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PECULIAR ASPECTS REGARDING THE SYNCHRONOUS EVOLUTION OF TWO CANCERS (DOUBLE CANCER) IN CANINE AND FELINE

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Summary

The authors review the problems, which are less known, and presented in the scientific data, concerning the so-called "double-cancer" diagnosed synchronously or within a relative short period of time. Eight cases of "double-cancer" were investigated: seven in the canine, and one in the feline.

Key words: double cancer, canine, feline, anticancer therapy

HOMEOSTASIS CHANGES OF SOME SERUM ENZYMES IN RATS INDUCED BY THE NEW ORGANOMETALLIC GALLIUM COMPLEX C(85)

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Summary

The homeostatic status of three serum enzymes under the action of the organometallic gallium complex C(85) in rats is presented in this paper. The substance that was going to be injected intraperitoneally (i.p.) was dissolved in a solvent medium made up of water-ethanol-polyethylene glycol (carrier-solution). Such procedure is practiced in case of some organometallic complexes or in case of some organic compounds used as drugs.

Substances were administered intraperitoneally in the morning at 7.00 a.m. and in the evening at 7.00 p.m. as follows: to animals of control group the carrier-solution and to animals of experimental group the gallium complex C(85) dissolved in the carrier-solution. After 48 hrs from the experiment, blood samples were taken for analyses from the anesthetized animals. By analytical methods, specific to clinical chemistry, the serum level of the aspartate amino transferase (ASAT), g-glutamyl transferase (g-GT, or GGT) and alkaline phosphatase (ALP) was determined.

There were observed increases of ASAT and ALP both in the morning and evening experimental groups. In case of g-GT a morning decrease and evening increase was revealed. Variations in the serum enzymes level reveal the effects induced by the administered organometallic complex predilectly on the liver function involving some sequences of the metabolic interactions in which intervine transferases and hydrolases.

Key words: gallium, ASAT, GGT, ALP

THE MORPHOLOGY OF THE VERTEBRAL COLUMN IN JAGUAR (*Panthera onca*)

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Summary

The jaguar is one of the biggest cats in South and Central America. It has a morphology similar to that of the leopard, which is why we tried to establish the anatomical characteristics of its vertebral column, from which it is possible to do morphological and functional assessments. The study materials consisted of the bones of a male jaguar (Panthera onca) with melanism which had been donated for teaching purposes by the Zoological Garden in Bucharest. Whereas it is a rare species, we describe in detail the vertebrae morphology, in order to complete the existing data in the literature.

Key words: jaguar, vertebral column, bones, measurements

CLINICAL, CYTOGENETICAL AND HISTOLOGICAL STUDIES OF ONE LAMB WITH MULTIPLE ABNORMALITIES

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Summary

One Merinos newborn, from a mother with no eredopathological history, which presented anus atresia and external genitalia agenesis, was subjected to a set of examinations: clinical, cytogenetical and histological in order to elucidate the cause that generated the malformations and to advise the breeder so the incidence of genetic abnormalities in his ovine population to be reduced to acceptable levels.

As a result of examinations it was concluded that the newborn had the genetical sex of a male and the abnormalities presented were the results of one recessive genotype with action upon embryonic structure named „*cloaca*", a bipotential structure which is split up into anus and external genital tract.

Key words: ovine, genetic abnormalities

ESTABLISHING AN EFFECTIVE PROGRAM OPERATION OF A FLY KILLER DEVICE IN CONTROLLING OF INSECT FROM ORGANIC FARMS

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Summary

The use of physical methods for insect control in organic farming represents important measures in biosecurity system. This paper presents study results of an operation program of a fly killer to ensure highest possible efficiency insects control in an organic farm. Were tested two running programs of a fly killer device such as: first consist in operation for two hours with alternation of four hours interruption over 24 hours and, the second, four hours operation in the morning and evening, respectively. From the results it was observed that the effectiveness of insects control was 61% when was used the second type operation program of the fly killer device, four hours in the morning and four hours in the evening. With the first operating program the efficiency was 41.3%. Efficiency increase with 1.5 time when was used of the second running program.

Key words: fly control, fly killer, running program efficiency

DYNAMICS OF POTABILITY INDICATORS OF DRINKING WATER FROM ECOLOGICAL FARMS

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Summary

This paper presents the results of a study done on dynamic of quality indicators of drinking water from few ecological farms. Important in terms of risk to human and animal health are microbiological and some of the chemical indicators, which are correlated with organic and microbial pollution of water. Were collected and examined four water samples from nine organic farms in the counties of Sibiu and Bihor during 2011, one for each quarter of the year. Were analyzed the following bacteriological parameters: total aerobic mesophilic germs; total coliforms, intestinal enterococci and chemical analyzes were determined ammonium ions, nitrites and nitrates. From all the nine farms, was found that only two had a non-compliant water for drinking, exceeding permissible values for each of the four determinations made during the year. Seven of organic farms the bacteriological examination of water samples was placed under limits and ammonium ions, nitrite and nitrate could not be put out by the usual methods used.

Key words: ecological farms, drinking water.

DO'S & DON'TS IN ONLINE COMMUNICATION-IN GENERAL AND IN VETERINARY MEDICINE IN PARTICULAR

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Summary

Online communication became the most used style of communication in all fields of activity. The development of the smart phones and tablets makes the access to email and internet possible in any point of the globe, with Wi-Fi or GSM coverage. So we are tempted to write an E-mail or SMS to almost every important or unimportant message, avoiding personal meetings even in the same office or building.

We must remember always that online communication is not the only way of communication and that this cannot substitute the face to face communication. Especially some sensitive or confidential issues cannot be communicated through online communication.

There are things that cannot be discussed by E-mail or social networks like Facebook or Twitter, and many respectable universities and companies on the globe established their own rules and policies in using the online communication. In VET area online communication there are very significant approaches that should be respected.

Key words: veterinary online communication, E-mail, privacy, security

SMARTPHONES APPS FOR YOU AND YOUR PET'S NEEDS

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Summary

Smartphones are in our pockets all the time and we would also like to have our pets supervised and assisted permanently and not to worry about their needs. "Pintofeed" is one of the last innovations in the science of veterinary medicine promising to take care of your pet as a remote control even from very long distance and for a long period of time, when missing from home.

We have to analyse the most known and useful apps on internet and smartphones that have utility in the area of veterinary medicine.

We need to study the facilities and opportunities of all the widgets and gadgets available, but we also need to pay attention to the threats that might appear in using these instruments too much or without enough wisdom.

Key words: smartphones, pet's needs, apps, feed, MMA

POSSIBLE ADVANTAGES OF SUBSTITUTING SOYBEAN MEAL WITH OTHER MEALS IN BROILER CHICKENS FEED

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Summary

Partial substitution of conventional sources of protein in commercial broiler feed was done with rapeseed, soybean or sunflower meals. It was found that the feed ratio conversion (kg/kg) was relatively similar, although slightly higher in the experimental group fed with rapeseed meal compared with control group. Also, were determined at the end of the first period of growth average body weight values of the experimental groups only with 11.25 to 28.74 g higher. At the end of the experiment the average body weight of the control group was equal to that of the group with additional rapeseed meal, higher with 20 g in the case of soybean meal addition and with 40 g lower in case of sunflower meal supplementation. These results support the potential use of different meals other than that of soybeans.

Key words: rapeseed, soybean, sunflower meals, broiler

IN VITRO EXPANSION OF BOVINE SKELETAL MUSCLE PROGENITOR CELLS

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Summary

Muscle-derived stem/progenitor cells are capable of self-renewal and differentiation in response to injury or myopathic diseases with the purpose of preserving adult skeletal muscle architecture. However, these cells represent only a small percentage of the cell population obtained from muscle tissue and require in vitro expansion before their regenerative potential can be harvested. We established proliferating cell cultures from adult and newborn bovine muscle tissue and explored the ability of several cytokines and cell culture parameters to stimulate stem cell proliferation. The growth kinetics of muscle-derived cell population was monitored with the xCELLigence Real-Time Cell Analyzer and the fraction of progenitor cells was identified by the expression of CD34+ and key pluripotency-asssociated transcription factor Oct4. Our results show that high seeding density promotes terminal differentiation and reduces the percentage of progenitor cells, while epidermal growth factor (EGF) and basic fibroblast growth factor (bFGF) stimulate progenitor cell proliferation.

Keywords: bovine muscle stem cells, cytokines, cell culture

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BUCHAREST SCHOOL OF VETERINARY ANATOMY CONTRIBUTION TO THE IMPLEMENTATION AND DEVELOPMENT OF VETERINARY MEDICAL EDUCATION IN ROMANIA BETWEEN 1927 AND 1943

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Summary

The transformation in 1921 of the Higher School of Veterinary Medicine into Faculty and his inclusion in the University of Bucharest, gave an inpuls to innovation in improving veterinary education.Comparative anatomy study, descriptive and topographic curriculum was phased in over three years, in years I and II surrendering Comparative anatomy and descriptive and topographic anatomy in the third year. After retirement in 1927 Professor C. Gavrilescu discipline management will be undertaken by Professor Gheorghe Iliescu, because, after 1938, first in the leadership was Professor Gh. Nichita and then Prof. V. Parvulescu. During this period were made and published a number of scientific papers and theses with a great value that were cited insome anatomical treated abroad.

Key words: veterinary anatomy, discipline management, scientific paper

GENETICAL, PHYSIOLOGICAL AND ENVIRONMENTAL EFFECTS ON PROLIFICACY AND PIGLETS QUALITY

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Summary

The reproductive traits for eight farrowings of 4,649 Landrace (L) sows, 1,327 Large White (LW) sows, 149 Duroc (D) sows and 320 Hampshire (H) sows during the interval 1993-1999 when these achieved 20,667 foarowings. The sows are offsprings of parents imported from Europe and USA. The following parameters where established: normal and failed farrowings, prolificacy, the piglets number and the 3-week litter weight, survival ratio. The statistical analysis was made by taking into account the following parameters: breed, age and farrowing season. LW sows are the most productive during the eight farrowings (85.14 piglets), falowed by the L, D and H sows (83.99, 80.72 and 75.69 piglets, respectively). A similar situation can be noticed regarding the piglets born alive. The breed and age cause significant differences (P >0.5) between LW - H, L -H, and between farrowings (F) F_1-F_3 , F_1-F_4 , F_1-F_5 , F_6-F_7 . The survival ratio at 21 days was influenced by the age of the sows and the order number of farrowing, respectively. The differences between farrowings are as follows: F_2-F_1 (1.15 ± 0.86), F_3-F_1 (1.02 ± 0.86), F_4-F_1 (1.00 ± 0.86) and depending on breed. The largest milk yield was obtained at sows, followed by LW, D and H sows. The remarkable productivity of L sows (4:l milk, one kg/piglets live weight at 21 days of age) was as follows: 1,381.08 kg milk, meaning 4.95 kg daily milk yield. Although these are perfected breeds, raised intensively, the season still influences the prolificacy. In Romania, spring is the most favorable season for farrowing. On the other hand, autumn is the less favorable.

Key words: sows, liter size, reproductive traits, survival ratio, abortion

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AFLATOXINS - AN REAL DANGER TO PUBLIC HEALTH

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Summary

Aflatoxins are a variety of mycotoxin alkaloid toxic, carcinogenic, dangerous to human health. So far were most commonly found in cereals, bakery products contaminated grain or some oriental fruit but again appear increasingly more alerts (rapid alert system for food and feed) the content aflatoxins in milk over limit.

The high temperatures and drought, favoring the spread of mold Aspergillius and by eating contaminated grain by dairy cows aflatoxin in it transfer - through the digestive tract of the cow, the milk collected. Aflatoxin affects the appearance and features not smell of milk, its existence can only be detected by laboratory tests.

Key words: aflatoxins, food contamination, food safety, public health.

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SANITATION STANDARD OPERATING PROCEDURES AN ESSENTIAL PRELIMINARY PROGRAM

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Summary

Sanitation play a critical role in food safety industry. The correct application of procedures for sanitation is a key component for protecting food from contamination by pathogenic microorganisms or alteration of surfaces, equipment and workers hands. The efficiency of cleaning and sanitation actions must be measured accurately and permanently to confirm their efficiency.

Food-borne pathogens such as Salmonella, Campylobacter, Listeria monocytogenes and Escherichia coli O157: H7 have attracted attention to the need documented sanitation program. It has become extremely important to have an effective sanitation program as part of the HACCP program.

All sanitation programs have the final goal to reduce and / or eliminate all contaminants with harmful effects for the consumer. Existence of effective sanitation program, not only public safety, but can also reduce costs by reducing spoilage and prevent recalls inadequate food products.

Key words: food safety, sanitation, sanitation program.

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STUDY OF MAIN BLOOD MINERALS CONCENTRATIONS IN DIFFERENT PHYSIOLOGICAL STATES IN CATTLE AND SHEEP

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Summary

The goal of this study was to evaluate the main macro-minerals concentrations in cattle and sheep in different physiological states (lactation, and last period of gestation, before calving/lambing). For this purpose, blood samples were taken during the summer (lactation) and winter (gestation) periods from 30 clinically healthy half-breed Holstein cows and 50 Turcana ewes. Blood concentrations of calcium, phosphorus, magnesium and potassium were determined by using an ICP spectrometer. There were significant differences between the values of blood minerals concentrations dependent of physiological states and seasons (feed, respectively). In both species calcium concentration was lower in the last period of gestation, before calving/lambing compared to lactation period, and the other minerals concentrations were higher in the last period of gestation, before calving/lambing compared to lactation period.

Key words: macro-minerals, cattle, sheep, lactation, gestation.

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ASSESSMENT CANINE AGGRESSION

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Summary

Based on bibliographical studies a test has been conceived in order to evaluate the aggressiveness in those dogs that can not respond to new requests when changing the owner.

This test relies on seven evaluation criteria: the first three criteria emphasize both the manner in which the dog cope with the new environment, and the way in which he responds to the human's requests. The lest four criteria estabilish the owner's capacity to obtain from the dog what he previously requested.

Key words: dog, aggressiveness, evaluation

A STRATEGY FOR DEVELOPMENT IN THE DANUBIAN AREA FROM BAZIAS TO THE DELTA, BASED ON A NEW BIO-ECOECONOMIC APPROACH IN ORDER TO INTEGRATIVELY VALUE THE AUTHENTIC DANUBIAN TERRITORIAL CAPITAL BETWEEN 2014 AND 2020

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Summary

The strategic use of the authentic danubian territorial capital through Bio-ecoeconomy – all along the Romanian part of the river, including its Delta – is part of the development strategy of the danubian regions coordinated by the European Union (EU). But this cannot be done without making an inventory of all existent resources so that the territorial capital of the Romanian danubian regions is known. The strategic use of this territorial capital has to reflect the priorities of the regional development policies, which have to obbey the EU regulations and the international reccommendations. This paper is based on the strategy of Danube Basin Rural and Landscape Forum initiated by the Association of Hungarian Settlements and Regions Developers, on the data from the Transilvanian Rare Breeds Association. The main priority for the danubian area is to raise the bar for economic competitiveness in the region but also to respect the multiculturality and the chosen lifestyle. This preservation of the particularities of human commnunities can be done by protecting the biodiversity and the zoo-genetic and game patrimony of their environment. This connection between human – environment – animal, i.e. ethnozootechny, represents most probably the way to protect every human community from the danubian regions. Success in Zootechny does not necessarily require sumptuous shelters with high performance but expensive machines, but a good breeding technique on the pasture in order to obtain relatively cheap and high quality products by taking advantage of the pastures and meadows of the Danube. The development strategies necessarily imply a development of the danubian transportation, a permanent control of the water-soil-air quality, the monitoring and prevention of the risk factors, a development of the energy sources according to the Green Program for Europe and the choice of bio-economy as the way to economic competitiveness for 2014 – 2020.

Key words: territorial capital, biodiversity, European patrimony, Bio-Ecoeconomy, ethnozootechny

ALUMINIUM ACCUMULATION IN RATS SEXUAL ACCESSORY GLANDS AND THE PROTECTIVE EFFECT OF MELATONIN

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Summary

The exposure of Wistar male rats for one month to aluminium as aluminium sulphate (1000 ppb in drinking water) and melatonin (10 mg/100 ml water) emphasized: significantly increased of aluminium levels in prostate, bulbo-urethral glands and seminal vesicles in all cases of aluminium exposure comparative to control group and significantly decreased of those levels after exposure to melatonin, indicating that melatonin protect the body to accumulate aluminium.

Key words: aluminium, melatonin, rats

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DIFFERENTIAL DIAGNOSTICS OF THE ROUND CELL TUMORS IN DOGS

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Summary

Round cell tumors are commonly detected as cutaneous or subcutaneous masses. However, the majority of these tumors also appear in other locations. More differentiated tumors have very unique features that help to identify the specific type of neoplasia. However, poorly differentiated round cell tumors can be very difficult to identify even by histopathology and diagnosis often requires phenotypic marking by immunocytochemistry. Especially, mast cell rich histiocytoma, or leukocyte infiltrated tumors required high experience. In this group of tumors, we found histiocytoma, mastocytoma, melanotic tumors and two cases of veneral transmissible tumor.

Key words: pathohistology, dog, round cell tumor

COMPLETE BLOOD COUNT RELEVANCE IN HEALTH MONITORING OF FARMED CARP (*CYPRINUS CARPIO*)

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Summary

Clinical and haematological investigations were conducted in a semi-intensive carp (Cyprinus carpio) farm with poor health, predominantly manifested by the development of anemic syndrome. Out of a total number of fish harvested in this farm (n = 650) a batch of 15 randomized carp was made, which has undergone clinical and hematological examination consisting of hemogram and Panoptic stained blood smears for citomorphology. Blood samples were collected in EDTA, by caudal vein puncture, to determinate hematocrit, hemoglobin, total number of erythrocytes, total white blood cell and white blood cell counts. Individual processing and interpretation of data was made on Microsoft Office Exel 2007.

Low average values of the total number of erythrocytes (1.43 mil/mm^3), associated with low levels of hemoglobin (6.59 g/dl), revealed development of anemia in the livestock. Average value of the total number of leukocytes (26.600/mm^3) was correlated with increased cellular defense mechanisms expressed by a slight leukocyte reaction. Distribution of leukocyte subpopulations showed a tendency toward neutrophilic granulocytosis (8.34%), with or without monocytosis (6.06%), in some cases neutrophils ratio reached 14-15% and monocytes 10-12%.

Results obtained from clinical and hematological tests revealed argulosis infestation, predominantly manifested by anemia and skin lesions irritation. Lesion treatment was based on fish bathing with Actomar B 100 (50-100 ml/m^3) and the addition of bioaditives feed (Bio-Mos 0.2%). Post-therapeutic clinical examination revealed positive dynamics of growth, although the mean total number of erythrocytes (1.77 mil/mm^3) and hemoglobin (7.3 g / dl) still remained in the lower range of physiological limits. Health status improved, leucocitary reaction potential was noticed, neutrophil ratio reached 9.97 % and monocytes 10.14 %.

Key words: carp, anemia, argulosis, hematolgy, CBC.

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THE MANAGEMENT OF POTENTIAL DONORS AND BLOOD PRODUCTS IN A TRANSYLVANIAN VETERINARY CLINIC

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Summary

A program for the management of potential canine and feline donors and blood products was implemented in a private veterinary clinic form Cluj. The potential canine and feline donors were introduced in this program after thorough clinical, hematological, biochemical and coproparazitological tests as well as screenings for infectious diseases. A sample group of 10 permanent and 25 emergency canine donors was formed with mostly DEA 1.1 positive individuals. Blood units (450-500ml) were collected 4 times a year, in a 3 month interval, from the permanent donors, all with a body weight over 30 kg.

The feline sample group consisted of 9 cats with type A blood group, that were used only in emergency cases.

Blood was drawn from the jugular vein or, in some cases, from peripheral veins by free flow or extraction. The units were collected in open or closed systems using standardized blood bags with CPDA1 for sterile collection or vials with sodium citrate. During the collection process the donors had to be immobilized for 10-15 minutes, some of which, especially the feline donors, needed to be sedated or tranquilized (diazepam rectally, acepromazine). An average of 15 ml/kg blood was drawn from the canine donors (with an average PCV of 47.41%) and 11 ml/kg from the feline donors (with an average PCV of 38.20%), none of which showed symptoms of hypovolemia, anemia, or any other changes of the vital signs.

In the blood collection process some technical difficulties were also encountered, such as blood clothing in the collection needle or in the collection tube, making it necessary to stop the collection process. A few donors developed long lasting hypotension as an adverse reaction to the acepromazine.

The clinic was able to maintain though this program a monthly stock of blood products, including 2 units of whole blood, 1 unit of plasma and 1 unit of erythrocyte concentrate.

The majority of the blood products were used in the clinic, except 4 units of whole blood and 7 units of erythrocyte concentrate that was not used in the 25 days that is considered as the safe storage period.

Key words: donor program**,** dog, cat**,** blood products

MORPHOPATHOLOGICAL QUANTIFICATION OF THE SWINE NEPHROPATHIES

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Summary

The morphopathological researches were perform through microscopic and macroscopic kidneys examination; the kidneys were collected from 126 swine corpses, Landrace & Large white hybrids, aged between 1 day -6months,originating from the intensive growth systems.

In this paper we aimed the macroscopic and microscopic identification and description of renal lesions in necropsied pigs, during three years of study; assessing the nephropathies prevalence, based on morphopathological criteria; developmental disorders, circulatory disorders, dystrophic processes, inflammatory processes and tumor processes. From the total of 126 pigs necropsied, 30 cases were morphopathological diagnosed with nephropathies (23.8%).

Macroscopic and microscopic have been identified in descending order, the following nephropathies: dystrophic 15 cases (30%), circulatory 8 cases (26.6%), inflammatory 6 cases (20%), and congenital 1 case (3.3%).

Of the nephropathies, the most numerous are dystrophic processes represented by :protidic dystrophies 11 cases (36,6%) followed by lipodystrophies 4 cases (13.3%).Degenerative nephropathies are a constant of the anatomopathological diagnosis; from the morphopathological point of view they can be the cause or the effect of many complex lesions.

The inflammatory nephropathies, 6 cases (20%) are represented by exudative forms (hemorrhagic, purulent) and proliferative forms (lymphohistiocytic and fibrous).

Histopathologic, the diagnosed neprhopathies affects all of the kidney structures: glomerulus, urinary tubes, interstitium and blood vessels. The lesions occur in nephrons (parenchyma) and in interstitium (stroma).

The kidneys complex reactive morphological ability is given by proliferation and differentiation of mesenchymal cells in different cellular directions, depending on the inductors nature.

Key words: morphopathologic, quantification, swine nephropathies.

MORPHOPATHOLOGIC THYMIC ASPECTS IN EXPERIMENTAL AVIAN INFECTIOUS BRONCHITIS IN CHICKENS

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Summary

The morphopathological changes observed in the thymic parenchyma on the chickens experimental infected with BIA (Avian infectious bronchitis), M41 strain, were expressed by circulatory, dystrophic, necrobiosis, necrosis changes and / or by lymphocytes migration, and as a corollary of them, accidental/stress thymic involution was installed . Therefore 10 days after the infection, in three cases (21.4%) active congestion was macroscopically and microscopically diagnosed, and in seven cases, passive congestion was diagnosed (50%);at 20 days post infection, most thymic lesions consisted of dystrophic changes, necrobiosis and necrosis changes and / or lymphocytes migration; in a way that cortical area was reduced in volume, and sparsely populated with thyocytes. The Hassal corpuscles had suffered hyperplasia, some were intact or keratinized and a big part of the had suffered a cystic process. At 30 days post infection, eight cases (80%) showed thymocytes necrosis and/or lymphocytes migration from the cortical area in medular area, which gives a uniform appearance to thymic architectonics, with the disappearance of the lesion design. This lesional aspect defines, in a morphopathological plan, accidental/stress thymic involution.

Key words: thymus, morphopathological aspects, experimental infectious bronchitis, chickens

PLASTINATION OF THE PIKEPERCH (*Sander lucioperca*) WITH THE S10 TECHNIQUE IN ROMANIA

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Summary

Based on S10 standard technique 5 pikeperch were plastinated as a first trial in Romania. The fishes used for plastination were dissected and fixed for 14 days in formaldehyde 10% and dehydrated 28 days in acetone. The forced impregnation was performed in Biodur S10 silicone. The curing was made in Biodur S10 for 14 days.

Key words: plastination, S10 standard technique, pikeperch.

DEUTERIUM DEPLETED WATER –TREATMENT OF MELANOMA AND SKIN CANCER IN MICE?

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Summary

The aim of this study is to investigate if deuterium depleted water can help in the treatment of melanoma and skin cancer on mice.

After 60 days of treatment with deuterium depleted water- 30 ppm- we have observed a regression of the tumor, an improvement of the tumors aspect, an improvement of the animals' weight involved in the experiment. The deuterium depleted water helped the mice to have a longer and better life.

Key words: mice, melanoma, skin cancer, deuterium depleted water

THE WELFARE OF DAIRY COWS IN TWO HOUSING SYSTEMS: ASSESSMENT OF FEEDING AND HOUSING

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Summary

The aim of this work was the assessment of feeding and housing of dairy cows in two housing systems. The study was accomplished in 15 dairy farms with tie-stall system and in 12 farms with free stalls, in Transylvania, in the period when the cows were housed. The feeding and housing assessment was based on the Welfare Quality® protocol. A total number of 1120 milking cows were assessed (601 in tie-stalls and 519 in free stalls). The obtained data were statistically processed with the SPSS software (descriptive indicators, t test or the Mann-Whitney test). No significant differences were found ($P > 0.05$) for the mean score of the principle Good feeding and for the included criteria (Absence of prolonged hunger, Absence of prolonged thirst) between the two housing systems. The scores for this principle varied from unclassified to enhanced in the tie-stall farms and from acceptable to excellent in the farms with loose housing system. Based on the scores for the Absence of prolonged hunger criterion, most of the tie-stall and free stall farms were classified in the excellent welfare category, while the scores for the Absence of prolonged thirst criterion enrolled the majority of farms in the enhanced welfare category. The scores for the Good housing criterion and for the included criteria (Comfort around resting, Ease of movement) were significantly higher ($P < 0.001$) in the farms with free stalls than in the tie-stall farms. Based on this principle the assessed farms were classified in two welfare categories (acceptable and unacceptable those with tie-stalls, enhanced and excellent the ones with free stalls). The scores for the Comfort around resting criterion varied from unclassified to enhanced in the tie-stall farms and from acceptable to enhanced in the farms with free stalls. The farms with tie-stalls were classified in two welfare categories (unclassified and acceptable) and those with free stalls in a single category (excellent), based on the score for the Ease of movement criterion.The results show that there are important differences between the housing systems only for the Good housing welfare principle. The scores for the Good feeding and housing principles and for the included criteria, generally better in the free stall farms indicate a higher level of dairy cows' welfare in these than in the farms with tie-stalls.

Key words: Welfare Quality® protocol, dairy cow, housing system

HEXAVALENT CHROMIUM EFFECTS ON SPERM QUALITY AFTER PREPUBERTAL PERIOD EXPOSURE

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Summary

The aim of this study was the evaluation of sperm quality markers: sperm count, total motility, progressive motility and percentage of sperm with anomalies at sexual maturity, after exposure to potassium dichromate (Cr VI) in prepubertal period. Female rats, divided in four groups: three experimental and one control, were exposed via drinking water to potassium dichromate after delivery as follows: E_1 25 ppm Cr VI (LOAEL); E_2 50 ppm Cr VI; E_3 75 ppm Cr VI, control received tap water without chromium content. The pups from each E group were exposed via drinking water from weaning until sexual maturity.

The study pointed out: significant decrease of sperm count, total and progressive motility comparative to control group and in inverse, significant, correlation to exposure level; significant increase of sperm anomalies percentage comparative to control group and in direct, significant correlation to exposure level.

Key words: rat, male, sperm, chromium VI

THE OUTCOMES OF POTASSIUM DICHROMATE INTAKE IN SUCKLING PERIOD ON REPRODUCTIVE BIOMARKER OF EXPOSURE

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Summary

Hexavalent chromium compounds occur mostly due to anthropogenic origin and are known to cause in humans and experimental animals hepatotoxicity, nephrotoxicity. The aim of this study was the evaluation of reproductive chromium toxicity, respectively exposure impact on biomarker of exposure: chromium level in genital organs and sexual accessory glands.

Female rats, divided in four groups: three experimental and one control, were exposed via drinking water to potassium dichromate after delivery as follows: E_1 - 25 ppm Cr VI (LOAEL); E_2 - 50 ppm Cr VI; E_3 - 75 ppm Cr VI, control received tap water without chromium content. The pups from each E group were exposed via milk and drinking water. After weaning and until sexual maturity pups received only tap water without chromium.

The study pointed out: significant increase of chromium concentration in testis, epididymis, seminal vesicles, prostate and bulbo-urethral glands in all exposed groups comparative to control ones, and directly correlated to exposure level.

Key words: chromium VI, male, rats, concentration

INFLUENCE OF MODIFIED CLINOPTILOLITE AND ESTERIFIED GLUCOMANNAN ON PERFORMANCE OF LAYING HENS

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Summary

The study included 1500 laying hens Shaver 579 separated into three groups with 500 birds with different additives in food: control group (C) without additives, O1group with modified clinoptilolite, O2 group with esterified glucomannan. The experiment lasted 28 weeks. During the experiment laying hens received food that naturally contained mycotoxins in certain concentrations (aflatoxin B1, zearalenone, ochratoxin A). Applied adsorbents showed their positive attributes.

Key words: laying hens, modified clinoptilolite, esterified glucomannan, mycotoxins