

THE USE OF PARASITICIDE TREATMENTS IN CARP LARVICULTURE

**ATHANASOPOULOS L., JECU E., TENCIU M., MOCANU E., NISTOR V.,
SIMIONOV I. A., CHIOVEANU M. C.**

Institute of Research and Development for Aquatic Ecology, Fishing and
Aquaculture of Galati 800211, 54 Portului St., Galați, Romania
E-mail: lilianablondina@yahoo.com

Summary

The present study aims to document fish pathology on carp larvae and it was conducted over a period of 10 days. The biological material was produced in Brates Experimental Farm, by the use of controlled semi-natural pond breeding technology, during april-may 2018. Wet mount microscopic analysis revealed parasitic diseases. The parasites were counted and reported as predominant species of protozoan ciliate - *Trichodina* sp. Therefore, the treatment applied on carp larvae was consisted by the administration of bleaching powder - Ca (ClO)₂ - in a dose of 10 kilograms per hectare. The treatment had 2 purposes as it follows: prophylactic purpose (0-10 days after hatching) in BR 11 and curative purpose (0-13 days after hatching and 0-16 days after hatching) in BR 12, respectively in BR 11. In order to establish the effectiveness of applied treatments, the degree of fish parasitic infestation was determined. At the end of the experiment period, the highest survival percentage of harvested fish was recorded in the prophylactic treatment option.

Keywords: carp larvae, Trichodiniosis, bleaching powder

**ISOLATION AND CHARACTERIZATION OF SOME METHICILLIN
RESISTANT *STAPHYLOCOCCUS SPP.* STRAINS ISOLATED
FROM MASTITIC BOVINES**

BUCUR I.M., NICHITA I., IMRE K., CRISTINA R.T., DÉGI J., TÎRZIU E.

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I
of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, Calea
Aradului, No. 119, Timisoara, Romania
E-mail: bucur_iulia@ymail.com

Summary

In recent years, a special attention is paid to methicillin-resistant staphylococci strains, which have a pronounced risk and a complex epidemiological circuit, being common in humans, as well. The research was made on 20 samples of mastitic milk taken from primiparous bovines from a cattle breeding farm in Timiș county. From the taken samples, 64 strains belonging to *Staphylococcus* genus were identified and included in 19 species of staphylococci. These species isolated on selective media and definitively identified with the Vitek 2 Compact equipment were tested for resistance to methicillin. Thus, three antibiotics, namely methicillin, oxacillin and ceftiofur, were used, of which the highest resistance frequency was to methicillin.

Keywords: methicillin, resistant, staphylococci, strains

BIOLOGICAL ACTIVITY OF ARISTOLOCHIA LONGA L. AGAINST SOME PATHOGENIC BACTERIA AND PHYTOCHEMICAL SCREENING

BOUTELDJA R.^{1, 2}, DOUCENE R.³, BOUZID R.⁴, MOULAY M.⁴, AGGAD H.²

¹Faculty of Natural and Life Sciences, University IbnKhalidoun of Tialet

²Laboratory of Hygiene and Animal Pathology, Institute of Veterinary Sciences

³Laboratory Reproduction of farm animals, Institute of Veterinary Sciences

³Faculty of nature and life science, University ChadliBenDjedid, El Tarf

⁴Laboratory of Agro-Biotechnology and Nutrition in Semi-Arid Area

E-mail: h_aggad@yahoo.com

Summary

This work aims the phytochemical study and biological activity of methanolic, ethanolic and aqueous extracts of *Aristolochia longa* L stems and leaves. Polyphenols were estimated by spectrophotometer and antioxidant activity by 2,2-diphenyl-1-picrylhydrazyl while activity against *Micrococcus luteus* ATCC 14452, *Bacillus subtilis* ATCC 6633, *Staphylococcus aureus* ATCC 43300 and *Escherichia coli* ATCC 25922 was realized by disc impregnation. The rates of polyphenols (39.01mg.ml⁻¹, 38.25 mg.ml⁻¹ and 33.78mg.ml⁻¹) and flavonoides (21.56 mg.ml⁻¹; 27.86 mg.ml⁻¹ and 28.22 mg.ml⁻¹) for methanolic, ethanolic and aqueous extracts respectively. The antioxidant activity of methanolic, ethanolic and aqueous extracts was 443 μg.ml⁻¹, 860 μg.ml⁻¹ and 998 μg.ml⁻¹ respectively.

The most significant antibacterial activity in the form of inhibition diameter was observed with methanolic extracts on *B. subtilis* (11.05 mm) and *M. luteus* (9.08 mm). Ethanolic extracts was 12.91 mm on *B. subtilis* and 10.75 mm against *M. luteus* and finally 10.93 mm on *S. aureus*.

Keywords: *Aristolochia longa* L., antioxidant, polyphenols, flavonoids, antibacterial

**VALIDATION STUDIES FOR DETERMINATION OF
NITROGEN PROTEIN FROM BIOLOGICAL PRODUCTS BY
KJELDAHL METHOD**

CIUCĂ V.

NS Pasteur Institute SA, 333, Giulești Street, Bucharest, Romania, 060269
E-mail: viviana_c20@yahoo.com

Summary

Nitrogen / protein from tuberculin was determined by the Kjeldahl method following the steps: mineralization of proteins, release of ammonia by decomposition of ammonium sulphate, distillation of ammonia, dosage of nitrogen / protein. Validation studies go through analytical requirements such as repeatability or intra-test accuracy, reproducibility or inter-test accuracy, the accuracy of the method by reference material, the method uncertainty and the value range of the method. The coefficient of variability of the performed determinations was 4.15%, reproducibility limit r was 1.34 and the range of values was: $1.60-1.94 = 0.34 < 1.34\%$. Accuracy was 107.1% and Bias was 7.1%. The sensitivity limit of the method was 0.14 mg N / ml and the protein concentration of the tuberculin tested was determined with an uncertainty of $\pm 25\%$. The nitrogen / protein dosing method has been validated according to the demonstration parameters and is appropriate for the intended purpose.

Keywords: nitrogen, validation, uncertainty

RESISTANCE PROFILE SCREENING IN PIG FARMS IN WESTERN ROMANIA

DOMA A.O., DUMITRESCU E., MUSELIN F., TIRZIU E., DEGI J., CRISTINA R.T.

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, Calea Aradului, No. 119, Timisoara, Romania
E-mail: dao_west@yahoo.com

Summary

Antibiotic resistance is no longer a medical novelty, being heavily studied worldwide by numerous agencies in charge of monitoring, evaluating and implementing procedures aimed to diminish the effects of this phenomenon in order to preserve the public health. The intense use of antimicrobial agents, as means of preventing or treating colibacili determine more and more frequently the emergence of the antibiotic-resistant strains in swine species. In this respect, the present study intends to follow the evolution of resistance in two counties from the Western part of Romania, in ten great swine units on piglets, at the weaning age category. After the diagnosis confirmation, by morphopathologic means, the identification and isolation of the etiological agents were followed by the classical methods known in microbiology. Of a total of samples (no. 167), we found pathogenically positive 75.44%, being also identified hemolytic strains (10.77%), and 13.79% negative samples. The (non-hemolytic) positive samples were tested by the Kirby-Bauer disk-diffusion test, where 11 antibiotics were used, and the obtained data were compared with the CLSI / 2009 standard. Results revealed comparatively a diverse evolution of the resistance to the tested antibiotics in both counties visited, probably due to the extensive antibiotherapy applied in these units. The resistance value of the antimicrobial structures evaluated was relatively similar: in Arad County increased values of resistance to lincospectin and doxycycline were reported and in Timis County to neomycin and respectively amoxicillin / clavulanic acid, confirming the insidious evolution of this phenomenon in the Romanian swine farms.

Keywords: antibiotic resistance, evolution, swine units

**RESEARCHES REGARDING THE FEEDING OF THE BLACK
GOAT (*RUPICAPRA RUPICAPRA*)**

**DUMITRESCU V.¹, BORLEA F.², TÎRZIU E.², HOTEA I.²,
ILIE M.², COLIBAR O.²**

¹Ocolul Silvic Retezat, 335500, Progresului street, No.5, Hateg, Romania

²Banat's University of Agricultural Sciences and Veterinary Medicine "King
Michael I of Romania" from Timisoara
E-mail: vioreldumitresu79@yahoo.com

Summary

Some areas of Retezat National Park in which wild goat populations live were considered. Medium samples of natural fodder entering in the regular menu of these animals (grass, leaves, moss) and fecal samples were collected for each region separately. The analysis of the raw chemical composition of the feed showed that there can be considerable differences between the same feed assortments, in the range of 11.34% and 60.38%, depending on the area of origin. It was found that there is a direct correlation between the content in raw protein of grass and feces for each area. Because the black goat is a species protected by law in Romania, because their number is falling and because all aspects of their biology are not sufficiently well known, the researches are recommended to continue.

Keywords: black goat, feed, feces, composition

CLINICAL OBSERVATIONS REGARDING THE USE OF SKIN STAPLER IN OVARYOHISTERECTOMY IN CATS

MIHĂILĂ I., VULPE V., ROȘCA P.

University of Agricultural Sciences and Veterinary Medicine "Ion Ionescu de la Brad", of Romania" of Iași, Faculty of Veterinary Medicine, 700489 , Mihail Sadoveanu Alley, No. 8, Iasi, Romania
E-mail: mihailaiulian1991@gmail.com

Summary

The objective of this study was to determine the efficiency of using skin staples compared to simple interrupted suture and intradermic suture in closing up the surgical wound after ovariohysterectomy. Ovariohysterectomy was used both for spaying the cats and to treat some inflammatory diseases like pyometra. It was also used to remove ovarian cysts. We had a total of 59 cats of ages ranging from 6 months to 11 years. Xylazine and ketamine were used as an anesthetic for this study. We had a post-surgical complication because an intradermic suture failed, and we decided to use the skin stapler to fix the problem.

Keywords: skin stapler, ovariohysterectomy, cats

**RESEARCH REGARDING THE EQUINE INFECTIOUS ANEMIA
EVOLUTION IN ARAD COUNTY BETWEEN 2011-2017**

MOZOS C., PASCU C., IANCU I., DÉGI J., TOMSA T., CĂTANĂ N., HERMAN V.

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I
of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, Calea
Aradului, No. 119, Timisoara, Romania
E-mail: mozosh_cayus@yahoo.com

Summary

In the paper are present the serological results obtained between 2011 and 2017 regarding the equine infectious anemia (EIA) in Arad County. The results obtained show that equine anemia prevalence decreases from 2.07% to 0.26% during the analyses period. In each year, a number of positive horses remain in the equine population. We consider that this fact helps the virus maintain in the Arad County equine population reason for the appearance of positive cases in the near future.

Keywords: EIA, prevalence, serological exam

SOME SERUM PARAMETERS CHANGES IN RATS EXPOSED TO ALUMINUM AND RESVERATROL

**MUSELIN F., DOMA A.O., CRISTINA R.T., DÉGI J., MORUZI R.,
DUMITRESCU E.**

Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Veterinary Medicine, 300645, Calea Aradului, No. 119, Timisoara, Romania
E-mail: florin.muselin@gmail.com

Summary

The aim of the study was to emphasize the serum parameters changes as consequences of aluminum exposure and the possible benefic effect of resveratrol upon these. In this aim 24 Wistar adult rats (280 ± 20 g) were randomly distributed in four groups as follows: C – control that received distilled water, E1 – received aluminum 0.5 g/L as aluminum sulphate (AS) in drinking water, E2 - received aluminum 0.5 g/L and 20 mg/Kg resveratrol in drinking water and CR as blank control - 20 mg/Kg resveratrol in drinking water, the water and substances diluted in water being *ad libitum* for a four weeks period. There were determined albumin (ALB), total proteins (TP), creatinine (CRE) and urea (BUN) using a semiautomatic chemistry analyzer and specific kits. We observed significant ($p < 0.05$) decrease of ALB and TP and significant increase of CRE and BUN in rats serum from AS exposed group comparative to control and significant ($p < 0.05$) increase of ALB, not significant ($p > 0.05$) increase of TP and not significant ($p > 0.05$) decrease of CRE and BUN in group that received resveratrol and AS comparative to AS alone exposed group. No significant fluctuations were recorded between the two control groups. We can conclude that resveratrol can be helpful in case of serum parameters changes produced by aluminum exposure, but needs a longer administration period.

Keywords: resveratrol, aluminum, serum parameters

HABITAT INFLUENCES THE BACTERIOME ISOLATED FROM HEALTHY EUROPEAN RED SQUIRRELS (*SCIURUS VULGARIS*)

OLAH D. I., PALL E., NICULAE M., ȘANDRU C.D., VASIU A., CERBU C.G., POTĂRNICHE A., SPÎNU M.

University of Agricultural Sciences and Veterinary Medicine, Faculty of Veterinary Medicine, 3-5 Mănăștur street, 400372, Cluj-Napoca, România
E-mail: diana_olah01@yahoo.com

Summary

Even though a brief inventory of bacterial, fungal and viral agents would enhance the conduct in managing the main fatality causes, few data is known about the microbiome of the European red squirrel (*Sciurus vulgaris L.*). The present study aims at comparing the bacteria isolated from four red squirrels (n=4), three males and one female, raised in two different habitats. Two of the individuals included in the study were recovered from the wild shortly after being killed in traffic accidents, in different areas of Transylvania. The other two squirrels belonged to different owners and households, having been raised in captivity from one month of age. None of the squirrels showed any signs of an infectious disease at the time the study was conducted. Classical microbiological methods were used for the isolation of the microorganisms sampled from various sites of the body. Samples were obtained from the oral cavity, ears, pads, hair, skin, feces, anal, penile or vulvar region. Identification of the strains was performed by use of Vitek®2 system. Tributary to the 'One Health' concept, which states the interconnection of humans, animals and the environment and the importance of controlling the spread of antibiotic resistance, the antimicrobial susceptibility of all isolates was tested against multiple classes of antibiotics by disc diffusion method. The results revealed a significantly higher antimicrobial resistance in strains isolated from the squirrels that were raised in captivity when compared to those isolated from free-living squirrels.

Keywords: red squirrel, microbiome, antibiotic resistance, wild, captive

**MICROBIOLOGICAL QUALITY OF RAW MINCED BEEF
RETAILED IN TIARET CITY (WESTERN ALGERIA)**

OULD ALI A., AKERMI A., AGGAD H.

Institute of veterinary science, University of Taret, Algeria
Laboratory of hygiene and animal pathology
E-mail: h_aggad@yahoo.com

Summary

In order to assess the microbiological quality of ground beef retailed in Taret, eighty samples were randomly taken from butcheries, forty in cold season and forty in warm season. The microbiological studies included Total Aerobic plate counts (APC), Total and Fecal Coliforms (TC and FC), Sulfite-reducing anaerobes (SRC), Staphylococcus aureus (SA), yeasts and salmonella. Expressed in log cfu/g, the overall results were 5.07, 4.98, 3.79, 1.59, 3.40, 3.67 for APC, TC, FC, SRC, SA, yeasts and Salmonella respectively. The samples contamination is higher in warm season for APC, TC, FC and yeasts where. Regarding fecal coliforms, all samples were found to be substandard. Improved hygiene throughout the chain is required to obtain a safe food.

Keywords: minced meat, beef, quality, microbiology, season

SWINE GRANULOSA CELLS: TOOLS FOR REGENERATIVE MEDICINE?

PALL E.², CIUPE S.², DAN S.D.², CENARIU M.², BUCAK N.M.¹, GROZA I.²

¹Selcuk University, Veterinary Faculty, Konya, Turkey

²University of Agricultural Sciences and Veterinary Medicine, Faculty of Veterinary Medicine, Manastur street 3-5, Cluj-Napoca, Cluj, Romania
E-mail: emoke.pall@usamvcluj.ro

Summary

Our current study was designed to isolate and assess the swine granulosa cells as potential tools for regenerative therapy. Ovaries from sows were collected in authorized slaughterhouse and transported to the laboratory in 0.9% normal sterile saline supplemented with antibiotic and antimycotic (Sigma-Aldrich) at 10–15°C. The granulosa cells were collected from large antral follicles. Isolated cells were treated with Dispase (Sigma-Aldrich) at 37°C for 30 min. The cells suspension were cultured in DMEM/F12 supplemented with 20%FCS, 1%antibiotic-antimycotic at 37°C in a 5 % CO2 atmosphere. After 5 passages the cells were analyzed by FACS (FACS Canto II, Becton Dickinson) and the proliferative ability and differentiation potential were also evaluated. Our results indicate the potential of isolated cells and thus can be further tested for multiple therapeutic applications.

Keywords: swine, oocyte, granulosa cells, regenerative medicine

MICROBIOLOGICAL AIR CONTAMINATION IN RELATION WITH BIRD AGE IN A MEAT CHICKEN FARM

POPESCU S., BORDA C., BLAGA PETREAN A., LAZĂR E.A., SPÎNU M.

University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Faculty of Veterinary Medicine, 400372, Manastur street, no. 3-5, Cluj-Napoca, Romania
E-mail: cborda@usamvcluj.ro

Summary

The aim of this study was to assess the level of microbiologic air contamination in relation with bird age in broiler houses. The investigations were carried out in two houses from a meat chicken farm. The determination of the bacteria and fungi numbers was performed in the first, third and the sixth week of the production cycle by specific methods. Air temperature and relative humidity were simultaneously measured. The data were statistically processed using the SPSS software, version 17. The concentration of studied parameters in indoor air were as follows: total mesophilic bacteria ranged from 6.88×10^5 to 4.97×10^6 CFU/m³, the Staphylococci concentration was between 3.35×10^5 - 2.71×10^6 CFU/m³, Streptococci between 7.49×10^4 - 2.52×10^5 CFU/m³, gram-negatives from 9.88×10^3 to 1.53×10^4 CFU/m³ and fungi from 1.33×10^4 to 3.05×10^4 CFU/m³. Staphylococci were 48.69 - 82.49%, streptococci 6.14 - 10.89%, and gram-negatives 0.39 - 2.59% within the total mesophilic bacteria. In both houses significant differences ($P < 0.05$) were recorded between the three periods of the determinations for all microbiological parameters. The results show that microbial air contamination increased with poultry age.

Keywords: airborne bacteria, airborne fungi, broiler age

HISTOLOGICAL ASPECTS OF LINGUAL GLANDS IN OSTRICH

RAITA Ș.M., ROȘU P., GEORGESCU B., GEORGESCU M.

University of Agronomic Sciences and Veterinary Medicine of Bucharest,
Veterinary Medicine College of Bucharest, 011464, Blvd. Mărăști no. 59, Sector 1,
Romania

E-mail: stefania.raita@yahoo.ro

Summary

Compared to other avian species, the ostrich tongue reveals structural, anatomic and histologic differences. The tongue is provided with mucosa, support cartilaginous lining and striated muscle layer attached to it. It is coated with squamous, stratified, non-keratinized epithelium, both on the dorsal and ventral sides. The ostrich tongue is equipped with several salivary glands, arranged in large lobules on the ventral side and small lobules on the dorsal side. From the histological structure point of view, the mucus-secreting glands are simple, branched, tubulo-alveolar, interconnected through abundant connective tissue septa. The glandular epithelial cells cytoplasm is bubbly and abundant, with spherical or flat nuclei, located at the bottom. The salivary glands of the dorsal side of the tongue are located in the shallow side, within lamina propria, while the ones on the ventral side are located deeper.

Keywords: ostrich, tongue, salivary glands

APPLICATION OF HACCP IN A FISH UNIT - SMOKED FISH

**RUSU O.R., FLORIȘTEAN V.C., BORȘ A., GRECU M., RÎMBU C., MIHAI I.,
AILINCĂI L.I., VLAD G.**

University of Agricultural Sciences and Veterinary Medicine "Ion Ionescu de la
Brad", of Romania" of Iași, Faculty of Veterinary Medicine, 700489 , Mihail
Sadoveanu Alley, No. 8, Iași, Romania
Email: raluca.strugaru@gmail.com

Summary

The purpose of these paper is to identify and monitor the critical points on the technological flow in a fish processing unit and to identify the potential microbial agents that may affect the final product, implicitly the health of the consumer (*E. coli*, *L. monocytogenes*, *Salmonella*, *Staphylococci*, *coagulase-positive*). The implementation of a HACCP plan in fish product establishments has been beneficial both for the economic operator and the end consumer. By applying this food safety system, the consumer confidence increases for products in this category, given that fish is a perishable product with a risk of contamination during the technological flow, regardless of the form under which it is sold (smoked, marinated fish, fish pastrami, various types of salads, etc.)

Keywords: HACCP, smoked fish, hazard

BACTERIA OVERGROWTH ASSOCIATED WITH PARVOVIROSIS IN DOGS

**SUĂTEAN M.I., NICULAE M., PALL E., ZĂBLĂU S., SEICHELI R., OLAH D.I.,
VASIU A., SPÎNU M., BRUDAȘCĂ GH.F.**

University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Faculty of
Veterinary Medicine, 400702, Mănăștur Street, No. 3-5, Cluj, Romania
E-mail: monica.suatean@usamvcluj.ro

Summary

Parvovirus in young dogs is one of the most serious and frequent viral diseases encountered in young dogs. Various bacteria can be involved, leading to over-infection of the gastrointestinal tract, increasing the risk of potentially fatal outcome. Our study aimed to isolate, characterize and identify bacteria associated with CPV-2b infection in dogs that can aggravate the health of patients suffering from parvoviral gastroenteritis. The research included 9 dogs admitted to our clinic, with the clinical and epidemiological suspicion of gastroenteritis. The fecal samples collected were used for the snap test band confirmation of the disease and microbiological examination. Qualitative and quantitative evaluation of the faeces confirmed secondary bacterial overgrowth for 88,88% of the dogs included in the study (8/9). Compared to the literature, coliforms were found in association with other species of bacteria, both Gram positive and Gram negative. These results underline the importance of target antimicrobial therapy in order to reduce the septicemic and toxemic complication, thus increasing the survival chances. Further studies are intended to monitor the emergence of antimicrobial resistance in case of bacteria isolated from dogs with parvovirus.

Keywords: *parvovirus, bacteria, dogs, gastroenteritis*