of the bird species. Most data show similarities between bone growth and fracture healing between birds and mammals, but also some differences.

The aim of this study was to determine the rate of healing of bone tissue correlated with the type of treatment applied at 34 birds, both domestic and wild, presented in the Surgery Clinic between 2005 and 2013, suspected of traumatic orthopedic conditions.

Materials and Methods. In order to remedy these orthopedic disorders it was used either singular fixation methods (bandage / splint, intramedulary nail, external fixator, cerclage) or mixed systems (intramedulary nail + splint / bandage; intramedulary nail + cerclage, external fixator + intramedulary nail). In most cases, we combined methods to counteract the destabilizing forces acting on the fracture.

Results. Recent tibiotars, radius and ulna fractures which allowed the application of the biological fixation, involving a closed reduction of bone fragments and a minimally invasive surgical approach, have led to bone healing in a greater proportion. Death of convalescent wild birds was the most common cause for fracture healing failure.

Conclusions. In birds, in order to obtain an optimal fracture healing, it should be properly reduced, stabile and, especially, to ensure an adequate blood supply at the fracture site.

PREVALENCE OF THE ZOONOTIC AGENTS *STREPTOCOCCUS CANIS* IN THE STRAY DOGS POPULATION IN URBAN AREA – PRELIMINARY STUDY

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Introduction. *Streptococcus* spp are common opportunistic pathogens of mammals and are associated with a variety of diseases affecting multiple organ systems. *Streptococcus* (*S.*) *canis* belongs to Lancefield serogroup G, which forms heterogeneous group of beta-hemolytic streptococci. In dogs, *S. canis* isolated from a variety of diseases including skin infections, respiratory and urogenital tract, respectively sepsis.

Materials and Methods. This investigation determined the presence and prevalence of the zoonotic agents *Streptococcus canis* in the stray dog population (a total of 73 stray dogs) in an urban area of Timisoara.

Samples were obtained from adult stray dogs of both sexes submitted to the University Veterinary Clinics Timisoara for sterilization. Samples were identified and labeled

as to source, male or female, adult and the anatomical area of harvesting. A total of 73 samples were obtained from different anatomical sites such as nose, eyes, ears, extremities reproductive and skin.

Results. After growth, streptococcal isolates were identified according to their characteristics as outlined in Bergey's Manual of Determinative Bacteriology and the Manual of Clinical Microbiology. Of the 73 samples cultured during the study period, beta hemolytic streptococcal organisms were isolated from 28 cases (38, 35%). All beta-haemolytic streptococci of the Lancefield serological group G isolated in this study belong to the species *S. canis*.

Discussion and Conclusions. The prevalence of streptococcal infection is not known, the presence of these zoonotic agents in the population of stray dogs demonstrated that the population of stray dogs in this region is an important reservoir and potential source of infection in humans. Special care should be taken when handling stray dogs who have skin lesions.

CLINICAL PREVALENCE OF *STAPHYLOCOCCUS SPP.* IN HEALTHY STRAY DOGS – PRELIMINARY STUDY

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Introduction. Staphylococci are routinely isolated from domestic animals in veterinary clinical practice. Besides their role as commensals on mucosal surfaces and the skin, staphylococci are often involved in a wide variety of diseases in animals.

Materials and Methods. This study was conducted to investigate the prevalence of *Staphylococcus spp*. isolated from clinically healthy stray dogs.

Samples were obtained from adult stray dogs of both sexes submitted to the University Veterinary Clinics Timisoara for sterilization. Animals selected for this study had no known history of previous antibiotic treatment. Samples were identified and labeled as to source, male or female, adult and the anatomical area of harvesting. A total of 73 samples were obtained from different anatomical sites such as nose, eyes, ears, extremities reproductive and skin.

Results. After growth, staphylococcal isolates were identified according to their characteristics as outlined in Bergey's Manual of Determinative Bacteriology and the Manual of Clinical Microbiology. 52 samples were positive for staphylococci, being isolated both positive and coagulase-negative species. The species most frequently isolated were *S intermedius*, *S. aureus*, *S. hycus*, *S. epidermidis* and *S. haemolyticus*.

Discussion and Conclusions. The prevalence of staphylococcal infections in veterinary medicine is increasing worldwide. Staphylococci have shown a frequent and rapid development of nosocomial infections. Unfortunately, these studies have not been documented continuously in veterinary medicine. The present investigation has examined the clinical prevalence of the common veterinary staphylococci in the healthy stray dogs that may constitute a reservoir for the zoonotic bacteria. The access of the staphylococci to a wide gene pool (as present in mixed bacterial populations on the skin and mucosal membranes) may favour the acquisition of resistance genes.

A CASE OF HAMARTOMA IN A LIONESS

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Introduction. The pathology of big cats living in the artificial conditions of zoological parks can sometimes offer big surprises.

The case presented below strengthens undoubtedly this claim.

Materials and Methods. The case was represented by a 12-year-old lioness from Galati Zoo. An abdominal mass was observed a few months ago and it grew at a fast rate. The surgical approach was decided and performed under general anesthesia, preceded by distance tranquilization with a compressed air gun.

The intervention itself consisted of the removal of tumor, with a mass of 6 kg, followed by a separate point suture with an absorbable, monofilament thread.

The tumor was subjcted to a cytological and histopathological examination in the Pathology Lab of the Faculty of Veterinary Medicine of Bucharest.

Results. Representative fragments of the extirpated tumor mass were subjected to the usual cytology and histology techniques. The cytological exam was indicative, seeing a homogenous population of fusiform mesenchymal cells with an isolated disposition which were expressing a mild dysplasia with anisocaryosis and discreet anisocytosis. Histologically, the mass is partially covered by epidermis and spreads from the superficial dermis to the profound dermis, without involving the adjiacent muscle layers or blood and lymphatic vessels. The neoplastic mass is composed of dense layers of collagen fibers dispersed by optically empty spaces represented by edema. Cellular atypia and mitoses are not present in the examined sections.

Conclusions. The cytological and histological aspects associated with the clinical data plead for the fibroadenomatous hamartoma diagnosis. It is known that this type of tumor is a benign tumor, with favorable prognosis, without local recurrence after complete surgical extirpation. This type of tumor is described for the first time at the wild carnivores in our country.

NASAL ANAPLASTIC CARCINOMA-CASE REPORT

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Introduction. Nasal tumors make up approximately one percent of all cancers seen in dogs. It is thought that long-nosed breeds or dogs living in urban environments are at higher risk for the development of nasal tumors. The majority (two-thirds) of nasal tumors are carcinomas. Sarcomas make up the remaining tumor type. Nasal tumors occur more commonly in older animals. The common metastatic sites are the regional lymph nodes and the lungs.

Materials and Methods. A Bucovina Shepherd dog, female (two-years old) was submitted for clinical examination, presenting difficulty in breathing and a formation of about three cm to the left nostril. From anamnesis we find out that the animal has lost weight in the last two months and appetite is low.

The paraclinic exams included: RX, abdominal and thoracic ultrasound, aspiration biopsy for cytological exam (May-Grunwald Giemsa stain). After the owner requested euthanasia, a postmortem examination was performed and also some tissue samples for histopathological exam were collected. Samples were submitted for routine histopathology (Hematoxylin-Eosine stain).

Results and Conclusions. The radiological examination of thorax revealed massive pleura effusion, a dorsal deviation of trachea and a soft tissue formation without adherence to parietal pleura. Thoracic disseminated nodules were observed in ultrasound. The cytological exam revealed a population represented by respiratory epithelial cells with prominent anaplastic features. A mixed cell population, represented by inflammatory cell type with activated macrophages and numerous neutrophils were associated to tumoral cells. The same type of cells was expressed in both location: nose and lungs.

Gross investigation revealed disseminated nodules in thorax, adherent to the chest wall and also in pulmonary parenchyma.

The anamnesis correlated with paraclinic exams and histopathological exam confirm the diagnostic of nasal anaplastic carcinoma.

OVERVIEW OF THE OCULAR LESIONS OF DOGS

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Introduction. Ocular lesions of dogs are generally frequent and of paramount importance in canine pathology. The present study aims to assess the most frequently diagnosed ocular lesions both epidemiologically and morphologically.

Materials and Methods. During a period of 5 years (2008-2012) 70 dogs with ocular lesions were anatomopathologically examined. The specimens were obtained by fine needle aspiration, scraping, touch imprint for cytological exam (May-Grunwald Giemsa stain) and surgical biopsy for histopathological exam (Hematoxylin Eosin stain).

Results. During our study 3855 dogs were specifically examined and 70 (1.8%) had ocular lesions. No breed predisposition was observed and 58.5% were males and 41.5% females. The lesions were located on the ocular adnexa in 34 cases (48.5%), conjunctiva 9 cases (11.5%) and ocular globes 28 cases (40%).

25 cases presented lesions of the eyelids (73.5%), 9 on the nictitating membrane, lacrimal and accessory lacrimal glands (26.5%). The palpebral lesions were represented by blepharitis (4 cases) and by benign and malignant neoplasms (21 cases). The meibomian glands were affected in 9 cases (43% from neoplastic lesions). Other palpebral neoplasms were represented by histiocytic tumors, squamous cell carcinoma, melanoma and mastocitoma.

Inflammatory conjunctival lesions were diagnosed in 62.5% of the examined cases (acute or chronic conjunctivitis with either bacterial or parasitic etiology). Both benign and malignant neoplastic conjunctival lesions were seen in 37.5% of the examined individuals.

The ocular globe was affected in 28 cases, from which 60% had melanic tumors, both benign (35%) and malignant (5%), 22% had inflammatory lesions (panophthalmitis and iridocyclitis). The other diagnosed lesions (18%) consisted of either benign or malignant epithelial tumors.

Conclusion. Although the incidence of the ocular lesions in dogs was relatively low, a high percentage of the neoplasms dominate eye pathology in dog.

THE INTERDEPENDENCE OF PREDOMINANTLY SURGICAL DISEASES OF THE ANIMALS WITH THE ENVIRONMENT

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Taking account the growing number of animal diseases, the purpose of this study is to highlight the diversity of factors capable of producing a direct or indirect effect on organisms, causing appropriate response.

The work is based on the study of significant cases for practitioners selected from the 126,638 animals consulted, out of which 20 944 were found to surgery.

We used general methods of clinical examination and as special methods of examination we used: exploratory puncture, sounding, measurement, trephination etc. and when appropriate we used morphological examination.

The study material was composed of animals from the species: horses, cattle, sheep, goats, dogs, cats, birds as well as reptiles consulted during the last 29 years.

We presented conditions of the body in general, but predominantly of the following body regions: head, neck, thorax, abdomen (including internal organs) and limbs.

Environmental factors most frequently involved were: cold, heat, wind, air, light, bacteria, parasites , direct action of man and others.

It is concluded that there is a close interdependence between the multitude of environmental factors and predominantly surgical diseases of animals.

CLINICAL AND THERAPEUTICAL ASPECTS IN CANINE JUVENILE CELLULITIS

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Introduction. Canine juvenile cellulitis is a granulomatous, pustular dermatitis with presumed autoimmune etiology that affects especially young dogs.

The aim of this paper is to highlight the efficacy of the glucoccorticoid based treatment in this condition, in view of early remission of symptoms and lack of recurrence.

Materials and methods. Between june 2007 – june 2013, 8 cases of canine juvenile cellulitis were recorded at the Medical Clinic from the Faculty of Veterinary Medicine from Iasi, presenting painfull edema of the lips, eyelids and pinna along with submandibulary lymphadenitis associated with haemorrhagic fistulae.

Results. Remission of the clinical signs was observed in all pacients consecutive to glucocorticoid – cephalexin treatment for 21 days and no relapse.

Conclusions. Canine juvenile cellulitis is a pyogranulomatous dermatitis with a strong response to sustained glucocorticoid treatment, showing early symptom regression and no further complication.

COMPARATIVE STUDY OF THE THORACO-ABDOMINAL SKELETON IN CHICKEN (*GALLUS GALLUS)* AND GOOSE (*ANSER ANSER)*

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Introduction. Although the predominant species found in poultry farming are galliforms and anseriforms there are few comparative studies referring to the skeletal morphology of these species. This study compares thoraco-abdominal component of these species in light of their different adaptation to the environment.

Materials and Methods. The research was carried out in the Compared Anatomy laboratory of the Faculty of Veterinary Medicine of Cluj-Napoca. A total number of 6 skeletons, 3 chickens and 3 gooses were examined following comparative aspects of the anatomical structures relevant for this area.

Results and Conclusions. After examining the bones from the thoraco-abdominal region, differences as well as similarities between the two species of birds were observed. The thoracic cavity in chickens presented 7 pairs of ribs, of which 2 were asternal, while the same segment in geese contained a number of 9 ribs of which only 1 asternal. The sternum, presented 3 pneumatic holes in chickens and only one in geese. Also, differences were noted at the level of the sternal body, which was reduced in the chicken compared to the goose. On the lateral sides of the sternal body, the goose registers 7 or 8 costal indentations depending on the individual, compared to only 3 found in the chicken. The coxo-dorso-lumbosacral complex presented small differences between the two species. The iliac fossa in chickens is well defined, the pubis is oriented dorsally, slightly curved medially and the coccigian vertebrae are 7 to 8 depending on the individual. In geese, the external iliac fossa is absent, the pubis is oriented ventrally, curved medially and the coccigian vertebrae are 6, the pygostyle being fused to the last vertebrae.

ASSESSMENT OF MESENCHYMAL STEM CELLS EFFECTS ON DENDRITIC CELLS MATURATION

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Introduction. Mesenchymal stem cells (MSCs) are adult stem cells (Pittenger et al., 1999, Zhang et al., 2009) able of self-renewal, with low immunogenicity and immunoregulatory property (Jorgensen et al, 2003, English et al., 2008, Zhang et al., 2009). Dendritic cells (DCs) present in the bone marrow play a crucial role in the instruction of adaptive immunity (Nauta et al., 2006, Zhi-Gang et al., 2012) DC have the unique capacity to stimulate naive and memory T cells (Banchereau et al., 2000, Nauta et al., 2006, Wang et al., 2013). The aim of the present study was to assess the effect of MSCs on DC maturation.

Materials and Methods. MSCs were collected from femurs of male Wistar rats. Cells suspension were cultured in DMEM/F12 supplimented with 10% fetal calf serum (FCS), 5% horse serum and 1% antibiotic–antimycotic (Gibco). DCs were prepared from rat bone marrow after red cells lysis and cultured in RPMI 1640 medium (Gibco) supplemented with 10% FCS, 1% antibiotic–antimycotic (Gibco), 10 ng/mL GM-CSF (Sigma), and 5 ng/mL IL-4 (Sigma). MSCs and DCs were cultured for 7d at 37°C. DCs ($5x10^5$) were grown in two different conditions: co-culturing with MSCs and 25 ng/ml TNF-α (I) or without MSCs and 25 ng/ml TNF-α (Sigma) (II) for 48d. Cell phenotype were characterized by flow cytometry (FACSCanto II) using CD11b, CD44, CD86 (Becton Dickinson) antibodies.

Results and Conclusions. After co-culture with MSCs, DC showed a decrease in CD86 expression compared with culture supplemented only with TNF-α which showed an increase in expression of this marker.

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TRANSGENIC PIGS FOR BIOMEDICAL APPLICATIONS

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The purpose of this article is to review the most modern techniques used in obtaining transgenic pigs as important models in the study and understand of mechanisms involved in the pathogenesis of various human diseases. Genetically engineered animals have a significant role in biomedical research (Wheeler 2007, Robl et al., 2007, Vajta et al., 2012). Genetically modified swine are recognized as outstanding models for the study of various human diseases. These animals have high reproductive capacity and adequate precocity, short farrowing interval, parturition of multiple offspring (an average of 10–12 piglets per litter) (Wolf et al., 2000, Walters et al., 2012). Besides all these aspects the completed sequencing of the swine genome (Schook et al., 2005), made possible precise

representations of human diseases based on propinquity of genes between the two species (Whyte, Prather 2011). Pigs are recognized as excellent models in a variety of areas, including nutrition, toxicology, dermatology, diabetes, cancer, atherosclerosis, cardiovascular disease, cutaneous pharmacology, ophthalmology, degenerative disease etc. (Lunney et al., 1999, Ishii et al., 2006, Herkenne et al., 2006, Dyson et al., 2006, Du et al., 2007, Matsunari, Nagashima 2009, Aigner et al., 2010, Noel et al., 2012, Prather et al., 2013). Due to the emergence of modern genetic engineering techniques, the genome of these animals can be modified to serve as a potential xenograft donor (Sachs, Galli 2009).

CLINICAL PRESENTATION, DIAGNOSTIC AND THERAPEUTIC APPROACH OF OCULAR MELANOSIS IN A GOLDEN RETRIEVER - CASE STUDY

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Introduction. Ocular melanosis represents an abnormal pigment proliferation that involves the iris, ciliary body, choroid and filtration angle leading to secondary glaucoma. This report presents a Golden Retriever with excessive pigment deposition with corneal infiltration diagnosed with uveal melanoma.

Materials and Methods. A 6 year-old male Golden Retriever presented with a four-week history of corneal degeneration and excessive pigmentation of the right eye. Full ophthalmic examinations and investigations including gonioscopy, ocular ultrasound and magnetic-resonance imaging were performed.

Results and Conclusions. Initial ophthalmic examination showed a central area of corneal degeneration, excessive melanin deposition on the right corneal endothelium and slightly irregular pupil with iris degeneration. There were also two melanin clumps on the left corneal endothelium. Initial ultrasound showed a mass posterior to the right iris into the vitreous with blood flow on the anterior margin and bilateral vitreous degeneration. Nonsteroidal and steroidal eye drops and topical interferon-alpha were initiated. MRI scan revealed an intraocular mass ventro-laterally situated posterior to the iris likely to be consistent with uveal melanoma. Fine needle aspirates were nondiagnostic. Enucleation was initially declined and progression was monitored. Six months later, ocular ultrasound showed extensive subretinal invasion. The eye was enucleated and histopathology described uveal melanoma originated within the iris with local infiltration. A low dose oral interpheron-alpha was administered for a long term management. Clinical progress was monitored and one year follow up revealed no signs of metastasis.

ATAXIA – A CLINICAL APPROACH

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Introduction. Ataxia is defined by the loss of movement coodination and it represents one of the most important clinical signs in localizing the neurological lesion. The ataxic patient finds itself in the impossibility to coordinate head, trunk, limbs and tail position. Ataxia is a sensorial dysfunction that can only be observed when the patient moves.

Ataxia is often mistaken with paresis (weakness of the limbs). Unlike paresis, ataxia only affects coordination and not muscle strength.

Materials and Methods. A detailed pacient history should be provided in order to identify the cause of the ataxia.

While most patients with ataxia have a primary neurological disease, it is important to know that metabolic diseases (e.g. hypoglycemia, hypocalcemia), toxins (e.g. lead, organophosphates), and drugs (e.g. Phenobarbital, metronidazol) can cause ataxia. Once a detailed history is obtained, physical and neurological examinations should be performed.

The neurological examination enables the clinician to identify the type of ataxia. Once the type of ataxia is identified, further diagnostic tests should be performed according to the type of ataxia and the localization of the lesion.

Results and Conclusions. There are three types of ataxia, namely proprioceptive, cerebellar and vestibular.

Remember to ask yourself the fundamental question - "Is there a real neurological issue or an orthopaedical one?". The neurological issue presents itself with walking incoordination (in a straight line, circle or criss-cross). In case of ataxia, a complete neurological examination should be performed (status, posture, cranial nerves, spinal reflexes, panniculus) which will reveal the exact anatomical localization of the lesion.

CEREBRAL EDEMA – A CLINICAL APPROACH

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Introduction. Intracranial pathology in dogs is often associated with brain edema. Following acute injury, brain edema reaches it's maximal peak between 24 to 48 hours and may persist for a week or more. Brain edema has been categorized as vasogenic, cytotoxic, or interstitial based on cause and anatomic areas of involvement. Any or all of these types of edema may be present in an animal with brain disease.

By definition cerebral edema is the excess accumulation of fluid in the intra-and/or extracellular spaces of the brain.

Materials and Methods. Cytotoxic edema occurs as a consequence of Na/K pump disfunction, resulting in neuronal distress. The volume of intracellular fluid increases and cells begin to swell. This edema oftenly occurs due to disease processes such as toxicity, ischemia, or hypoxia.

Interstitial edema is defined as increased fluid content in the periventricular white matter as a result of CSF movement across the ventricular walls in instances of hydrocephalus. Periventricular white matter is reduced as a consequence of the myelin lipids dissapearance secondary to an increase in hydrostatic pressure or decrease in periventricular blood flow of the white matter .

Vasogenic edema is the most common form of edema associated with CNS neoplasia. These abnormalities allow fluid to move from the vascular to the perivascular spaces. Deep white matter of the involved cerebral hemisphere is preferentially affected.

Results and Conclusions. The "ideal" drug in treating cerebral edema, focused on mobilizing and/or preventing fluid accumulation in the brain ,with a rapid onset, prolonged action and minimal side effects, is yet to be discovered.

FRACTAL DIMENSION OF CHROMATIN REGIONS FOR CARCINOMAS DEVELOPED IN DOGS AND CATS

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Introduction. Epithelial tumours, in particular the mammary gland carcinomas have the highest incidence among neoplastic tumours in dogs and cats. The fractal analysis offers the possibility of assessing complex, irregular shapes by computing a synthetic measure: the fractal dimension of histological images.

Materials and Methods. The known occurrence of nuclear changes in malignant cells suggested the choice of calculating the fractal dimension of chromatin regions and comparing it among normal tissue and tissue of the same nature subject to benign or malignant tumoural lesions. We included in this study a group of 45 cases selected from among the dogs and cats presented for cancer diagnosis between January 2011 and September 2013 to the Pathology Laboratory of FVM. The chromatin regions were extracted by colour masks and the fractal dimension (Hausdorff) was computed by the box method. In order to minimise the bias due to other factors, normal and tumoural tissue samples were selected from the same patients. Rigorous statistical analysis was performed to account for the limited number of available samples. We calculated the sensitivity and sensibility of a test for the presence/absence of tumoural lesions based on a critical value of the fractal dimension.

Results and Conclusions. Fractal dimension of chromatin regions was shown to have significantly different values between normal and carcinoma-modified mammary tissue. The probability that the difference between averages is due to random sampling is less than 0.01% and the statistical power of the study for 5% confidence was found to be over 99%. That proves the potential of fractal analysis as an objective and easily affordable complementary tool for the pathologist in regular screening and diagnostic work.

EPITHELIAL-MESENCHYMAL TRANSITION REVEALED BY FRACTAL ANALYSIS IN SMALL ANIMAL TUMOURS

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Introduction. In the last decade, the interest for the process of epithelial-mesenchymal transition (EMT) grew due to its implication in neoplasms. Well-known as being involved in embryogenesis, organ development, and wound healing through fibrosis, EMT has also an important role in metastasis, many studies pointing at it as a critical mechanism for the acquisition of malignant phenotypes by cancer cells of epithelial origin. Currently, the identification of EMT involves immunohistochemistry for highlighting transcription factors and the presence or the absence of some transcription targets.

Materials and Methods. This study explores the possibility of identifying EMT by classical histopathological means, using routine staining, followed by image processing and fractal analysis. From cases of mammary carcinoma occurring in dogs and cats presented in the last year at the Pathology Laboratory of FVM, we selected samples of normal and tumoural tissue, along with samples from the border of the lesions. In addition to HE stain, PAS and trichrome stains were applied. Image processing included color masks to extract morphologic features known to vary when EMT occurs: cell and basal membranes, as well as collagen areas. Fractal dimension was then calculated on regions where EMT was suspected and compared with the fractal dimension of similar pictures of regions free of EMT.

Results and Conclusions. In the areas where EMT was suspected, the fractal dimension of microscopic pictures was found to have a significant variation. The statistical power of the test for 5% significance was higher than 80%. These are strong arguments that morphology changes associated with EMT could be revealed by fractal analysis applied on histopathology pictures obtained by classical staining. More work is needed, including confirmation tests based on immunohistochemistry to clarify the potential of fractal analysis to be a reliable tool for the identification of EMT.

OSTEOSYNTHESIS,OF RADIUS AND ULNA FRACTURES IN AN OWL

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Introduction. Description of an intraosseous osteosynthesis and with wiring in radius and ulna fractures in owls.

Materials and Methods. Boohaa, an owl found and adopted by a family, wich was not able to fly, having post-trauma skin lesions on the medial side of the right wing and when thoroughly palpated on the radius and ulna section a bony crepitus is felt. In order

to reach the right diagnosis, the clinical examination was completed with a radiological one and a transverse fracture was found in the shafts of the right radius and ulna. Intraosseous osteosynthesis was carried out by means of an ulnar pinna in the radius and an wiring for to repair the fracture has been used. The anaesthesia used was polymodal analgesia with an butorphanol pre medication; induction and maintenance: ketamine, diazepam and isoflurane with anaesthesia mask, recovery from anaesthesia being quick.

Results. Postoperatively, a check-up radiological film was made, showing the correct positioning of the fractured bone fragments and antibiotics therapy consisted of enrofloxacyn injections 5mg per kg i.m. Local a removable bandage was applied on the right wing.

Conclusion. Wild birds, nocturnal ones in particular, need a special therapy protocol ante-intra and postoperatively-in order to obtain very good results. There is a particular feature of the bird's bone structure-reduced bone resistance resulting in bone fragility, wich requires a certain approach in performing osteosynthesis on birds belonging to this species.

COMPARATIVE ASPECTS OF THE IMAGING DIAGNOSTIC AND NECROPSY FINDINGS IN ABDOMINAL TUMORS IN CATS

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Introduction. The rate of tumors in cats is increasing, and their observed location is more common in the abdomen. In old cats with mammary tumors clinically diagnosed, radiology and ultrasound revealed intraabdominal masses, that were comfirmed during the necropsic examination.

Materials and Methods. Seventeen female cats were included in the study with ages between ten and fourteen years, during a period lasting eight months, during clinical examination, in the Veterinary Radiological Laboratory of Iasi, in the year of 2013. For all the patients, both the x-ray and the ultrasound examinations were made. Seven cats were found with intraabdominal masses, and altered physical state. Further, all the seven cats were euthanized and necropsied.

Results. Pathological findings that were diagnosed on survey radiographs included: increased radiopacity in the splenic radiographic projection area, radiopaque structure defined back to hepatic radiographic projection area, ascitis. Ultrasound examinations findings were: diffuse decrease echogenicity in liver intern structure, with nodular hypoechoic appearance. Also, during the necropsy, there were diagnosed hepatic and splenic tumors that were evolving simoultaneously with the primary clinically seen tumor.

Conclusion. Considering the number of cases, the present study confirmed that the imaging methods are necessary for diagnosing other intraabdominal masses that could be developed due to the primary mammary tumors.

SURGICAL REDUCTION OF A TOTAL ENTROPION IN A CHOW-CHOW USING RHYTIDECTOMY

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Introduction. Total entropion is frequently seen in Chow-Chow breed. The classical techniques do not give the expected results and recurrences are common.The case study is a male, Chow-Chow, 3 years old, which was operated twice for total entropion using classical tehniques.

Materials and Methods. The ophthalmological examination revealed corneal injury and total entropion secundary to prominent lateral and frontal folds. Because the classical techniques did not work we decided to performe a rhytidectomy.

The dog was premedicated with medethomidine/ butorfanol, induced with propofol and maintained with isoflurane.

The resection area was measured and delimitated for ablation.The ablation areas were asymmetrical, the left one had 25x10 cm and the right one had 29x12 cm, nylon was used for interrupted mattress suture. After ablation of the lateral facial folds the entropion of the upper eyelid was corrected, and for the entropion of the lower eyelid we perform the ablation of old scars with 4-0 nylon suture.

Results and Conclusions. After 24 hours, the dog saw. Postoperatively, the facial wounds were treated twice a day, with saline and kanamycine/cortisone ointment. The lower eyelids' sutures are removed after 2 weeks and the lateral folds suture are removed after 21 days.

Excessive facial skin folds in Chow-chow can cause serious secondary entropion and rhytidectomy represents the only successful therapeutical option.

Depending on the thickness of the skin we choose the type and twine thickness suture. The local treatment is essential in postoperative evolution.

Due to the fact that the appearance of these patients will be different after the surgery, before undertaking this procedure, the owners must be informed about this.

MAGNETIC RESONANCE VERSUS RADIOLOGICAL TECHNIQUE IN IVDD IN DOGS

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Introduction. Intervertebral degenerative disc disease is developed by every known breed as the discal hernia that is divided in three categories considering the anatomical pattern: Hansen type I hernia, Hansen type II and III (paintball lesion). Clinical signs vary starting from discomfort/ pain and ending with paraplegia or paralysis of one or more limbs depending on the site and morphopathological complex. The diagnostic steps are the neurological exam, radiological exam (survey or with contrast) and some other advanced imaging techniques like CT or MRI.

The objective of the study is to describe an optimal and complete management in imaging diagnostic in IVDD in dogs by facing radiological exam to magnetic resonance technique.

Materials and methods. There were both x-rayed and MRI investigated 137 dogs from different breeds (condrodystrophic and non-condrodystrophic), aged between 18 months and 10 years old with different degrees of clinical status. A digital x-ray machine has been used and an opened MR unit. Anaesthesia for MRI exam has been of inhalatory type with different protocols of pre-anaesthesia that concerned the patient. All dogs have been investigated on the thoracho-lumbar region by both techniques and results have been compared.

Results and discussions. From all dogs there were obtained 137 radiological and 137 MRI results. Comparing the results in 100% of the dogs, MRI exam modified completely the diagnostic in 75% regarding the site of the discal disease that is responsible of neurological signs and in 15% there where valuable information added to complete the imaging diagnostic. In 100% of the dogs the radiological exam couldn't be specific on the lateralization of the disc disease instead MRI could offer this valuable information.

Conclusions. Magnetic resonance imaging technique is a mandatory instrument of imaging diagnostic and prognostic for the canine patient suffering from IVDD (intervertebral degenerative disc disease).

OBSERVATIONS ON THE MORPHOLOGY OF REPRODUCTIVE SYSTEM IN PIKES (*ESOX LUCIUS*) DURING A SEXUAL CYCLE

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Introduction. Gametogenesis in pike is a cyclic process, and the interval between the shedding of two egg series represents a sexual cycle. The duration of a gametogenic cycle in pike is of almost one year and presents specific features in males as well as in females. In order to check weather Danube river water provides adequate conditions for proper gametogenesis in pike, a full cycle of ovogenesis and spermatogenesis were followed.

Materials and Methods. Pike capture was performed at the beginning of May, end of August, November and April for ovogenesis assessment, as well as in November and April for spermatogenesis study. For external macroscopic investigation fish were examined by inspection, while the internal aspects were studied by dissection. Histological sections of reproductive tract components were performed for microscopic evaluation.

Results and Conclusion. Research proved that the external examination of females can somewhat show the stage of the sexual cycle in pike, as their abdomen is slightly dilated in stage III, visibly dilated in stage IV and very dilated in stage V. Microscopically, the presence of two categories of oocytes during an ovogenic cycle proved that pike ovary is of grouped synchronous type, as the large oocytes mature and are eliminated during egg shedding, while the small ones remain for the next cycle. The spermatogenesis

process was slow until stage III when it became rapid, spermatocytes being grouped, as zonal cell clusters. Both ovogenesis and spermatogenesis were normal under specific conditions provided by the Danube river.

ABSENCE OF VAL_{136} ALLELE IN PRP GENOTYPES OF PUREBRED CARABASA SHEEP

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Introduction. The PrP gene encodes the prion protein. PrP genotypes and prion strains play major role in sheep susceptibility/resistance to scrapie. Peculiar importance for scrapie is the variation of three codons of the PrP gene: A136V/T, R154H/L and Q171R/H/K. The objective of this paper was to detect and quantify PrP alleles and genotypes variation involved in the resistance/susceptibility to scrapie in one sheep farm Carabasa bred.

Materials and Methods. Blood samples were collected from 11 rams and 60 ewes (30% randomly chosen ewes) belonging to the Carabasa bred. The selected farm performs pure-breeding system of mating to provide superior genetics to the commercial sheep industry. The DNA extraction has done with High Pure PCR Template Preparation Kit (Roche, Mannheim, Germany). Melting curve analysis was performed using LightCycler® 2.0 Real-Time PCR System (Roche, Germany).

Results and Conclusion. Three types of susceptibility to scrapie have been identify in genotyped sheep. Most of them have genotypes with low resistance to scrapie (50.7%) and were classified belonging to type 3. Type 2 of susceptibility counted 45.1% of genotyped sheep and in first type 4.2% sheep. The VRQ allele has not detected in the purebred Carabasa race sheep. The results of genotyping indicate that the frequencies of PrP alleles and genotypes, with absence of allele Val_{136} in Carabasa breed make it possible to reduce scrapie risk by selective breeding.

SCRAPIE GENETIC SUSCEPTIBILITY IN TWO SMALL RUMINANT FARMS FROM ROMANIA

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Introduction. In scrapie resistance selective breeding the most common technique to determine the sheep susceptibility is genotyping by RT-PCR. In order to determine the resistance to classical scrapie, the polymorphisms at three codons are interested: 136,

154 and 171. The aim of this paper is determination of the scrapie susceptibility in two small ruminant farms from Romania.

Materials and Methods. From two farms were collected 786 blood samples in 3 ml tubes containing K3- EDTA and stored at -80°C. DNA extraction was perform with QIAcube® using QIAamp® DNA Mini and Blood Mini Handbook kit (QIAGEN Group, North America). The ovine prion protein gene was genotyped as described by Power SYBR® Green PCR Master Mix (Applied Biosystem).

Results and Conclusion. PrP genotyping of sheep from the farm one revealed all five types of scrapie susceptibility and in the farm two have been only four types. The most resistant scrapie genotype missed in the last one. The most frequent genotype in farm one was type 2, those sheep being genetic resistant to scrapie, but they request survey in breeding programs. In farm two 52.22% sheep belong to type 3, these animals exhibiting a lower resistance to scrapie, that for they are forbidden to breed. Both herds are mostly harboring sheeps belonging to types 2 and 3 of scrapie genetic risk. Type 1, ARR/ARR genotype, was present only in farm one, in a proportion of 11.17%: this one could be used to form a new herd.

IN VITRO MECHANICAL TESTING OF MONOFILAMENT NYLON FISHING LINE, FOR THE EXTRACAPSULAR STABILISATION OF CANINE STIFLE JOINT

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Introduction. Cranial cruciate ligament (CCL) rupture is a common injury in the dogs and major cause of degenerative joint disease. A common method to restore stifle joint stability is an extra capsular repair with a lateral fabella-tibial suture using heavy nylon wire. *Aims:* to compare the mechanical properties (force at failure and elongation) of three diameters of nylon fishing line before and after steam sterilizer with loops secured by knot (two types) and by crimped system.

Materials and methods. Two monofilament nylon fishing lines (1 and 1.2 mm) were used to determine the effect of steam sterilization on strength and elongation of the material. A strand of each diameter of monofilament nylon fishing material was knotted or crimped to form a loop around 2 rods on a materials-testing machine. Material testing was performed using a servo-hydraulic materials-testing machine (MULTITEST 5-i) and analyzed by Emperor Force soft. Twenty trials of each diameter of unsterilized and steam-sterilized nylon per each type of secured methods (square knot, surgical knot, and with a crimp clamp) were tested. A strand of each material was elongated to failure at a constant displacement of 10 mm/min to determine strength. A strand of each material was cycled 10 times to a load of 50 N to determine percent elongation.

Results. All the loops failed by breaking or slipping within the knot or clamp. The surgeons knot had significantly greater elongation than all other loops, but required the

most force to failure. With incremental loading, knotted loops elongated more than crimped loops. The loops secured by indigene crimp system were weaker strength than knotted loops.

Conclusion. All materials tested exceeded the necessary strength of neutralizing the load in the canine walk but none exceeded the estimated highest load during canine higher activity.

EUROPEAN FELINE MEGAESOPHAGUS CASE REPORT

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Introduction. The esophagus is the tube that carries food and water from the throat to the stomach. With megaesophagus, passing food all the way to the stomach becomes difficult, and the food may be regurgitated back up into the throat. This reduced motility usually results in dilation of the esophagus.

Materials and Methods. The case was reported in the Surgery Clinic of Faculty of Veterinary Medicine from Bucharest. The patient presented: Regurgitation of food and water, feaver, hipersalivation, weight loss, poor body condition. Clinical examination was performed by direct methods: general inspection, palpation, listen, assessment of body temperature and indirect methods: Thoracic X-rays, ecography.

Results and Conclusion. Thoracic X-rays (barium contrast) may show an esophagus dilated with gas, fluid, or food.

Radiological examination completed the diagnostic of megaesophagus.

The cat was treated with Espumisan, Debridat. After a few days, no modification could be observed.

YORK-SHIRE DOGS PORTOSYTEMIC SHUNT CASE REPORT

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Introduction. A portosystemic shunt (PSS), also known as a liver shunt, is a bypass of the liver by the body's circulatory system. It can be either a congenital (present at birth) or acquired condition. The shunts found mainly in small dog breeds such as Shih Tzus, Miniature Schnauzers and Yorkshire Terriers.

Materials and Methods. The case was reported in the Surgery Clinic of Faculty of Veterinary Medicine from Bucharest. The patient presented: vomiting, polydipsia,

polyuria, hematuria, apathy, tremors, seizures. Clinical examination was performed by direct methods: general inspection, palpation, listen, assessment of body temperature and indirect methods: X-rays, blood test, blood transfusion, ecography.

Results and Conclusion. Blood tests indicate sever aregenerative anemia, mycoplasma haemocanis positive (Bartonella spp, Haemobartonella spp) , Complete blood count (CBC) HCT low (21,3%, min 37,0% – max 55,0%), HGB low (5,7 g/dL min 12,0 g/dL – max 18,0 g/dL).

Biochemical profile: CREA low (0,2 mg/dL min 0,3 mg/dL max 1,2 mg/dL), AMYL low (114 U/L min 300 U/L max 1300 U/L).

After transfusion HCT increased to 37% , HGB increased to 9,7g/dL, CREA increased to 0.3 mg/dL, NH3 202 µmol/L min 0 µmol/L max 99 µmol/L.

The dog was treated with antibiotics, dietary protein restriction, gastric protector, sedative, analgesics.

After one day, appeared hepatic encephalopathy and at the end was exitus.

THE THERAPEUTICAL EFFICIENCY OF HyCare® IN CORNEAL DISEASE IN DOGS

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Introduction. One of the most common conditions of the eye in dogs is represented by corneal disease. It may occure as a primary or as a secondary disease, the eye is very painful, you can observe blepharospasm, miosis and if you don`t act in time, vision might be affected.

HyCare® is a gel with long lasting effect. It contains hyaluronic acid and amino acids which maintain the natural function of the tear film. It can be used as many times as you need it and also helps to protect the cornea against the irritation of environmental conditions such as wind, dust etc.

Materials and Methods. This study was conducted in the Ophthalmology Clinic of the Faculty of Veterinary Medicine in Bucharest for a period of one year and a half, between 2012 and 2013. It was performed on 365 dogs: 22 cases with indolent corneal ulcers, 56 cases of corneal burns and plagues, 161 cases of keratoconjunctivitis sicca and 126 cases with erosions secondary to other diseases (entropion, , ectopic cilia). They were treated with HyCare® gel, collyres with antibiotics and mydriatics. Treatment was performed on a variable period of time (14 days-4 months), three times a day.

Results and conclusions. The recovery was a total success in all cases with indolent corneal ulcer but only after debridment, in keratoconjunctivitis sicca.

HyCare® gel it is very good especially for keratoconjunctivitis sicca due to the hyaluronic acid which develops a complex with the amino acids maintaining the natural function of the tear film and moistening the cornea.

HyCare® gel has a very high viscosity, a long retention time, it is confortable to apply and also is very cheap.

HyCare® may be used in association with antibiotics, mydriatics without any secondary effects.

STUDIES *IN VIVO* REGARDING THE HEPATOPROTECTIVE AND CHOLERETIC-CHOLAGOGUE ACTIONS OF TWO NEW PRODUCTS OF HERBAL ORIGIN

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The authors have studied two new products of plants that were administered to pets (dogs and cats) with hepatobiliary disease, to determine the hepatoprotective and choleretic-cholagogue actions.

Products conditioned as single dose capsules and solution, were administered both separately and in combination to observe their action on the liver and gallbladder, as demonstrated by laboratory tests.

After the research, it was considered that the company's products Hofigal prove their hepatoprotective and choleretic-cholagogue effects due to the hepatic bile secretion.

METABOLIC CORRELATIONS IN SHEEP TOXEMIA OF GESTATION

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Toxemia of gestation is more of a glucidic metabolic disturbance which also involves irregularities in both lipid and protein metabolisms. In fact, there is no such thing as affecting only one metabolism; the disorders happen as a result of complex unbalances, often with discreet clinical signs, irrelevant for unprepared personnel. We can't say that toxemia of gestation is one of the most frequent disorders in sheep but we can insure you that once it happens, it can lead to severe economical loss. This is because, toxemia of gestation occurs in sheep with twins and in most cases, these sheep do not recover. Therefore, the loss of a sheep with ketosis results also in the loss of 2 lambs. Blood samples from 100 sheep were prevailed. The sheep were between 2 and 4 years of age. The blood samples were gathered before and after therapeutic treatments.

The sheep belong to several farms and were randomly chosen due to the fact that, after discussing with the owners, we were able to determine that the herds were not given sufficient energetic feeds. The sheep were only fed by pasturage because, traditionally sheperds mix all sheep regardless of the age, physiological status or sex, a wrongful and wasteful method, with great negative implications, both technological and economical.

APPRECIATION OF SEVERAL ZOOECONOMICAL, BIOCHEMICAL AND HEMATOLOGICAL PARAMETERS IN PHEASANTS DESTINED FOR HUNTING PURPOSES

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Hunting represents a complete and spectacular sport in which the pheasant and the hunter dispute their supremacy – the pheasant through it's fastness and flying abilities ant the hunter by his shooting skills. In the hunting economy, the pheasant represents an important factor because it is easily valued on both external and internal markets. On agricultural and forest fields, the pheasant represents a natural way to eradicate harmful entities. Nowadays, hunting is not a way to provide food anymore, but a leisure sport in which hunters compete for the pheasant trophy (the pheasant with the longest tail).

Pheasant breeding on Ghimpati farm (Giurgiu county) is a closed circle environment provided with incubation areas, stocking aviaries, reproduction sectors and special areas where female pheasants lay eggs and form families. When they reach 90 days of age, the pheasants which were previously selected for repopulation purposes, are transported in a forest and kept there for a month in order for them to accommodate.

In this paper we obtained a hematological and biochemical profile in pheasants destined for hunting purposes and the clinical surveillance was obtained by pursuing several zooeconomical factors.

RETROSPECTIVE STUDY ON ELBOW DYSPLASIA (ED) IN FIVE DOG BREEDS IN ROMANIA

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Introduction. Elbow dysplasia in the dog is described in literature as a complex pathology that eventually leads to arthritis/arthrosis. The four main diseases comprised by the ED complex are: Osteochondritis Dissecans (OCD), Ununited Anconeal Process (UAP), Fragmented Medial Coronoid Process (FMCP) and elbow incongruity.

The objective of this study is to determine the incidence of elbow dysplasia in five large dog breeds in Romania, considering the lack of any studies in this field, in this country.

Materials and Methods. In order to have a diagnosis regarding elbow dysplasia for medical reasons or in order of obtaining an Elbow Dysplasia International Certificate all patients have undergone radiological examination in medio-lateral 135° semi-extended view, medio-lateral 45° flexed view and cranio-caudal with 15° pronation view. The radiological parameters where adapted to the size of the patient and all the radiological images were processed using digital techniques. Radiological examination was performed under sedation using Domitor (10-40µg/kg) and Antisedan (50-200µg/kg). The study

comprised 163 dogs, from five different breeds (47 German Shepard-28 males, 19 females; 38 Labradors-27 males, 11 females; 37 Rottweilers-16 males, 11 females; 22 Golden Retrievers-14 males, 8 females, 19 dogs of Romanian shepard breeds - Bucovina, Carpatian, Mioritic, Romanian - 12 males, 7 females), with ages ranging from 7 months to 14 years.

Results. From the total of 163 examined dogs, 28,83% were diagnosed with at least one of the defects associated with the ED complex. Following are the results of the study by breed and sex: German Shepard: 31,91% positive, 31.57% of the females, 32,14% of the males; Labrador: 42,1% positive, 54,54% of the females, 37,03% of the males; Rottweiler: 18,91% positive, 18% of the females, 31,25% of the males; Golden Retriever: 22,72% positive, 12,5% of the females, 28,57% of the males; Romanian Shepard Breeds: 21,05% positive, 28,57% of the females, 16,67% of the males.

Conclusions. The diagnosis of elbow dyslasia is of great importance within the frequently affected breeds, leading to arthritis/arthrosis, loss of range of motion and pain, thus greatly decreasing the quality of the life of the patient. The frequency of ED within the studied breeds is significant and the most affected, in decreasing order of incidence are: Labradors, German Shepards, Golden Retrievers, Romanian Shepard Breeds and Rottweilers.

HYDATID CYST IN THE LIVER OF A SHEEP

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Introduction. This study describes ultrasonographic, postmortem and histologic examination findings of hydatic cyst in a sheep.

Materials and Methods. A 5-year old Akkaraman (White Karaman) sheep with a history of gradual weight loss was brought to the Firat University Veterinary Teaching Hospital. After the clinical examination of the sheep was performed an ultrasonographic examination of the thorax and abdomen was made. Percutaneous ultrasound-guided centesis was performed and 5 ml of cyst fluid was aspirated. Then the sheep was sent to Pathology Department because of its poor prognosis.

Results and Conclusion. Multiple large cysts were found during the ultrasonographic examination of the liver. Multiple hydatid cysts in the liver were found during the postmortem examination.

ARTHROGRAPHY WITH NOTIONAL CONTRAST MEDIA ULTRAVIST 300 IN CAT

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Introduction. The introduction and widespread use of non-ionic contrast agents in medical imaging diagnostic is a significant example in terms of contribution brought by experimental research on animal for improving the techniques used in paraclinical investigation. The arthrography with non-ionic contrast agent is a method for investigating the joint space, most commonly used in canine species, allowing routine observation of localized pathological aseptic conditions at the ends of joints or synovial membrane. It can be practiced in cat for examine joints or joint capsule, is often use to examine the scapulohumeral joint, the femuro - tibio – patellar joint and rarely for elbow joint and hip, having the purpose to produce opacity in the joint space and in the synovial membrane (where that is present).

Materials and Methods. The biological material was represented by a uniform group consists of 8 adult cats, two males and six females, European race, with average body weight of 3.5 kg. The method has been represented by intra-articular injection of the contrast agent Ultravist 300, followed by X-ray exposure performed at 10, 15, 30 minutes, 1 hour and 2 hours after administration. The doses used were determined according to the examined joint: for the shoulder joint 2.0-2.5 ml, for elbow joint 2.0-2.5 ml and for the knee joint 0.5-3.0 ml. Kilo-voltage parameter ranged from 48 kV to 55 kV and Miliamperage parameter ranged from 15 mAs to 20 mAs, patient position and radiographic exposure was latero-lateral.

Results and Conclusion. Arthrography image quality is reduced with increasing interval after injection, the optimal period for radiographic exposure is in the first 5 minutes. Arthrography with non-ionic contrast agent Ultravist 300 can be used in cats and have a high diagnostic value in diseases of the joints. Side reactions were minimal and showed no significant loss among patients.

PHEOCHROMOCYTOMA ANESTHETIC PROTOCOL IN A DOG CASE

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Introduction. Pheochromocytomas are catecholamine producing tumors of chromaffin cells. This tumor ablation presents a great challenge to the anesthesia because of excessive catecholamine secretion during direct manipulation that leads to high morbidity rates (*Bruynzeel H., et al. 2010; Chen H., et al. 2010; Pacak K., et al. 2007).*

Materials and Methods. Our case study was a 13 years old male dog, weighting 11 kg and suffering from an adrenal gland tumor.

The dog received dexmedetomidine 2 μg/kg and butorphanol 200 μg/kg as premedication and propofol 3 mg/kg for induction. Anesthesia was maintained with isoflurane 1,5-2,5% and continuous rate infusion of dexmedetomidine 2 μg/kg/h.

Esmolol intravenously 200 μg/kg/min was used to block $beta_1$-receptors and so to limit arterial hypertension produced by catecholamine action over these receptors. During anesthesia we monitored heart rate, arterial blood pressure, respiratory rate and SpO2 each five minutes and glycaemia each 15 minutes.

Results and conclusions. During anesthesia mean arterial blood pressure had a median value of 110 mmHg (75-140), median glycaemia 85 (55-110), median heart rate 65 beats/minute (40-120), median respiratory rate 25 breath/minute (10-36) and median SpO2 of 98% (94-100).

The competitive blockade of $beta_1$ adrenergic receptors produced by esmolol prevented dangerous arterial hypertension during anesthesia and the dose was efficiently adapted to the demands.

Dexmedetomidine prevents catecholamine activity by agonist activity over $alpha_2$ adrenergic receptors and it was the drug of choice for our anesthetic protocol.

This protocol was safe and easily used by us in a pheochromocytoma case and the subject recoverd quickly after tumor ablation.

VECTOR AND NON-VECTOR TRANSMISSION OF WEST NILVE VIRUS IN ENDEMIC AREAS

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Introduction. Phylogeographically study of West Nile virus (WNV) revealed the African ancestral origin and continuous spreading of new epidemic strains from this continent to Europa and Asia. It is generally agreed that migratory birds introduce the new strains of WNV, but this pathway of dissemination is not always accepted. Distances between outbreaks caused by the same strain, whose crossing require several days, is opposing to the period of viremia, lower than requested time to travel. This paper attempts to summarize current data on transmission routes of WNV.

Materials and Methods. Latest scientific studies and rapports concerning the routes of WNV transmission in endemic territories or from endemic to free-virus territories have been analysed and the newest data concerning vector and non-vector transmission of WNV are considered.

Results and Conclusions. ***Vector transmission****:* The main vectors of WBV are mosquitoes of the Genus *Culex*, but the virus can be spread by other species of mosquitoes (e.g. *Coquillettidia richiardii*) or ticks. In Europe, the principal vectors are *Culex pipiens*, *Culex modestus* and *Coquillettidia richiardii*; all of them have already described in Romania.

Non-vector transmission: Recent data support the possibility of direct transmission in some bird species (crows, turkeys, geese) and in farmed alligators by fecal-oral route

or consumption of infected carrions, and in human by transfusions, through placenta, by breast milk, by dialysis, percutaneous inoculation and through aerosol exposure.

The densities of vectors and vertebrate hosts relate the risk of human infection with WNV. Non-vector transmissions of WNV ask to be evaluated in future control strategies.

THE MALE REPRODUCTIVE MORPHOMETRY OF STRENDED DOLPHINS ON THE BLACK SEA COAST

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Experimental investigations were conducted during September 2007 - May 2010, in the Sanitary Veterinary Laboratory for Food Safety Constanta and with the support of the Oceanographic Society of Exploration and Protection of Marine Environment - Oceanic-Club Constanta, and in the research laboratories of the Faculty of Veterinary Medicine Cluj-Napoca, the Department of Pathology of Reproduction and breeding.

The main purpose of this study was to evaluate the male reproductive morfometry on a sample of 16 species of dolphins strended on the Black Sea Coast.

SURGICAL ABLATION OF A CUTANEOUS ABCEDATE SKIN LESIONS IN GUINEEA PIG

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Introduction. This article presents the surgical ablation of a skin formations abcedate in a Guineea Pig, 5 years old female

Materials and Methods. When presenting for consultation animal present an ulcerated skin lesion situated on the left flank. From the results that the formation history occurred three years ago as a small skin growths that increased progressively. At this time they were applied a series of local and general treatments with no results. Animal this normal appetite but was underweight. In the first stage we conducted a general way about treatment with vitamin C and anti-haemoragical medication. Later the ablation of the skin lesions was performed under general anesthesia.

Results. Formation located on the left flank skin looks discoidal with ulcerated center, edges covered with hemorrhagic crust and secretion expressed looks sero-hemorrhagic. The lesion interest skin and subcutaneous tissue and is not adherence to the muscle layer. Cytology exam performed after surgery excision reveal the presence of a cronical inflammatory process. Recovery was favorable, while the animal reached normal weight.

Conclusions . Neoformation skin lesions should not be ignored. General anesthesia in Guinea Pig can be performed in optimal conditions due specific anesthetic protocols. After and before -operative preparation is necessary and obligatorily. General anesthesia is preferred because it gives a quiet high compared surgery with local anesthesia

THE FELINE TOXOPLASMOSIS ASSOCIATED WITH OTHER PATHOLOGICAL CONDITIONS IN CATS

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Introduction. This article presents some clinical cases in which laboratory tests showed the simultaneous presence feline toxoplasmosis associated with other systemic diseases.

Materials and methods. When presenting for consultation these animals present cronic condition. History has revealed loss or selective appetite, progressive weight loss, listlessness, weakness. Symptomatic treatments performed with continued several weeks led to no symptoms. In order to establish a diagnosis of certainty we used a series of laboratory tests: laboratory analysis of blood biochemistry, blood count, specific tests for major infectious diseases of cats: toxoplasmosis, chlamydiosis, feline infectious peritonitis, feline leukemia, feline immunodeficiency, Haemobartonella infection.

Results. Laboratory test results performed on subjects with chronic cxondition showed the presence of antibodies to Toxoplasma infection in some cases, sometimes associated with the presence of other systemic infections: Haemobartonella, chlamydiosis, feline immunodeficiency, feline infectious peritonitis. The cases presented had different race, age or sex. In 3 of 7 cases Toxoplasma infection was diagnosed at the animal owners too.

Conclusions. Toxoplasmosis is a zoonosis. In cats, Toxoplasma infection symptoms can sometimes nonspecifically. Association with other infectious diseases makes it difficult diagnosis by clinical methods alone. It required specific laboratory tests to confirm it, the establishment of a specific treatment, taking measures to be taken for both animal and owner.

EXPERIMENTAL STUDY REGARDING PROSTHETIC BYPASS ON PIGS

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This study describes the possibility of restoring blood flow by a bypass, in a segment which is disrupted or blocked. Our study presents such a possibility and was performed on five pigs weighing 50 kg who underwent aortal bypass at the infrarenal segment and

monitored for 30 days postoperatively. The section has been replaced by a length of 5 cm by arteriotomy and closed by suture. The bypass prosthesis used was Dacron and has been properly placed between the two ends and fixed by continuous suture. Anastomosis was performed end-to-side at both ends, between the ends a 5 cm part of aorta was replaced with the prosthesis. Pigs were monitored hemodynamic in terms of physiological constants and general status, postsurgical, received adequate treatment. Aortic bypass has been shown to be effective without postoperative complications noted.

ANATOMICAL AND METABOLICAL CHANGES INDUCED IN EXPERIMENTAL ANIMALS BY CHEMOTHERAPY

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Introduction. Cancer is the disease of the entire organism which clinically manifests through the initial presents of a primary tumor, after that the lymph node invasion and finally the metastasis associated with the specific para neoplastic syndrome. The effects of the cytostatic therapy, the mechanism of action and the way of elimination from the body must be very well known information in order to prevent the appearance of the cytostatic disease and to obtain maximum results from the therapy.

Materials and Method. The study was on Wistar rats (noninbred, each group receiving a cytostatic agent in LD50, respectively cyclophosphamide (ciclodependent agent), 5-fluorouracil as (antimetabolite) and farmarubicine as fazodependent agents at certain times at 12 am and 12 pm. After the periods of time between 7 and 10 days after the chemotherapy treatment, samples were taken from organs for the histopathological analisys.

The toxicity and the anti-tumor effect of the anti-cancer substances has been monitored. After a controlled period of time after the administration of the chemotherapy, organ samples were taken and were subjected to histopathological examination.

Results and Discussions. Following the administration of cyclophosphamide, showed histopathologic findings in the liver: megaeritrocitary elements, anizocariosys, Kupffer cell hyperplasia, scraps of hematopoetic microisles, discrete hepatic dystrophy, renal: - renal glomeruli with epithelial denudation of tubular necrosis and renal elimination conseutive cyclophosphamide administration, hyperplastic acute glomerulonephritis, acute edematous or hemorrhagic glomeruli with subsequent stasis. Also limfocitolisys phenomena.

Intraperitoneal inoculation of 5-fluorouracil induced hepatic congestion, and autophagy necrobiosis phenomena, intense hyperplasia and severe dystrophic lesions, agenerative Kupfferian hepatocytes. Renal: Interstitial nephritis, stasis and edema.

Farmorubicin caused severe damage to the liver: acute hepatitis, in the kidney: tubulonefrosys, peripheral blood leukopenia and seminal necrosis in males. Most importantly, there was degeneration, necrobiosis of the myocardial fibers - anthracycline-induced cardiotoxicity. The rat has a specific resistance to chemotherapy, such as anthracycline. Cu-

mulative myocardial damage at the same doses of anthracycline are less pronounced than in mice.

Conclusions. The cyto-toxic pathological modifications are reversible within therapeutic doses. The alterations that can be framed in the cytostatic disease must be taken into consideration simultaneously with the paraneoplastic phenomena with gradual stages of difficulty in relation with the clinical stage of the disease tumor.

To prevent the occurrence of chemo resistance there have been used relatively high doses of cytostatic drugs in clinical oncology therapy, but also the therapy is designed to allow regeneration of damaged cellular components, especially the blood forming components.

DIFFERENTIAL DIAGNOSYS AND MULTIMODAL THERAPY IN THE NEOPLASTIC DISEASE OF THE PROSTATE IN DOGS

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Abstract

In order to have an early diagnosis and to apply a corect and complex treatement we have followed the evolution of this disease with 3 actions: using modern technologie, strict treatement protocol and optimized ways of administration. The protocol for the antineoplastic therapy must be decided after the corect assessment of the TNM, after the complete blood work and after the x-ray, Eco and MRI results. When choosing the chemotherapy there must also be taken in consideration the type of drug used, the path of action and the path of elimination specific to it in order to prevent the cumulative effect.

Key words: PSA, prostate hypertrophy, castration

Introduction

The purpose of the paper is to provide comparative information on human-animal evolutionary stages, identifying direct and indirect markers that allow early diagnosis of prostate cancer. By using several diagnostic methods we are trying to establish the baseline malignization with beneficial consequences related to the establishment of early, curable therapy with consequent prolongation of survival rates and increased comfort.

Materials and Method

Studies in dogs have shown that prostate tumors occur mainly in medium and large breeds, aged 8-10 years. Hormonal stimulus removal (castration and treatment) or estrogen use increases to 60-70% survival expectancy. The study also revealed another aspect: the risk of developing prostate cancer in neutered dogs is higher than in the intact males.

There are the three types of therapy most used:

Surgical therapy: castration at a young age has an effect on preventing the tumor growth, which is dependent on excessive hormonal stimulation but has no effect on the

malignancy debut, also neutered dogs with enlarged prostates have shown an improvement in clinical manifestations.

Hormonal therapy: inhibitory - based on inhibitors of the hormonal and enzyme production (Proscar, Ipozane) and substitute – based on hormonal replacement (Zoladex, Cas*odex).*

Cytostatic therapy: Has the purpose of reducing the tumor before the surgical intervention, inhibiting the peripheral growth of neoplastic cells and preventing the local or the general relapse of the disease post-op. The cancer drugs used are first line Holoxan, Carboplatin and the second line Epirubicine

Results and Discussion

The most common type of cancer in dogs is the adenocarcinoma of the prostate. Other types of cancer are scvamocell carcinoma, transitional cell carcinoma, leimiosarcoma, undifferentiated carcinoma.

Diagnosis is based on laboratory tests: ultrasound, urine cytology summary, contrast radiography, puncture aspiration or ultrasound guided trans-perineal biopsy, blood exams, biochemistry exams and specific detection of tumor markers.

Increased number of prostate cancer cases is caused by exposure to domestic risk factors (consecutive repeat administrations of synthetic hormonal contraceptives, weak immune system, genetic- hereditary) and external factors (viruses, radiation exposure, pollution, inhalation or ingestion of toxic substances) and changes in the pet food.

Multidisciplinary diagnosis is based on laboratory tests: ultrasound, urinalysis, cytology, contrast X-ray, fine-needle aspiration, transperitoneal echography, hematology and especially blood biochemistry detect specific tumor markers, namely acid phosphates, PSA (prostate specific antigen) and fibrinogen.

Conclusions

Screening for early diagnosis and treatment of various diseases, from chronic inflammatory lesions (prostate hypertrophy, prostate cysts, etc) can prevent or block the malignancy process or allow the detection of early stages with decreasing tumor metastasis and reduce the chances of suffering for the patients.

In the first stages of the cancer (To, T1, T2) without obvious clinical metastasis, the treatment was:

- line I cytostatic therapywithout anthracycline;
- hormonal inhibitory therapy;
- orchiectomy;
- post-op cytostatic therapy;
- substitute hormonal therapy;
- non-specific imunotherapy.

Important similarities were observed between the clinical stages, diagnostic development aspects and treatment protocol in dogs with those of men, the pet can be a valuable experimental model for new means of prevention and therapy of this malignant neoplasms in humans.

STUDY OF THE EFFECT OF *SALVIA OFFICINALIS* PRODUCTS ON HUMAN FIBROBLASTS

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Abstract

The purpose of this research was to evaluate *in vitro* the cytotoxic characteristics of three distinct herbal productsobtained from lavender (*Salvia officinalis* L.). These vegetal productes were previously demonstrated with intense antimicrobial efficacy against several bacterial strains isolated from animal clinical cases (canine otitis) The cytotoxicity was investigated by the use of two standardized methods referred for the estimation of cellular response to potentially toxic compounds: screening of biocompatibility on human fibroblasts (HFL-1) cell culture by 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay and evaluation of morphology and cell attachment level respectively. The results indicated both dose and type extract dependence of tested herbal extracts-induced effects with lower concentrations stimulating cell viability, while higher concentrations and mostly in case of essential oil inducing moderate or highly expressed cytotoxicity.

VACCINE ASSOCIATED SARCOMA IN CAT – A REVIEW OF THE LITERATURE

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Vaccine Associated Sarcoma (VAS) is described as an aggressive reaction determined by the administration of certain form of vaccine in cats. The present article lists the reported clinical cases, the most important epidemiological features of this pathology and also the most important protocols described for the treatment of the disease itself. Such therapeutic approaches are usually described with associated risks (toxicity of the chemical compounds especially for the kidney tissues) and also the recidivant tendency of the tumor process at the same site or near that area. Considering the vital importance of one of most cited vaccine inducing the VAS – the rabies vaccine, more data are required for the prevention of the post vaccine reaction.

RELEVANCE OF CYTOPATHOLOGICAL DIAGNOSIS OF FIBROSARCOMAS IN BUDGERIGARS (*MELOPSITTACUS UNDULATUS)*

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Introduction. Budgerigars are submitted to several pathologies, including neoplasia. Cytopathologic examination is quick, easy and with minimal risk for the pacient and psittacines can be candidates for this diagnostic technique.

The aim of this study is to evaluate the relevance of the cytopathologic diagnosis on fibrosarcomas in budgerigars.

Materials and methods. 3 cases of *Melopsittacus undulatus* were submitted to multiple cytopathological examinations at the Department of Pathological Anatomy of Faculty of Veterinary Medicine, Bucharest during November 2011 - July 2012. The cases were also submitted to histopathologic examination and confirmed the diagnosis of fibrosarcoma. 10 high-power fields were examined in each of the several smears obtained by fine needle aspiration technique. The categories of cells numbered are: neoplastic cells, erythrocytes, inflammatory and a category of smashed cells and nude nuclei and numbers were afterwards turned into percentages.

Results and conclusions. Neoplastic cells were identified with a medium percentage of 17.57%, while inflammatory cells were 2.98%, erythrocytes, 57.65% and smashed cells, 21.80%. The diagnosis of malignancy was made with extreme caution due to the low number of mesenchymal cells, but it was also taken into consideration the high percentage of pollutant erythrocytes. Based on the malignancy cellular features, the neoplastic cells presented anisocytosis, pleomorphism, increased nucleus:citoplasm ratio and coarse chromatin pattern. Additional, case 2 presented frequent macrocytosis, macrokaryosis (40.38%), multinucleation and visible, abnormal nucleoli (1-4) were encountered. Rare, abnormal mitosis were identified. As a conclusion, cytopathologic diagnosis of fibrosarcomas in budgerigars (*Melopsittacus undulatus)* can be challenging based on the risk of pollutant erythrocytes, but, ignored, the smears offer multiple cellular malignancy features that plead for fibrosarcoma.

VIABILITY ASSESSMENT OF BOAR SPERMATOZOA USING FLOW CYTOMETRY

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Introduction. The membrane integrity and acrosome status are important viability parameters and are used for sperm quality assessment. During the last decades a technique based on membrane permeability to fluorescent dyes has been developed in order to de-

termine these parameters.The aim of this study was to determine the fresh boar sperm viability by flow cytometry using a triple stain protocol.

Material and Methods. Fresh boar semen samples (n=10) were analyzed with FACSCanto II (BD Biosciences) system on the basis of Hoechst 33348, peanut agglutinin-fluorescein isothiocyanate (FITC-PNA) and propidium iodide (PI) staining.

Results and Conclusion. Flow cytometric sperm analysis is an accurate and precise technique which allowed detection of four categories of sperm: live sperm with intact acrosomal and plasma membranes (90,5%), live sperm with acrosome7 lesions and intact plasma membrane (0%), dying sperm with damaged plasma membrane and intact acrosome (1,8%), as well dead cells with damaged plasma membrane and acrosome lesions (7,7%).

COMPARISON BETWEEN AN AUTOMATIC AND A MANUAL PROTOCOL FOR FREEZING CANINE SEMEN

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Introduction. For the freezing of canine semen, slow to fast cooling rates have been used. Today, there are many ways of achieving this by using manual protocols, automatic protocols or ultrafreezers.

Materials and Methods. 20 canine ejaculates were diluted in two steps with CaniPRO Freeze® and egg yolk. The straws were divided in two groups: one batch (10 ejaculates) was automatically frozen, while the other batch was frozen manually.

Motility (computer assisted sperm analyzer), morphology and acrosome status (Spermac® stain) were evaluated for fresh and frozen-thawed semen.

Results. The manual freezing protocol provided higher total (23.85%) and progressive motility values (20.41%) compared to the automatic protocol (13.26 % total motility, progressive motility 9.90%).

The acrosome status was strongly influenced by the cryopreservation process, but there were no significant differences between the two ptotocols.

Conclusions. When using the CaniPro Freeze® extender, a slower cooling rate (the manual protocol) gave better results then a fast one (the automatic protocol).

SEROLOGICAL SCREENING FOR AVIAN REOVIROSIS

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Introduction. Reovirus infections in poultry, are spread worldwide, being considered contagious disease specific for intensive aviculture.

The research was made in order to determine the seroprevalence of avian reovirosis in a broiler flock from the west of the country.

Material and Methods. For establishing the seroprevalence of reovirosis were collected samples of blood from chickens at the age of 21 days (R1) and at the age of 35 days (R2), 25 samples at each sampling.

Specific antibodies were detected by ELISA using Flock Chek Kit Avian Reovirus Antibody Test.

Results. In broiler aged 21 days (R1) were detected antireovirus antibodies whose minimum titer was between 18 D.O. and 264 D.O. and geometric mean values were between 245 D.O and 607 D.O.

In broilers aged 35 days (R2) minimum titers of antibody were between 12 D.O. and 364 D.O. maximum titers between 1453D.O. and 3256 D.O. and geometric mean values were 89 D.O. and 773 D.O.

Serological results demonstrate the presence of reovirus infection in the investigated broiler farms and that confirm the suspicion established by the epidemiological and anatomoclinical exams both the malabsorbtion syndrome and artritis tenosynovitis.

Conclusions. Serological examination carried out by ELISA revealed the presence of antibody antireovirus whose titers values were different by age.

At the age of 21 days in broilers, the values were lower due to the exhaustion of yolk antibody titers after the vaccine.

At the age of 35 days, the antibodies had high values, showing an immune response after infection.

CONTRIBUTIONS TO THE ANATOMOPATHOLOGICAL SYMPTOMS IN MALABSORBTION SYNDROME FROM BROILERS

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Introduction. The malabsorbtion syndrome was officially described in 1978, in Netherlands by KOWENHOVEN, in broilers and in the past years it is increasingly being reported. Research has followed histological and macroscopic lesions in chickens with this syndrome.

Materials and Methods. The brolier carcasses were biweekly necropsied, which were collected from two herds in which the disease developed. The samples were collected from: proventriculus, small intestine, spleen, liver and stock Fabricius. The organ samples were processed by the classical method and colored by HEA method.

Results. At the necropsied chickens were found following macroscopic lesions: underdeveloped bones, deformations coasts, necrosis of the femoral head and proventriculitis.

The detected histological lesions were the following:

- in proventriculus: the necrosis of proventriculare papilla, necrosis of the lenticular glands, peeling of serous membrane with accumulation of edema;
- in the small intestin: exfoliation of the villi, small goblet cells and infiltration with limphoblasts, small lymphocytes and histiocytes in the submucosa;

- in the liver: Disse space edema, hepatocyte tumefaction, dystrophy vacuolated, lymphocytic infiltration and hypertrophy and hyperplasia of Kupffer cells;
- in the spleen: disseminated lymphoid tissue , active or by activation lymphoid follicles, denudation of the capsule and edema;
- in Fabricius bursa: small folicles, medium developed, interstitial edema, lymphoblasts and presence of mitosis;

Conclusions. The cadavers with this syndrom showed proventriculus and femoral head necrosis. Histological lesions were represented by inflammatory and infiltrative lesions type of lymphoblasts and plasma cells.

SEROLOGICAL RESPONSES AFTER IMMUNIZATION OF HORSES WITH A RECOMBINANT ADENOVIRUS TYPE 2 (CAV-2) RABIES VACCINE

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Introduction. Rabies remains a real problem, particularly in the developing countries. The treatment for post exposure prophylaxis in animals is administration of a vaccine. The source of horse rabies represented by wild animals or bat vampire bite depends of geographic aria. The efficacy of a recombinant canine adenovirus type 2 (CAV2) vaccine vector against rabies infection in horses model was evaluated.

Materials and Methods. Five horses were inoculated intramuscularly with a recombinant CAV 2 rabies vaccine. Another group (five horses) was immunized with a commercial inactivated rabies vaccine (Nobivac Rabies). Serum for rabies antibody determination was collected on day 0, 7, 14, 21, 28, 35, 42, 49 and 112. Both products were safe, with no serious adverse events, and in particular, no anaphylactic reactions or other sickness was reported. We evaluated the rabies specific humoral response by ELISA Platelia and VNA tests. CAV 2 antibodies were evaluated using VNA test. Interferon γ (IFN γ) is a key cytokine in cell-mediated immunity and was measured using a quantitative ELISA test.

Results and Conclusion. Horses vaccinated with $10^9 TCID_{50}$/ml, developed a humoral response short and not intense that not protect the animals against rabies infection, and the IFNγ level remains constant the duration of the experiment, after a single intramuscular inoculation. Although none of immunological preparations did not provide protection rabies, encouraging is that there is a very good humoral response from vector which leaves open the way for further research that will improve quality.

IMAGING DIAGNOSIS OF THE PERSISTANT MÜLLERIAN DUCT SYNDROME IN DOGS

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Introduction. The Persistence of the Müller Ducts Syndrome (PMDS) is a type of congenital anomalie and it's defined by the presence of the uterine body and uterine horns in fertile male dogs. In most cases, the PMDS has a subclinical evolution and is dificult to suspect as specific symptoms are lacking. In the absence of a genetic test specific for all canine breeds, able to identify the mutation responsible for Persistence Müllerian Duct Syndrome persistent and thus to identify three categories of dogs (male or female) depending on carrier status homozygous, heterozygous or free this mutation, the only way to reduce disease progression in hereditary canine flocks remain, at least for the moment, the ultrasound exam in order to identify affected by PMDS males (thus having the uterus) and thus eliminated, by sterilizing, from the breeding process.

Material and Methods. This study was run between march 2007 and may 2013, on 80 dogs between 12 months and 8 years of age, different breeds and 5 to 80 kg weight. We have written andrological charts on every consulted pacient with it's reproductive history prior to the clinical and ultrasound exams. For this study we used the Mindray ultrasound device, DC3 Vet stationary model. The hysterectomy surgery was under general anesthesia (Acepromazine and Ketamine), the incision and the peritoneal approach for the laparotomy being ventro-median, lateral side of the penis.

Results. After the ultrasound exam, 3 out of the 80 dogs, a percentage of 3.75%, were diagnosed with the Persistence of Müllerian Ducts Syndrome.

Conclusions. We concluded that the ultrasound exam is a method to identify the males with Persistence of Müller Ducts Syndrome (positive homozygous), but it cannot report the heterozygote and homozygote status. The ultrasound exam cannot identify the heterozygous and homozygous female carriers.

EVALUATION OF THE HEPATIC ACTIVITY IN HEPATIC CYSTIC DEGENERATION, CASE PRESENTATION

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Introduction. Study sought to evaluate the hepatic activity through the enzymatic and metabolic markers and ultrasound, during five years in feline with cystic change in liver.

Materials and Methods. The case studied - european feline, female, sterilized, monitored for five years before and after resection of hepatic lobe changed. Determination of biochemical markers was performed on the analyzer Mindray BA 800-A and Mindray BC 2800Vet hematologic and ultrasonographic evaluation with ultrasound 30VET MyLab

GOLD. Ultrasound has revealed a heterogeneous aspect area, well defined, ovoid, in lateral right hepatic lobe. It was done in a first step for diagnostic laparotomy then proceeding to the right hepatic resection hepatic lobe affected side. Confirmation of the diagnosis was obtained by cyto-and histopathological examination.

Results and Conclusions. Hepatic activity, which has seen while maintaining a physiological limits of the species, a significant increase in liver enzyme markers when drawing cystic tumor formation and development. Hepatic lobe resection as possible to recover the animal in a short period of time, return to normal activity of hepatic liver regeneration area without recurrence at 31 months post-resection.

HEPATIC ENZYMATIC AND METABOLIC MARKERS IN MAMMARY CARCINOMA WITH HEPATIC METASTASES, CASE PRESENTATION

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Introduction. The study sought to evaluate the activity of hepatic enzymatic and metabolic markers, and ultrasound throughout the 20th months, the dog Huski with breast carcinoma who developed a metastatic tumor in the liver.

Materials and methods. The case studied - Huski dog, female, unsterilized, monitored for 20 months. The animal was diagnosed with mammary adenocarcinoma confirmed histologically. Hepatic activity was monitored during a period of 20 months, with specific therapy besides, hepatic support liver protectors, antioxidants immunotherapy. Determination of biochemical markers was performed on the analyzer IDEXX IDEXX VetAutoRead VetTest and haematological and ultrasonographic evaluation with ultrasound 30VET MyLab GOLD. To ultrasound revealed hepatomegaly with the presence of a large tumor formations, characterized by hipoecogene areas of necrosis and areas hyperechoic intratumoral densification.

Results and conclusions. Since it the liver has two sources of receiving the blood (portal vein and hepatic artery) the risk that it is attacked by cancer cells is twofold. Mammary tumors metastasize to the lung, liver, bone, brain, Hepatic metastasis expressing canine frequently than cats. As long as the morpho-functional changes do not exceed 70% of the capacity of the liver, the liver is able to fill his activity level. Liver metastases are often characterized by a mismatch between minimal symptoms and imaging features of the lesions.

MINIMAL INVASIVE SURGICAL APPROACH ON THE FEMUR IN DOGS – DESCRIPTIV CADAVERC STUDY

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Introduction. Anykind of surgical procedure should not add unnecessary lesions to the traumatized area which has already suffered. If ORIF procedures are based on the principle that although a longer incision and an adequate range exposure is less traumatic than low exposure, because in the latter case, the surgeon tends to exert excessive pressure to withdraw muscles traumatizing direct muscle fibers and vascular-nervous. Basically, MIPO is the conservative version of all aspects of the ORIF technique.

Thus, we aimed at presenting a path of plate insertion through minimally invasive technique for the femur.

Materials and Methods. Target species was Canis familiaris (cadavers).

Results. The landmarks for the proximal incision is the great trochanter of the femur (proximal incision is made distal to it, with a slight skew cranio-ventral, this landmark promotes bone access through the area of cleavage between the vastus lateralis and biceps femoris muscles) and for the distal incision the lateral condyle of the femur and patella (distal incision is oriented proximal / dorsal.

Between the two incisions, we created an epiperiostal tunnel through which the plate. It is to be fixated onto the bone with 2-3 screws on each side, following conventional principles of plating.

Conclusions. The mininally invazive approach is, from our perspective, an easy and reliable acces to the femur.

SYSTEMIC PATHOLOGY HIDDEN BY TRAUMATIC DEATH IN SAVANNAH MONITOR (*VARANUS EXANTHEMATICUS*) – CASE REPORT

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Introduction. Savannah Monitors can exhibit an aggressive behavior not only when threatened, but also during the breeding season, or if its territory is being invaded. It consists of increasing its size and posture, while attacking by trying to bite and lash with their tails. The traumatic lesions are cutaneous (circulatory, inflammatory and necrotic), ophthalmic, musculoskeletal (fractures, dislocations, soft tissue injuries) or even circulatory of the internal organs.

Materials and Methods. A female of Savannah Monitor (*Varanus exanthematicus*) was found dead in its terrarium, which was shared with a male, and was submitted for necropsy. The owner described apathy as the only symptom of the animal. The necropsy

was completed by radiological investigations, histopathological (Hematoxylin - Eosine, Gomori) and cytopathological (May-Grünwald Giemsa) examinations.

Results and conclusions. The radiological investigations suggested the presence of a subcutaneous effusion on the left posterior abdominal region. The gross lesions found at necropsy lead to hypovolemic shock with a traumatic origin, caused by intraspecific aggression, which consist of an extensive hemorrhage of the left fat pad, hemorrhagic effusions and massive coprostasis. Degenerative hepatic lesions were also noticed. The cytopathological and histopathological examination confirmed the previously mentioned lesions, but also revealed some new pathologies. These consist of hepatic, renal and pulmonary gout, and also pulmonary, brain, splenic, pancreatic, miocardial intracytoplasmic inclusions, which raise the hypothesis of metabolical and viral disorders.

The death of the Savannah Monitor was traumatic, but the radiological, gross and microscopical investigations have indicated metabolic lesions and a specific viral inclusion condition, attributable to Inclusion Body Disease.

COMBINING *IN SILICO* MODELING AND BLOOD GLUCOSE DATA TO INCREASE THE PERFORMANCE OF INSULIN THERAPY IN DIABETIC CATS

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Introduction. The current study designs a potential mathematical model for insulin dependent diabetic cats, by examining the dynamics of glucose-insulin, based on an adaptive minimal model, commonly used for human investigations.

Materials and Methods. Matlab software was used to develop the in silico environment. The glucose minimal model considered blood glucose concentration, blood insulin concentration, steady state blood insulin concentration and the steady state blood glucose concentration. An adaptation for the insulin minimal model was performed in order to describe exogenous insulin infusion, following the decay rate of blood insulin and the volume of insulin distribution pool. Model functionality was increased by describing glucose level alteration after a meal.

Results. In silico modelling demonstrated that it could be used to approximate insulin requirement in insulin dependent diabetic felines, based on the insulin dynamics after being administrated subcutaneously. The mathematical model provided reliable guiding information concerning insulin dosing in diabetic cats.

Conclusions. Application of an adapted minimal model is a useful tool to examine glucose-insulin dynamics in cats, as it provides quantitative measure of insulin sensitivity. The predictions generated by the present model can be taken into account for insulin and meal adjustment during treatment and consequently a reduction of hypoglycemia incidence.

SLOW LORIS (*NYCTICEBUS* SPP.) UNCOMMON PATHOLOGIES REPORTED IN AN INDONESIAN PRIMATE REHABILITATION CENTER

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Slow lorises (*Nyctecebus* spp.) are listed as vulnerable or endangered (IUCN Red List) endemic primate species in Indonesia, heavily hunted for the pet trade. During a six-months-period of medical assistance at IAR Ciapus primate center - West Java, a series of Slow Loris uncommon pathologies were reported.

Case 1: Adult 700 g female presented several progressive plantar, limb and lumbar ulcerations with overlapping *Klebsiella pneumoniae*, *Candida albicans* and *Escherichia coli* infection. The degenerative process involved several finger muscles and tendons, with loss of mobility leading to dry gangrene that required amputation. The ulcers evolved during a five-months time frame and followed several specific and nonspecific treatment schemes: Amoxicillin/ Clavulanic acid (62.5 mg PO q 12h, 7 days), Neomycin/placenta extract (topically, with the change of bandage following the), Enrofloxacin (5 mg/kg IM q 24h), Miconazole ointment (topicaly, 10 days), dressingFarmycetin gause (changed daily, 10 days), Meloxicam (0.2 mg/kg PO, q 24h, 3 days), Chinese herbal powder (topically, 10 days), Neomycin/placenta extract mix gel (topically, 10 days).

Case 2: Adult 530 g male developed an infection following a tooth extraction which relapsed into a massive cheek septic abscess, regardless of the ongoing general antibiotic therapy. The pus samples showed that *Klebsiella pneumoniae* was responsible. Putting in place a drain and changing the antibiotic with Chloramphenicol (topicaly, q 24h, 7 days) in respect with the antibiogram, led to the full recovery.

Case 3: Adult 650 g female arrived with multiple lacerations due to several lead bullets, showing muscle stiffness that in time evolved into prolonged systemic contractions. Lead poisoning, *Clostridium tetani* or radiant pain from the wounds was considered. Despite local and general treatment (wound dressing, antibiotic treatment Amoxicillin/Clavulanic acid 62.5 mg PO q 12h 7 days and pain management with Meloxicam 0.2 mg/kg PO 3 days, Bupivacaine 1m/kg local infiltrations and Buprenorphine 0.02 mg/kg IM q 12h, 2 days) the wound edges form one affected limb did not close and started to retract exposing the muscle and bone structures. After a lidocaine nerve block test, a complete, sudden relaxation of the entire body muscle was observed. It was then decided to perform a mid- femoral amputation. following the protocol described by Ann L. Johnson in *Fossum's Small Animal SurgeryTexbook (2007)*.

Case 4: Adult male 780 g, first arrived at the centre 1.5 years ago, treated for corneal ulceration and dental abscess, with good evolution and body weight gain. Keepers observed a slightly altered behaviour and movement difficulties. Following an X-ray exam, a lumbar modification was observed that could explain the clinical signs. Based on the absence of systemic alterations he was given Meloxicam (0.2 mg/kg PO, q 12h, 3 days) and put back to his outdoor enclosure under close observation.

STUDY ON DEVELOPING A FIXED PROSTHESIS IN DENTAL FRACTURE IN DOG

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Introduction. In veterinary medicine we can use modern materials and techniques of coronal restoration that can radically change the therapeutic of veterinarian practitioner. Dental diseases that can cause fractures in the canines may result in a poor approach to complications such as pulp infections or apical abscess.

Materials and Methods. In veterinary dentistry, dental crown restoration method can use pivot technique, connected with the cemented prosthesis made in dental labs. The dental pivot is a crown - root device which has the shape of a pin with a projecting portion which defines the crown of the root, and is further fixed to anchor the prosthesis. To achieve dental impression technique we used dental impression material using a silicone based. Subsequently, dental records obtained was processed in dental laboratory to achieve a fixed prosthesis using the ceramic material. It was later used in the reconstruction of dental crown by cementing it, composite material being used for aesthetic finishing fractured canine.

Results and Conclusion. The work performed on fractured tooth aimed to restore tooth function. Used composite material has achieved very good bridge between the tooth and the prosthesis applied. Restoration technique using pivot gave the resistance that was needed.

CAUDA EQUINA SYNDROME (CES) – CASE STUDY

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Summary. Cauda equina syndrome (CES) is a rare syndrome that has been described as a complex of symptoms and signs. In this study was taken one dog with paraplegia, which was treated with anti-inflammatory and analgesic. The diagnosis was using modern techniques RMI. This technique of diagnosis is one of the most effective. Dog was treated surgically by laminectomy. After 24 hours at the laminectomy high postoperative patient and two months after surgery, show no clinical neurological symptoms.

Cauda Equina Syndrome (CES) is caused by compression of the nerve roots passing between the last lumbar vertebra and the sacrum toward the tail at the level of the lumbosacral junction. Dogs with abnormal shape to their last lumbar or sacral vertebrae and German Shepherd Dogs are predisposed to developing lumbosacral stenosis (www.sage-centers.com). The most common cause of cauda equina syndrome is narrowing of the vertebral canal at the level of the lumbosacral joint. The fully developed CES is accom-

panied by sensory and motor disorders such as low-back pain, saddle anesthesia, and motor weakness of lower extremities leading sometimes to paraplegia or bladder dysfunction. These clinical symptoms are related to a sustained stimulation of the cutaneous, muscular and visceral nociceptive afferents (Maršala et al. 1995, Orendáčová et al. 2001a,b). Several examination are use to confirm CES such as x-rays, myelogram, epidurogram, computed tomography, and magnetic resonance imaging (MRI). Our study suggests that MRI has some advantajes in evaluating CES at dogs. Similar study was inducing in other countries such as Japan. In Romania country is not similar studies have been made. The aim of the present study was to use MRI to diagnose and treat the animal through the laminectomy procedure.

COMPARATIVE STUDY OF THE STOMACH MORPHOLOGY IN RABBIT AND CHINCHILLA

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Introduction. In recent years the use of rabbits and chinchillas as experimental model both in human and veterinary medicine and as pets is gaining ground in detriment to the carnivores. Moreover, major human intervention in their diet, leading to the artificiality of a major part of the food, justifies the acquisition of specific morphological knowledge to each organ. The aim of this study is achieving morphological and topographic description of the stomach in rabbit and chinchilla.

Material and methods. We used 10 rabbits and 10 chinchillas. Stratigraphic dissection was perform in all subjects

Results. In both species the stomach is simple. The transition from the esophageal mucosa to the gastric mucosa is clearly marked. The gastro esophageal sphincter is very visible, placed in the middle of the small curvature. The distal esophageal mucosa has a serrated pattern, making a strong gastro esophageal sphincter. In rabbit, the stomach shows thin walls with well individualized cardia and pilor orifices. The fornix is visible, located dorsal of the cardia orifice. Before the pyloric opening a narrow segment is visible - the pyloric antrum. At chinchillas, the angular notch is sharpest and the dorsal region of the stomach is at the same level with the pylorus. The gastric folds are much more obvious in the stomach body than in the cardial region.

Conclusion. Both in rabbits and chinchillas, the stomach present numerous similarities regarding the topography, divisions, pattern and relationships with adjacent organs. Significant differences exist in the mucosa, and the presence of an individualized fornix and a well-developed pyloric antrum in rabbits, compared with chinchilla.

ELECTROENCEPHALOGRAPHIC DIAGNOSIS RECORDINGS IN DOGS SUFFERING FROM EPILEPSY OF UNKNOWN ORIGIN

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Introduction. Epilepsy of unknown origin is incurable, but treatment in the form of constant medication can help control and prevent progression in the severity of the condition in many cases. If untreated, epilepsy of unknown origin can, in extreme cases, lead to cluster seizures and status epilepticus and death.

The **aims** of this study were to describe a short time EEG recording (30 minutes) using Redding's model to determine the diagnostic value of electroencephalographic recordings in dogs suffering from epilepsy of unknown origin.

Materials and Method. Electroencephalograms were performed on 24 dogs of mixed breeds suffering from epilepsy of unknown aetiology. Anaesthesia was induced with medetomidine hydrochloride and ketamine. EEGs were obtained via five subdermal needle electrodes. The EEG was recorded with sensitivity = 70μV/cm; time constant = 0.3 seconds; Hf = 70 Hz; Lf = 0.5 Hz; notch filter inserted; impedance of all electrodes < 10 kΩ.

Results. Interictal epileptiform discharges occurred in 16 dogs (66.66%) consisting of single spikes were recorded in 7 patients (43.75%), in three dogs (18.75%) polyspikes and wave complex, and multiple sharp wave complexes were surprised to 6 dogs (37.5%).

The results of the present study revealed that interictal epileptiform discharges detection recorded using electroencephalography is the main way which proves the presence of an epileptic focus in the absence of clinical sings.

Conclusions. The present study shows that the analysis of interictal short time EEG is an important diagnostic tool for epileptic dogs. Those interictal discharges might be of particular importance in animals with unclear forms of seizures, grace to their specificity in distinguishing between epileptic seizures and other pathologies manifested by seizures – syncope/ movement disorders.

DOG BITE TRAUMA ASSOCIATED WITH *SPIROXYS CONTORTUS* PARASITISM IN A CAPTIVE RED-EARED SLIDER (*TRACHEMYS SCRIPTA ELEGANS*) – A CASE REPORT

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Introduction. Trauma is particularly noted in red-eared slider (*Trachemis scripta elegans*) as a result of dog bites, frenzy fighting at the time of feeding, and road traffic accidents. Dog bites injuries are often severe and even minor lesions can rapidly degenerate into generalized septicemia. *Spiroxys contortus* is a coiled nematode threaded into gastric wall, chelonians, snakes and amphibians being the definitive host.

Materials and Methods. A turtle (1-year-old male of *Trachemys scripta elegans*) was submitted for investigations (clinical, radiography, necropsy, parasitological and histological exams). The owner reported that the reptile was bitten by a 3-year-old male of Yellow Labrador Retriever. Routine histological stain (hematoxylin-eosine) was used for stomach, intestine, liver and lung. Parasitological investigations were focused on identification of the adult parasites.

Results and Conclusions. The clinician described fractures of the shell and concurrent hemorrhages. Radiological investigation revealed multiple fresh fractures of the shell and left clavicle, and viciously healed fracture of the left tibia and fibula.

The most relevant lesions observed in gross investigations were the multiple fractures and characteristic dog bite perforations of the carapace and plastron. Hemorrhagic effusions in the coelomic cavity were remarked after the plastron removal produced by the liver rupture and lung perforation. The stomach presented gastric ulcerations and clustered coiled parasites from the Nematode class (*Spiroxys contortus*), heavily threaded into the gastric wall.

Histological findings in liver revealed normal hepatic architecture. The hepatocytes presented vacuolated cytoplasm without modification of the central position of nuclei. The liver presented zones of rupture filled with a clot bounded by a discrete fibrin layer and a small number of heterophils. Gastric wall presented healed ulcers and stage 3 larvae of *Spiroxys contortus* surrounded by giant multinucleated cells and mononuclear cells (parasitary granulomas).

SEROPREVALENCE OF *LAWSONIA INTRACELLULARIS* INFECTION IN FATTENING PIGS

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Introduction. Porcine proliferative enteropathy, commonly called ileitis, is caused by an obligated intracellular bacteria called *Lawsonia intracellularis*, producing variable clinical manifestations including a chronic form, called porcine intestinal adenomatosis (PIA), and an acute form, named proliferative hemorrhagic enteropathy (PHE).

Studies showed a high prevalence and major economic damages caused by this disease. Is considered that between 30-50% swine herds coming from different types of production systems and in all parts of the world are infected.

Materials and Methods. To estabilish seroprevalence of *Lawsonia intracellularis* infection were studied 24 blood samples from different age pigs, coming from 5 farms arranged in the west of Romania. Samples were grouped by age category of pigs, group of 45-90 days, 91-140 days, 141-180 days, and by their origin. To determinate postinfectious antibodies was used MegaScreen®FLUO LAWSONIA (Diagnostik Megacore) kit.

Results. Were observed that *Lawsonia intracellularis* infection was present in all studied farms. Seroprevalence within herds fluctuated between 33 and 54%.

Age depending, dynamics of seroprevalence knows an increase at 91-140 days category and a decrease at finishing-slaughtering period. Thus, it was obtained a seroprevalence average of 32,8% at 45-90 day category, increasing to 71,9% for 91-140 days category and reaching to 62,5% in the last period of swine exploitation.

Conclusions. *Lawsonia intracellularis* infection was diagnosed in all studied farms from the west of Romania. During the fattening period were noted that seroprevalence has increased in the first 140 days from 30% to 70% and by the end of exploitation period it decreased to around 60%.

COMPARISON OF SOME DIFFERENT METHODS FOR IDENTIFICATION OF *LAWSONIA INTRACELLULARIS* INFECTION IN PIGS

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Introduction. Infection of *Lawsonia intracellularis*, the causative agent of proliferative enteropathy, occurs all over the world, in different types of production systems, affecting young breeding and growing-finishing pigs and is characterized by hyperplasia and inflammation of the ileum and colon. The economic damage due the evolution of this morbid entity could not be stopped, as long as the aetiopathogenesis is unclear, as the earlier diagnosis methods of outbreaks are not established, it is impossible to determine appropriate measures against the disease and to control it.

Materials and Methods. A number of 25 samples of ileum, with specific lesions of intestinal adenomatosis, were submitted to microscopic examination, using Kinyoun, Green-Methyl-Pironine, Masson-Fontana, Schmitz, Diff-Quick methods and immunohistochemistry.

Results. The results showed that Green-Methyl-Pironine method has no value for diagnosis of porcine proliferative enteropathy, while Kinyoun coloration is capable to identify the bacteria only in 28% of samples. The argentic impregnation and Diff-Quick are able to highlight the aetiological agent in 44%, respectively 40% of the studied samples, so this methods have enlarge value of diagnosis. Immunohistochemistry demonstrated a high sensitivity and specificity and it was capable to emphasize the causative agent of intestinal adenomatosis in all 25 studied samples with proliferative ileitis.

Conclusions. Immunohistochemistry remains a precision diagnostic method of porcine proliferative enteropathy outbreaks. Due to expedient technique and satisfactory results, Diff-Quick method can successfully replace the argentic impregnation. Poor results obtained in case of Green-Methyl-Pironine method recommend that these techniques are not used.

RESEARCH ON FACTORS AFFECTING RESULTS BIO-ECONOMIC BOVINE EMBRYO TRANSFER

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Introduction. Embryo transfer (ET) in cattles in Romania begun Research and Development Institute for Bovine of Baloteşti and Research and Development Station for Bovine of Tg. Mureş.

Materials and Methods. Nonsurgical methods have been used for collection and transfer of embryos and valued more bio-economic determinants: the health of donors and recipients, metabolic status and hormonal treatments range repeatability poliovulations etc.

Results. The number of non-surgical embryo-transfer was 572 to 264 of fresh embryos, resulting in 118 gestation (44.69 %) and 308 after thawing, resulting in 116 gestation (37.66 %).The success rate in heifers was 45 %.

Conclusion. The results of bio-economic obtained through the application of biotechnology in cattle's embryo-transfer depend on the team's experience, the quality of the animals, hormonal doses and effective management before, during and after the transfer.

IXODIDAE TICK PARASITISM IN COMMON STARLING – A CASE REPORT

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Introduction. Common Starling (*Sturnus vulgaris*), known as European Starling, is a medium size bird from *Sturnidae* family. The bird is usually found in warm climate areas in southern and western Europe and south-western Asia, and in winter season, the population from the northern continent migrates in warmer climate areas. Common Starling can be host for a large variety of parasites.

Materials and Method. In June 2012, inside Agervet Clinic in Târgovişte, a bird from *Sturnidae* family – *Sturnus vulgaris* was admitted, involuntarily hit by an automobile due to its low altitude flight. The bird presented vital signs but multiple lesions. During examination the bird died due to lesion severity. Body examination revealed massive tick infestation located in neck and head area, while the other body areas didn't present any ticks. Ticks were collected and introduced in plastic containers with alcohol and sent to laboratory for identification.

Results. A number of 29 ticks were collected, represented by 8 males and 21 females. Based on morphologic characters, ticks were identified, represented by *Dermacentor pic-*

tus. Common Starling diet is varied, consuming insects as well as fruits, seeds or food waste. During feeding, birds land on soil in search of food whithin the grass where tick infestation can occur. The *Ixodidae* ticks are temporary parasites, with long periods of free life and periods of parasitic life. In the parasitic period, the ticks feed with blood. Because they feed on the blood of their host, the ticks are responsabile for the maintenance and transmission of pathogen agents, including several species of protozoa, bacteria and virus.

Conclusion. Bird mobility from an area to another can disperse ticks on large areas with significant economic and health impact.

A COPROLOGICAL SURVEY OF CAPTIVITY CARNIVORE MAMMALS PARASITES

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Introduction. Wild animals represent a reservoir for various diseases, therefore surveillance of parasitic disease through helmintic fauna diagnosis is required as a necessity in disease prevention and control development.

The objective of this study was the identification of intestinal parasites in wild carnivore mammals from Zoological Garden Administration Bucharest.

Materials and Methods. This study described 41 animals, of which: Siberian Tiger (7), Indian Tiger (1), Wolf (3), Skunk (3), Raccoon (7), Bear (1), Wildcat (1), Puma (2), Lion (2), Fenec (2), Coati (2), Jaguar (1), Meerkat (4), Lynx (2), Serval (1). Fecal samples, collected for spring inspection (2013), were deposited in plastic containers, individualized and transported to FVMB Laboratory for examination. Sample processing was carried out by flotation method, using a supersaturated solution of sodium chloride. Species identification was established based on determination keys.

Results. After microscopic examination, a prevalence of 21.95% intestinal parasites was noticed. Intestinal helmintic fauna of examined wild carnivore mammals was represented by *Toxocara cati* – 55,55%, *Toxascaris leonina* – 33,33%, *Ancylostoma spp.* – 33,33%, *Baylisascaris transfuga* – 11,11%, *Trichuris spp.* – 11,11%. In 44.44% cases, a double infestation was noticed, rest of the cases presenting simple infestations. The intensivity of intestinal parasitism, evaluated by existent number of eggs inside the microscopic field, was reduced.

Conclusion. Coprological control of an entire effective is required to be realized periodically in order to maintain animal health and limit contamination hazards for caretakers.

LOCOREGIONAL ANAESTHESIA FOR ORTOPEDIC SURGERY OF THE PELVIC LIMB

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Regional anesthetic techniques provide superior pain relief during surgeries and faster recovery compared to intravenous analgesic administration. Regional local anesthesia of the pelvic limb can be performed by epidural anesthesia or by peripheral nerve blocks. Animals have to be under general anesthesia or procedural sedation during surgery after regional motor-sensitive blockade. (Campoy et al. 2012).

Epidural anesthesia. Epidural anesthetic technique provides superior analgesia and decreases analgesic needs for a long time depending on the drugs used. It reduces the need of opioid administration during surgery and up to 24 hours after surgery (Cerasoli I, et al., 2012).

Peripheral nerve block. Compared to epidural anesthesia peripheral nerve block has the advantage of not producing intra-operative hypotension, nausea, vomiting, pruritus and postoperative urinary retention, shorter hospitalization time and fewer neurological complications. (Vettorato E. et al. 2012; Caniglia A.M., et al., 2012)

Regional anesthesia of the pelvic limb consist of blocking sciatic nerve by ischiatic access (Campoy et al. 2008) or parasacral approach (Portela et al. 2010) and femoral block by lumbar access (Campoy et al. 2008; Portela et al. 2010), psoas compartment (Portela et al. 2013) or femoral triangle access(Mahler & Adogwa 2008)

Conclusions. Epidural anesthesia and peripheral nerve blocks of the hind limb produce similar intraoperative and postoperative analgesic effects. However, peripheral nerve block seems to produce less side effects compared to epidural anesthesia.

IMPROVING THE WEANING PROCESS AT PIGLETS

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Summary

Weaning is a natural or artificial phenomen that make the switch between sow's milk and the feauture feed of piglets. This operation has an important zooeconomic particularity because it allows obtaining in less time and with lower consumption of feed a greater number of piglets. The success of weaning piglets is related to major changes in the digestive tract of animals since their birth.It was demonstrated very clearly that the

whole piglet's digestive capacity is dependent on the age of the animal, physiological changes and on the recipe given.

A successful weaning , require understanding the mechanism that makes the various components of the recipe affect the maturity of digestive capacity, which leads the starter recipe making , not only by the requirements in essential nutrients but also by digestive physiology. Administration of a milk substitute for early weaned piglets is a minimum requirement to ensure the integrity of the small intestine to maintain the animal's digestive potential.

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THE INCIDENCE OF IDIOPATHIC PIODERMITIS ON DOGS IN 2013

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Introduction. In the literature, staphylococcal dermatitis, also known as the pyodermitis are caused by several species of staphylococcus, including *Staphylococcus pseudintermedius* the main bacteria responsible for producing them.

Materials and Methods. The study was conducted on a study of 30 dogs, of different breeds, ages and sexes in the period May to September 2013, with various skin disorders. Investigations were carried out in the Clinic of Veterinary Medicine Faculty from Bucharest.

Results and Conclusions. The results of anamnesis, clinical examination and complementary examinations (bacterioscopic exam, skin cytology, direct examination, bacteriological culture and sensitivity, blood measurements, histopathology) have demonstrated the appearance of staphylococcal pyodermitis on dogs, predominantly has secondary infection to primary disease and food allergies hipersensibility reaction to flea bites, canine atopic dermatitis, demodicosis, sarcoptic mange, keratinization disorders. *Malasseziei spp.* has often associating with bacterial proliferation pyodermitis syndrome during that study. Our studies emphased following research conducted revealed not present any idiopathic pyodermitis.

ANESTHESIA: THE USE OF INJECTABLE ACETAMINOPHEN IN HORSES – POTENTIAL BENEFITS AND DISADVANTAGES

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Introduction. Equine anesthesia is a challenging area, with significant peri-operative fatalities (1:50). The reasons for the high incidence of deaths have not been fully eluci-

dated, however limitations in current equine anesthetic techniques are almost certainly a contributing factor.

Current equine anesthetic protocols provide poor peri-operative analgesia compared to those used in man and small animals, due also to the limited use of potent opioids because of their excitatory side effects in horses that render them problematic for clinical use.

Our purpose is to investigate the possibilities of using acetaminophen (paracetamol) as part of the protocol of equine anesthesia. In order to do so, we have started by investigating the use of acetaminophen in healthy, non-surgical patients. Acetaminophen is used widely in humans with known toxicity side-effects.

Materials and Methods. 10 horses with variable health issues that were causing pain were treated with injectable acetaminophen, 5mg/ml via i.v. catheter over 15 min. The effect was evaluated 1h later in order to see if there was pain reduction.

Blood samples were taken before the injection of acetaminophen, and at an 24h interval post injection. The blood was submited to a laboratory for testing of liver and kidney damage.

Results. At the used dosage there is pain reduction. There were no significant changes in the parameteres monitored through blood testing.

Conclusion. Acetaminophen has analgetic propreties in horses, and therefore it is worth considering it's use as part of part of multimodal pain protocol for partial intravenous anesthesia. The used dose did not cause liver or kidney damage, so further investigation concerning dosage and drug-interactions is needed in order to refine the protocol.

RECOVERY OF NEUROLOGIC DEFICITS CAUSED BY POSTTRAUMATIC SPINAL HEMATOMA WITHOUT SURGERY DECOMPRESSION IN A DOG

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Abstract

A female golden retriever, 1.3 years old, weighting 28 kg, was presented at the Medical Clinic of the Faculty of Veterinary Medicine – Iasi with acute progressive tetra paresis and spastic urinary incontinence installed over 5 days.

Neurological examination and imaging tests (X-rays, computer tomography and magnetic resonance imaging) established the diagnosis of thoraco-lumbar post-traumatic spinal hematoma.

As the surgery for blood clot removal was impossible, the patient received symptomatic medication, and clinical signs evolved from tetra to spastic paraparesis.

To restore motor functions lost due to traumatic impact, the dog underwent the physiotherapy program which had a major role in the patient's neurological recovery.

PUBLIC HEALTH
AND
ANIMAL PRODUCTION

FOOD DEFENSE – A NEW CHALLENGE FOR FOOD SAFETY

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Introduction. The potential of this study is to investigate issues regarding potential application of Food Defense concepts for Food Industry. The approach is based on a study cases which implements Food Safety procedures (HACCP, ISO Standards) - and studies the opening for implementing a Food Defense Plan. Food Safety refers to a potential accidental hazard (physical, chemical or microbiological) that may occur and Food Defense concern a hazards that may be intentionally introduced, including by acts of terrorism. The paper explore in an analytical manner, the factors that can influence the implementing of a Food Defense Plan in Food Industry with focus with the commune elements specific for Food Safety Procedures already implemented. For implementing a Food Defense Plan 3 major conditions must be implemented: Regulation, Food Safety Procedures and a Contingency Plan. A Food Defense Plan should be implemented based on Assessment Vulnerability - a process used to identify specific points in the food supply chain where intentional contamination has the greatest potential to cause economic and public health harm or to identify and prioritize the weaknesses (vulnerabilities) in a specific food operation chain. Food Defense is an improvement for Food Safety Procedures. Food Safety represents one of the most important topics for Food Industry.

Materials and Methods. The study is based on an exploratory method with a qualitative approach based on interviews with the Managers. Other secondary data were collected through Audit Reports Analysis issues from Certification Processes of Food Safety Management Procedures.

Results and Conclusion. We find out that the companies with the similar quality principles and practices for Food Safety are more open to implement a Food Defense Plan.

BREEDING OF SOME CHARACTERS IN A DUROC SWINE POPULATION

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Introduction. The heritability allows estimating which the contribution of the genes is in achieving on of a specific quantitative character and shows the proportion of the phenotypic variation which dues to the effect of the genes which create the genotype of the proper type.

Materials and Methods. The research was done in a Duroc population by using the obtained performances in the testing of their own performances by 902 pigs, belonging to the sisters' family with a medium size of 367 pigs and 2, 46 half sister families. The genetic determinism was analyzed by the following characters: weight in 181 days,

average daily gain during the testing (which shows the growing energy), lean at the end of the testing (which shows the quality of the carcass). The genetic determinism was analyzed with the causative parts of the variability`s variation and genotypic correlation.

Results and Conclusion. The considered population`s potential it`s under the envisioned level of the breeds standard for the 181 days weight and for the daily average gain. It is found the existence of a strong genetic determinism expressed through the great percentage of the additive variance for the weight in 181 days (41, 70%) and for the lean variation (44, 76%) and a low genetic determinism for the average daily gain (27.2%).

In the present research, we found that the values of the heritability coefficients places the characters of body weight in 181 days (0,417) and the thickness of the layer of lard (0,447) in intense heritable character class, and the average daily gain (0,272) in the category of those with intermediate heritability.

CONFIRMATORY METHOD OF RESORCYLIC ACID LACTONES IN URINE AND TISSUE BY LIQUID CHROMATOGRAPHY TANDEM MASS SPECTROMETRY

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Introduction. The group of resorcylic acid lactones comprises α/β zearalenol, zeranol and its metabolite taleranol, zearalenone and zearalanone. The use of zeranol is allowed in USA and Canada, but it is forbidden in Europe because of its estrogenic properties. Zeranol is common obtained from zearalenone known as Fusarium Toxin. The both compounds give identical metabolites and they are often found in urine from bovines, pigs, ovine and horses. A liquid chromatography negative ion electrospray tandem mass spectrometry was developed according to EU legislation.

Materials and Methods. α/β zearalenol, α/β zearalanol, zearalenone, zearalanone, α/β zearalanol d4 and zearalenone d6, ethanol, methanol, TBME, acetone, acetonitril, β glucoronidase sulfatase, C18 500mg/6ml from Chromabond, Strata Amino 1000mg/6ml from Phenomenex and an LC-MS/MS Varian 320ms Instrument equipped with a column Pursuit C18 150x3x3 were used.

Standard solutions were individually dissolved in ethanol at a concentration of 1mg/ml, 10μg/ml and 0.1 μg/ml of mixed standard solutions.

5ml urine was deconjugated 2h/37°C. The extraction was performed with TBME, and then the sample applied to C18 cartridge, evaporated and passed through the amino cartridge . The extract was redissolved in 20% acetonitrile aqueous solution and injected in LC-MS/MS.

Results and Conclusion. CCα and CCβ values were 0.16-0.40 μg/kg and recoveries were calculated between 75-119% depending of the compound.

A confirmatory method was validated for urine, liver, fish and kidney samples.

Samples of the urine were analyzed and zeralenone and its metabolites were detected due to contaminated feeds. Also samples of the liver were investigated neither zeranol nor taleranol were presented.

PRIMARY BIOPHARMACEUTICAL ASSESSMENT OF SOME IBUPROFEN HYDROGELS

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Purpose: The aim of this study was the design of some topical drug systems such as hydrogels incorporating ibuprofen as a non-steroidal antiinflammatory drug, having improved drug release characteristics and adequate rheological profiles, allowing a suitable spreading at the cutaneous administration of these formulations.

Introduction: During the processing of an active principle in a topical formulation with a therapeutically effective concentration, three major aspects are to be considered: the manufacturing process has to ensure, during each stage, the stability of the drug, the formulation has to ensure the administration therapeutical purpose, the composition has to ensure an optimal tolerability.

Material and Methods: The pharmaceutical systems used in this study were three ibuprofen-based hydrogels (coded as U, G1 and G2 respectively) with different compositions of the release basis and with a constant drug content. These systems were **kinetically** evaluated (with an adapted Franz diffusion cell fitted with an artificial cellophane membrane, the release medium used being phosphate buffer with pH = 7.4, the receiving medium flow rate being 2mL/min., the working temperature: $37^{o}\pm0.1^{o}C$) and also **rheologically** evaluated (using a rotational viscometer MultiVisc – Rheometer, Fungilab, at two working temperatures, $23^{o}C$ and $37^{o}C$).

Results and Conclusion: The *in vitro* release determinations allow the evaluation of the drug release in the contact medium. The designed hydrogels followed Higuchi's diffusional model. The ibuprofen release kinetics quantification from the tested systems was achieved through the diffusion coefficient, parameter specific to Higuchi model. All tested hydrogels show a non-newtonian, pseudoplastic and thixotropic behaviour. The values of ibuprofen diffusion coefficients determined experimentally recommend the basis G1 as optimal for ibuprofen conditioning.

STUDY REGARDING THE PRESENCE OF SOME MINERALS IN DECARBONATED WATER FOR PUBLIC CONSUMPTION

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Introduction. Water is an indispensable factor for human body. From the OMS data, the minimum quantity necessary for human body is 5 litres per day. The phychological need of water for an adult with normal weight, is considered to be 2-3 litres, including the water from the food and the one that results from their metabolism. The sources of drinking water, approximately 3% of the total existing water in the world, are represented

by de surface water and by groundwater. Groundwater are intensively exploited for obtaining natural mineral waters, whose consumption is traditional in Romania.

Materials and Methods. The study was performed on 5 types of partially or totally decarbonated mineral water, aiming the level of nitrates, nitrites, chromium, copper, nickel by spectrophotometer method of molecular absorption, using a UV-VIS SPECORD 205 spectrophotometer, respectively atomic absorption spectophotometry with graphite furnance.

Results and Conclusions. After the determinations were carried out, it was noted that the nitrates level in samples 3 and 5 were higher, exceeding the values shown on the label, and the nickel level was higher compared to the other minerals determined. After the laboratory analysis of decarbonated water samples studied, it was noted that none of the 5 samples did not exceed the maximum allowable limit for the analyzed parameters.The level of metals in the 5 samples of water is very low.

The researched parameters are under the maximum allowable limits, but is needed a carefully monitoring by the competent authorities.

TEHNICAL EXTRAJUDICIAL EXPERTISE IN THE LIGHT OF ROMANIAN LEGISLATION

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Introduction. The activity of tehnical extrajudicial expertise is regulated along with tehnical judicial expertise by the ordinance no. 2 of January 21, 2000. Acording to this, tehnical extrajudicial expertise represent the expertise activity performed at the request of individuals or legal entities regarding the situations that are not directly related with judicial activity. This activity is performed by tehnical extrajudicial experts, who acquire this quality based on an exam that has as purpose the checking of the specialized training and the knowledge of normative acts that are related to that specilaty. The exam can be organized by the ministries or other central institutions

Materials and Methods. The study was performed through the analysis of the legal regulations in force, using the grammatical systematic method, logic, as well as the analogy.

Results and Conclusions. Tehnical extrajudicial expertise can be performed and by tehnical extrajudicial experts at the request of individuals or legal entities, while the extrajudicial tehnical experts can perform just extrajudicial expertise.

The new code of civil procedure retain the possibility for the court as ex officio, or at the request of a party, to require the point of view of one or many personalities or specialists, from the strictly specialized areas, that does not have authorized experts. The technical extrajudicial expertise report has the value of an act under private signature, that has only the value of an auxiliary material in the formulation of the complain, at the interview of the judicial expert and for the own check of the judicial expertise.

The code of civil procedure, came into force on February 1, 2013, give the possibility to the court to seek the view of some personalities or unauthorized specialists.

OBSERVATIONS REGARDING THE LEVEL OF SOME MINERALS IN PARTIALLY DECARBONATED WATER

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Introduction. Water represents the essential natural resource needed for all biological processes in nature, having a particular importance for sustaining life.

Nowdays drinking water has as main source, sourface waters and groundwaters that are the source of natural mineral waters. Mineral waters have a very important weight in our alimentation being intended both for daily consumption as for treating certain diseases.

In order to satisfy consumers preferences, the producers resort to diversify the assortments of natural mineral water from the market, either by partially or totally degassing or by impregnating with extra carbon dioxide.

Materials and Methods. The study was performed on three assotments of partially decarbonated mineral water, aiming the level of nitrates, nitrites, chromium, copper, nickel by spectrophotometer method, using a UV-VIS SPECORD 205 spectrophotometer, respectively absorbtion spectophotometer with graphite furnance.

Results and Conclusion. After the determinations carried out, reading and interpretation of the results, it was noted that the case of assortment 3 at the studied batch, the level of nitrates was larger than that shown on the label, and nickel level was considerable higher compared with the level of other minerals determined.

All studied parameters were situated under maximum allowable limits, even if in case of assortment 3 at analyzed batch was noted a higher level of nitrates compared with the one shown on the label

In case of assortments 1 and 2 at analyzed batch the levels of nitrates, chromium, copper, nickel were situated under the values shown on the label.

Even if the researched parameters are under the maximum allowable limits by the legislation in force, is needed a carefully monitoring by the competent institutions.

ANALYTICAL DETERMINATION OF SOME FOOD ADITIVES BY HPLC AND LC-MS CONSIDERING THE EU REGULATIONS AND NATIONAL CONTROL PROGRAM

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Introduction. Food additives have been used for centuries to keep or to improve the qualities of the food, drinks and cosmetics. Two categories of additives are used in the food industry: synthetic and natural ones. Synthetic additives are more stable than the natural ones during the manufacturing and storage food processes, they being not so sensitive to the degradation factors. On the negative side, they can cause adverse toxicological

side effects, being considered as unhealthily substances for humans. For this reason, the international regulations require the presence of synthetic additives to be declared in food, drug and cosmetic products

Materials and Methods. Beginning of 2008 the Institute of Hygiene and Veterinary Public Health started development and implementation of the HPLC methods for some additives used in non animal foodstuff.

Results and Conclusions. The Institute was the first sanitary veterinary laboratory which started the accreditation process for these methods. The first accredited methods were determination of benzoates and determination of soluble colorants Tartrazine and Sunset Yellow.

RESEARCHES CONCERNING THE BOTTLED WATER QUALITY IN BOTOSANI COUNTY

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Introduction. Recently has been recorded a dramatic increase in sales and consumption of bottled water, which can result in a higher risk for consumers health when the processing, bottling, shipment and marketing conditions are not appropriate.

Materials and Methods. The present paper aims to establish the quality of bottled water marketed in Botosani County.

Thus, there were taken two sets of 20 water samples produced by two brands - 10 samples of carbonated water and 10 of non-carbonated bottled water.

The chemical examination was conducted by using Nova 60 spectrophotometer, the following parameters being determined: pH, nitrates, nitrites, copper, sulfates and iron concentrations.

The results were statistically processed in Microsoft Excel 2010 and were interpreted in accordance with the provisions of legislation in force.

There was also performed the microbiological examination by rapid tests, respectively by inoculation on dehydrated media Compact Dry.

Results and Conclusion. Analyzing the obtained results, it was found that for none of the samples and for none of the determined chemical parameters were not exceeded the maximum admitted concentrations. It is noticed that the copper concentration values widely varied. The differences between types of water are significant for pH (mean value of 6.62 in carbonated and 6.96 in non-carbonated water) and for sulfates – the trend being reversed (average of 17.75 mg/l for carbonated and 14.8 for non-carbonated). Between producing brands, the differences are significant just for copper concentration, water quality being higher for one of the companies.

The microbiologic examination revealed that water was pure; any of the plates didn't develop colonies.

Following the researches, it can be concluded that the analyzed bottled water had a good quality.

TESTING OF THE ANTIMICROBIAL CAPACITY OF AN ORIGINAL CRYODISINFECTANT PHARMACEUTICAL CHEMICAL FORMULA

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Introduction. The decontamination procedures that apply in cold storage depots and geographical areas where temperatures go bellow the freezing point in certain periods of the year cannot be correctly and efficiently implemented without special intallations, but mostly without using complex chemical formulas that cover a broad antimicrobial spectrum and that can maintain a constant liquid state. On a worldwide scale there is an acute lack of such cryodisinfectants.

Materials and Methods. As a biological material we used strains ATCC and standardized growth mediums for microorganisms (for bacteria and fungi). Standardized laboratory work techniques were used (CMI and TOC).

Results and Conclusion.. We developed and tested for their antimicrobial capacity, 72 cryogenic chemical formulas that included several biologically active molecules, with a destructive effect towards microorganisms. Some of these preserved their state of matter at -20°C, but only one combination preserved its *cidal* effect in these conditions, regarding both physiologically active cells and spores as resistant form.

We tested for their antimicrobial capacity 72 cryogenic chemical formulas, some of which preserved their liquid state at -20°C, but only one combination conserved the *cidal* effect.

REACTIVE READINESS OF CERTAIN ANTISEPTIC CHEMICAL DYES

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Introduction. The antimicrobial activity of four antiseptic chemical reagents, dissolved in solutions by themselves or in different combinations, has been analyzed based on standardized laboratory techniques.

Materials and Methods. The research was performed using microbial strains tipe ATCC and specific bacteria growth medium (PCA), respectively fungi growth medium (DG_{18}). The antimicrobial capacity was evaluated using two standardized techniques that aimed establishing the minimal inhibiting concentration (CMI) and the optimal contact time period (TOC).

Results and Conclusion. The results obtained highlighted the extremely high reactive capacity of two reactants (Rgt1 and Rgt3) which inhibited the growth and multipli-

cation of physiologically active microbial cells, including the germination of *Bacillus anthracis*, *Bacillus cereus* and *Aspergillus niger* spores. The reactive readiness of the other two reagents (Rtg2 and Rtg4) was much lower and manifested selectively, only in certain microorganism species. The reactive capacity of the four reagents was different. Two of these (Rtg1 and Rtg3) proving to be extremely active towards all microorganism resistant forms, while the *cidal* effect of the other two was selective and of much lower intensity.

THE IMPACT OF EXPANDED FODDER IN GROWTH PERFORMANCE OF BROILERS

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Introduction. An „expanded feed" is a concentrate which has been exposed to hydrothermal treatment by an annular gap expander and which has been produced as a granulate without pelleting. The expander treatment (moisture, temperature, pressure and electromechanical energy) influence the physical characteristics and the nutritional value of feedstuffs. The main aim of our study was to determine the impact of the expanded fodder on the growth performance of broilers by comparing production technical indicators reported on two diets: fodder expanded versus conventional fodder.

Material and Methods. The two experiments involving 560 and 420 Ross × Ross 308 broilers were conducted at Avicola Slobozia – company specialised in raising poultry, processing and marketing poultry products. The average feed intake , the average daily weight gain, the average daily feed intake, mortality, age and body weight at slaughter were analyzed.

Results and Conclusion. Broilers receiving the expanded fodder had a significantly higher average body weight and improved feed efficiency when compared to broilers receiving conventional fodder ($P < 0.05$). The average daily weight gain of broilers fed with the expanded fodder was significantly higher when compared to broilers receiving conventional fodder ($P < 0.05$). Slaughter age was lower for broilers receiving the expanded feed compared to the conventional fed broilers, to a comparable body weight. Mortality was significantly lower for broilers receiving the expanded feed compared to the conventional fed broilers (2.93% vs. 6.54%). These results highlight the expanded fodder effect on the digestibility of protein, especially by inactivating anti-nutritional factors and effect on the reducing the microbial contamination.

COMPARATIVE ASSESSMENT OF FOOD SAFETY AND FOOD DEFENSE MANAGEMENT SYSTEMS IN FOOD BUSINESS OPERATIONS

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Introduction. While in the last decades food business operators (FBO) have gradually committed to food safety systems (FSSs) implementation, food defense is still overlooked, as its increments are not fully understood. This papers aims to highlight the differences and similarities between the two systems and to bring arguments in favor of food defense systems (FDSs) implementation in food business operations (FBO).

Material and Methods. For a meat processing plant, we applied the methodology of FSSs and FDSs, identifying main areas covered by each system. For FSS, the main used instruments are the PRP (prerequisites procedures) program and the HACCP plan. FDS's instruments consist in the development of food defense prerequisites program, followed by the threat-vulnerability-assessment program (TVA) and crisis management-emergency response plan.

Results and Conclusions. FSSs allow the prevention and minimizing to the greatest extent possible of unintentional contamination of food products throughout the food chain, aiming the control of various hazards. FDSs aim the prevention of intentional contamination and are focused on threats, which cover in addition to FSS hazards, terrorist attack instruments such as fire, flooding, water or electricity supply tempering, explosives, fire arms, terror and hoaxes, most of which remain uncovered by FSS. The requirements are broader before the development of a FDS plan and its key element, TVA, performed through operational risk management, CARVER-shock assessment or circular physical security threat assessment, achieves enhanced protection.

FDSs are not only an enhancement of FSSs, covering additional vulnerability elements and allowing the protection of FBOs as a whole: food business employees and companies, related critical infrastructures and consumers.

FOOD DEFENSE MANAGEMENT KEY ROLE IN STRATEGIC PLANNING AND DESIGN OF FOOD BUSINESS OPERATIONS – ORM CASE STUDY

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Introduction. Worldwide events of the last decades dictated new approaches of food defense. The food supply unfortunately remains a vulnerable target to threats. Therefore, the threat-vulnerability assessment (TVA) is crucial for the strategic planning and design of food business operations (FBO).

Material and Methods. This paper presents an operational risk management (ORM) case study performed for a food manufacturing facility from Orlando, Florida. Part of

the TVA, this ORM process was conducted in a six-step sequence, to increase operational effectiveness by anticipating the possible threats and reducing the potential for loss. The objective was risk mitigation.

Results and discussions. The ORM was conducted observing the additional approaching rules of the Circular Processing Plan Assessment, thus including the outer and inner perimeters, the employees and contractor control, the processing areas and the finished product areas. The ORM process identified six threats, of which two assessed as low risk (ranked 14 and 19 ORM points), two assessed as medium risk (ranked 9 and 11) and two as high risk (ranked 4 ORM points). Identified threats were classified as possible food tempering, sabotage, hoax or terrorism situations. For each threat, 1-3 risk control measures were established and prioritized accordingly. The expected outcome of the ORM after implementation is risk mitigation down to lack of vulnerability to identified threats.

Conclusion. The described ORM case study reveals important vulnerability and various risk levels, which stand as a solid proof of the crucial significance of the food defense management systems in strategic planning and design of food business operations. Results indicated that a well conducted ORM is efficient in risk mitigation.

QUALITY ASSESSMENT OF SPARKLING WINES USING THE ORGANOLEPTIC, PHYSICAL AND CHEMICAL PROPERTIES EVALUATION

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Introduction. Sparkling wines are considered to be the most important and appreciated products from the special wines category.

The aim of this study was to perform an organoleptic and physical and chemical properties assessment of different types of sparkling wine coming from an important Romanian wine cellar.

Materials and Methods. Ten samples of every five different sparkling wine assortments were submitted to analysis. For all samples, organoleptic assessment (general aspect, color, taste, smell, pearling) and physical and chemical properties evaluation (alcoholic concentration, total acidity in tartaric acid, volatile acidity in acetic acid, reducing sugars, pressure at 20°C) were performed.

Results and Conclusions. For all samples, the organoleptic assessment revealed normal parameters.

The results ranged from 11,82 to 12,18 % vol. for alcoholic concentration, 5,86 to 6,31 g/l for total acidity in tartaric acid, 0,57 to 0,61 g/l for volatile acidity in acetic acid, 1,02 to 38,77 g/l for reducing sugars and 3,53 to 4,22 atm for pressure at 20°C.

The five sparkling wine assortments were under the maximum admitted limits for physical and chemical properties.

However, the presence of abnormal values of certain parameters represents a real risk for the consumer health and a risk assessment should be performed in every case.

ORGANOLEPTIC, PHYSICAL, CHEMICAL AND MICROBIOLOGICAL ASSESSMENT OF DIFFERENT TYPES OF WINES FROM A ROMANIAN WINE CELLAR

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Introduction. Worldwide, wines are considered to be the most important and appreciated drinks due to their special composition and therapeutical effects. The aim of this study was to perform an organoleptic, physical, chemical and microbiological assessment of different types of wine coming from an important Romanian wine cellar.

Materials and Methods. Three samples of three different wine assortments (white, rose and red) were submitted to analysis. For all samples, organoleptic assessment (general aspect, color, taste, smell), specific physical and chemical properties evaluation (relative density at 20°C, alcoholic concentration, total acidity in tartaric acid, volatile acidity in acetic acid, total SO_2, free SO_2, total extract, reduced extract, reducing sugars, content of iron and sorbic acid concentration in red wines) and microbiological assessment (total number of germs/ml) were performed.

Results and Conclusions. For all samples, the organoleptic assessment revealed normal parameters. The results ranged from 0,9910 to 0,9978 for relative density at 20°C,11,6 to 13,4 % vol. for alcoholic concentration, 5 to 6,58 g/l for total acidity in tartaric acid, 0,31 to 0,56 g/l for volatile acidity in acetic acid, 110 to 138,2 mg/l for total SO_2, 34,8 to 37 mg/l for free SO_2, 22,3 to 27,53 g/l for total extract, 18 to 25,52 g/l for reduced extract, 4,2 to 12,1 g/l for reducing sugars, 1,4 to 4,1 mg/l for iron content and 0,05 to 0,08 for NTG/ml and 147 to 150 mg/l for sorbic acid concentration in red wines. All wines assortments respected the product specifications and the vineyard and wine law 244/ 2002 regulations.

GENERAL PRINCIPLES ON THE FREE MOVEMENT OF GOODS WITHIN THE COMMUNITY SPACES AND THE VETERINARY SERVICE RESPONSABILITIES IN THIS REGARD

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The European Union has set two main goals followed in the veterinary services. This consumer health and food safety on the one hand, and on the other hand, control and eradication of animal diseases. Accordingly, the Commission adopted a radical reform in the health department dealing with consumers. Scientific Committees placed under the responsibility of managing DG Consumer Policy and Health Protection, which deals with the Food and Veterinary Office (FVO). The Commission has reorganized and the three "tools" used to protect consumer health: scientific analysis, risk analysis control and inspections. In terms of disease control and eradication, creation of WTO and signed

by the Member States of the European Union agreement on sanitary and phytosanitary measures (SPS Agreement) tariff barrier reduction were set up to trade, based on animal veterinary safety . Thus, countries that want to prohibit the importation of animals or animal products from a particular country or region to protect its own animal health must scientifically prove this. Countries wishing to export, on the other hand, must prove that they are free of certain diseases. In both cases, it required a database suitable for animal health. Thus, the responsibilities of public veterinary services are moving towards two primary objectives- to facilitate international trade and protect public health.

EVOLUTION OF VETERINARY SERVICES IN ROMANIA IN THE PERIOD BEFORE ACCESSION TO THE EU AND SO FAR

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Romania, since 2007, was included among European Union countries. In these circumstances, the Romanian state legislation passed through a series of changes that have always sought to align EU rules. These changes were applied including veterinary structures in Romania. For this reason, I had known organization of veterinary services in the European Union Member States for adoption by the Romanian state has a functional structure agreed by the European Union. In terms of veterinary organization in countries that joined the European Union for a longer period of time, the veterinary services have a stable organization that has as main purpose prevention and control of animal diseases (including zoonoses) and strict control of food, while in countries that recently joined the European Union, veterinary services mainly dealing with the implementation of laws and systems desired by the European Union and used therein.

THE FORMULATION, PREPARATION AND EVALUATION OF SOME EXPERIMENTAL LORATADINE ORODISPERSIBLE TABLETS

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Introduction. The oral rapid disintegrating/dissolving formulations are solid dosage forms which, placed in the oral cavity on the tongue, rapidly disperse in the saliva, without the need for water. Such formulations combine the advantages of tablets (stability, ease of

handling) with those of liquid dosage forms (easy to swallow, improved bioavailability). The present study was focused on the formulation, preparation and evaluation of a loratadine (a second-generation antihistaminic drug) orodispersible formulation which could cumulate a rapid disintegration time and an adequate hardness.

Materials and Methods. The maximization of the porosity of the tablet matrix structure was attempted, using hydrophilic excipients and disintegrating agents. The excipients were mannitol (bulking excipient), gelatin and hydroxypropylmethyl cellulose (matrix-forming agents), sodium laurylsulphate, tween (disintegration enhancers). The preparation method was the lyophilization of aqueous dispersions of the components filled into blister moulds. The characteristics of the lyophilized tablets were evaluated regarding appearance, morphology of tablet fracture, mass uniformity, hardness and friability and *in vitro* disintegration time.

Results and Conclusion. The tablets had a white color and a porous structure, typical to the lyophilized products. The mass variation test results were within acceptable limits from the average mass. The hardness test results have revealed a plastic structure of the formulations containing the lowest proportions of gelatin and HPMC, which also showed the shortest disintegration time (4 seconds). The test results have allowed the identification of the adequate gelatin, HPMC and manitol concentrations required for a suitable oral rapid disintegrating/dissolving formulation.

THE FORMULATION AND CHARACTERIZATION OF SOME HYDRATING AND ANTI-AGING DERMO-COSMETIC PRODUCTS WITH HYALURONIC ACID, GINSENG AND ROYAL JELLY EXTRACT

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Introduction. Aging of the skin is a well-established process, which can be classified into intrinsic aging, genetically controlled, and extrinsic aging which is due to environmental factors. Both intrinsically and extrinsically aged skin needs dermocosmetic care.

The aim of this paper was to obtain some dermocosmetic products, efficient in the prevention and treatment of wrinkles, with nourishing and hydrating effect on the skin, containing hyaluronic acid in a liposomal form and a royal jelly and ginseng extract as active ingredients. Four formulations were considered in order to identify the formulation factors that favor the anti-aging effect on the skin.

Materials and Methods. The proportion between natural ingredients was varied in formulations. These were incorporated into two types of semisolid dermo-cosmetic bases, a Carbopol gel, with a hydrating effect, and a night cream containing lanoline, cocoa butter, olive oil and cholesterol, with an occlusive effect on the skin. All formulations were tested regarding their appearance, pH, viscosity and *in vivo* evaluation of the hydrating and anti-aging effect.

Results and Conclusions. The results show that the experimental formulations have a pleasant appearance, pH values that are compatible with the skin, formulation-dependant viscosities and a pseudoplastic behavior that ensures an even spread on the skin. The results of the in vivo tests (degree of hydrating effect and skin elasticity) suggest the best effect was obtained for the 7% hyaluronic acid and 3% royal jelly extract night cream.

SYSTEMS AND METHODS FOR QUALITY AND FOOD SAFETY ASSURANCE

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The most important prerequisite that must respond to a food is the lack of harmfulness, toxic character, because otherwise it transforms from a product useful for the human body into a threat to consumer health and life, but also for food security at all levels. It the same time, the of producers desire to ensure safe food, tend to attract the ultraprocessing raw and auxiliary materials, with the direct consequence of reducing and sometimes loss of useful compounds in food that is safe, but unfortunately no longer meets the minimum quality assurance. The legislation requires manufacturers to implement a series of systems based on the principles of GMP, GHP and HACCP to anticipate and eliminate potential hazards associated with food safety and for quality and traceability, management systems such as ISO 9000 22000 or systems that will be described in this paper, in order to demonstrate their importance in ensuring population health.

POPULATION HEALTH SURVEILLANCE BY QUALITY AND SAFETY FOOD SYSTEMS

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Population health surveillance provides real-time information about dietary factors that create health problems for a certain segment of the population or the entire population. It warns about the measures to be taken to prevent these problems or reduce the effects of their manifestation. Is an effective means by which to intervene when there is a tendency for the spread of disease outbreaks involving specialists with increased competences in various fields. The industrialization, free movement of goods and persons, urban population growth and decline of rural communities are some of the factors that threaten the preservation of the population's health. The aim of this paper is to investigate the impact of official controls in food quality and safety surveillance on the health of the population, the lasting impact being the reduction of diseases due to the foods consumption.

MONITORING THE CINEGETIC BIODIVERSITY WITH SPECIFIC INDICATORS TO MARAMURES COUNTY

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The main objectives of this paper are the description of hunting funds from Maramures region, analysis of wild stocks in the study area and to identify specific biodiversity of the region with the use of modern tools for monitoring wildlife in the forest seven funds. It also seeks regional wildlife biodiversity assessment and implementation of prospective studies on the development of wildlife biodiversity in the region studied. Methods used for the study of the biodiversity of this paper are: species richness, heterogeneity, anthropogenic factor. Also, we used appropriate methodology for calculating the indicators used in accordance with the generally recognized internationally. As a method for determining the regional wildlife biodiversity systematic study has used cross methods, aiming issues, phenomena and processes at a time and longitudinal methods, seeking processes, while issues. After the number of units taken so we used both statistical methods and methods casuistry (case study, monograph, etc.). Methods of data collection was mainly quantitative, it is an objective method, deductive and generalized in the period of 2 year (2011-2012). -The forestry funds Cisla, Bistra Petrova and Chioarului Valley, fauna biocenosis is the largest heterogeneity in the studied area. The heterogeneity of the largest deer is the smallest Bistra Petrova is Ruscova forest resources (Simpson index). Equitability highest recorded in the hunting Remetea. The animal genetic resources far exceeds their current use because they provide options for the future, a species of wild animals, which is of little importance today can be extremely valuable in the future to improve specific traits of resistance to diseases, adjustment,

IDENTIFICATION AND PRIORITIZATION OF CARDIOVASCULAR RISK FACTORS IN RELATION TO FOOD INTAKE PATTERNS

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Introduction. The purpose of this research was to explore the impact of lifestyle, genetic predisposition and metabolic risk factors on the incidence of cardiovascular disease, given the fact that economic reasons must emphasize with inexpensive measures that have impact on health status.

Materials and Methods. The research was based on a medical questionnaire about lifestyle, diet habits and personal history of the disease in pacients with or without clinical signs of cardiovascular diseases.

Results and Conclusion. All the respondents identified with atherosclerotic damage were associated with the following risk factors: physical inactivity (13%), high body

mass index (15%), family history (15%), history of hypertension (17%), frequent consumption of at least five types of unhealthy food (20%). At 89% of pacients who completed the questionnaire was identified the combination of at least three risk factors. From the total of five cardiovascular risk factors, one can not be changed (family history), one can be modified by drug therapy and through lifestyle changes (hypertension) and the other three could be eliminated through inexpensive methods, by changing everyday behavior, which can be achieved with a minimum cost to society.

A healthy diet was correlated only with the subclinical form of the disease thus its role seems important in preventing disease rather than in healing. Besides dietary risk factors, cardiovascular diseases were influenced in a cumulative way by socio-economic, behavioral and biological factors.

ASSESSMENT OF POSTURES IN DOGS

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In this paper a number of used terms used to assess the dog`s behaviours have been reviewed and defined. We pressed the point upon postures regarding possible and most frequent situations. Thus, we have presented the situations considered to be normal, wich subsequently, due to internal or external factors, transformed in patological.

We have presented and described the folowing terms: active, relaxed, indifferent, fearfull, excited and also behavioural disorders wich can occur due this conditions.

POX IN SHEEP AND GOATS IN BLAGOEVGRAD REGION, 2013- ORGANIZATIONAL. LEGAL AND ECOMONIC ASPECTS, FEATURES AND ISSUESIN THE LIGHT OF THE MODERNIZED LEGAL FRAMEWORK "More HEALTHY PLANTS AND ANIMALS AND SAFETY FOOD CHAIN" CONCEPT FOR A MORE COMPETITIVE EU.

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At the end of 2013 in Blagoevgrad region two outbreaks of Pox in sheep and goats was detected. The manifestation of the disease was associated with direct economic and social negatives (destruction of animals) and indirect ones (costs for farmers , costs of interruption of business , public cost for eradication and monitoring of disease and etc.).

The aim of this work is to analyze the regulatory and legal aspects and economic dimensions of the epizootic control expression of pox in sheep and goats in Blagoevgrad region. For this purpose we studied events in chronological order considering some problems, which arised as a result of the disease outbreaks related to the current socio- economic reality in the country. To determine the level of compliance and compatibility of the measures with the modernized legal framework "More healthy animals and plants and safety food chain for more competitive EU"concept in the European Economic Area.

CHALLENGES TO THE FORENSIC VETERINARY EXPERT FOR OBJECTIVE AND EFFECTIVE ASSISTANCE TO THE LAGAL SYSTEM

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In Bulgaria as a legal state of the European Union forensic veterinary expertise is used as an important tool for investigation in civil and criminal trials. In the legal system certain texts exist concerning the classification and the procedures of preparation of expertise. Some basic requirements are set as well for the forensic experts, including veterinarians, but no clear definition exists of their professional status and role in improving legal services to the community. With this paper we aim to clarify the forensic veterinary experts` rights and obligations and to point out some basic guidelines for improving the organization of their work. For the purpose of the study we made analyses and expertise of legal documents and sub-normative acts.

HEMATOLOGY OF THE CARP (CYPRINUS SPP.)

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Introduction. Medical diagnostic procedures in fish experienced a significant development especially in the last two decades. Hematology represents an important branch in the context of fish medicine, aiding the researcher in better understanding and evaluating the health status of different fish species. This research paper is limited to Carp hematology, presenting the significance of hematological evaluation, describing the recommended blood sampling methodology, blood cell, structure and functions (with original pictures from the Vetmeduni Clinical Division of Fish Medicine), and laboratory

evaluation techniques. The inconsistencies that may appear in the literature, regarding the nomenclature, are also discussed.

Materials and methods. Two carps (Cyprinus spp.) were used in this experiment. Blood samples were harvested on anticoagulant according to the recommendations available in the literature. White blood cell percentage counts where done using Diff-Quick stained blood smears, via light microscopy.

Results and Conclusion. The result of the differential white blood cell count was according to the normal ranges available in the literature for carp. Lymphocytes were the most common found white blood cell, eosinophils were rare and no basophils were observed although the literature suggests their existence in carp blood.

This study may help in the standardization of hematologic values in carp.

STUDY REGARDING MICROCLIMATE FACTORS ASSESSMENT IN SHEEP SHELTERS AND INFLUENCE ON ANIMAL HEALTH STATUS

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Introduction: Microclimate factors (phisical, chemical and biological), through their succesive or simultaneous action, influence animal production and health status. The objectives of this study were microclimate factors assessment and influence on animal health status.

Materials and Methods: Research was carried out on two types of sheep shelters (industrialized, respectively winter stables of small farmers) from hillside area of Berheciu creek valley, Bacău county, between December 2011 – April 2012. The following were assessed: temperature and relative humidity (by installing thermohygrographs); air flow speed (with anemometers); microflora from shelter atmosphere (by Koch sedimentation method).

Results and Conclusion. Obtained results after assessment were represented by:

- low temperature and humidity values (+2.0°C - +8.4°C, 58%-90%, respectively) in industrialized shelters, compared with small farmers (+3.7°C - +11.3°C, 70%-93.7%, respectively);
- air flow speed didn't exceed 0.2m/s, being within normal range;
- CO_2 concentration with values of 0.06‰, respectively 0.18‰;
- NH_3 concentration 0.025‰;
- H_2S concentration (inexistent in first months) reached values of 0.008‰ – 0.009‰ by the end of the winter season;
- air microflora was richer in small farmer shelters (285000 colonies/m^3) compared with industrialized system (125000 colonies/m^3);
- animal morbidity registered 9.7% - 10.5% values in industrialized shelters and 10.2% - 10.7% in small farmer shelters.

The physical, chemical and biological factors from sheep shelters are closely related to type of construction, materials used, isolation system and how to ensure the good ventilation.

ASSESSMENT OF PRODUCTIVE PARAMETERS FROM TIGAIE SHEEP BREED RAISED IN IZVORUL BERHECIU BASIN AREA, BACĂU COUNTY

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Introduction: Tigaie breed represents a local sheep breed with an important place in numeric structure of sheep effective in our country, being a mixed breed exploited for wool, milk and meat. The objectives of this study were to assess productive parameters in sheep from Izvorul Berheciu basin, Bacău County, raised in intensive as well as extensive system.

Materials and Methods: this study was carried out between 2009-2011 on an effective with 1609 sheep (31 rams, 1040 adult females, 75 male youth, and 463 female youth) from Tigaie breed.

Results and Conclusion. The following results were obtained after researches:

- medium body weight on age category registered breed standard values, 64.47kg in rams, 36.32 kg in adults females, 45.37 kg in male youth, and 31.45 kg in female youth;
- wool production was registered with 4.575 kg in rams, 2.409 kg in adult females, 3.285 kg in male youth, and 2.609 kg in female youth;
- assessment of milk production by direct control method lead to a medium milk production per sheep and lactation value of 62.84 liters.

Registered results demonstrate that hillside area from Izvorul Berheciu basin, Bacău County is a proper environment for the development and production of Tigaie sheep breed.

NITRATES AND HONEY

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Introduction. The intensive use of nitrogen fertilizers in crop production has increased the levels of nitrates and nitrites in soil, groundwater as well as in food and forage crops. Diseases of people and farm animals have been caused in some cases.

Materials and Methods. The object of the research were 20 samples of honey from different melliferous herbs and oblasts of Ukraine. The analysis of nitrates and nitrites contents was carried out with the help of photoelectric colorimeter and Griss reagent.

Results and Conclusion. Nitrates, nitrites and other nitrogenous compounds arouse increased interest in hygienists, veterinary and medical toxicologists, veterinary sanitary experts these days. This can be explained by intensive use of nitrogen fertilizers that has increased the level of nitrates in soil, groundwater, food and forage crops.

It is known that nitrate distribution is not the same in different anatomical parts of plants. A considerable quantity of them accumulates in roots, stems, leaves; less - in reproductive organs (flowers, fruits, seeds).

Flower honey is a product of bees transformation of flower nectar, in other words it is a product of plant-animal origin. That is why we were interested in the accumulation

of nitrates and nitrites in honey. In our researches the concentrations of nitrates content were from 4.1 to 11,5 mg/kg, namely: from 4 to 5 mg/kg - 15%; from 5 to 6 mg/kg and from 6 to 7 mg/kg - 5%; from 7 to 8 mg/kg - 20%; from 8 to 9 mg/kg - 15 % from 9 to 10 mg/kg - 25%; from 10 to 11 mg/kg - 5%; 11 mg/kg and above - 10%.

On the basis of the fact that nitrate accumulation in honey is small, and considering the amount of honey in human ration, it can be classified as a product that is not polluted with nitrates. Because nitrates concentrations, which were detected, are far lower than the admissible levels for agricultural products.

HARMONIZATION OF LEGISLATION IN THE FIELD OF FOOD SAFETY-A STEP TOWARDS THE SECURITY OF PUBLIC HEALTH

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Introduction. Partnership and Cooperation Agreement, which forms the legal basis for relations between the European Union and the Republic of Moldova, was signed in November 1994. In the Article 59 of the nominated Agreement provides the harmonisation of Moldovan legislation with European Community legislation in the field of agriculture, the agro-industrial sector, veterinary and phytosanitary.

Materials and Methods. There has been a profound analysis of the statistical data of the Ministry of Agriculture and Food Industry on the global agricultural production, livestock production, crop production and food industry indices during 2009-2011 and an analysis of legislative and normative acts of the Republic of Moldova in the field of food safety.

Results and Conclusion. To amplify the work of elaboration and harmonization of the Republic of Moldova legislation with European Community legislation in the field of agriculture and agro-industrial sector, was generated by the Strategy approval in the field of food safety for the years 2011-2015. The basic principle of food safety policy is to apply an integrated approach involving all sectors of the food chain. Improving the legislative and regulatory framework in this area will enable the achievement of the highest degree of protection of public health and the interests of consumers and will encourage making exports of food and live animals from the Republic of Moldova to the European Union and other countries of the world.

Adoption and implementation of the package of laws and regulations concerning food safety will be an important step in safeguarding public health, because each segment of the food chain can have a significant impact on food safety.

HORSE WELFARE ASSESSMENT IN THE FACULTY OF VETERINARY MEDICINE BUCHAREST BASED ON MICROCLIMATIC CONDITIONS AND SERUM BIOCHEMICAL PROFILE

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Introduction. Welfare is an individual state regarding his attempt to cope with living environment, to rank his priorities for using the available energy in relation with his needs.

Materials and Methods. In the Clinical Hospital of the Faculty of Veterinary Medicine Bucharest was conducted a welfare assessment for horses based on shelter environmental conditions and on serum biochemical indicators.

To determine the microclimatic conditions were approached the physical factors (air temperature, relative humidity, air draught velocity, light intensity, sound intensity), the chemical factors (concentrations of carbon dioxide, ammonia and hydrogen sulfide) and the biological ones (airborne particulates and air bacterial load – total plate count).

For the study of serum biochemical profile were taken blood samples, from which were determined by dry biochemistry method, using Vettest 8008 device, 14 parameters: blood urea nitrogen, phosphate, calcium, total proteins, albumin, globulins, triglycerides, glucose, lactate dehydrogenase, creatinine, magnesium, cholesterol, ammonia and creatine kinase. The obtained results were compared with the reference values.

Results and Conclusion. After determining the microclimate conditions was found that most of the values obtained were appropriate in relation with welfare standards, except for air particulates.

Particulate matter exceeded the limits of 1.16 times, originated mostly in fodders, litter and from the animals' bodies.

Regarding the biochemical parameters, most recorded values within the reference ranges for horses, except for Salomeea (female, age 17 years), in which were recorded increased values for calcium, ammonia and creatine kinase and decreased values for phosphate.

Correlating the results for microclimate conditions and for serum biochemical parameters can be concluded that animal welfare can be rated as medium to good.

THE INFLUENCE OF FOOD ON SOME BLOOD BIOCHEMICAL AND BIOPRODUCTIVE PARAMETERS IN LAYING HENS IN A POULTRY FARM IN THE COUNTY BISTRIŢA-NĂSĂUD

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Introduction. The theme of this study is one of actuality as ensuring benefits for families engaged in the development of micro-farms for laying hens, and the purpose of

this paper is to study the influence of food on blood biochemical parameters on hens in a poultry farm in Bistrita Nasaud .

Material and Methods. Biological material studied was represented by the laying hens from a poultry farm in the county Năsăud. Blood sampling was done in laying hens with an age of 21 weeks, from the brachial vein, 3 ml / hen in vacuntainers without anticoagulant. There were randomly selected 10 chickens from which blood was collected to determine the biochemical parameters, from a number of 7 chicken was determined the hematological components from the blood and from 5 chicken, the eggs were collected in order to determine their composition, based on type of feeding. After expressing the serum, the following biochemical parameters were determined: aspartate aminotransferase or glutamate oxaloacetate transaminase (AST GOT), alanine aminotransferase (ALT, GPT), amylase (amylase), alkaline phosphatase (ALP), gammaglutamiltransferaza (GGT), total plasma protein (PT) and uric acid. Hens were fed with feed prepared according to recipes for laying hens.

Results and Conclusion. At the age of 21 weeks the hens kept in battery with increased capacity have higher values for GGT, the number of erythrocytes, hematocrit and white blood cell count and AST activity. The chemical composition of the egg is directly influenced by the composition of the feed, for this reason , the feed was unique for all hens in the study, therefore , we are able to confirm that the increase in battery capacity, along with the metabolism of laying hens, is a factor which may change the chemical composition of the egg.

GENETIC PARAMETERS OF THE MAIN CHARACTERS IN THE BREEDING OBJECTIVE OF TWO LINES OF LARGE HENS

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Introduction. Knowledge of genetic parameters is indispensable for many decisions for breeding, of which the most important are selectively target setting and selection methods to be applied. For poultry, the estimation of the genetic parameters and then, the estimation of breeding have been a very important concern for geneticists and breeders.

Materials and Methods. The research was done on two lines used in the program of broiler producing, one of them belonging to Plymouth Rock and the other to Cornish. For Cornish line were tracked the performance on body weight and breast angle and for the Rock line, the egg production and body weight. Genetic parameters were estimated by the classical method of the correlation between one class, obtained by analysis of variance and covariance with two sources of variation: between families of half sisters and in-between families of half sisters.

Results and Conclusion. Genotypic correlation between the number of eggs and body weight is low positive (0,099) and phenotypic and environmental correlations are low negative (-0,049 and -0,066). Although genotypic plus variants for the body weight and the number of eggs may be plus variants for the number of eggs, reaching any phe-

notypic weight gain to be accompanied by the decrease of the number of eggs due to environmental influence, with weight gain the reproduction function is diminished.

The number of eggs and body weight although positively low genotypic correlated, the simultaneous improvement of these characters it's not expected. Any weight gain gets to be accompanied by the reduction of eggs number due to environmental influence.

EFFECTS OF THE USE IN RATIONS FOR GROWING LAMBS OF THE COMBINATION ALFALFA HAY – COMPOUND FEED

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In our experience, with a duration of 12 weeks, were used 48 lambs, Merino breed, after weaning, the mean weight of 14 kg. The lambs were divided into 4 groups, each fed a proper diet with different ratios between the alfalfa hay and compound feed as follows: group 1 (G 80/20), group 2 (G 60/40), group 3 (G 40/60) and group 4 (G 20/80).

Complete rations compacted were used, size of 2.5*1.5 cm, clear consisting of alfalfa hay (chopped before) and compound feed. The rations, administrated *ad libitum* , were izonitrogenous (179 g CP/kg DM) and different energy values.

Total feed intake (alfalfa hay + compound feed) decreased almost linearly with increasing proportion of concentrates in the rations, being in the order of 4 groups: 1242, 1205, 1155 and 928 g DM/day, between the first and the last value being a difference of 34%, the difference being assessed as significant for $P<0.01$.

Average daily gains evolve quadratic, the highest recorded to the intermediate groups, and lowest at extreme groups. Therefore, the average weight gains were the highest recorded on groups G 60/40 and G 40/60, 250, or 267 g/day, and the small on G 80/20 and G 20/80, 222, or 227 g/day (mean difference between intermediate and extreme groups were 15%).

The best yields are obtained at slaughter (dressing) of the groups G 60/40 and G 40/60, 57.2% and 57.8%. Share empty digestive tract and digestive content diminishes with increasing participation of alfalfa hay in rations. A significant increase in live weight of subcutaneous fat was observed, of from 3 to 4.1%, as a result of increasing quantities of concentrate consumption.

CAMPYLOBACTER'S PREVALENCE IN ROMANIA – A COMPARISON WITH THE PREVALENCE IN EUROPE

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Introduction. Microbial food safety is an increasing public health concern worldwide. *Campylobacter* is a bacterium that can cause an illness called campylobacteriosis

in humans. With over 200000 human cases annually, this disease is the most frequently reported food-borne illness in the European Union (EU). *Campylobacter* bacteria are a major cause of foodborne diarrheal illness in humans and are the most common bacteria that cause gastroenteritis worldwide. Campylobacteriosis is largely perceived to be food-borne, with poultry meat as a major source.

Materials and Methods. The interest in determinations of *Campylobacter* in Romania started very recently, the first monitoring recording in 2007. Since then every year are tested about 450 samples reesenteprd either carcass skin from slaughterhouse or retail raw chicken meat. All samples have been performed accordingly ISO 10272/2006.

Results and Conclusions. The highest incidence of *Campylobacter* (63%) was observed in 2007, whereas in next years it was remarked a decrease. This decrease appeared especially consequently of implementation of hazard analysis of critical control point (HACCP). In the same period the *Campylobacter*'s prevalence in Europe was different, depending on country. The most frequently strains isolated were *Campylobacter jejuni* and *Campylobacter coli*, these being the main strains involved in human campylobacteriosis pathology.

COMPARATIVE STUDY BETWEEN THE ANTIBIORESISTANCE OF *CAMPYLOBACTER JEJUNI* AND *CAMPYLOBACTER COLI*

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Introduction. The spread of antibiotic resistances and the appearance of multiple-antibiotic-resistant pathogenic bacteria has been recognized by the WHO as a serious problem that complicates medical treatment of bacterial infections. In last years, when campylobacteriosis became the most frequently disease the antibioresistance of this microorganism represent a serious problem.

Materials and methods. *Campylobacter'*s antibioresistance was carried out through the determination of minimal inhibitory concentration using Sensititre system. This analysis were performed in panels dedicated for these microorganisms. There were tested 132 *Campylobacter jejuni* and *Campylobacter coli* strains previously isolated from chicken meat. The species of Campylobacter was perform according ISO 10272/2006.

Results and conclusions Of the 132 analyzed *Campylobacter* strains, 39 strains were susceptible to all antimicrobial substances tested, and 93 strains showed resistance to at least one antimicrobial agent; 4 strains were resistant to 6 antimicrobial substances. *C. coli* showed a higher degree of resistance than *C. jejuni* to all antimicrobial substances that were tested.

RISK ANALYSIS ACCORDING TO THE HACCP PLAN AT SOME MEAT PRODUCTS OBTAINED IN AN ESTABLISHMENT TYPE BUTCHERS

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Introduction: Risk analysis was used to identify critical control points through tests based on the senses and special tests which are carried out on samples of meat products manufactured, in particular during the warranty period. Of the biological hazards, may represent a potential risk factor.The quality plan shall identify the points of verification for the testing of raw materials, and finished products, including ambalărea.The test is based on the senses (sight, smell, taste) must combine the following elements: possession of batches reference standard, qualification, training, examination and reassessment of the Organization's personnel performing testing and procedures in order to ensure long-term consistency. Prevention of threats connected with a possible presence of microorganisms in meat products obtained in a butchers unit is done through a program of monthly checks involving sampling on the types of products and number of samples, representative for the activity, guarantee safety in Ohio obtained such a unit.

Materials and Methotds. Through self-checking procedure established in the HACCP plan Manager, have taken over a year ago, the weekly samples, 5 samples of 300 g each, packed and labeled accordingly to determine the total number of bacteria, Escherichia coli and Salmonella from products production samples as follows: different types of minced meat veal, beef, pork, shoulderextra pork and beef, extra and of preparations: ground meat for meatballs and cabbage rolls, beef-pork, small small beef sausages and sheep: shepherds, pork, Turkey, chicken, merguez, muntenesti, pork, beef and milk.

Results and Conclusions. Collection and interpretation of samples to determine the total number of germs (NTG), E. coli and Salmonella is carried out in accordance with reg. (EC) 2073/2005, amended by reg. (EC) no 1441. From samples sent were found absent for Salmonella all 5 UFC/g units and for E.coli were found the limits admitted to units below 10 CFU/g and the total number of germs have been found to be outdated limits ranging from 2,6 x 10^7- 2,8 X 10^7 UFC/g for all five samples analysed at minced extra pork. Determination of the total number of germs that surpassed the minced meat leads to corrective measures pursuant to the application of the HACCP plan for cleaning the unit. Sanitation tests taken in the working environment: grinders, cutting table, preparation table, stainless steel tub and the red crate used in the procedure of handling were found in limits admitted coming out absent for NTG and coliforms CFU/10cm^2. One of the possible causes of contamination remains the source of water used in production because they indicate the presence of a large number of germs that develop at temperature 37^0 C and causes contamination. Thus, you have consistently repeated samples from the water valves in preparation room.

AUTHENTIFICATION OF NUTRITIONAL AND ENERGETIC VALUE OF SEAFOOD SOLD IN BUCHAREST

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Introduction. Seafood is appreciated by consumers worldwide. In aquaculture, the third in terms of human consumption are located molluscs (bivalves and cephalopods, by 22.3% and 14.2% respectively). Fourth, by quantity, and second, by value, is occupied by crustaceans. Shellfish and molluscs have high nutritional value, being rich in protein and amino acids, respectively.

Materials and Methods. For authentication of seafood, samples of shrimp, calamari rings and mixed seafood were analyzed. The major components by constituents (proteins, lipids, carbohydrates) were determined and identification data of the products were analyzed. For live products, these data include: species name, fishing date, fishing region, time and conditions of keeping, lot identification, and for the products prepared: species name, date of manufacture, list of ingredients, preparation method of production (i.e. "boiled"), time and conditions of keeping, name and address of the manufacturer and / or packer. Add to this the energetic and nutritional value of the products was analyzed.

Results and Conclusion. The highest nutritional value was evidenced for shrimp products - species *Penaeus monodon*, the energy value being 120kcal, while having the highest amount of protein, 23 g per 100 g of product. The lowest energy (62 kcal) for the same type of product has been registered for *Tiger garnele* shrimp species.

All analyzed samples were consistent in terms of authentication parameters established in this study. Determinations revealed that the products were labelled correctly in terms of energetic and nutritional value.

FOOD PACKAGING – CONDITIONS AND MEASURES TO REVENT RISKS

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Introduction. Unprotected or inadequately packaged foods will be exhibited to physical damage and microbiological cross contamination. Improper use of packaging materials can also lead to chemical contamination of food.

Materials and Methods. Packaging materials used in the food industry should be selected depending on a number of factors that influence the effectiveness of the packaging material. 40 types of food, packaged by various manufacturers, were identified and analysed. Studied package categories were used for food products which can be stored at ambient temperature, food products requiring refrigeration temperatures and frozen foods.

Results. The majority of food items that have maintained the integrity of the packaging were being deposited directly on the shelves to ambient temperature. For these items there were recorded isolated damage, caused by handling conditions. Most cases of package damage were recorded for frozen foods (frozen brain, frozen chicken legs) using packaging materials having unsuitable physical characteristics.
Conclusion. Not always the package resistance requirements are met. Of all the reviewed products, 5% were samples of packaged food having packaging materials which cannot stand freezing temperatures, failing to ensure preventing the risks of contamination.

STATISTICAL ANALYSIS OF FOOD-BORNE PATHOGENS IN RAW AND GROUND MEATS IN ROMANIA

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Introduction. Food-borne diseases represent a global problem that involves a wide spectrum of illnesses caused by contaminated food and water. In the last 10 years several outbreaks of food borne pathogens were recorded in Romania. The objective of the current study was to determine the presence of some of the important food borne pathogens and gather some statistical data regarding their prevalence in meat and meat products.

Materials and Methods. A total number of 41190 samples of raw and ground meats were collected and examined during 2011 in Romania. The total amount of samples comprises various kinds of meat such as: bovine, sheep, goat, pork, chicken, turkey carcasses and subproducts included in the categories raw and ground meats. All the samples were tested for the presence of *Escherichia coli* Biotype I and serogroup O157:H7, *Listeria monocytogenes,* coagulase positive *Staphyloccocus* and *Salmonella*. All isolates were examined by PCR and for confirmation of the results were used classical microbiological techniques.

Results and Conclusion. Only 277 samples representing 0.67% from the total were found to be positive for one of the following food pathogens: *Escherichia coli* Biotype I, *Listeria monocytogenes*, *Salmonella*. This study presents data on the contamination status of the raw and ground meats obtained through the national surveillance system on the territory of Romania during 2011. Taking into account that food-borne pathogens are an important determinant of human illness, a close monitoring of food safety under a surveillance program is mandatory.

IMPORTANCE OF FARM ANIMAL BIODIVERSITY IN HUMANKIND SECURITY

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Introduction. Humans are live beings. In order to live they need food. Disposing of creative mind *Homo sapiens* became the top consumer in the trophic chain on the Earth and multiplied faster than their food.

Materials and Results. People have started to cultivate plants and to breed animals to ensure their food. Their struggle for life developed inside human species and conducted to wars which became more and more destructive. The last two World Wars were tremendously hard. So the United Nations' Organization disposing of a *Security Council* has been made up to secure people against new World Wars. But recognizing that lack of food stays at the wars' origins ONU included a special *Food and Agriculture Organization (FAO),* dedicated to secure people against famine anywhere on the Earth. On the above basis, the present paper trays to explain scientifically, the importance of farm animal biodiversity for the food security of the world. How FAO acted to sustain farm animal biodiversity is exposed, as well. Some controversial questions and misunderstanding concerning relations between environment protection especially referring to the Earth's global heating and farm animal biodiversity are answered, too. At the end opinions and hopes related to the contributions of the future Conference on the Sustainable Development that will have place in June of the next year and the food security of the World are emphasized.

Conclusion. The final conclusion is that natural animal biodiversity secures the Earth sustainability; farm animal artificial biodiversity helps human social security.

THE PREVALENCE OF LAMENESS IN THE ASSESSMENT OF TRANSYLVANIAN DAIRY HERDS BY LOCOMOTION SCORE AND ACCORDING TO THE FARMERS' ESTIMATES

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Introduction. At present, lameness in dairy cows represents one of the most serious animal welfare problems. Monitoring on-farm lameness prevalence is important for dairy producers and veterinarians in their efforts to reduce lameness. Some studies have shown that farmers have the tendency to underestimate the prevalence of lameness, contributing to the increase of the lame cows' percentage in their farms. The aim of this study was to compare the prevalence of lame dairy cows assessed by locomotion score and estimated by farmers.

Materials and Methods. For the on-farm lameness assessment a five point locomotion score was used. A number of 751 dairy cows were assessed in the cold season in 10 Transylvanian dairy farms. All the cows that obtained scores between 3 and 5 were considered lame. The results were statistically processed using the SPSS software, version 17.

Results and Conclusions. Out of 751 assessed cows 33.49% presented normal locomotion; 40.38% presented slight lameness; 18.03% were moderately lame; 5.17% were lame and 2.93% presented severe lameness. The prevalence of lameness established using the locomotion score varied from 4.76% to 68% (median 23.38%), and that estimated by the farmers ranged between 0 and 15% (median 7.50%). There were statistically significant differences ($P<0.05$) between the prevalence of lameness assessed using the locomotion score and that estimated by the farmers. The lameness prevalence assessed by the farmers was 3 to 9.5 times lower than that determined by the locomotion score.

It follows from the findings of this study that the dairy farmers are not aware about the locomotion problems of their cows.

THE ASSESSMENT BY AVOIDANCE TEST OF THE HUMAN-ANIMAL RELATIONSHIP IN DAIRY CALVES

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Introduction. The positive effect of a good human-animal relationship was demonstrated on the production, health, behavior and mental state of farm animals, especially when positive interactions take place in the early stages of life. The on-farm management system in dairy farms can potentially have an influence on the relation between people and calves, given the different schedule of the daily procedures. The aim of this study was to conduct a comparative assessment of the human-animal relationship in dairy calves in farms with tie-stalls and loose housing based on the results of avoidance testing.

Materials and Methods. 146 dairy calves (in three different age categories) were assessed in five farms during the cold season. A standardized technique of human avoidance test was used, awarding scores depending on the individual avoidance distance of the observer by the calves. The results were statistically processed with the SPSS software.

Results and Conclusion. The youngest calves (up to two months old) had the highest scores within the standardized avoidance test, meaning less avoidance toward the observer. When the tie-stall farms were compared with the loose farms, no statistically significant difference ($P>0.05$) was found regarding the human-related behavior of the calves.

The assessment of the calves' behavioral response toward humans using the avoidance testing showed that in this study the human-animal relationship was not influenced by the housing system, most probably because the management of the calves was similar in all the five farms.

RISK MANAGEMENT IN ZOONOTIC FOOD BORNE HAZARDS CAUSED BY *LISTERIA*

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Introduction. Listeriosis is a serious illness and the disease can manifest as meningitis or affect new borne due to its ability to penetrate the endothelial layer of the placenta.

The majority of the Listeria bacteria are targeted by the immune system before they are able to cause infection.

The case fatality rate for those with a severe form of infection may approach 25% (Salmonella in comparison has a mortality rate estimated at less than 1%).

In the case of fast food products, meat and poultry products represent the main sources of infection.

International Commission of Microbiology of foods (ICMSF) established that, if the micro-organism does not exceed 100 organisms per gram at the time of consumption, the food can be consumed by healthy individuals.

For the safety and quality of the finished product is recommended (for) the application of a HACCP-type program or a control and evaluation scheme.

Materials and Methods. Identification of the species has been carried out through the following tests: hemolysis test, the test CAMP (Christie Atkins Munch Petersen), carbohydrate fermentation, pathogen city testing.

Results and Conclusion. Have been isolated from food samples and samples of silo harvested from the dairy farms of Listeria strains 29. Of meat products in the course of preparation or untreated heat has been identified the *Listeria innocua*, *Listeria monocytogenes.* Dairy products were highlighted: *Listeria monocytogenes, Listeria innocua.* Silage samples have been identified: *Listeria monocytogenes, Listeria innocua, Listeria, Listeria grayi welshimerii.*

SLIDE AGGLUTINATION REACTIONS WITH *SALMONELLA TYPHIMURIUM* ANTIGEN: SALMONELOSIS SCREENING TESTS

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Introduction. The major source of human infections with Salmonella is represented by contaminated food products of animal origin. Decrease spreading of disease into the poultry and animal flocks can be realized through the early detection the presence of ag-

glutinant antibodies against specific antigen, using serum agglutination slide reactions (HA and SA) as well as through biosecurity measures.

Materials and Methods. The objective of the present paper was preparation and testing of an inactivated antigen by *Salmonella enterica*, serotype *Typhimurium* (ST Ag) for detection agglutinating antibodies by serum (type IgM predominant antibodies). Antigen has been titrated by the slide agglutination test using control positive sera: Salmonella anti O, factors 4, 5 (rapid slide agglutination test 1/10, SAT 1:80) - ICDMI Cantacuzino, Bucharest, antiserum prepared *in house*, sera from vaccinated poultry and pigeons, as well as the negative sera from SPF Leghorn chicken. Also, has been tested the cross-reactivity between positive sera and related antigens (*Salmonella pullorum, Salmonella enteritidis*). The optimal concentration of ST antigen was determinated by slide agglutination test of the different dilutions of antigen with serial dilutions of the positive and negative control sera. The test reaction was examined within 2 minutes after the contact between antigen and specific antibodies. Presence of agglutination indicate a positive reaction.

Results and Conclusion. The Ag ST presented 100% specific agglutination reactions with positive control serum, variable reactions with sera collected from vaccinated birds and no reaction in case of negative serum. There are cross-reactivity among the antiserum and related antigens.

MICROAGLUTINATION TEST (TMA) WITH STAINED *SALMONELLA* TYPHIMURIUM ANTIGEN

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Introduction. Salmonellosis is an infectious disease of humans and animals, caused by two *Salmonella* species (S. enterica and S. bongori). Serum agglutination test (SAT) is the method used for consumer protection, especially in export case of animal products.
Materials and Methods. In this study, was prepared an *Salmonella* Typhimurium antigen (ST Ag) with crystal violet. The serum agglutination test – microagglutination test (MAT) represented the method for calibration of ST antigen. MAT was performed on microplates with 96 U-shaped wells, against the following sera: positive control – Salmonella anti O, factors 4, 5 (SAT 1:800), ICDMI Cantacuzino, Bucharest and negative control - from chicken Leghorn SPF. Equal volumes of ST antigen and diluted antisera (1/2 to 1/2048) were added to each well. The plates have been incubated at 37^{o}C for 18 hours. The agglutination was assessed by tilting the plates for 3 minutes. Agglutinated antigen was either completely dispersed and did not form a sediment or, if it settled, formed a poorly defined sediment with a crenated edge. The titer in MAT was determined by the highest dilution of antigen that allowed sedimentation of a round button of non agglutinated antigen with the highest dilution of antiserum. TMA has been performed on sera from ST vaccinated birds.

Results and Conclusions. MAT performed with positive control confirmed a 1/512 titer. MAT is a quantitative, fast and cheaper method like tube agglutination test. The

method require small amounts of ST antigen and serum, the buttons are easily obseved at lower dilutions. MAT is suitable for early screening of the immune response after infection and/or ST vaccination. The early screening by MAT, together with the bacteriological tests, maybe limited the dissemination of *Salmonella*.

ROMANIAN WHEAT GRAINS QUALITY - REQUIREMENTS FOR DOMESTIC AND INTERNATIONAL MARKETS

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Introduction. Wheat has always been an agricultural crop and a product of the greatest importance to human existence and activity. It is a component of the field crops assortment in Romanian agriculture, an important source of income for farms and rural households, whose harvest is used as raw material in the milling and baking industry, but also represents an important article for domestic and international trade. Wheat fits well with agricultural vocation of Romania and should be considered a strategic product for the national economy, for reasons that require special attention on the productive potential, but especially on crop quality.

Materials and methods. Based on these considerations, based on the initiative of central agricultural authorities, the National Institute of Research & Development for Food Bio-resources, in collaboration with regional agricultural institutions organized a national-wide study on the quality of wheat grains produced in Romania. For more than 10 years were analyzed the wheat quality, for each genotype, county, geographical area and agricultural year and the evolution of the grown genotypes.

Results and Conclusions. Based on these results, we found that the physical-chemical quality of the harvest of wheat produced in Romania, especially in West Plain, in Oltenia Plain and South Plain and Dobrudja, meets the requirements for the assessment category very good for the bakery, including the terms contents in proteins and wet gluten.

On the other hand, the quality of the wheat crop was affected, in some small areas of cultivation and only in certain years, by *Eurygaster* spp. attack, the significant presence of sprouted grains, harmful or toxic seeds, and, quite isolated, the ergot.

FOOD SAFETY MANAGEMENT IN CRITICAL CONTROL POINTS OF ACHIEVING TECHNOLOGICAL FLOW BAKED GOODS

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Introduction. With the completion of classifying foods into groups based on the same manufacturing process for food in a group and following description and drawing flow charts for all the technological processes used in the drive, it passed the first stage of the preparation specific HACCP plan for the considered unit.

Purposes. Major study aims a process of risk analysis that takes into account the identification of physical, chemical and biological dangers that can be associated with each technological stage, separation control points (CP), critical control points (CCP) and food safety assessment.

Materials and methods. In order to assess the food safety obtained in this study considered for implementation unit, and to assess the effectiveness of implemented food safety program at the institution, samples were taken belonging to three types, as follows: pork on hot plate, chicken salad , rice with shrimps.

Results and Conclusions. Samples were taken in the form of two groups, the first group being obtained on the first audit, the second before the second audit. Each group consisted of samples taken within 10 months were analyzed by 3 monthly samples for each product category.

All samples were subjected to the same examination protocol, track parameters are represented by: *NTG*, *E. coli*, *E. coli* O157: H7, *Coliforms*, *Staphylococcus aureus*, *Salmonella spp*.

Introducing package procedures and food safety management plan after the first audit had a better impact than the provisions for all categories of foodstuffs produced in the unit under study.

RESEARCHES ON SERUM ELECTROLYTE EVOLUTION IN SPORT HORSE AT TREE-DAY EVENT COMPETITION EFFORT CORRELATED WITH BIOECOECONOMIC GROWTH AND TRAINING TECHNOLOGIES

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Using horses for sport requires preparation and optimization of physical and mental qualities, both contributing to achieving the desired performance. This metabolic pathway lead to lactic acid byproduct, whose accumulation, in muscle and blood, will influence the level of serum electrolytes. Biological material which is the subject of research belongs to Sport Club Dinamo-Bucharest. Were studied both mares and stallions, Romanian

Sport Horse and English Pure Blood, aged 5 to 10 years, specialized and well trained for full test riding. For the determination of pH and alkaline reserve, venous blood samples were collected in vacuum tubes with heparin, tightly closed, avoiding the formation of bubbles and the contact with atmospheric air, an hour before the competition and immediately after the end of trial. Samples were transported on ice thermos (0-4 ^{o}C) and processed within 30 minutes after collection.The anaerobic conditions in steeple-phase lead to increase of potassium values. Calcium, at the end of the full test riding decreased at all trials, correlated with the loss phenomenon of the electrolyte through perspiration. Sodium values decrease at steeple and obstacles phases. At cross phase, sodium levels increased immediately after effort. Chloride values decrease insignificant statistically at cross and obstacles and increased also insignificantly at steeple phase. Phosphorous values had also insignificant differences but they decreased after effort. This result shows a good training in sport horses, but is necessary to check the diet content in minerals because they are eliminated through perspiration.

RESEARCH ON THE PH AND ALKALINE RESERVE EVOLUTION AS BIODIVERSITY INDICES IN SPORT HORSE AT TREE-DAY EVENT COMPETITION EFFORT

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Energy metabolism in sport horses is strongly influenced by the intensity and duration of exercise. Thus, in short duration and high intensity efforts, most of the chemical energy needed for muscle contraction is supplied by lactic anaerobic metabolism. Were studied both mares and stallions, Romanian Sport Horse and English Pure Blood, aged 5 to 10 years, specialized and well trained for full test riding. For the determination of pH and alkaline reserve, venous blood samples were collected in vacuum tubes with heparin, tightly closed, avoiding the formation of bubbles and the contact with atmospheric air, an hour before the competition and immediately after the end of trial. Under the intense effort during steeple and cross phase, the chemical energy was synthesized in an overwhelmingly towards lactic anaerobic metabolism. This is supported by the decrease in blood pH and alkaline reserve, much stronger than in horses at obstacles trial ($p < 0.001$).Bicarbonate values obtained in steeple after effort (21.47 ± 1.43 mmol / l) are higher than those obtained from the thoroughbreds (5-10 mmol / l) after racing in gallop trial. This difference is explained by the fact that exercise intensity and speed achieved by horses in gallop racing, are superior to the effort in steeple. Higher speeds of trot races are held almost exclusively by lactic anaerobic metabolism of glucose, which lead to the decrease in plasma bicarbonate. Such blood pH values were not reported in our study.

PREVENTION OF MICROBIAL CONTAMINATION ALONG PRODUCTION CHAIN OF THE RAW-FERMENTED SAUSAGES

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Introduction. In last decades, the importance of food products quality has progressively grown due to the continuous increasing of consumers' expectations. A critical issue in food products quality remains food safety. Food borne illness associated with improper practices have been well documented and can involve different parts of a food chain. The aim of this study is to evaluate the measures used in prevention of microbial contamination through production chain of the raw-fermented sausages.

Materials and Methods. Materials of study were the flow charts of the raw-fermented sausages used in meat processing factories. Hazard analysis and prevention measures applied in flow charts of raw-fermented sausages were compared to identify the critical points for the risk of microbiological contamination.

Results and Conclusion. The raw-fermented sausages production involved six flow charts designed for specific product components: (1) raw meat, (2) starter cultures, (3) auxiliary materials (spices, additives), (4) soy protein, (5) artificial casings and clips, (6) packaging material and labels. Nine steps of technological process with high risk for microbiological contamination were revealed: raw meat reception, meat storage, unpacking, intermediate raw materials storage, tempering stage, portioning and draining stage, service zone and delivery zone. In the remaining flow charts the number of zones with high risk for microbiological contamination was lower: reception, storage and delivery areas. In addition to previously described high risk zones, in flow charts designed for raw-fermented sausages production have been identified other seven, respectively: cutting and mixing (including add the spices and additives), stuffing (including reprocessing), drying, ripening, packaging-labeling, and delivery of final product. This study demonstrates that HACCP programs should bring together all aspects of the raw-fermented sausages manufacturing process.

PSEUDOMONAS AERUGINOSA - DETECTION IN MEAT

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Introduction. The main objective of the study is centered on the detection of the pathogen *Pseudomonas aeruginosa* in meat and meat products intended to be eaten cooked or fresh.

Materials and Methods. The biological material used for the identification by real-time PCR was represented by tissue from commercial meat products. The extraction of bacterial DNA from tissue was made with DNeasy mericon Food from QIAGEN-Germany. Bacterial DNA concentration and purity were determined using a Schimadzu spec-

trophotometer. Fifteen samples from commerce were tested for the presence of *Pseudomonas aeruginosa* by Real Time PCR and for confirmation were used classical microbiology techniques. After the determination of total number of germs, the samples were artificially contaminated with successive concentrations of bacterial strain in order to determinate the initial contamination and pathogen recovery from the samples. The next step was to find out the detection limit and the specificity of the Real Time PCR reaction.

Results and Conclusion. The detection from samples fortified with different concentrations of *Pseudomonas*, was in accordance with the microbiological results. It was observed that the bacterial DNA extracted from the commercial meat had the slowest amplification, with a Ct (cycle threshold) value of 37.94, being in concordance with our aim for this study.

The tested samples were positive for *Pseudomonas aeruginosa* by Real Time PCR and by microbiological testing.

The research was supported by the Project QualiMeat – PN-II-PT-PCCA-2011-3.2-0509.

STUDY ON THE MICROSCOPE METHOD AND THE VIEW OF THE ANALYTICAL TECHNIQUES FOR IDENTIFICATION AND ESTIMATION OF THE PROCESSED ANIMAL PROTEINS IN ANIMAL FEED

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Introduction. Hypothesis universally accepted as the most likely route of infection with ESB appeared due to the consum of the animal by-products which are not intended for human consumption that contained prion protein derivative - infected led to ban the feeding of farmed animals with processed animal protein (PAP) that focused primarily feed for ruminants and later expanded to all feed for all farm animals. Entry into force of the ban on the use of the processed animal proteins (PAP) in feed for farmed animals and especially in ruminants is considered an important measure of prophylaxis to prevent BSE so the identification and the microscopic estimation of the constituents of animal origin became the official method and mandatory in all Member States.

Materials and Methods. The microscopic analysis depends upon the identification of the hsitological characters macro-and microscopic structural of the processed animal tissue added in feed mixtures.To identify the microscopic animal constituents, some technical conditions are essential: optical microscope, stereo microscope, high-density solvent (chloroform or tetrachloroethane) clarifying agents (phenol-glycerol, paraffin), microscope with digital visual images support as decision support .

Results and Conclusions. The method allows the identification of bone fragments, muscle tissue, hair, feathers, shell fragments and plant and mineral components.

Nowadays four different approaches are applied to control the compliance on the prohibition of feeding with PAP: microscopic analysis, immunological analysis, infrared spectroscopy and microscopy (NIR), polymerization chain reaction (PCR). In this stage, the microscopic method is the only method validated and able to identify the nature of the animal in feed components with detection limit of <0.1%, but it cannot accurately detect the species of origin.

THE INCIDENCE OF YERSINIA SPECIES IN SLAUGHTERED PIGS

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Introduction. This study follows the isolation frequency of Yersinia germs from different organs and carcasses samples collected from slaughtered pigs. The study presents a high importance because it reveals the probability of contamination with bacterial species of Yersinia genus, which are pathogen for human beings (especially for infants) through alimentary toxic infections, manifested by austere diarrhea syndrome.

Materials and Methods. To determine the isolation prevalence of Yersinia bacteria, a total number of 1.784 organs and muscle samples were harvested and processed through microbiological assays; the study was developed during a period of 3 years (2010-2012). Each sample was transmitted to laboratory and processed followed also the work stages comprised in the ISO techniques (SR ISO 10.273, SR 12925, STAS 2356-82), and also the work techniques used actually by different microbiology laboratories in order to establish a diagnosis of this bacterial species. The identification-confirmation stage was realized by using API 20E galleries: the API 20E system offers the possibility of identification of Yersinia germs in 24 h, as well as other enteric bacteria.

Results and Conclusion. The results obtained demonstrated a low incidence at portage of bacteria belonging to Yersinia genus (maximum 0.22 %), but these low values can be determined by the inhibition of Yersinia bacteria by preferential development of other bacteria which populate the intestine. The highest isolation frequency was observed at the level of serous surfaces (pleura and peritoneum), this specific observation demonstrating the carcass post-mortem contamination either because of slaughtered pigs evisceration in improper conditions (evisceration in improper conditions and minimal techniques) or because of the carcass faecal contamination. Although the total prevalence, in the survey period, demonstrates low values (0.398), it can be concluded the possibility of these bacteria to contaminate the slaughtered pig's carcasses, these constituting contamination sources for consumers.

COLUMBOPOLIVAC S – MIXED INACTIVATED VACCINE AGAINST PIGEON PARAMYXOVIROSIS AND SALMONELLOSIS

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Introduction. Romvac Company has developed a new vaccine intended for the immunoprophylaxis of the main diseases in pigeons: paramyxovirosis and salmonellosis.

Materials and Methods. The vaccine formula consists of several inactivated antigens: pigeon paramyxovirus (PMV), strain PMV1-Ro96; Newcastle Disease Virus (NDV), lentogenic strain La Sota; *Salmonella thyphimurium*, strain Ro 2005, adsorbed

on aluminum hydroxide. The product was tested both in laboratory and in field, as per the requirements of the European Pharmacopeia, 7th edition. The observed parameters were: microbiologic sterility, inactivation of antigens, stability, safe administration in target animals and efficacy.

Results and Conclusions. No local or general post vaccine reactions were reported during safety tests. The efficacy tests showed that 21 days after booster vaccination, the titers of inhibohemagglutinant serum antibodies for NDV and pigeon PMV were $>\log_2 4$ and the titers of anti-*S. typhimurium* agglutinant antibodies were $>\log_2 2$, values which provide protection against a natural infection. Concerning the duration of immunity, the tests have shown that the antibody titers were maintained within appropriate levels, *i.e.* $\geq\log_2 4$ for NDV and PMV and $\geq\log_2 2$ for *S. typhimurium*, for at least 6 months.

Columbopolivac S vaccine can be used with good results for the immunoprophylaxis of pigeon paramyxovirosis and salmonellosis. The manufacturing authorization has been granted for this product and the documentation for its marketing authorization has been submitted.

SOWS ROLE IN *SALMONELLA* TRANSMISSION

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Identification of *Salmonella* spp carrier sows is an important factor for the implementation of control programs at farm level. In this study we observed the transmission of *Salmonella* on the farm during the technological flow, by faecal sampling from gilts, their piglets until weaning age, the piglets after weaning age, and from youth at fattening, prior slaughtering.

Identification and isolation of *Salmonella* was done by two methods: SR EN ISO 6579:2002, or by molecular methods (PCR). The prevalence of Salmonella spp after examination of (n=150) samples of faeces was 50% at sows and their piglets , observing a slight increase in piglets after weaning (78.57%) and the fattening pigs (90%). The most common serovars isolated were S. Typhimurium, S. *Derby* and *S. Newport*.

Study results indicate that sows are a source of contamination of piglets, and the presence of salmonella during other stages may be due to environmental stress factors and the *Salmonella* carrier state.

VETERINARY EDUCATION

TULCEA PRACTICE CENTER – EDUCATION MEETING THE CULTURAL AND TOURISTIC SIDES

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After nearly a decade of lack of the component organized in practice centers in preparing students from the Faculty of Veterinary Medicine Bucharest, since 2009, this activity was revived by visits in the practice centers of groups accompanied by teachers with norm of practice.

The study was conducted with three groups of 25 students and was held in the stages of the practice in 2010, 2011 and 2013. This practice activity offered the students the opportunity of applying knowledge acquired during the academic year/years. The groups of students who took the practice stage at Tulcea Sanitary Veterinary Department had the opportunity to perform various activities (baby boar castration , artificial insemination in sow etc.) on farms in the county. Students also actively participated in the maneuvers and activities of various departments of County Sanitary Veterinary Laboratory subordinated to SVD (necropsy, trichinoscopy, etc.).

After completion of the program most students expressed their desire to visit different sights of Dobrogea. Thus, they had the opportunity to visit museums subordinated to Tulcea Eco-Museum Research Institute (Ecotourist Museum Center " Danube Delta " - Aquarium, Museum of History and Archaeology, Ethnography and Folk Art Museum), all of which are in the municipality area. On weekends, students were in boat rides on the Danube Delta canels, made equestrian tourism in Macin Mountains National Park, visited various archaeological sites and ancient and / or medieval citadels (Aegyssus/Tulcea, Noviodunum/Isaccea, Enisala/Heracleea, Histria, Argamum). The beautiful touristic journey included visits at Dobrogea Gorges and Gura Portiţei.

This approach to practical activity including the cultural side, respectively the touring side, had a very positive feedback from students who have completed the practice stage in an efficient and pleasant manner by an optimal combination of these sides with education.

ABOUT BIOMORPHOLOGY OF BIRDS SHOULDER JOINT

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Introduction. The question about biomorphology of shoulder joint is still uninvestigated. It is especially actual for birds, as the exceptionally bipedal animals, whose thoracic limbs are adapted for flight in most species.

Materials and Methods. The research material was skeletal and cadaveric material, which belongs to various species and orders of the Aves class.

Results and Conclusion. The shoulder joint of bird has a very specific structure. The humerus connects to sophisticated shoulder girdle which leans coracoid bones on breastbone, and scapulae on ribs. Such structure creates rigid and, due to the shoulder girdle muscles, labile construction. This is biomorphological adaptation for flight or swimming (penguins). Breastbone, which has large size and irregular shape, provides disposition and secure fastening of the main flying or swimming (penguins) musculature - pectoral and supracoracoideus muscles. In the shoulder girdle clavicles form furcula; scapula has a saber form and connect rigidly but removably to coracoid in flying birds. In flightless birds (paleognaths) it knits with coracoid into a single structure. Many birds have contact between coracoid and clavicle, which is a result of the acrocoracoid process formation, that led to the formation of the characteristic three-bone channel.

In flying and swimming birds the direction of coracoid is not only sideways, but also forward and upward; it brings the shoulder joint to the spinal column level and favours the rise of wings above the back level, which provides flight.Coracoid shaft of birds proceed forward with acrocoracoid process from the shoulder joint. This helps supracoracoideus muscle to connect to the humerus head on the dorsal side, and it causes the rise of the wing up.

BIOMORPHOLOGY OF SHOULDER GIRDLE OF SOME SPECIES OF CYPRINID FISHES

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Introduction. Fishes are the first representatives of the planet's fauna which have paired as well as unpaired limbs (fins). The presence of paired limbs is related with the presence of limb girdles. Shoulder girdle of fishes is not investigated.

Materials and Methods. The object of research was the shoulder girdle of 30 fishes that belong to 6 species of the family Cyprinidae. The investigations of the shoulder girdle's skeleton, its morphometry, roentgenological structure and miology were carried out.

Results and Conclusion. The shoulder girdle of teleosts has general principles of structure, but vary considerably in geometrical shape, number of structural elements and their degree of development. These structural elements combine together and form a system of large foramina through which muscles penetrate and act on the pectoral fin.

Roentgenological shoulder girdle structure of cyprinids is characterized by a virtually identical arrangement of compact and spongy substances.

Shoulder girdle muscles of cyprinids can be divided into three functional groups: abductors, adductors, levators. Medial and lateral levators of the first thick ray of pectoral fin and cleithro-basal muscles have been described in some investigated species for the first time.

The indices of ratio of shoulder girdle skeletal structures have some differences due to the variations in body shape and pectoral fins size, as a result of phylogenetic adaptation

to the specific types of movement in water flow. The degree of muscles development is different within the same family due to the difference of pectoral fin development and perfomance of stabilization function. Muscle differentiation is caused by functional loads under the influences of Earth's gravitational field, hydrostatic and hydrodynamic forces

CASE STUDY OF A MIXED BREED DOG SUFFERING FROM CUSHING SYNDROME

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This case study follows the evolutions and the medical treatment of one mix breed male dog, approximately 10 years of age, diagnosed in February 2013 with Cushing syndrome. The paper focuses on the progression of the disease from its early stages. The clinical signs (polydipsia, polyuria, polyphagia, cataract, muscular dystrophy, abdominal ptosis, weight gain, fragile state, darkly pigmented skin, a.s.o.), directly correlated with the medical investigations (biochemistry tests, dexamethasone suppression test, abdominal ultrasound examination) directed the diagnosis towards Cushing syndrome. It was then decided to start the specific drug therapy, with the close assessment of the patient status throughout the treatment. Following the specific treatment the patient's health improved considerably and his life expectancy extended. Cushing syndrome is an endocrine disorder that requires advanced medical investigations to be properly diagnosed. It is often associated with age related dysfunctions. Elevated hepatic serum levels (increasing the activity of serum transaminases and alkaline phosphatase) may be misleading in making a proper diagnosis.

CONTRIBUTION OF VETERINARY MEDICINE HIGHER EDUCATION TO ENSURE QUALIFIED ASSISTANCE IN ROMANIA IN 2012

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Introduction. This study presents an analyze of the distributions of veterinarians in the 41 counties of Romania. The major aim of this study was to investigate the way in which the faculties of veterinary medicine ensured specialists in Romania. Also, the professional evolution of veterinarians, in the context of continuing education, was investigated.

Materials and Methods. The study was based on the contradictory situations presented in the publications of the General Association of Romanian Veterinarians and of the College of Romanian Veterinarians.

The total number of investigated veterinarians was 5964 coming from 6 romanian faculties (35,55% FMV Bucharest; 24,39% FMV Cluj-Napoca; 20,43% FMV Iasi; 17,58% FMV Timisoara; 0,9% FMV Spiru Haret, 0,38% FMV Arad).

For every county were investigated the number of veterinarians involved in education and research and the number of specialists which continued their studies.

Results and Conclusions. Analyzing the data, it can be observed that "Fişier biografic 2012" published by the General Association of Romanian Veterinarians covers only 60% of the total number of veterinarians.

The statistical analyze showed that the number of veterinarians can be divided in four major regions according to the graduated faculty: the south area is covered mainly by FMV Bucharest (1745 graduated students), the central part by FMV Cluj-Napoca (1188), the east part by FMV Iaşi (836) and the west part by FMV Timişoara (618).

Although it is known that is very hard to obtain correct data from all the country, this study intended to be a start in order to establish the total number of veterinarians, territorial and professional distribution.

ASSESSMENT OF QUALITY OF SOME SUGAR-BASED PRODUCTS ON THEIR SENSORIAL, PHYSICAL AND CHEMICAL PARAMETERS

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Introduction. In the last years, the world is more and more interested in consuming high quality food products. Because the sugar-based products are consumed frequently, it is very important to know the quality of them. The purpose of this article is to analyze the sensorial, physical and chemical parameters of some sugar-based products.

Materials and Methods. The research was done on 20 samples of candy drops each of 250 g. The used methods are the ones stipulated by 3-2011 Standard. The assessed sensorial parameters were: flavor, color, exterior aspect, interior aspect, taste. The assessed physical and chemical parameters are: moisture, reducing sugar, total sugar (as invert sugar), and insoluble in hydrochloric acid 10% ash.

Results an Conclusion. The main results concerning the sensorial parameters are: flavor – pleasant, well expressed; color – in character with the used flavor; exterior aspect – whole pieces, triangular shape, with dry surface; interior aspect – glassy mass, breakable; taste – pleasant, without strange taste. The result concerning the physical-chemical parameters are: moisture – 2,80-2,90%; reducing sugar – 22,2-22,3%; total sugar (as invert sugar) – 76,1-76,4%, insoluble in hydrochloric acid 10% ash - 0,056.

Overall the results are normal, they fit into the standards. The sugar-based products analyzed have a good quality. However, the presence of abnormal values of certain parameters represents a real risk for the consumer health and a risk assessment should be always performed.

STRUCTURE OF LYMPHATIC CHANNEL OF DOMESTIC BULL'S STOMACH

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Introduction. The peculiarities of lymphatic channel structure of separate human organs and certain laboratory animals were studied in different aspects. Reports about the structure of lymphatic channels of domestic bull are not enough.

Materials and Methods. More than 20 domestic bull's stomachs at the age of 3 to 7 years have been investigated. Lymphatic vessels and capillaries were filled with different coloring masses; cleared macro-, micropreparations were produced by special techniques, architectonics of lymphatic channel was investigated and morphometry of its components have been made.

Results and Conclusion. The general principle and features of structure of intraorganic lymphatic channel in the wall of each chamber of domestic bull's stomach were established. Topographic relationship between lymphatic vessels and blood vessels have been found. The groups of lymph nodes, through which lymph passes on its way from the stomach to the cranial vena cava, were established; the connections between lymphatic vessels of different stomach's cameras and other abdominal organs were cleared up. We developed the graphical schemes of the structure of intraorganic lymphatic channels of rumen, reticulum, omasum and abomasum; of the lymph outflow from these cameras; of formation of the main lymphatic trunks of abdominal cavity according to our data.

Intraorganic lymphatic channel of the wall of domestic bull's stomach is formed by lymphatic capillaries and vessels of mucous, muscular and serous membranes of the organ. The biggest differences of architectonics of lymphatic capillary networks and plexuses of lymphatic vessels occur in the mucosa of different cameras of the stomach. Lymph passes through 2-4 groups of lymph nodes on the way from the wall of rumen, reticulum, omasum and abomasum to cranial vena cava.