



## **Seventh International Scientific Conference**

### **Veterinary Medicine in Service of Humanity, One World One Health**

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# **Booklet**

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# **Effect of adding different concentrations of Coenzyme Q10 to the diet in blood biochemical of broiler Ross 308**

Hassan Jasim Abbas and Nihad Abdul-Lateef Ali

Department of Animal Production, College of Agriculture, Al-Qasim Green University

## **Abstract**

This study was conducted at the Poultry farm / Department of Animal Production / College of Agriculture / Al-Qasim Green University during the period from 27/1/2019 to 3/3/2019, The study was aimed to the effect of adding different concentrations of Coenzyme Q10 to the diet in blood biochemical and lipid profile of broiler Ross 308. In the experiment, 180 unsexed broiler chicks (Ross), which obtained from Al-Anwar hatchery, were randomly distributed on 12 pen, with four experimental treatments, 45 birds for each treatment. Each treatment included three replicates per 15 birds. The treatments of the experiment were as follows: control treatment: control group free from any addition. The First treatment: 40 mg coenzyme Q10 / kg added to basal diet, the second treatment: 60 mg coenzyme Q10 / kg added to basal diet and the third treatment: 80 mg coenzyme Q10 /kg added to basal diet. The main results of the study are as follows: The results of the experiment showed a significant improvement ( $p < 0.05$ ) for the treatments addition coenzyme Q10 (Second ,third ,and fourth ) in the total protein concentration ,albumin and globulin compared to the first treatment (control), as for the concentration of the liver enzyme ALT ,recorded the Q10 treatments ( Second ,third ,and fourth) significant decrease ( $P \leq 0.05$ ) in the concentration of the enzyme compared to the first treatment that recorded the highest concentration of ALT enzyme, as for the concentration of glutathione peroxidase ,the third and fourth treatments showed significant improvement ( $P \leq 0.05$ ) in the concentration of the enzyme compared to the first treatment (control). Treatments coenzyme Q10 Showed a significant decrease ( $P \leq 0.05$ ) in the concentration of cholesterol and triglycerides as well as low – density lipoproteins and highest in the level of high –density lipoproteins in the serum of birds compared to the first treatment (control). Treatments recorded Q10 also a significant decrease

( $P \leq 0.05$ ) in the level of malondialdehyde (MDA) compared to the first treatment (control).

## **Ameliorative Role of Schiff-Base Derived from Phenyl Ethyl Amine Against Sodium Nitrate Toxicity in Laboratory Male Rats.**

Ibtihal Hassan Hatim, Rashad Fadhil Ghadhban and Wasfi Aboud Al-Masoudi

Department of Physiology, Pharmacology and Chemistry, College of Veterinary Medicine, University of Basrah

### **Abstract**

This study was designed to evaluate the biological activity of Schiff base derived from phenyl ethyl amine produced novel compound used in this experiment.

**Material and Methods:-** Thirty adult male rats age (10-14) weeks (150-200) gm weights were included and separate randomly into 5 groups (6 rats / group) and treated for 21 days intra-peritoneal (I.P) as follows:- Group 1 (control): 0.5ml/day of DMSO daily ,Group 2: 18mg/kg of  $\text{NaNO}_2$ , daily ,Group 3 94 mg/kg of phenyl ethyl amine daily ,Group 4 18 mg/kg of  $\text{NaNO}_2$ , then after one hour 0.5ml/day from 66.8mg/kg of synthesis compound daily , Group 5: 0.5ml/day from 66.8mg/kg of synthesized compound.

**Results: -** according to finding Results there was significant ameliorative effects of Schiff base against sodium nitrate toxicity in several physiological parameters as (R.B.C. count, Hb. concentration, PCV., W.B.C. count MID%, TSH, T3 and T4 levels) which the result showed there were significant decreased in this parameters in group 5 where administrate sodium nitrate and after one-hour novel compound in compared with group 2 sodium nitrate alone

# Effect of Pox Vaccine on Blood Picture in Adult Ewes

Ibraheem Ahmad Noah and Suha A. Rasheed

Department of physiology, Biochemistry and Pharmacology, College of Veterinary Medicine, Mosul University.

## Abstract

Sheep pox is an enzootic disease in Iraq and the regional countries. A huge amount of money either spent on vaccines or lost due to the morbidities every year. For unknown reason, sometimes vaccination is not efficient enough to provide the required protection. We conducted this study to investigate the effect of the most popular pox vaccine on some physiological parameters, which may reflect any adverse effect on the body. We used twelve adult ewes, divided into two groups (6/each); the first group is the control, injected with normal saline (0.9% NaCl) intradermally, whereas the vaccine was injected similarly in the animals of the other group. Blood samples were obtained weekly before and after the treatment onset. Results revealed that there are changes in blood count parameters, starting from the vaccination time (the second week). Interestingly, RBC count was decreased just after the vaccination, whereas, a significant ( $p \leq 0.05$ ) decrease in the WBC was also observed, with consequent significant changes in the differential leukocytes count (DLC). These changes were accompanied with signs of re-elevation after two weeks of vaccination. In conclusion, there are unexpected changes in the RBC count result from pox vaccination. Furthermore, the developing of immunity starts with a decrease in the WBCs, which needs more than two weeks to restore the normal value.

# **Histological and Physiological Study of Dianabol on the Thyroid gland of female Albino rats (*Rattus rattus*)**

Ekhlas Abid Hamza, Salim Salih Ali, Lubab Aqeel Jafer and Isam Mohamed Jaber

Al-Qasim Green University/ College of Veterinary Medicine / Iraq

## **Abstract**

The random uses of androgenic anabolic steroids such as dianabol especially among young people and adolescent could have harmful effects on health. The aim of this study is to investigate the possible harmful effects of oral administration of dianabol on the histology and hormones levels of the thyroid gland in female rats. The study was carried out in the animal house (College of veterinary Medicine / University of Al-Qasim Green. Twenty-four female rats (*Rattus rattus*) were divided into 4 groups, three groups were given dianabol orally at the concentrations of (0.05, 0.1, 0.2) mg/kg respectively on daily basis for six weeks, and the fourth group, served as a control group, was injected by (0.9%NaCl). Thyroxine (T4), triiodothyronine(T3) and thyroid stimulating hormone (TSH) were estimated. Histological study included the histopathological changes in thyroid gland tissue.

The results showed a significant increase ( $p < 0.05$ ) in the levels of TSH, T4, and T3 compared with the control group. This study also showed changes in the thyroid tissue that included hyperplasia of thyroid follicles, colloid material in most follicles, little or no increase in the size of follicles which suggest that increased dose of dianabol leads to pathological (Physiological and histological) changes noticeable in most of the studied criteria.

# Gene polymorphisim of Transforming Growth Factor Beta 1 (*TGF- $\beta$ 1*) in Autism Spectrum Disorder ASD in Basrah

Khulood Abdulrazaq Kaleel and Wijdan Nazar Ibraheim

Microbiology Department, College of Medicine, University of Basrah, Basrah, Iraq

## Abstract

Transforming growth factor- $\beta$ 1 (TGF- $\beta$ 1) is an important immune regulator critical for immune homeostasis. Accumulating evidence suggests that TGF- $\beta$ 1 has a crucial regulatory role in CNS development and potential implications for neurogenesis in a variety of TGF- $\beta$ 1-related CNS diseases: so the aim of the study to investigate the association of the *TGF $\beta$ -1* gene polymorphism with its plasma protein plasma level (TGFB-1) in ASD patients.

It's a case – control study a total of 94 patients with ASD, their age ranging from 2 to 13 years and 100 apparently healthy children were used as a control which were matched by age and sex. TGF $\beta$ -1 levels were measured by ELISA and *TGF- $\beta$ 1*(Codon 10 + 869 C/T) and *TGF- $\beta$ 1*(Codon 25: +915\*G/C) Gene Polymorphism were detected by specific sets of primers.

The mean value of TGF- $\beta$ 1 was significantly low in the autistic group (95.91pg / mm) as compare with the control one (117.08 pg / mm) *TGF- $\beta$ 1*(Codon 10: +869\*T/C) gene polymorphism showed heterogeneous results between autistic group and control group

# **Antibacterial efficacy of ethanolic extract of Garlic (*Allium sativum*) and Sumac (*Rhus coriaria*) and antibiotic on *Salmonella typhimurium* isolated from chickens**

Mahasen A.Khudair Jenan Nadhim Sadeq and Zahira A. AL-Zuhairi

Department of pathology and Poultry Diseases Coll. of Vet. Med. / Al-Qadisiyah

Department of Microbiology and parasitology Coll. of Vet. Med. / Al- Qadisiyah

Department of Public Health Coll. of Vet. Med. / University of Al-Qadisiyah

## **Abstract**

Background and aim: Antibacterial drug resistance is an increasingly worldwide occurred health problem presented by bacterial-originated defectiveness to the work of a wide-range of antibacterial drugs. Uncovering the antibacterial effects of ethanolic extract of garlic (*Allium sativum*) (Glc) and sumac (*Rhus coriaria*) (Smc) on *Salmonella typhimurium* isolated from chickens was the main goal of the present study. Fifty samples of intestinal contents of chickens were collected randomly from various farms located in Al-Diwaniyah province, All specimens inoculated into on macconky agar, *Salmonella-Shigella* agar at 37c for 24-48-hr, also examined on XLD agar and *Salmonella CHROME* agar *Allium sativum*( Glc) or *Rhus coriaria* (Smc )extract, at different concentrations, or antibacterial drugs (control), 10mcg ciprofloxacin (Cip), 30mcg amoxicillin/clavulanic acid (Amc), 10mcg neomycin (N), were employed to test their antibacterial activities (AAs) against *S. typhimurium* using agar-gel diffusion tests, The experiment included an investigation about of one isolates from origin 6 isolates of *S. typhimurium* , 6 out of the 50 chicken samples (12%) were culture positive for *salmonella typhimurium* , Significant ( $p<0.05$ ) increases in the AAs against 2 *S. typhimurium* were shown by Glc or Smc extracts when compared to those from the antibiotics. Moreover, these AA increases were revealed to be incremented as the concentrations of those extracts were elevated. No significant ( $p>0.05$ ) differences were demonstrated between the Aas of both extracts. In addition, Cip, Amc, and N showed AAs against *S. typhimurium*;

however, Cip revealed the strongest AAs followed by Amc. Conclusion: The data show strong AAs of the Glc or Smc against *S. typhimurium*.

## **Cast Formation and Mammography Study of the Intraglandular Duct System in The Lactating Udder of Adult Indigenous Cow (*Bos taurus*)**

Salah, H. Almaliki and Mahdi, A. Atyia

Department of Anatomy, College of Veterinary Medicine, University of Baghdad, Iraq

### **Abstract**

The purpose of this study was to describe some characteristic features of the intraglandular duct system in the lactating udder of adult indigenous cow by cast forming and radiography study. Ten udders of local breed cows (5 for resin cast formation and 5 for radiological study), clinically appeared healthy and aged (2-5) years were obtained from Al- shoala slaughter-house in Baghdad city. Our study primed to describe and investigate of the intraglandular duct system of the local cow breed. The present finding was showed that the duct system was a network of unequal sizes tubules which was begins with the small intralobular ducts then interlobular duct empty into a collecting duct which drain the milk into the lactiferous sinus by a several of lactiferous duct, the lactiferous sinus forms a common cavity for each quarter of the udder which drain into the teat sinus and then teat canal.

# **Effect of Sodium Fluoride on Some Physiological Parameters and Histopathology in Adrenal and Thyroid Glands in Adult Male Rats**

Marwa Adel Hameed<sup>1</sup>, Bader Khatlaan Hameed<sup>1</sup>, Khalid Ahmed Hadi<sup>2</sup>, Enaam Anad Gabori<sup>3</sup>, Ahmed Abdalaali Aziz<sup>4</sup>, Wassan Sarhan Obid<sup>2</sup> and Dakheel Hussein Hadree<sup>2</sup>

1 Dept. of Anatomy and Histology, Vet. Medicine faculty, Tikrit University, Tikrit, Iraq

2 Dept. of physiology, pharmacology and biochemistry, Vet. Medicine faculty, Tikrit University, Tikrit, Iraq

3 Dept. of Medical laboratory technique, Al-noor University college, Mosul, Iraq.

4 Dept. of physiology, pharmacology and biochemistry, Vet. Medicine faculty, Kirkuk University, Kirkuk, Iraq

## **Abstract**

This study was carried out to investigate the harmful effect of water fluoridation on both (thyroid and adrenal gland) in adult male rats its weight about (400-300gm) exposed to sodium fluoride(NaF) in the drinking water. We are used in this study (٣٠) adult male rats (albino) were distributed randomly and divided into two equal groups (15 animals per group) . The first group was given normal water and considered as a control group (control group), while the second group were given drinking water with 100 ppm of sodium fluoride(NaF) (treated group). this study carried out in the animal house in the college of Vet. Med.\ Tikrit University. blood was drawn through the eye pupil for periods (0,30,60 days) in order to measure the following parameters: Measurement of Glutathione(GSH) concentration, total cholesterol and blood glucose concentration. In addition, taking tissue sections of the thyroid and adrenal glands. The results of this study showed that exposure of animals to sodium fluoride at a concentration of 100 ppm in drinking water for (60) days cause adrenal and thyroid gland dysfunction, represented by a significant decrease in the level of glutathione in blood serum on days 30 and 60 of the experiment and a significant increase in total cholesterol and blood glucose concentrations. The results of the histological examination of the thyroid gland of the treated group showed hyperplasia of the epithelial cell layer lining the acini vesicles,

and severe lipid changes were seen in the function of Reticularis in the histological sections of the thyroids gland of the same group animals. The results of this study confirmed the harmful effect of sodium fluoride(NaF) on thyroid and adrenal functions in addition to its effect on some biochemical parameters that are indicative of the occurrence of harmful effects of some chemical compounds.

## **Embryonic and Fetal Histomorphological Differentiation of the Ocular Structures in Sprague Dawley Rat (*Rattus norvegicus*)**

Masarat S.Al mayahi, Azhar Saleem Khalaf and F.J.Al-Saffar

Department of Anatomy, Histology & Embryology, Faculty of Veterinary Medicine,  
Baghdad University, Baghdad, Iraq

### **Abstract**

Histological sections of the embryos and fetuses of the Sprague Dawley rats were used to study the ocular developmental stages. Microscopic examination indicated that the primordial tissue related to the eye is found in the head fold region as an optic pit, then form the optic vesicle. The latter is invaginated upon itself to form the optic cup. The lens vesicle, which had separated from the ectoderm, was distinctly visible. Hence, lens capsule and fibers were evident. The front lens of the eye is derived from the superficial ectoderm and from the cornea. The optic vesicle is destined to form the retina. The mesenchymal cells found between the margins of the cup and the lens is involved in the formation of the vitreous body. In conclusion, the organogenesis of the ocular tissues in studied rats becomes evident when the optic cup and invaginated lens placode were begun to be formed which can be morphologically identified on the 12<sup>th</sup> embryonic day. The current information about the embryonic and fetal development of the rat's eye gives more concepts for subsequent morphological and physiological works or experiments.

# **Evaluation The Sedative and Analgesic Effect for Mixture of Tramadol and Metoclopramide In Sheep**

Manahel Allawi Aljbori

Department of Physiology, Biochemistry and Pharmacology, Collage of Veterinary Medicine, University of Mosul.

## **Abstract**

The aim of study was to explore the analgesic and sedative effects of tramadol and metoclopramide co-administration in sheep. Injection of tramadol intramuscular at 5mg/kg body weight in sheep produced deep sedation, recompense and analgesia in comparison with dose of 2.5mg/kg body weight which produced only mild sedation and failed as analgesic dose. Intramuscular injection of metoclopramide at 20mg/kg body weight in sheep produced deep sedation, recompense and analgesia in comparisons with dose of 10 mg/kg which produced only sedation and failed as analgesic dose. Intramuscular injection of metoclopramide at dose 20mg/kg or tramadol at 5mg/kg body weight in sheep each alone were produced deep sedation, recumbence and analgesia while metoclopramide at 10mg/kg body weight or tramadol at 2.5mg/kg body weight produced only mild sedation and each dose felid to produced analgesia in sheep. Concomitant administration of tramadol at dose 2.5mg/kg body weight to sheep and metoclopramide at dose 10mg/kg body weight intramuscular as sedatives not analgesia dose produced a significant increase in sedation score and produced deep sedation with recompense as well as good analgesia in comparison with control group and group of tramadol or metoclopramide alone.

# **Effect of Chlorella microalgae and germinated barley powder on performance, some health indices, and meat hygiene parameters of common carp (*Cyprinus carpio*)**

Nasreen Mohialddin Abdulrahman,<sup>1</sup> Havan Dwud Sleman,<sup>1</sup> Derin Omer Muhammed Ramzi<sup>1</sup> and Hevar Araz Hama-Salih<sup>2</sup>

1 College of veterinary medicine, University of Sulaimani, Sulaimaniya, Iraq.

2 Municipality of sulaimani, directorate of gardeners, Sulaimaniya, Iraq.

## **Abstract**

This experiment was done to assess the effect of Chlorella, as a source of protein, and germinated barley powder, as a source of natural prebiotic, on the performance of common carp. The experiment was conducted by using one-way ANOVA (analysis of variance) with a completely randomized design (CRD). Higher significantly in T2 with 5% Chlorella and T5 (20% germinated barley). FCR recorded significant differences among treatment as compared to T5 (20% germinated barley), and the opposite was observed in FER. T5 with 20% germinated barley was differing significantly in each of the spleen somatic and kidney somatic indices. Adding germinated barley leads to enhanced intestine weight index in T4 and T5. The parameters were hepatosomatic and gill somatic indices, condition factor, fish weight without viscera, fish weight without viscera and head, lipids, ash and moisture, organoleptic evaluation of mean juiciness, flavor, color, and complete acceptance. We conclude that the use of Chlorella and germinated barley potentially enhances the growth performance and fish meat quality. We recommend using both plants in earthen ponds to rely on using natural products in fish feeding.

# **Disinfection of table eggs using lemon juice as a natural biocide**

Alaa T. Abdulwahid, Hiba A. Nasear, and Samar S. Ghazi

Department of Veterinary Public Health, College of Veterinary Medicine, University of Basrah, Iraq

## **Abstract**

Bacterial contamination of table eggs is a serious public health problem around the world due to increase the risks of food-borne illness. Disinfection of table eggs is essential to minimize the possibility egg contamination from shells. In the current study, 100 samples (table eggs) were collected from different supermarkets of Basrah city. Identification and disinfection of bacteria on shell of table eggs were done in Veterinary Medicine College, Public Health Laboratory / University of Basrah. Samples were cultured on blood agar, mannitol salt agar, macConkey agar, salmonella-shigella agar, eosin methylene blue agar, and tryptic soy agar to differentiate different types of bacteria before and after processing with lemon juice depend on its morphology and Gram's staining. The detection of organisms for genus and species were then done based on biochemical characteristics using VITEK® 2 system. The present study revealed that the major contaminant of table eggs was with Gram-negative bacteria and the minor contaminant was with Gram-positive bacteria. Gram-positive bacteria detected on shell of table eggs (*Leuconostoc* species and *Gemella bergeri*) were resistant to lemon juice. However, Gram-negative bacteria identified on shell of table eggs (*Cronobacter sakazakii*, *Raoultella ornithinolytica*, *Klebsiella oxytoca*, *Enterobacter aerogenes*, *Moraxella* group, and *Serratia plymuthica*) were sensitive. In conclusion, table eggs collected from supermarkets were contaminated with pathogenic bacteria. Lemon juice was suitable to be used as an antiseptic agent to minimize the contamination of eggshells with Gram-negative bacteria.

# **Impact of Aqueous Extract of Rosemary on Testicular Tissue in Male Rats With Hyperthyroidism**

Fouad Ziedan Hamzah<sup>1</sup>, Sumayah Faruq Kasim<sup>2</sup>, Sarah Qahtan M. Salih<sup>2</sup>

1 Faculty of Veterinary Medicine, University of Kufa, Kufa, Iraq

2 College of Health and Medical Technology, Middle Technical University, Baghdad, Iraq

## **Abstract**

The aim of the study to evaluate the enhanced effect of aqueous extract of rosemary on testis tissue in male rats after inducing hyperthyroidism by L–thyroxin and compare with propylthiouracil effect. The animals (32 male rats) were divided into two groups. The first group was a control group consists of 8 male rats that were treated with distilled water for 12 days and the rest of the animals induced with hyperthyroidism by levothyroxine 0.5 mg / kg subcutaneously for 12 days. After the induction, the animals were divided into four groups each consists of eight male rats. The first group was the control group and they were treated with distilled water for another 12 days, the second group included male rats induced hyperthyroidism were treated with distilled water for 12 days orally, while the third group included male rats induced hyperthyroidism that were treated with propylthiouracil at a dose of 10 mg / kg for 12 days orally, and the fourth group included male rats induced hyperthyroidism that were treated with rosemary extract at a dose of 12 mg / kg for 10 days, orally. The results showed that rosemary extract led to complete healing of testicular tissue, unlike propylthiouracil.

# Assessment of The Milk Components of Iraqi Dromedary Camels

Naqa S. M. Tamimi<sup>1</sup> and Shaoob N.A. AL-Shihani<sup>2</sup>

1 Department of Internal and Preventive Medicine college of veterinary medicine, University of Wasit, Kut, Iraq

2 Department of Epidemics, Wasit Veterinary Hospital, Kut, Iraq

## Abstract

Camels' milk has gained so many attentions recently because of its unique therapeutic effects. Iraq is one of the Arab countries with a long history of camel husbandry and few studies regarding this important products' composition. In this study fresh milk samples from 78 apparently healthy she camels from Wasit province were collected and analyzed. According to the results means  $\pm$  Standard Deviation (SD) for Fat, Protein, and Lactose were  $3.48 \pm 0.95$ ,  $4.23 \pm 1.61$  and  $4.3 \pm 2.56$  percent, respectively. In addition, values for Total solids, Solid non-fat, Salt values were  $9.0 \pm 1.43$ ,  $8.64 \pm 1.75$ , and  $0.73 \pm 0.08$  percent, respectively. And means  $\pm$  SD for Density was  $1.031 \pm 0.0032$  g/cm<sup>3</sup> in this study. Data analysis revealed that sampling date was correlated with the milk's fat, density, and pH ( $p < 0.05$ ). She camels' age was correlated with salt values of their milk ( $p < 0.001$ ); while, their parity numbers correlated with the protein and salt values of the milk ( $p < 0.05$ ). Our findings fell within the published literature with minor variations; however, higher means for fat, protein and lactose were yielded compared to studies from other countries. Owners should be educated that they could obtain milk with better quality and higher quantity by improving feeding and husbandry measures.

# **Effect of raw lentil seed meal in common carp *Cyprinus carpio* L. diets as an alternative source of fish meal protein**

Nasreen Mohialddin Abdulrahman<sup>1</sup> and Zaweta Sharif Abdulla<sup>2</sup>

1 Anatomy and Histopathology Department, College of Veterinary Medicine,  
University of Sulaimani, Sulaimaniya, Iraq

2 College of Agricultural Sciences, University of Sulaimani, Sulaimaniya, Iraq

## **Abstract**

This experiment has been performed to assess the effect of partial substitution of fishmeal with lentil seeds in common carp growth performance, feed utilization and certain biological parameters (Fulton condition, Hepatic somatic index, Gills somatic index, Kidney somatic index, Spleen somatic index, Intestine Length index, Intestine weight index). Fish from a private fish farm were acquired in province of Sulaimaniyah, Iraq. Average fish weight ranged from 95-99 gm. Fish were divided into 5 treatment groups. The treatments were: T1: In fish diet 0% lentil seed was replaced with fishmeal, T2: In fish diet 5% lentil seed was replaced with fishmeal, T3: 10% lentil seed was replaced with fishmeal, T4: 15% lentil seed was replaced with fishmeal, T5: 20% lentil seed was replaced with fishmeal. There had been significant differences in weight gain, daily, relative, and specific growth rate as lentil seed replaced with fishmeal in fish diet. Feed Efficiency Ratio, Protein Efficiency Ratio and Fat Efficiency Ratio was significantly higher in T5 group than that of the other treated groups. No significant differences in the mean values of Hepato-somatic index, Spleen somatic index and Kidney somatic index were detected. Significant difference in the mean value of Condition Factor was found among treatment groups. Intestine-length index was significant among treatment groups according to fish weight while mean value showed non-significant according to fish length. The performance and general health of the common carp were significantly improved by raw lentil seed. Due to their low price in comparison to

fishmeal and commercially available in all markets, it is suggested to substitute the fishmeal with raw lentil seed in commercial fish diet.

## **Survey of fish diseases in Ranya (Raparin Administration)/ Sulaimaniya governorate; case study**

Nasreen Mohi Alddin Abdulrahman<sup>1</sup> Adel Jabbar Hussein<sup>2</sup> Sulaiman Salah  
Sulaiman<sup>1</sup> and Brwa Abdulla Rasul<sup>3</sup>

1 College of Veterinary Medicine/ University of Sulaimani, Sulaimaniya, Iraq

2 College of Veterinary Medicine/ University of Basrah, Basrah, Iraq

3 Raparin Administration / Ministry of Agriculture, Sulaimaniya, Iraq

### **Abstract**

This study tends to survey of common problems and diseases of fish aquaculture projects at Raparin administration area which have 76 projects, three species of Cyprinidae, common carp, grass carp, silver carp, in earthen and concrete ponds. By achieve the history of the disease outbreaks and understanding management strategies which applied by farmers, on this bases the collection of samples from different cases at different regions of Raparin area, clinical examinations done. The results of this study indicate the blow diseases and problems of fish aquaculture projects. Bacterial infections, hemorrhagic septicemia, Bacterial enteritis, Infectious dropsy, skin ulceration. Fungal infections, Saprolegniosis, epizootic ulcerative syndrome. Parasitic infections, Gyrodactylus infection, Ductylogyrus infection, Argulosis. Bad management represented by poor nutrition, low applying oxygen, and bad water quality.

# **Camel Milk Lactoferrin; As Anti-Viral Agent Against COVID-19 Infections**

Tahereh Mohammadabadi

Faculty of Animal Science and Food Technology, Agricultural Sciences and Natural Resources University of Khuzestan, Iran

## **Abstract**

Camel milk is containing protective proteins and enzymes and having anti-microbial and immunological properties against the bacterial and viral infections. The immunoglobulins, lactoferrin, lysozyme, lactoperoxidase, peptidoglycan recognition protein, vitamins C and oligosaccharides in the milk are against microbial infections. Lactoferrin is one glycoproteins detected in milk of livestock such as cow, buffalo and camel, as camel milk containing highest amount and strongest activity in compared to the milk from other livestock species. Regarding to important functions, lactoferrin is regarded as nutraceutical supplement. Lactoferrin boosts the immune system by protecting the cells against bacterial and viral infections and inflammations. Activation, proliferation and regulation of the phagocytic action of immune cells are also facilitated by the lactoferrin. The boosting host immune system by nutritional supplements such as milk lactoferrin prevents microbial infections entry into the host cells. The antiviral actions of lactoferrin are against both DNA and RNA viruses and by binding viral particles, inhibit viral adhesion and entry into cells and. Also, milk lactoferrin may directly interact with viral receptor such as heparan sulfate on the cell surfaces and prevent the virus attachment and infection. The boosting host immune system by nutritional supplements such as lactoferrin may be effective against SARS-CoV-2 entry and infection into the host cells. The incidence of COVID-19 in children under 10 years was only 0.9% in the Chinese cases and was mild in infants without ventilation support, and infection progressing to lower respiratory tract infections rarely happened. Because of the homology in genetic sequence and receptor binding domain between SARS-CoV and SARS-CoV-2, lactoferrin may inhibit SARS-CoV-2 invasion in a same manner to SARS-

CoV, by binding to heparan sulphate on the target cell and prevent the viral infections. Furthermore, lactoferrin also possesses anti-inflammatory efficacy and can inhibit the circulating inflammatory cytokines which are reported to be present in higher levels in COVID-19 patients. Camel milk lactoferrin as powder or tablets may be a novel promising candidate and preventative treatment for more severe cases of COVID-19. However, it needs more studies on dosage to verify its efficacy on COVID-19 prevention and treatment.

## **Questionnaire Survey with Cattle Owners Regarding Outbreak of Lumpy Skin Disease (Lsd) In Basrah Province, South of Iraq**

Mohanad Faris Abdulhameed<sup>1</sup>, Moaed Hanoon Sayhood<sup>1</sup>, Tareq Hadi Srayyih<sup>2</sup>

1 Department of Public Health, College of Veterinary Medicine, University of Basrah, Basrah, Iraq

2 Department of Internal and Preventive Medicine, College of Veterinary Medicine, University of Basrah, Basrah, Iraq

### **Abstract**

Lumpy skin disease (LSD) is a highly contagious transboundary disease of cattle with significant economic burden. Our study is based on a questionnaire designed to describe the epidemiological features keys of LSD in Basrah and to identify putative risk factors. The information obtained from this questionnaire specifically included sex, age, vaccination status, clinical signs and the number of death because of LSD in the cattle. This study was conducted from December 2018 to May 2019, with a total of 251 cattle owners participated in the interview. Out of 251 owners interviewed, 329 of their cattle were infected with LSD (accumulative incidence estimated at 16.2%). The majority of owners (91.6%) admitted that they did not segregate the infected animal from the rest of the herds. Respect to animal management and farming system, the semi-intensive system of rearing animals was the most common farming system adapted by farmers (70%) while only 30% were kept under intensive system. The majority of the owners 97.2% (244/251) reported

they were not received any vaccine of LSD. The mortality rate; however, measured at 2% and the case-fatality rate measured at 11%. The abortion rate among infected pregnant cows was calculated at 10.5%. The study concluded LSD is newly emerging disease in Basrah and various preventative measures including restriction illegal movement of animals, vector control, farm biosecurity and, vaccination program need to be considered to prevent further new incidence cases.

## **Ultrasonographic Examination of Liver of Cattle in Mosul, Iraq**

Osamah Muwaffag Al-Iraqi, Medhat Khalid, Younis Masoud

Department of Internal & preventive medicine, College of Veterinary Medicine,  
University of Mosul, Iraq.

### **Abstract:**

The objective of the study was to examine the normal liver using ultrasound technique for measuring liver thickness, portal and hepatic veins diameter in clinically normal cattle, furthermore to determine some liver lesions. Ultrasonography was used to evaluate the liver in 20 local cattle breeds of different ages 10 of them have exhibited clinical signs of chronic emaciation, icteric mucous membranes and decrease in milk production moreover, the other 10 cows were clinically normal. Liver position, diameter and texture were explored from the right side of the abdominal wall in standing position, without anesthesia by using 3.5 MHz transducer, after hair moistening by alcohol. The largest liver thickness was measured at the 10 and 12 intercostal space and it was decreased gradually forward. Normal liver has an echogenic appearance of equally distributed white dots and had a uniform mild echogenicity, there were an anechoic round and tubular vascular structures, representing hepatic and portal veins while abnormal liver has

multi-hypoechoic circles. It has been concluded that, Sonography of normal liver can be utilized as a good diagnostic references in animals with liver diseases.

# **Differential Expression of Secreted Aspartyl Protease (Sap8 And Sap10) Genes And Comparative Pathogenicity Of *Candida Albicans* Grown In Various Environmental Conditions**

Inas K. Rahem,<sup>1</sup> Hayder M. Samaka,<sup>1</sup> and Hutheyfa A. Al Salih<sup>2</sup>

1 Department of Microbiology, Faculty of Veterinary Medicine, University of Kufa, Iraq

2 Department of Pathology, Faculty of Veterinary Medicine, University of Kufa, Iraq

## **Abstract**

The aim of this study is to propagate the non-virulent Newcastle disease virus in the laboratory, determination the cytopathic effects in the inoculated chicken embryos, and confirmation of virus growth by serological and molecular techniques by performing haemagglutination and reverse transcriptase polymerase chain reaction (RT-PCR) tests, respectively. LaSota virus strain which is a live vaccine was used for this purpose. Nine-day-old embryonated chicken eggs were inoculated with the virus and further incubated for 48 hours; and the allantoic fluid was collected for further processing. Petechial haemorrhages and congestions were observed in the inoculated embryos while in the un-inoculated eggs; the embryos were normal and did not show any lesion. Virus growth in the allantoic fluid was confirmed by performing haemagglutination and RT-PCR tests. These results support the isolation of other viruses in our laboratories, which will contribute to performing other experiments such as studying virus characteristics and observation of its pathological effects on the embryos, preparation of viral antigens, sequencing the viral genome, and possibly discovering new viruses.

# **Chloroquine and Hydroxychloroquine are Available Treatment Options to Fight with COVID-19**

Shadia S. Alhamd and Manal I. khaleel

Department of Biology, College of Education for Pure Sciences, University of Basrah, Iraq.

## **Abstract**

The corona virus SARS-CoV-2 caused pandemic Covid-19 disease. At present there is no vaccine or drug approved by FDA to treat Covid-19 disease. The high fatality rate and extreme fast spreading of disease in the community make researchers to invent possible therapeutic inventions a global priority. Recent studies suggested that Chloroquine (ChQ) and Hydroxychloroquine (HChQ) can be used for the treatment of Covid-19 patients. In-vitro tests suggest ChQ and HChQ have good efficiency towards SARS-CoV-2 virus. In this report, we have reviewed latest literature information about ChQ and HChQ drugs to use for the treatment of this pandemic.

# **Assessment of immunity induced by Newcastle disease virus vaccines and determine the best vaccination program in broiler chicken**

Douaa Y. Talib<sup>1</sup>, Hazim T. Thwiny<sup>2</sup>

1Department of Animal Production, College of Agriculture, University of Sumer, Thi Qar, Iraq

2 Department of Microbiology, College of Veterinary Medicine, University of Basrah, Basrah, Iraq.

## **Abstract**

The objectives of current research were to evaluate the efficacy of commercially available Newcastle disease vaccine and determine the best vaccination program. A total number of 150 one-day-old unvaccinated chicks were divided equally into 5 groups. One vaccination program was used for each group which differ from each other while group 5 was unvaccinated control group. Serum were collected from all groups and five chickens from each group were sacrificed. Afterward immunization HI geometric mean titer (GMT) rates were observed that both seroconverted birds in Group 1 to Group 4 have risen statistically significantly, with statistical significant changes. ( $p < 0.05$ ). However, the birds in group 4 which had the best HI titers (147). The levels of ChIFN- $\gamma$  was measured by ELISA, there were also higher in the vaccinated groups (group 1, 2, 3 and 4) than in the non-vaccinated group. Group 4 also had the best ChIFN- $\gamma$  level. The higher values of lymphoid organs (spleen, Bursa of Fabricius and thymus) indices were in vaccinated groups are compared to non-vaccinated groups, while between vaccinated groups there was no significant different ( $P < 0.05$ ). Commercial ND vaccines are effective and vaccination scheme of group 4 (live ND vaccine at 7th day of age by eye drop as primary vaccine followed by live ND vaccine at 21st day of age by drinking water as booster dose) has more protective effects in broiler chicken.

# Evaluation of Antibacterial of Zinc Oxide Nanoparticles, Aloe Vera Gel Against MRSA Skin Injury

Mais E. Ahmed<sup>1</sup>, Ahmed Q Al-Awadi<sup>2</sup>

1Department of Biology /College of Science / University of Baghdad.

2Department of Pathology, College of Veterinary Medicine, University of Baghdad.

## Abstract

Microbial resistance to antibiotics increase the risk of infection, so new approach was investigated such as new plant extracts and nano technology, so this study designed to compare the effects of Zinc oxide nanoparticles and Aloe Vera extraction in treatment of experimental skin infection with MRSA. *In vitro*, both were effective against MRSA in well diffusions assay, while in vivo, both were showed antibacterial effects and enhance tissue healing compared with MRSA infective group with priority to Aloe Vera extraction.

# Camel Milk; an adjunctive super food for diabetes cases

Tahereh Mohammadabadi

Faculty of Animal Science and Food Technology, Agricultural Sciences and Natural Resources University of Khuzestan, Ahvaz, Iran

## Abstract

Defects in insulin secretion by the pancreas and due to the cells may not respond properly to insulin, hyperglycemia or diabetes will be occurred and cause to the failure in the eyes, heart, kidneys and liver function. Nowadays, researchers looking for natural adjunct treatments to control diabetes. Camel milk is having anti-diabetic activity possibly because of insulin like protein (about 52 units/liter), that covered by fat micelles and can be an effective alternative for insulin to treat type 1 and 2 and gestational diabetes. It is proved that camel milk is safe and effective in improving long-term glycemic in the human patients and animal's models. In one study, daily consumption of 500 mL raw camel milk for 16 weeks in type 1 diabetic patients (average age 20 years) decreased daily insulin dose and blood sugar. Also raw camel milk in type 1 diabetic cases for 52 week and 3 months caused to significant reduction in HbA1c, mean blood glucose and 30% reduction in required insulin dose. Type 2 diabetics cases consumed 500 mL pasteurized camel milk for two months, that mean insulin concentration was significantly increased by the camel milk, but fasting blood sugar, lipid profile, blood pressure and insulin resistance did not influence. Therefore, according to the studies, raw camel milk in type 1 diabetes patients caused to increase insulin secretion, reduce required insulin and insulin resistance. Camel milk has immune-modulatory effects on the pancreas  $\beta$ -cells. Camel milk influences insulin secretion via the proper activity of the pancreatic cells and insulin receptors. Also this special milk improves diabetes complications such as dysfunction in the kidney and liver function and diabetic wounds. In general, although according to the clinical trials, the raw camel milk by 500 mL/day improved risk factors in diabetic patients. But it appears that more

scientific studies are needed to confirm the effectiveness of processing's methods of camel milk on diabetes cases.

# **Molecular and Serological Identification of Newcastle Disease Virus Propagated in Embryonated Chicken Eggs**

Firas T. Mansour Al-Mubarak <sup>1</sup>; Ammal F. Ghanim <sup>2</sup>; Hazim T. Thwiny <sup>3</sup>; Ibraheem K. Younus <sup>3</sup>

1 Department of Microbiology, College of Medicine, University of Basrah, Basrah - Iraq

2 Kut Technical Institute, Middle Technical University, Wasit - Iraq

3 Department of Veterinary Microbiology and Parasitology, College of Veterinary Medicine, University of Basrah, Basrah - Iraq

## **Abstract**

The aim of this study is to propagate the non-virulent Newcastle disease virus in the laboratory, determination the cytopathic effects in the inoculated chicken embryos, and confirmation of virus growth by serological and molecular techniques by performing haemagglutination and reverse transcriptase polymerase chain reaction (RT-PCR) tests, respectively. LaSota virus strain which is a live vaccine was used for this purpose. Nine-day-old embryonated chicken eggs were inoculated with the virus and further incubated for 48 hours; and the allantoic fluid was collected for further processing. Petechial haemorrhages and congestions were observed in the inoculated embryos while in the un-inoculated eggs; the embryos were normal and did not show any lesion. Virus growth in the allantoic fluid was confirmed by performing haemagglutination and RT-PCR tests. These results support the isolation of other viruses in our laboratories, which will contribute to perform other experiments such as studying virus characteristics and observation of its pathological effects on the embryos, preparation of viral antigens, sequencing of viral genome, and possibly discovering new viruses.

**Antibacterial activity of *Laurus nobilus* extract against  
*Pseudomonas aeruginosa* isolated from wounds in sheep after  
false wool shearin**

Nawres N. Jaber,<sup>1</sup> Nada S. Hadi<sup>1</sup> and Moaed H. Sayhood<sup>2</sup>

1 Department of Veterinary Microbiology and Parasitology, College of Veterinary Medicine, University of Basrah

2 Department of Veterinary Public Health, College of Veterinary Medicine, University of Basrah

**Abstract**

Although sheep shearing is considered an important and a widely used process to cut off the sheep's wool, false wool shearing can cause serious problems by giving a chance to grow bacteria. This study is aims to identify *Pseudomonas aeruginosa* isolated from the inflamed wounds after false wool shearing process and to evaluate the antibacterial activity of *Laurus nobilus* extract against this bacteria. The results of bacterial growth showed that *P. aeruginosa* produced characteristic colonies on nutrient agar with pigment pyocin and  $\beta$ - hemolysis on blood agar and grew on MacConkey agar but did not ferment lactose sugar. In addition, the isolates were positive for biofilm formation using polystyrene 96 well plate. Among 6 antibiotic agents, the highest resistance was found with novobiocin, chloramphenicol and tetracycline, respectively. *Laurus nobilis* extract had an antimicrobial activity against *P. aeruginosa*. The results of this study revealed that hot and cold alcoholic extracts of *Laurus nobilis* with MICs 6.5 mg/ml, 12.5 mg/ml and 50mg/ml, respectively, were more effective than hot water extract.

**Molecular detection of *Toxoplasma gondii* in chicken lice  
(*Menacanthus stramineus*)**

Sura E. Ahmed, Nadia K. Thamar and Rasha M. Othman

Department of Veterinary Microbiology and Parasitology, College of Veterinary  
Medicine, University of Basrah, Basrah, Iraq.

**Abstract**

The current study was carried out to demonstrate the ability of chicken lice *Menacanthus stramineus* to transmit *Toxoplasma gondii* by using PCR technique. The blood was collected from the jugular vein of 85 chickens infested with ectoparasites to investigate the existence of *Toxoplasma gondii* by latex agglutination test. The results showed that 42 (49.41%) of chicken were infected with lice, lice samples of *Menacanthus stramineus* were collected from chickens infected with *T. gondii* for PCR investigation to confirm the presence of *T. gondii* in lice tissues and the results were revealed the presence of *T.gondii* B1 gene in 18 (42.85 %) samples.

# Anti-pathogenic *Candida Spp* Activity Determination via *Lactobacillus Spp* Isolation and Identifications Using Conventional and Molecular Methods

Hawraa F. H. AL-abedi<sup>1</sup>, Azhar A. F. AL-Attraqchi<sup>2</sup> and Bassam Y. Khudaier<sup>1</sup>

1 Department of Microbiology, College of Veterinary Medicine, University of Basrah

2 Department of Medical Microbiology, College of Medicine, Al-Nahrain University.

## Abstract:

Two Hundred and fifty samples of cow's milk from different parts of the province of Basrah were collected from clinical and subclinical mastitis reported using the California mastitis test between March 2018 and September 2019 and examined using conventional PCR assay, *Candida* species was identified in 116/250 (46.4%). Based on conventional method and ID - Yst card system Vitek 2, *Candida albicans* was the predominant 60/116 (51.7%), followed by *Candida parapsilosis* 15/116 (12.9%). Concerning the results of PCR amplification of 18S rRNA gene for identification of *C. albicans* and *C. parapsilosis*, this gene was present in 60 samples in *C. albicans*, and in 15 of *C. parapsilosis*. *Lactobacillus* are an industrially important group of probiotic organisms that play an important function in human health through inhibiting dangerous and pathogenic bacteria growth, boosting immune function, and increasing resistance to infection. Ten out of 250(4%) *Lactobacillus* isolates were obtained from apparently healthy cow milk samples. *Lactobacillus* isolates were identified according to phenotypic characterization and molecular technique using PCR (16S rRNA) and sequencing, it was seen that *L. acidophilus* formed 5 isolates (50%), *L.amylovorus* was three (30%), while *L.crisaptus* formed only two (20%) only. The results of this study revealed that the BLAST analysis at the NCBI gene bank gave 99.39% homology with *L. acidophilus*, 99.19% homology with *L.crispatus* and 97.59% with *L. amylovorus*. In vitro antimycotic activity of probiotic bacteria (*Lactobacillus*) against *C. albicans* and *C. parapsilosis* using agar well diffusion methods was adapted. The cell-free neutralized supernatant (CFS) of *Lactobacilli* (105,106,107) were inhibited the

growth of pathogenic *C.albicans* and *C. parapsilosis*. It was also noticed that, *L. acidophilus* showed the strongest antifungal activities against pathogenic *C. albicans* and *C.parapsilosis* with different degrees of inhibition zones in comparison with each of *L.crispatus* and *L. amylovorus*, meanwhile, *L. amylovorus* revealed strongest antifungal activity against pathogenic *C.parapsilosis*.

## **Diagnostic Study of Hemoplasmosis in Cats in Basrah City-Iraq**

Sajjad Laftah Jabbar and Mohammed A.Y. Al. Amery

Department of Internal and preventive Medicine, College of Veterinary Medicine,  
University of Basrah, Iraq

### **Abstract**

The cats might severely affected and became carrier for *Hemoplasma* spp., so the current study were aimed to investigate hemoplasmosis in cate in Basrah city, Iraq.

This work was conducted via examine (20) cats of local cat breeds in Basrah city, using their blood samples for stained smear and blood parameters.

The Giemsa stained blood smears revealed seven (35%) cats infected with Hemoplasmosis. However, thirteen (65%) was found negative. Diseased cats show pale and or/icteric mucous membranes, dehydration, emaciation, loos of appetite, and weakness. Moreover, a significant increase of body temperature, respiratory and heart rate was indicated. Results was also show a significant decrease of RBC, HB and PCV of diseased cats which reflected Normocytic Normochromic type of anemia. *Hemoplasma* spp. of infected cats appears round or rod shape singular or chained located on the cell membranes of the infected erythrocytes.

It was concluded that feline mycoplasmosis lead to deleterious effects which might terminated with death of affected cats.

# The Sources of Zoonotic Bacterial Diseases For Animals Farms, Its Products and Farmers Health

Sherifa Mostafa M. Sabra<sup>1</sup> and Somia Eltahir Ali Ahmad<sup>2</sup>

1 (Serology Unit and Bacterial Strains Bank, [AHRI], [ARC], Giza, Egypt)

2 Technology and Science Dept., Ranyah University College, Taif University, KSA

## Abstract

The aim of this research paper were to monitor the presence of source zoonotic bacterial diseases in the physical tools that used in animal farms. That had a role in the store and the transmission of zoonotic bacterial diseases to farmers and affected their health and the transfer to different farm products. As well, which caused loss of the product and diseases to consumers that may affect farmers' health and animal health. That was used principled method for bacterial isolation and identification. It was found bacteria 41%; it may cause damage to products from food poisoning to zoonotic bacterial diseases to consumers. It was found the Gram-negative 69% and Gram-positive 31%, which were the most resistant bacteria to antibiotics and causes zoonotic bacterial diseases. It was found *Staphylococcus Spp.* 39% and *Streptococcus Spp.* 13%. *Escherichia coli* were 49%; (*Pseudomonas aeruginosa*, *Klebseilla pneumonia*, and *Campylobacter Spp.*) were (17, 12 and 11%). (*Actinobacter Spp.* and *Proteus Spp.*), were (6 and 3%), *Salmonella Spp.* was 1%. It indicated the existence of PTs as stores for that may be a source of zoonotic bacterial diseases and may easily transmitted to humans or animal products, causing health and economic damage. It was concluded that the zoonotic bacterial diseases could be transmitted from physical tools as sources that were used in the farm and caused health damage and economic effects. That recommended preferring quality physical tools to minimize the health and economic damage to decrease zoonotic bacterial diseases to be not affected animal or human health.

## Printing and Technical Support Team



Hassan J. Altimeemi



Jala A. Salman



Thaer R. Mhalhal



Nada S. Had



Katherine B. Faraj



Zainab A. Shihab