

## Environmental Encyclopedia Faculty Vet. Med., Assiut University

2023



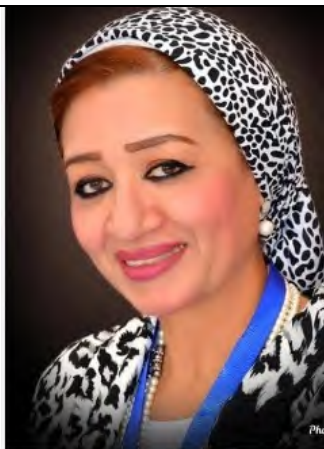


**Prof Dr. Ahmed El-  
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**University President**



**Prof Dr.Mahmoud Ahmed  
Abd-Elaleem**  
**Vice President of the Uni.**  
**For community service & environ.  
affairs**





**Prof Dr. Madeha Darwish**  
**Faculty Dean**

**One of the highest tasks and goals of the Faculty of Veterinary Medicine is community service and environmental affairs. From this standpoint, the Faculty of Veterinary Medicine at Assiut University has played a pioneering role in the field of community service and environmental affairs since its inception through several axes, including the research, educational and training axis and service activities for the various sectors. As part of the college's activities in community service and environmental affairs, many dissertations (Master's and PhD) were conducted, as well as solid research aimed at developing and protecting the environment, which was published in valuable international and local journals. Hence the idea of compiling as much research as possible that serves the environmental fields to be the first work of an environmental encyclopedia for the College of Veterinary Medicine that helps researchers and the public with the societal roles of the College and its members and in a way that benefits them.**

**This work would not have been possible without the unlimited support of: Professor Dr. Ahmed Al-Minshawy, President of the University, who did not hesitate in his material and moral support, and Professor Dr. Mahmoud Abdel-Aleem, Vice President of the University for Community Service and Environmental Development Affairs, for his keenness to provide continuous assistance and assistance to this project. Important vital sector. We are moving at a steady pace to achieve the college's goal of preserving and developing the environment and achieving Egypt's Vision 2030. I also hope that researchers in various fields will provide the sector with all the research that they see as serving in the environmental and development fields, wishing our college and all the gentlemen working in it advancement, progress and prosperity.**





**Prof Dr. Hassan A. Hussein**  
**Vice Dean of the faculty For community service & environ. affairs**

**It gives me great pleasure to present to the dear reader and researchers in various specializations and those interested in the subject of the environment and its problems, the fruit of the effort represented in this brief environmental encyclopedia, which is a extraction of research and dissertations that were conducted during the past years within the Faculty of Veterinary Medicine, Assiut University, which dealt with some of the environmental problems and ways to overcome it. Studying environmental science and the problems associated with it, and mastering their understanding and awareness towards them, has become a necessary matter for humans in general and veterinarians in particular. The veterinarian is the first candidate to lead the process of environmental awareness and development in society, especially since we have begun to live under a local and global environmental reality. It is collapsing steadily as the causes of this collapse continue to increase, represented by climate change. The trend towards sustainable development and the preservation of public and private capabilities, the most important of which is the preservation of livestock and their various products, and the pledge and responsibility of the veterinarian in preserving their safety and presenting them to the citizen in the best possible image, which has increased the importance of establishing This short encyclopedia is intended for me, and in fact it represents an attempt to make the reader understand and realize the fundamental importance of the environment and the greatness of veterinary services that may contribute to solving our environmental problems and even developing them.**







**Prof Dr. Thabet Abd-Elmoneim**  
**Director of Center for Environmental Studies,**  
**Assiut University**

Thanks to God Almighty and His success, the Community Service and Environmental Development Sector at the College, in cooperation with the Quality Assurance and Accreditation Unit, issued the first issue of the scientific encyclopedia on the research of the researchers at the College of Veterinary Medicine from 2013 until now. This research serving the environmental fields represents only a small amount that It came to our hands from researchers from within the college or belonging to the profession in Assiut Governorate. There is no doubt that veterinary medicine depends on the health of the Egyptian citizen, the protection and development of livestock, and confronting all the dangers facing our environment, biological, chemical, natural, economic development, and many others, which makes researchers interested in the environment and its various challenges and how to overcome them and develop principles, scientific studies, and research based on The first place is to develop radical solutions to diagnose and prevent many diseases, especially those that are devastating to human health on the one hand, and to serve society and develop livestock and the environment on the other hand. This encyclopedia includes many important topics in which we will try to shed light on some of the veterinary research that is directly related to the environment and development and divide it according to its content in Arabic and English so that it is available to the largest number of people for study and understanding. In the end, we were keen to vary the extent of the possibility of utilizing, recycling and benefiting from waste instead of it being one of the risks and causes of environmental pollution. We hope that this work will meet your satisfaction. We also hope that we will receive from you all the comments that will produce the second issue in a way that suits your views. We ask God to accept this work sincerely for His honorable sake and for serving the people of our beloved Egypt.



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# *Biological Pollution*

**BIOLOGICAL POLLUTION****(BACTERIA )**

|          |   |
|----------|---|
| NO       | : 1   |
| TITLE    | : ISOLATION, SCREENING, AND MOLECULAR IDENTIFICATION OF LIPASE-PRODUCING BACTERIA FROM DIFFERENT BACTERIAL SOURCES  |
| AUTHORS  | : HAYAM S. THABET 1; ISMAIL SEDDIK 2; WEGDAN A. MOHAMED 2; AHMED M. SAYED 3 AND SHAYMAA YUSUF 1   |
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| BULLETIN | : Assiut Vet.Med.J.Vol. 69No178. July 2023- pp 134-144  |

**ABSTRACT**

The need for enzymes is growing across a number of industries due to their several advantages, such as their minimal environmental toxicity. Lipases are one of the most valuable biotechnological enzymes. As a result, studies on lipases have become significantly popular in the field of enzymology in recent years. Several attempts have been made to isolate different bacterial isolates that can produce the lipase enzyme. The current study aims to isolate diverse bacterial isolates from different sources: soil contaminated with oil, animal wounds, and contaminated culture media. A qualitative screening for lipase-producing isolates was conducted using tween 80 agar. The results showed that a total of 124 bacterial isolates were obtained from different sources, including 41 isolates that can produce the lipase enzyme. Upon the lipase activity assay, the 20 highest lipase-producing isolates were identified phenotypically. The best potential lipase producers were further identified using 16S rRNA sequencing as *Brevibacillus* sp. strain HC1 and *Brevibacillus* sp. strain HS5, with the accession numbers OR048061 and OR048060, respectively. This study highlights the significance of using bacteria as a microbial source for lipase enzyme production for future industrial and biotechnological applications.

Keywords: Lipase enzyme, Lipase-producing bacteria, Tween 80 agar, Lipase activity assay, 16S rRNA sequencing

**Biological Pollution****( BEEF CATTLE )**

|                 |   |
|-----------------|---|
| <b>NO</b>       | : 2   |
| <b>TITLE</b>    | : <b>PATHOLOGICAL LESIONS AND INCIDENCE OF FIBRINOUS PLEUROPNEUMONIA IN IMPORTED BEEF CATTLE SLAUGHTERED AT ABU-SIMBEL CITY – ASWAN GOVERNORATE</b>   |
| <b>AUTHORS</b>  | : MOHAMED.G. HAMED <sup>1</sup> ; FATMA ABO ZAKAIB ALI <sup>1</sup> ; A.Z. MAHMOUD <sup>2</sup> and SARY KH.ABD-ELGHAFFAR <sup>2</sup>  |
| <b>ADDRESS</b>  | :<br><sup>1</sup> Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine,<br>Sohag University, Sohag 82524, Egypt.<br><sup>2</sup> Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine,<br>Assiut University, Assiut, Egypt. |
| <b>BULLETIN</b> | : <b>Assiut Vet. Med. .Vol. 64 No. 159 October 2018, 33-38</b>  |

**ABSTRACT**

The current study was conducted on 110 lung samples from 2 - 3 years old imported beef cattle slaughtered at the Middle East abattoirs of Abu-Simbel city –Aswan Governorate-Egypt, in the period from July 2017 to March 2018. The aim of the present work was to characterize and detect the incidence rate of the pulmonary affections. During the postmortem examination, the pulmonary affections were recorded grossly and specimens were taken for histopathological examinations. The histopathological examinations revealed that 36 samples (32.7%) showed fibrinous pleuropneumonia. According to the characteristic features of lesions in the microscopical studies, we grouped them into (a) Acute fibrinous pleuropneumonia in 31cases (28.1 %) and (b) Organized fibrinous pleuropneumonia in 5 cases (4.5 %). The causes of these affection and their importance were discussed.

**Key words:** Lung, Fibrinous, Pleuropneumonia, Bronchopneumonia

**BIOLOGICAL POLLUTION****BOVINE**

|          |   |
|----------|---|
| NO       | : 3   |
| TITLE    | : DETECTION OF METHICILLIN RESISTANT AND SLIME FACTOR PRODUCTION OF COAGULASE NEGATIVE STAPHYLOCOCCUS SPP. IN BOVINE CLINICAL MASTITIS BY USING PCR   |
| AUTHORS  | : S.M. EL-BERBAWY*; S.M. SAYED*; E.I. EL-TOUKHY** and AMAL A. MEGAHEDE***   |
| ADDRESS  | : * Animal Health Research Institute (AHRI), Bacteriology Dept., Assiut Lab.<br>** Animal Health Research Institute (AHRI), Biotechnology Dept., Dokki.<br>*** Port Said Lab., Bacteriology Dept.<br>Email: saadelberbawy@yahoo.com |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 144 January 2015  |

**ABSTRACT**

The aim of this study was to determine and investigate the slime production of Coagulase negative staphylococci (CoNS) isolates by phenotypic method on Congo Red Agar plates (CRA) and Genotypic detection of *icaA*, *icaD* and *mecA* genes by polymerase chain reaction (PCR). The study was done on 105 milk samples obtained from bovine clinical mastitis and found that 101 samples (96.2%) were positive for bacterial culture. CoNS species can be isolated from 20 samples with a percentage 19.8%. Their ability to form biofilm as one of the most important virulence factors using Congo Red Agar (CRA) method was investigated, in which 13 out of 17 CoNS isolates (76.47%) were found to be slime producers. By PCR, *mecA* gene was found in three out of 6 CoNS isolates (50%). Also, six (100%) and three (50%) isolates were positive for *icaA* gene and *icaD* gene, respectively, and 3 isolates (50%) were positive for both *icaA* and *icaD* genes. In addition, one out of the six CoNS isolates (16.67%) was positive for the presence of *icaA*, *icaD* and *mecA* genes and also it has the ability to form biofilm. Conclusion, findings of the present study demonstrated the ability of CoNS isolated from bovine clinical mastitis to form biofilms. This must be considered as an alarming situation, and so attention must be paid toward implementation of new ways for effective prophylaxis, control, and treatment of such infections in the dairy farms. The prudent use of antibiotics and rapid and continuous screening for resistant microorganisms should be more focused to prevent the emergence and spread methicillin resistant coagulase negative staphylococci, because these strains can cause severe damage to infected sites and may be widespread in the environment.



## Biological Pollution

## BOVINE

|                 |  |
|-----------------|--|
| <b>NO</b>       | <b>: 4</b>   |
| <b>TITLE</b>    | <b>: BACTERIAL CONTAMINATION AND PREVALENCE OF SOME FOODBORNE PATHOGENS IN EDIBLE BOVINE OFFAL IN ASSIUT CIT</b>     |
| <b>AUTHORS</b>  | <b>: ABD-EL-MALEK, A.M. and EL-KHATEIB, T.</b>   |
| <b>ADDRESS</b>  | <b>: Department of Food Hygiene (Meat Hygiene), Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt</b> |
| <b>BULLETIN</b> | <b>: <u>Assiut Vet. Med. J. Vol. 63 No. 152 January 2017, 1-4</u></b>  |

## ABSTRACT

This study was carried out to evaluate the bacterial contamination and prevalence of *Salmonella* spp. and *Bacillus cereus* in 150 samples of edible bovine by-products which were collected from different retail butcher's shops in Assiut city. The obtained results revealed that the mean values of total viable bacterial count (T.V.B.C.) of Tripe, Mombar (Intestine), Lung and Cerebrum (Brain) were  $2 \times 10^5 + 0.89$ ,  $1 \times 10^5 + 0.89$ ,  $1 \times 10^5 + 0.79$  and  $8 \times 10^4 + 1.06$  CFU/g, respectively. Whereas, it was indicated that 90 of the examined samples of edible offal (32 Tripe, 29 Mombar, 16 Lung and 13 Cerebrum) were more than 10<sup>3</sup> (MPN/g) for total coliform count. Concerning *Salmonella* spp., 4 samples (2.7%) only were positive for *Salmonella* spp. Isolated serovars were identified as *S. Enteritidis*, *S. Typhimurium* and *S. Anatum*. Regarding *B. cereus*, 12 samples (8%) were positive, which included 5 samples of Tripe, 4 samples of Mombar and 3 samples of Cerebrum, while Lung samples were free. The average count of *B. cereus* in positive samples was  $1.6 \times 10^3$  CFU/g, where average number in Tripe, Mombar and Cerebrum were  $3 \times 10^3$ ,  $1.4 \times 10^3$  and  $5 \times 10^2$  CFU/g, respectively. The achieved results indicated that consumption of edible bovine by-products such as Tripe, Mombar, Lung and Cerebrum constitute a public health hazard as they may be associated with food poisoning microorganisms such as *S. Typhimurium* and *S. Enteritidis*.

**BIOLOGICAL POLLUTION  
(BOVINE DIARRHEA)**

|          |  |
|----------|--|
| NO       | : 5  |
| TITLE    | : SOME STUDIES ON BOVINE VIRAL DIARRHEA IN ASSIUT GOVERNORATE, EGYPT   |
| AUTHORS  | : ZAINAB MOHAMMED AHMED YOUSSEF; MOHAMMED MAHMOUD MOHAMMED ABDEL-BAKY; GHADA BADR MOHAMMED MURID; FATMA ESSAM EL-DIN ABDEL-HAMID MOHAMMED MAHRAN 1 AND FATMA SABER MAHMOUD |
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| BULLETIN | : Assiut Vet. Med.J.Vol 69. No. 179October2023 pp 23-14  |

**ABSTRACT**

Bovine viral diarrhoea (BVD) is a common viral disease that can affect both domesticated and wild animals. Despite their economic losses, there isn't much information available on BVD in Assiut Governorate. Therefore, the present study's objectives were to determine the clinical findings, risk factors associations with the infection rate, and molecular diagnosis of BVD virus (BVDV). The current study was conducted on 50 cattle that belonged to different villages in Assiut Governorate, Egypt. The clinical examination findings revealed fever, oral lesions, diarrhoea, respiratory symptoms, and corneal opacity. Serum samples were collected for laboratory analysis. Reverse transcriptase polymerase chain reaction (RT-PCR) assay had been employed for BVDV diagnosis. BVDV RNA was found in the serum of seven cattle. There was no significant difference ( $P < 0.05$ ) between the percentages of BVD infection and the sex, age, and breed (native and mixed breed) of molecularly tested cattle. According to the climatologic circumstances of Assiut governorate, there was a discernible variation ( $P < 0.05$ ) between the BVD infection rate and the cold and hot months. It is advisable to emphasize how crucial it is to implement efficient preventative and control measures throughout Egypt in order to reduce the prevalence of BVDV.

Keywords: BVD, Risk factors, 5'UTR, RT-PCR

**Biological Pollution****(BROILER CHICKENS )**

|          |   |
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| NO       | : 6   |
| TITLE    | : PHYLOGENETIC CHARACTERIZATION OF VELOGENIC NEWCASTLE DISEASE VIRUSES ISOLATED FROM FIELD OUTBREAKS AMONG VACCINATED BROILER CHICKENS IN UPPER EGYPT   |
| AUTHORS  | : SERAG ELDEEN SULTAN*; NABILA OSMAN**; AHMED AHMED**; RAGAB S. IBRAHIM*** and MAHMOUD SABRA**  |
| ADDRESS  | : * Department of Microbiology (Virology), Faculty of Veterinary Medicine, South Valley University, Qena 83523, Egypt - ** Department of Poultry Diseases, Faculty of Veterinary Medicine, South Valley University, Qena 83523, Egypt - *** Department of Poultry Diseases, Faculty of Veterinary Medicine, Assiut University, Assiut 71515, Egypt - E-mail: seaas@lycos.com. - Assiut University Email: www.aun.edu.eg |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 145 April 2015  |

**ABSTRACT**

A total of 42 Newcastle disease virus (NDV) strains were isolated from clinical samples obtained from chickens during field outbreaks among vaccinated broiler chicken's farms in the Upper Egypt in 2011 - 2012. The samples were inoculated into embryonated chicken eggs and the positive samples for NDV were detected by hemagglutination (HA) and confirmed by hemagglutination inhibition (HI) tests and reverse transcription polymerase chain reaction (RT-PCR). The pathogenicity of the isolates was estimated biologically by intracerebral pathogenicity index (ICPI) test and genetically by sequencing the partial fusion (F) genes. The ICPI indicated that 40 isolates were > 1.5, which characterized velogenic strains, the remaining was mesogenic (ICPI = 1.4). The sequencing analysis of the nucleotides and deduced amino acids, 8 isolates representing the isolates from different localities, revealed that these isolates possess the amino acids motif 112-R-R-Q-K- R-F-117 of the velogenic nature and a diversity of 19 -22 and 19-21 % in nucleotides and amino acids, respectively, from vaccine strains (LaSota, B1, Ulster/67 and I-2) and Texas/GB. Interesting, that these isolates clustered into two subgroups related to the isolates from Jordan, Israel (2011) and China but were distant from vaccine, Egyptian (2005, 2006 and 2010), Sudan, Saudi Arabia and Israel (2003) strains by phylogenetic analysis. In conclusion, a velogenic NDV prove to circulate among chickens in southern of Egypt although intensive vaccination programs were conducted. These isolates were genetically away from the vaccine strains and virulent to chickens. The necessity needs to continuously monitor the virus and evaluate the vaccination programs efficiency.

**BIOLOGICAL POLLUTION****(BROILER CHICKENS)**

NO : 7  
 TITLE : THE AMELIORATING EFFECT OF MENTOFIN® ON RESPIRATORY SYSTEM OF BROILER CHICKENS CHALLENGED WITH MYCOPLASMA GALLISEPTICUM STRAIN IN ASSIUT GOVERNORATE  
 AUTHORS : AL SHIMAA, R.SAYED 1; MARWA, A.AHMED 2; MOSTAFA, A. SHEHATA 3; MOEMEN, A. MOHAMED 3; SABRY, I. EISSA 4 AND MARWA, M. SAFWAT 3  
 ADDRESS : 1 Animal Health Research Institute, Asiut. - 2 Department of Pathology, Faculty of Veterinary Medicine, Aswan University, Egypt. 3 Faculty of Veterinary Medicine, Assiut University. - 4 Chief Researcher of Mycoplasma Dept. Animal Health Research Institute Agriculture, Research Center, Doki, Giza.  
 BULLETIN : Assiut Vet. Med. J. Vol. 66 No. 164 January 2020, 125-132

**ABSTRACT**

The current study was conducted to investigate the impact of Mentofin® in protection of the respiratory system of broiler chickens challenged with Mycoplasma gallisepticum (MG) strain. One hundred and five – one day old chicks were randomly divided into three equal groups (35 chicks /group) and reared in isolated rooms. Group (A) MG challenged, Group (B) was treated with Mentofin® and MG challenged and Group (C) control –ve group (not challenged with MG and not treated with Mentofin®). At 1st week of age, an intra-tracheal challenge of the birds with MG strain (containing 1 x 10<sup>6</sup>cfu/ mL/bird) was given to A and B. Mentofin® was administered orally for 6 days, beginning from 8th day of ages to 13th day of ages. Tracheal and lung samples for histopathological examination were collected from chicken at 9th day to 14th day of age and at 28th day of age. In MG-challenged birds (group A) histopathological lesions included mucosal hyperplasia, mucus accumulation, tracheal deciliation, inflammatory cells infiltration and goblet cell hyperplasia in tracheal tissues, moreover, congestion and pneumonic foci in lung tissues. The histopathological lesions of birds treated with Mentofin® and MG challenged (group B) revealed a significant reduction in histopathological lesions in tracheal and lung tissues. Mentofin® was able to reducing respiratory problems, and recommended to be used as a prophylaxis treatment and supportive treatment with antibiotic in cases of mycoplasma gallisepticum infection. Keywords: Mycoplasma Gallisepticum isolation, PCR, Mentofin®, Histopathological examination.

**BIOLOGICAL POLLUTION**  
**( BROILER CHICKENS)**

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| NO       | : 8  |
| TITLE    | : NETB, A NEW TOXIN RELATED TO CLOSTRIDIUM PERFRINGENS- INDUCED AVIAN NECROTIC ENTERITIS IN BROILER CHICKENS |
| AUTHORS  | : RAGAB FAROUK; OMAR AMEN; AHMED HASSAN AND RAGAB SAYED IBRAHIM  |
| ADDRESS  | : Department of Avian and Rabbit Diseases, Faculty of Vet. Medicine, Assiut University, Egypt.               |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 171 October 2021, 133-142  |

**ABSTRACT**

Necrotic enteritis is well-defined as poultry disease which occurs as a result of liberation of toxins from *Clostridium perfringens* type A, C, D, and G pathogenic strains. This study was performed to determine the prevalence rate of *C. perfringens* in broilers from different farms in Assiut Governorate and to examine the isolates for the existence of alpha, beta, epsilon, and netB gene. A sum of 100 intestinal specimens were compiled from diseased broiler chickens (3-6 W) which had clinical signs and post mortem lesions of Necrotic Enteritis and examined by conventional and molecular methods. *C. perfringens* was isolated from 52% (52/100) of the bacteriologically examined flocks. Only ten isolates among suspected isolates were examined by using uniplex and multiplex PCR. The results reported 100% positivity for *cpa* and *netB* gene in the examined isolates and neither *cpb* nor *etx* gene were detected and proved that all isolates were *Clostridium perfringens* type G.

Keywords: *Clostridium perfringens*, Broiler , Multiplex Polymerase Chain Reaction, NetB gene.

**Biological Pollution****(BRUCELLOSIS)**

|          |   |   |
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| NO       | : | 9   |
| TITLE    | : | PREVALENCE STUDY ON BRUCELLOSIS IN SOME RUMINANTS SLAUGHTERED OUT OF ABATTOIRS IN ASSIUT GOVERNORATE  |
| AUTHORS  | : | S.H. AL-HABATY*; K.A. ABUO-GAZIA** and M.A.M. AMMAR*  |
| ADDRESS  | : | *Animal Health Research Institute, Assiut regional Lab. (AHRI), Egypt.<br>**Animal Reproduction Research Institute (ARRI), Giza, Egypt.<br>Email: mahmoud2014eg@yahoo.com |
| BULLETIN | : | Assiut Vet. Med. J. Vol. 61 No. 144 January 2015  |

**ABSTRACT**

In this study, 482 serum and tissues samples including spleen and lymph nodes were collected from cattle (215), buffaloes (103), sheep (105) and goats (59), which had been slaughtered out of abattoirs in different localities in Assiut Governorate. The serum samples were examined for the detection of antibodies against *Brucella* spp. The results of screening tests Buffer acidified plate antigen test (BAPAT) and Rose Bengal plate test (RBPT) gave 36 seroreactive animals by incidence of 10.23% in cattle, 2.91% in buffaloes, 7.61% in sheep and 5.08% in goats, respectively. All positive serum samples were further retested by Standard serum agglutination test (SAT), Rivanol test (RIVT) and indirect enzyme linked immunosorbent assay (ELISA) as confirmatory tests. SAT gave 90.9% in cattle and 100% in buffaloes while RIVT gave 86.3% in cattle and 100% in goats of seroreactive animals. Moreover, ELISA gave 95.4% in cattle, 100% in buffaloes, 87.5% in sheep and 100% in goats of the seroreactive animals. Eleven isolates (30.3%) of *brucella melitensis* biovar 3 were recovered from 36 seroreactive animals. These isolates represent 6 (27.3%) for cattle, 1 (33.3%) for buffaloes, 3(37.5%) for sheep and 1(33.3%) for goats. In conclusion, *Brucella melitensis* was wide spread in ruminants slaughtered out of abattoirs in Assiut Governorate which cause a serious infection in human and animals.

**BIOLOGICAL POLLUTION****( BROILERS CHICKEN )**

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| NO       | : 10   |
| TITLE    | : MOLECULAR IDENTIFICATION OF VIRULENCE GENES OF PATHOGENIC ESCHERICHIA COLI ISOLATED FROM BROILERS CHICKEN  |
| AUTHORS  | : HOSSAM A. ABD EL AZIZ <sup>2</sup> ; MOSTAFA A. SHEHATA <sup>1</sup> ; NAGLAA M. HAGAG <sup>2</sup> ; NAGLAA M. ALI <sup>2</sup> AND OMAR AMEN <sup>1</sup>  |
| ADDRESS  | : 1 Poultry Diseases Department, Faculty of Veterinary Medicine, Assiut University, 71526, Egypt.<br>2 Poultry Diseases Department, Animal Health Research Institute, Agriculture Research Center, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 174 July 2022, 17-27   |

**ABSTRACT**

This study was implemented to isolate, characterize the presence of E coli and study their antibiotic resistance and virulence genes in broiler chickens in Assiut city. A total of 120 samples (liver, heart, yolk sac and lung) were gained from 3 to 35 days old clinically and freshly dead broiler suffering from respiratory manifestation (CRD), omphalitis, septicemia and diarrhea in Assiut Governorates for the detection of pathogenic E coli. Isolation and phenotypic identification of the isolates were performed. Serology and detection of antibiotic sensitivity and resistance were done. Also, detection of genes accountable for virulence (ompA and iroN genes) and antimicrobial resistance were all performed on the samples. Also, resistance genes to antimicrobials (blaTEM, blaVIM and qnrA genes) were detected. E coli was detected and recognized in 31.7 % of the cases. According to the data, 11 of the 38 E coli isolates were identified using serology. The conventional disc diffusion method was used to assess the susceptibility and resistance of the isolated E coli to various antibacterial agents. A total of 81.5 % of isolates have a MAR index exceeding 0.2, whereas 18.5 % have a MAR index not more than 0.2. with an average MDR index of 0.485. Antimicrobial resistance genes were detected in 73.7 % of 19 serologically recognized virulence and antibiotic resistance genes in E. coli isolates such as ompA gene detected in 95%, blaTEM gene detected in 95 %, blaVIM gene detected in 73.7 %, and qnrA gene detected in 31.5 %, but the iroN gene was not detected.

Keywords: Escherichia coli; antibiotic-resistance genes; virulence genes, PCR.

**BIOLOGICAL POLLUTION****( BULLS )**

|          |   |
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| NO       | : 11  |
| TITLE    | : DETECTION OF BULLS PERSISTENTLY INFECTED WITH BOVINE VIRAL DIARRHEA VIRUS IN ASWAN PROVINCE, EGYPT  |
| AUTHORS  | : AML MOKHTAR 1; BAHAA S. MADKOUR 2 AND SAFAA S. MALEK 3  |
| ADDRESS  | : 1 Microbiology and Immunology Department, Faculty of Vet. Medicine, Aswan University - 2 Infectious Diseases, Department of Animal Medicine, Faculty of Veterinary Medicine, Aswan University<br>3 Infectious Diseases, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Egypt. Postal code: 71526 |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 168 January 2021, 75-86   |

**ABSTRACT**

This study was designed to detect the persistent infection with bovine viral diarrhea virus (PI- BVDV) among 114 bulls in Aswan Governorate. Sera samples were examined by ELISA and real time polymerase chain reaction (PCR) to detect BVDV antibodies and BVDV nucleic acid, respectively. The percent of infection was 23.7% (27/ 114) and 76.3% (87/ 114) were negative by ELISA technique, and 3.4% (3/ 87) for BVDV gene detection by real time PCR. Sensitivity of 89% and specificity of 96 % was reported using the commercially available ELISA kit for samples obtained from PI animals.

Keywords: ELISA, BVD, Persistent infection PI, PCR



**Biological Pollution****(CALVES)**

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|-----------------|---|
| <b>NO</b>       | : 12  |
| <b>TITLE</b>    | : <b>CONVENTIONAL AND MOLECULAR DIAGNOSIS OF CRYPTOSPORIDIOSIS IN CALVES</b>        |
| <b>AUTHORS</b>  | : FATMA S. MAHMOUD**; TAHA. A.A. EL-ALLAWY* AND SAFAA S. MALEK*                     |
| <b>ADDRESS</b>  | : *Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University |
| <b>BULLETIN</b> | : <u>Assiut Vet. Med. J. Vol. 62 No. 151 October 2016, 12-21</u>                    |

**ABSTRACT**

The present study was conducted on 120 newly born calves (37 mixed breed, 66 native breed and 17 buffaloes calves), aged from one day to 6 months, they examined during the period from April 2014 to April 2016, these animals belong to some villages and farms from Assiut governorate. The overall prevalence was 15.83 % (20.89% in calves less than two months, 11.36% in calves' from 2-4 months with no infection rate from 4-6 months). the prevalence of Cryptosporidiosis in village had higher rate of infection (19.23%) than farms (9.52%) in Assiut governorate. Mixed breed calves were more susceptible (24.32%) than native breed calves (13.64%) followed by buffalo calves (5.88%). Male calves were more susceptible than female calves to infection {males 16.44% (12/73) – females 14.89% (7/47)}. The clinical findings of cryptosporidiosis in examined calves were showed mild to severe diarrhea with varying degree of dehydration. Some cases were feverish. The state of appetite was different according to the severity of illness. The feces were varied from pasty to watery in consistency, pale yellow, yellow or greenish in color and sometimes contained mucous and blood. Higher infection rate was in non-hot months (22.95%) than hot months (8.47%). The molecular technique used for identification of Cryptosporidium infection in calves was nested PCR which is highly sensitive as a diagnostic tool for cryptosporidiosis and allow a rapid diagnosis in outbreak situations and provide information on genotypes.

**Biological Pollution****( CALVES)**

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| NO       | : 13  |
| TITLE    | : STUDY ON VIRULENCE FACTORS OF ESCHERICHIA COLI ISOLATED FROM CALVES SUFFER FROM DIARRHEA  |
| AUTHORS  | : GHADA MAHER ABDEL-HAKEEM MOHAMED *; MOHAMED WAEL ABD AL-AZEEM**; SERAGELDEEN SULTAN** and AHMED MUSTAFA SAID*   |
| ADDRESS  | : *Animal Health Research Institute, Assiut Branch, Egypt.<br>**Department of Microbiology, Faculty of Veterinary Medicine, South Valley University, Qena 83523, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 154 July 2017, 113-121  |

**ABSTRACT**

Diarrhea is an important problem in young calves, especially in suckling beef calves. The most common cause of diarrhea in calves is E.coli. The present study was undertaken to screen for presence of virulence factors associated with colibacillosis isolated from one hundred and twenty five fecal samples of calves suffer from diarrhea (<3monthes). All samples were submitted for bacteriological examination, serotyping and virulence tests (Congo red test, serum resistant test, sereny test and haemolytic activity). Finally molecular Identification by using Polymerase chain reaction (PCR) to detect shiga toxin (stx1, stx2) genes. E.coli isolates were fifty eight isolates (46.4%). The fecal samples were obtained a Twelve different serotype of E.coli (O26:H11, O91:H21, O103:H2, O111:H2, O15:H21, O146:H21, O8,O113:H4, O128:H2, O124, O121:H7 and O55:H7). It was recorded forty two isolates (72.4%) were congo red positive, forty two isolates (72.4%) were serum resistant, eleven isolates (18.96%) made keratoconjunctivitis of Guinea pig and fourteen isolates (24.13%) had hemolytic activity. PCR was performed to detect stx1 and stx2 genes on different serotypes of E.coli isolates. The serotypes which positive to stx1 gene only were three (O8,O113:H4,O128:H2) (30%), two serotypes were positive to stx2 only (O15:H21,O146:H21) (20%), four serotypes were positive to both stx1 and stx2 (O26:H11, O91:H21, O103:H2,O111:H2) (40%) and O124 was negative for both stx1 and stx2(10%). This result of E.coli strains isolated from diarrheic calves implies that these animals are an important reservoir of Shiga toxin Escherichia coli (STEC) strains that are potentially pathogenic toward farm animals.

**Biological Pollution****( CAMELS )**

|          |   |
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| NO       | : 14  |
| TITLE    | : SOME STUDIES ON TRYPANOSOMIASIS IN IMPORTED CAMELS  |
| AUTHORS  | : AHMED M.A. ZAITOUN*; SAFAA S. MALEK*; KHALED A.S. EL-KHABAZ* and SALHEEN G. ABD-EL-HAMEED**                                       |
| ADDRESS  | : * Infectious Diseases, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University-<br>** Field Practitioner |
| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 152 January 2017, 39-51   |

**ABSTRACT**

The present study was carried out to evaluate the percent of *Trypanosoma evansi* infection among imported camels from Sudan to Egypt during the period of investigation (13 months) in the quarantine period in Abu-Simbel Veterinary Quarantine at the South border of Egypt. A total number of 396 imported camels were inspected from September, 2014 till September, 2015, clinically examined and sampled for epidemiological studies using thin blood film and PCR techniques for diagnosis of *Trypanosoma evansi*. The clinical signs of the examined camels infected by *Trypanosoma evansi* were in acute form showing poor body condition, rising of body temperature up to ( $38.81 \pm 0.05^{\circ}\text{C}$ ), Hyper-lacrimation with congestion of ocular membranes and edematous swelling in the lower parts of legs were the most prominent clinical findings. Signs of chronic form of *Trypanosoma evansi* were general debility and severe emaciation (disappearance of the hump, projections of ribs and atrophy of the muscles particularly thigh muscles), pale mucous membrane of conjunctivae with lacrimation, the camel was yawning, enlargement of lymph nodes particularly superficial cervical lymph nodes, edematous swelling in scrotal sacs with enlargement of testicles and edema in the base of neck and edematous and enlarged prolapsed penis and signs of balanoposthitis. Numerous ticks were parasitized camels infected with *Trypanosoma evansi*. The prevalence of *Trypanosoma evansi* infection using blood film technique was 12.17% among the clinically suspected cases and 0% among apparently healthy camels (overall prevalence 5.81%). Whereas, the prevalence of *Trypanosoma evansi* infection using TBR 1/2 primer-based PCR was reached 48% among clinically suspected camels and 20% among apparently healthy camels (Total prevalence 43.3%).

**Biological Pollution****(CAMELS)**

|          |  |
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| NO       | : 15   |
| TITLE    | : HISTOPATHOLOGICAL STUDIES ON PARASITIC AFFECTIONS OF LUNG AND LIVER OF HUMPED CAMELS IN ASWAN SLAUGHTERHOUSES, EGYPT   |
| AUTHORS  | : AHMED K. DYABI <sup>1*</sup> ; MARWA A. AHMED <sup>2</sup> and AHMED G. ABDELAZEEM <sup>3</sup>  |
| ADDRESS  | : 1 Department of Parasitology, Faculty of Medicine Assiut University<br>2 Department of Pathology, Faculty of Veterinary Medicine, Aswan University, Egypt<br>3 Department of Parasitology, Faculty of Veterinary Medicine, Aswan University, Egypt |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 162 July 2019, 1-6   |

**ABSTRACT**

This study aimed to investigate the different pathological conditions caused by parasitic infection in livers and lungs of slaughtered camels leading to their total or partial condemnation at abattoir. In the present study, 100 lung and 100 liver samples collected from Aswan slaughter-house, Egypt, for histopathological studies. 7 out of 100 (7%) camel lung and only one liver were infected with hydatid cyst the larval stage of *Echinococcus granulosus*. Also, 2 out of 100 (2%) camels liver infected with *Fasciola* spp. No doubt, hydatidosis and fascioliasis are a public health problem that affects also the human welfare and economy.

Key word: Hydatid- *Fasciola*- liver- lung – camel.

**Biological Pollution****(CATFISH)**

|          |   |
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| NO       | : 16  |
| TITLE    | : PARASITIC INFECTIONS OF THE GILLS OF WILD AFRICAN SHARPTOOTH CATFISH (CLARIAS GARIEPINUS)   |
| AUTHORS  | : MAHMOUD MOSTAFA MAHMOUD 1; EBTSAM SAYED HASSAN 1; MOHIE HARIDY 2; ESSAM ALI NOUR EL DEEN 2; HUDA MOHAMMED M. KURAA 3 and HEBA NAEIM SADEK HANNA 3   |
| ADDRESS  | : 1 Department of Aquatic Animals Medicine and Management, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt<br>2 Faculty of Veterinary Medicine, South Valley University, Qena, Egypt<br>3 Animal Health Research Institute, Assiut, Egypt. |
| BULLETIN | : Assiut Vet. Med. .Vol. 64 No. 158 July 2018, 31-39  |

**ABSTRACT**

A one-year study (January to December 2015) was conducted to identify the various parasites that infect the gills of African sharptooth catfish, *Clarias gariepinus*. Two hundred and forty fish (20 fish/ month) of different sexes and sizes were collected from the River Nile and its tributaries at Assiut Province, Egypt. Fish were subject to clinical and parasitological examinations. The protozoan and metazoan parasites found included *Trichodina* sp., *Henneguya* sp., *Myxobolus* sp., monogenean trematodes and encysted metacercariae (E.M.C) of digenean trematodes. The infection rates for these parasites were 14.1%, 32.0%, 5.8%, 22.0% and 4.2%, respectively. Mixed infections with more than one type of parasite was observed in 17.1%, while single infection was seen in 43.8 % of the fish examined. The highest rate of infection was observed during the winter and spring seasons (68.3% and 60.0% respectively), while in the summer and autumn seasons the rates were 58.3% and 55.0% respectively. The total infection rates in females were insignificantly higher than in males. The infection rates were lower in larger fish. The histopathological alterations induced by the parasites, herein, represented mainly in hyperplasia of gill filaments, partial or complete sloughing of the lining epithelium, focal chondritis and submucosal vasculitis with mononuclear cell infiltration.

*Keywords: gill parasites, infection rates, histopathology, Clarias gariepinus*

**Biological Pollution****(CATFISH)**

|          |  |
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| NO       | : 17   |
| TITLE    | : BRAIN MYXOSPORIDIOSIS IN AFRICAN SHARPTOOTH CATFISH (CLARIAS GARIEPINUS).  |
| AUTHORS  | : RASHA, S.A. ABD EL-LATEIF 1 and MOHSEN, I. ARAFA 2   |
| ADDRESS  | : 1 Dept. of Fish Diseases and Management, Assiut Lab.<br>2 Dept. of Parasitology, Animal Health Research Institute, Assiut Lab. |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 160 January 2019, 16-24  |

**ABSTRACT**

This study was conducted to screening for *Myxobolus* sp. infections in the brain of African sharptooth catfish (*Clarias gariepinus*). A total of 120 fish were collected over one year from Al fath center in Assiut Governorate. Smears of all samples were examined parasitologically, and polymerase chain reaction (PCR) was used to confirm selected positive samples. Examination revealed the presence of *Myxobolus* sp. in 57 (47.5%) of examined fish. Prevalence of infection was highest in winter and spring (56.7%) and became low in autumn (30%). The effect of body weight revealed that, the highest prevalence rate (52.9 %) was occurred in middle group (301- 400g). Female fish seems to be more sensitive to infection (48.5%) than male (46.2%). Morphological characters and measurements of mature spores were recorded. The amplified 18S rDNA gene fragment by using a specific primer for Myxosporean was (869bp).

Key words: *Clarias gariepinus*, *Myxobolus* sp. Brain, Myxosporidiosis.

**BIOLOGICAL POLLUTION**

**(CATTLE )**

|          |   |
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| NO       | : 18  |
| TITLE    | : HEPATIC DICROCOELIASIS IN BEEF CATTLE SLAUGHTERED AT ABU-SIMBEL ABATTOIR: FIRST SLAUGHTER HOUSE RECORD IN EGYPT   |
| AUTHORS  | : MOHAMED HESHAM M.1; MOHAMED SALAH EL-DEIN YOUSSEF 2; SARY KHALEEL ABD-ELGHAFFAR2, 3 AND SALWA MAHMOUD ABD-ELRAHMAN 4  |
| ADDRESS  | : 1 Veterinarian, Directorate of Veterinary Medicine, Assiut, Egypt.<br>2 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut 71516, Egypt<br>3 Department of Pathology and Clinical Pathology, School of Veterinary Medicine, Badr University in Assiut, Egypt.<br>4 Department of Parasitology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt. |
| BULLETIN | : Assiut Vet. Med.J.Vol. 69No. 179 October2023,pp 122-115   |

|   |  |
|---|--|
| <p><b>ABSTRACT</b></p> <p>Dicrocoelium dendriticum, the small liver fluke, is capable of parasitizing the gall bladder and liver of various mammalian species, especially ruminants. In Egypt, there was no previous abattoir-based research concerned with the incidence of dicrocoeliasis. The objective of our study is to record hepatic dicrocoeliasis in imported beef cattle of Sudanese origin that were slaughtered at Abu-Simbel abattoir, Aswan Governorate, Egypt and describe the detailed hepatic gross as well as histopathological changes induced by it. During a period from December 2020 to October 2021, 1575 liver specimens were examined from which 172 cases showed gross pathological lesions. After collection, affected specimens were fixed in 10% neutral buffer formalin, then they were prepared for histopathological examination. The recorded incidence of hepatic dicrocoeliasis was 7.5% among the affected cases. The affected liver showed fibrosis and paleness with irregular yellowish foci on its surface. Fibrous tissue proliferation was seen surrounding bile ducts. Histopathologically, parasitic eggs were detected in affected liver tissues where they stimulated a granulomatous inflammatory reaction with hepatocellular necrosis and infiltrations of neutrophils, eosinophils and giant cells. Portal fibrosis resulted in the formation of pseudolobules. As a consequence, hepatic dicrocoeliasis is prevalent in imported Sudanese beef cattle and these animals should be protected from snail-infected regions and subjected to careful inspection by veterinarians in slaughterhouses.</p> |  |
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**BIOLOGICAL POLLUTION  
(CARP VIRUS INFECTION)**

NO : 19  
TITLE : EXPRESSION PROFILE OF TUMOR NECROSIS FACTOR ALPHA DURING SPRING VIREMIA OF CARP VIRUS INFECTION IN NILE TILAPIA  
AUTHORS : NAGWA ROMEIH; EBTSAM SAYED HASSAN ABDALLAH; MAHMOUD MOSTAFA MAHMOUD; AHMAD A. ELKAMEL AND ALAMIRA MARZOUK FOUAD  
ADDRESS : Aquatic Animal Medicine and Management, Faculty of Veterinary Medicine, Assiut University, Assiut, 71526, Egypt  
BULLETIN : Assiut Vet. Med. J. Vol. 69 No.177 April 2023 pp 122-131

**ABSTRACT**

Spring viremia of carp (SVC) is a contagious viral disease that causes high mortality among infected fish. The present study aimed to investigate the expression profile of the tumor necrosis factor alpha (TNF- $\alpha$ ) gene following experimental infection of Nile tilapia (*Oreochromis niloticus*) with SVCV. Fish were exposed to SVCV ( $3.2 \times 10^7$  TCID<sub>50</sub>/ml) by immersion for 4 hrs. Then, spleens of both infected and control fish were sampled at various time points (1 h, 12 h, 1 d, 3 d, 5 d, 7 d, 11 d, and 14 d) post-infection (pi). The expression of TNF- $\alpha$  gene at these time points was assessed using reverse transcription quantitative real-time PCR (RT-qPCR). The results revealed a significant upregulation of the TNF- $\alpha$  gene that started from 12 hrs pi and continued to reach its peak at the 3rd dpi recording a fold change of 2.3 and 6.1, respectively, compared to the control. Subsequently, TNF- $\alpha$  gene expression commenced to regress at 5th dpi until it became similar to its corresponding control at 11th and 14th dpi. To the best of our knowledge, this is the first study exploring one of the immune responses of Nile tilapia after SVCV infection.

Keywords: Tumor necrosis factor alpha, SVCV, Nile tilapia



**Biological Pollution****(CHICKEN)**

|          |   |
|----------|---|
| NO       | : 20  |
| TITLE    | : PREVELENCE OF HELICOBACTER SPECIES IN SOME EDIBLE AND NON EDIBLE CHICKEN OFFALS.  |
| AUTHORS  | : AMMAR M.A.M*; Lubna M. EBRAHEEM* and NAHED M. ABD ELAZIZ**  |
| ADDRESS  | : *Animal Health Research Institute, Assiut regional Lab. (AHRI), Egypt.<br>**Food Hygiene Dept., Fac. Vet. Med. Sohag,<br>***Dep. of Poultry disease – Faculty of Vet. Medicine- Assiut University<br>Email: mahmoud2014eg@yahoo.com |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 144 January 2015  |

**ABSTRACT**

The current surveillance study was carried out to determine the prevalence of Heticobacter spp. in a total 120 samples of fresh chicken offals (30 from each of liver, gizzard, heart and cecal contents). Also it was undertaken to determine the effect of different methods of cooking on the survival of isolated organism. The samples were collected from different poultry slaughter and evisceration shops in Assiut city. The biotyping showed that 25 (83.3%), 28 (93.3%), 9 (30%) and 30 (100%) of liver, gizzard, heart and cecal contents samples respectively were positive for Helicobacter spp., and upon using polymerase chain reaction (PCR) assay only 9(30%), 9 (30%), 3 (10%) and 12 (40%) of these samples respectively were positive for the same organism. The positive samples of liver were found to be 3 (10%) H.pylori and 6 (20%) H.pullorum, while the positive samples of gizzard were found to be 3 (10%) for each of H.pylori, H.pullorum and H.cinaedi, as to heart samples appears to only be contaminated with H.pullorum with a percentage of 10%. Both H.pylori and H.canis could be isolated from 3 samples of cecal contents with a percentage of 10% for each, while H.pullorum could be isolated from 6 samples of cecal contents with a percentage of 20%. The highest isolation rate of Helicobacters was achieved with cecal contents followed by liver and gizzard samples (both have an equal percent of contamination) then heart samples. H.pullorum has the highest incidence of isolation from both liver and cecal contents. Different methods of cooking were applied on the liver and gizzard samples, the obtained results pointed out that Helicabacter spp. could be isolated from 22.2% of grilled liver samples and from 11.1% of boiled gizzard samples, while could not be detected from gizzard samples which exposed to boiling then frying. These results indicated meat thermometer is necessary to safe cooking and internal temperature of 82 °C is enough to eliminate the Hilicobacter hazard. When visual colour and doneness indicators replaces the thermometer, the combined effect of boiling and frying is the efficient method of cooking for the destruction of Helicobacter organism. The public health significance of the isolated microorganisms as well as the preventive measures were discussed.

**Biological Pollution****(CHICKENS)**

NO : 21  
TITLE : OCCURRENCE OF CAMPYLOBACTER SPECIES IN CHICKENS BY MULTIPLEX POLYMERASE CHAIN REACTION  
AUTHORS : ASMAA GAHLAN YOUSEEF1; A.I. IBRAHIM2; AMAL S.M. SAYED3 and MONA M. SOBHY 4  
ADDRESS : \*Zoonoses Department, Faculty of Veterinary Medical, South Valley University.  
\*\*Poultry Diseases Department, Faculty of Veterinary Medical, South Valley University.  
\*\*\*Animal Hygiene and Zoonoses Department, Faculty of Veterinary Medical, Assiut University.  
\*\*\*\* Reproductive Diseases Department, Animal Reproduction Research Institute, El-Haram, Giza.  
BULLETIN : Assiut Vet. Med. J. Vol. 63 No. 152 January 2017, 66-72

**ABSTRACT**

The genus *Campylobacter* is one of great importance to public health because it includes several species that may cause diarrhea. Poultry and poultry products are known as important sources of human campylobacteriosis. 225 samples were collected from (75) chickens including intestinal content (75), liver (75) and skin (75). The overall occurrence of *Campylobacter jejuni* and *Campylobacter coli* in chicken by PCR were (5.3% & 17.8%). Multiplex PCR targeting 23S rRNA specific for genus *Campylobacter*, *hip O* gene specific for *C. jejuni* and *glyA* gene specific for *C. coli* was used for the confirmation of phenotypically identified *C. jejuni* and *C. coli* isolates. It is concluded that PCR was determined to be more specific and rapid than biochemical tests.

**Biological Pollution****(CHICKEN MEALS)**

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|----------|---|---|
| NO       | : | 22  |
| TITLE    | : | VIRULENCE GENES OF LISTERIA MONOCYTOGENES ISOLATED FROM SOME READY-TO-EAT CHICKEN MEALS   |
| AUTHORS  | : | SOHAILA, F.H. EL-HAWARY 1, MOHAMED, H. MOHAMED 2 and SAYED, H. AL-HABATY 3  |
| ADDRESS  | : | 1,2 Department of Food Hygiene, Animal Health Research Institute, Assiut Provincial Lab.<br>3 Department of Bacteriology, Animal Health Research Institute, Assiut Provincial Lab |
| BULLETIN | : | Assiut Vet. Med. .Vol. 64 No. 159 October 2018, 33-38   |

**ABSTRACT**

This study was conducted in Assiut, Egypt, to investigate the prevalence of *Listeria monocytogenes* in a total of 75 ready-to-eat (RTE) cooked chicken meals collected from different restaurants. All isolates were further examined for the virulence marker gene and antibiotic resistance genes. *L. monocytogenes* were isolated from 4(5.3%) of the samples analyzed, including 2(8%) of chicken shawerma, 1(4%) of chicken burger and 1(4%) of chicken breast fillet. All the recovered *L. monocytogenes* organisms were confirmed by PCR assay for the presence of 16S rRNA gene and all of the tested isolates harboured this gene, among which 100% were revealed to incode *inlA* and *inlB* virulence genes. Whereas, all four (100%) isolates of *L. monocytogenes* were found to harbor *mefA* gene (macrolides resistance gene) and *Aad6* gene (aminoglycosides resistance gene). While, *Kan* gene (Kanamycin resistance gene), *tetM* gene (tetracycline resistance gene) and *Cat* gene (chloramphenicol resistance gene) couldn't be detected in any examined strains. These results signify the importance of sustained surveillance of *L. monocytogenes* in cooked chicken meat to minimize the risk of contamination and protecting consumers against outbreaks.

*Key words: L. monocytogenes, virulence genes, RTE cooked chicken meals*

**Biological Pollution****( CHICKEN FILLETS )**

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| NO       | : 23  |
| TITLE    | : REDUCTION OF SALMONELLA HAZARD IN CHICKEN FILLETS USING VARIOUS MICROBIAL INHIBITORS  |
| AUTHORS  | : GHADA M. MOHAMED* and HALA. SCHARAWEE**   |
| ADDRESS  | : 1 Animal Health Research Institute, Assiut Regional Lab, Meat Hygein.<br>2 Animal Health Research Institute, Serology Unit. |
| BULLETIN | : Assiut Vet. Med. Med. J. Vol. 62 No. 149 April 2016, 118-130  |

**ABSTRACT**

A total of 80 samples of chicken fillet were obtained from local markets with different sanitation levels in Assiut city to study the prevalence of Salmonella spp. The virulence factor(s) in isolated samovars were detected by PCR. The obtained results showed that the incidence of Salmonella spp was 7.5%. The isolated Salmonellae could be serologically identified as S. Enteritidis and S. Typhimurium as (2.5%) for each, SV irginia and S. Finkenworder (1.25%) for each. Results of the virulence genes of Salmonella seovars shown that Inv A gene was detected in all examined serovars. All serovars were detected to harbor Stn gene except S. Finkenworder. Regarding fim H gene both S. Typhimurium serovars and one strain of S. Enteritids were positive only. Also this trial was carried out on chicken fillet to determine the effectiveness of using acidified sodium chlorite (ASC) and chlorine on the viability of S. Enteritidis by inoculating cubes of the chicken fillet with 106 cfu/g, of Salmonella Enteritidis and dipping in different concentrations of ASC (400,600 and 900 ppm) (leaving non treated sample as a control) then counted at the 0, 1, 2, and 4 hours of refrigeration storage for the viable cells of S. Enteritidis. The maximum reduction of Salmonella was (1.5 log cfu/g) occur immediately after treatment at (0h) with concentration 900ppm, while it was 1.1, and 1.3 log cfu/g in concentration 400 and 600 ppm, respectively. After the first hour of storage in refrigerator at (4C°), the reduction values were 0.6, 0.9 and 1.2 log cfu/g respectively. While, the reduction of Salmonella after the second hours were 0.4, 0.7 and 1.0 log cfu/g respectively. Finely when examination of samples after 4 hours, the reduction were 0.2, 0.5 and 0.9 respectively. On the other hand, when used different concentrations of chlorine (20,30 and 40 ppm) on inoculated cubes, then counted at 0, 1, 2, and 4 hours of refrigeration storage for the viable cells of Salmonella Enteritidis. The maximum reduction of Salmonella to the chicken cubes (3 log cfu/g, compared to control) was immediately occur after treatment (0h) with concentration 40ppm. While, it was 2.4 and 2.6 log cfu/g respectively at concentration 20 and 30 ppm. After the first hour of storage in refrigerator at (4C°), the reduction values were 1.5, 1.7 and 1.8 log cfu/g respectively. While after the second hours, the reduction was 1.4, 1.6 and 1.7 log cfu/g respectively. When examination of samples after 4 hours, the reduction was 1.2, 1.4 and 1.5 respectively. None of these antimicrobial agents changed in smell or texture values of chicken breast fillet. Finally the residual of ASC and chlorine were Measured. The public health importance of the organism was discussed and the suggestive measures for control were outlined.

**Biological Pollution****(CHICKEN MEAT)**

|          |   |
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| NO       | : 24  |
| TITLE    | : STAPHYLOCOCCUS AUREUS, ENTEROTOXINS GENES AND SALMONELLA TYPHYMURIUM IN CHICKEN MEAT AND ORGANS   |
| AUTHORS  | : *NAGWA THABET ELSHRAWAY and **MOHAMED SHAKER ABDEL HAFEZ  |
| ADDRESS  | : * Food Hygiene Department, Faculty of Veterinary Medicine, Assiut University-New Valley Branch, Egypt.<br>** Poultry Diseases Department, Faculty of Veterinary Medicine, Assiut University-New Valley Branch,. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 64 No. 156 January 2018, 129-137   |

**ABSTRACT**

This study investigated presence of *Staphylococcus aureus* and *Salmonella typhimurium* and some of their enterotoxins and virulence genes in live chicken and chicken meat in New Valley, Egypt. 200 broilers samples were collected as following; Liver and blood of 100 clinically diseased, 6 weeks old chicken were obtained from five broilers farms in New Valley governorate for surveillance of the microorganisms in poultry while, 100 freshly slaughtered broilers chicken which apparent healthy were collected from public live bird markets. The samples were meat specimens from the breast muscle, thigh muscle, liver, and blood (100 of each). The identified strains were screened for enterotoxin genes of *Staph. aureus* (SEA to SAE) genes. Prevalence of *S. aureus* in live chicken was higher than *S. typhimurium* which was 76% and 18%, respectively which was higher in blood than liver samples. On the other hand, the incidence of *S. aureus* was higher than *S. typhimurium* in apparently healthy and symptomatically diseased broilers. In chicken meat was with an overall incidence of 56.67%. The total prevalence of *S. aureus* and *S. typhimurium* was 51.33% and 5.33% respectively the highest microbial load was in liver samples followed by breast muscle then thigh muscle samples. *S. aureus* SAB gene was the only detected enterotoxins gene among chicken samples. Raw poultry meat available for consumers in Egypt often contaminated with pathogenic zoonotic bacterial agents.

**Biological Pollution****(CORONA VIRUSES )**

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| NO       | : 25   |
| TITLE    | : ENTERIC ROTA AND CORONA VIRUSES INFECTION IN NEONATAL CALVES   |
| AUTHORS  | : AHMED M.A. ZAITOUN; OSAMA ABDEL-HAKIM and ZAINAB M.A. YOUSSEF  |
| ADDRESS  | : Infectious Diseases, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 64 No. 156 January 2018, 8-17   |

**ABSTRACT:**

Calf diarrhea is a common syndrome causing colossal economic losses. Rotavirus and Coronavirus are major pathogens of calf diarrhea. During the period of investigation (13 consecutive months), a total number of 140 neonatal calves were carefully examined and thereafter subjected to serological and molecular diagnosis for the diagnosis of Rota and Corona viruses' infection. The serological and molecular diagnosis by using LAT and RT-PCR indicated that positive samples of Rotavirus infection were 21.43% (30/140) and 8% (4/50), respectively. ELISA and RT-PCR were used in diagnosing of BCoV infection and found that positive samples were 2.13% (2/94) and 4% (2/50), respectively. The Prevalence of Rotavirus and Coronavirus infection was 21.43 % (30/140) and 2.13 % (2/94) of the examined calves, respectively. It was found that there was a strong negative correlation between age of examined calves and Rotavirus infection. Coronavirus infection was found in calves at >4-7 weeks. There were no significance difference in Rota and Corona viruses' infection and sex, breed and species of examined calves. The most positive cases of Rotavirus and Coronavirus infection were reported in cold months. The lower infection rate of Rotavirus was recorded in hot months. It is concluded that Rota and Corona viruses play an outstanding role in causing enteritis in neonatal calves in different localities of Assiut governorate.

**BIOLOGICAL POLLUTION****( COCCIDIOSIS )**

|          |  |
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| NO       | : 26   |
| TITLE    | : PREVALENCE OF COCCIDIOSIS IN CHICKEN IN SOHAGE GOVERNORATE   |
| AUTHORS  | : SAMAR ELSAYED MOHAMED 1; AHMED KAMAL DYAB 2; SARA A. MOHAMED 3 AND SALWA MAHMOUD ABD-ELRAHMAN 3  |
| ADDRESS  | : 1 Private Veterinary Clinic, Assiut University, Egypt.<br>2 Department of Medical Parasitology, Faculty of Medicine, Assiut University, Egypt. - 3 Department of Parasitology, Faculty of Veterinary Medicine Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 171 October 2021, 1-11   |

**ABSTRACT**

Eimeria sp. is one of the most important parasites that cause very high economic loss in poultry farms in Egypt. It causes a disease called coccidiosis. This study aimed to detect the prevalence of Eimeria species in chicken and detection of its pathological effect within the intestinal mucosa. The present study investigate the prevalence of Eimeria sp. in chicken through fecal examination and the diagnosis was based on direct fecal sample examination (unstained wet mount technique) and concentration techniques, followed by sporulation of unsporulated oocyst for identification of Eimeria spp. and finally studying the pathological effect of this parasite in the intestinal mucosa of infected chicken. The total prevalence rate of Eimeria spp. was (66%). The incidence rate in Broiler chickens was (70%) and in Balady was (58%). The highest percent of infection was at the age of (15-30) day (54.3% in Broiler and 72.4% for Balady), and the disease was more prevalent in winter than in summer. The species that were detected are E.acovullina (the highest prevalence rate) followed by E.tenella, E.necatrix followed by E.mitis (lowest prevelance rate). These results indicate that the coccidiosis is a serious parasitic disease that effect on the poultry production in Egypt and control measures should be put in consideration to overcome this disease.

Keywords: Eimeria - prevalence- coccidiosis- oocyst.

**BIOLOGICAL POLLUTION****(COWS)**

|          |  |
|----------|--|
| NO       | : 27   |
| TITLE    | : SEROPREVALENCE RATE OF COXIELLA BURNETII IN COWS' SERUM IN ASSIUT GOVERNORATE, EGYPT   |
| AUTHORS  | : REEM M. ALSAADAWY <sup>1</sup> ; SYLVIA O. AHMED <sup>1</sup> AND HELAL F. HETTA <sup>2</sup>  |
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| BULLETIN | : Assiut Vet. Med. J. Vol.69No.177April 2023pp 105-111   |

**ABSTRACT**

This study was conducted to determine the seroprevalence of *Coxiella burnetii* in cows from Assiut Governorate, Egypt. A total of 268 blood samples were collected from cows (176 females and 92 males). The age of these animals ranged between 2 months and more than 3 years. Screened for *C. burnetii* using indirect enzyme-linked immunosorbent assay. A total of 15.67% (42/268) was serologically positive. The seropositivity was high in females (19.56%) than males (13.63%). The native breed was more infected (17.44%) than Fresian (13.33%) and mixed ones (11.76%). In cows, a higher seroprevalence was observed in the age group more than 1 to 2 years (22.38%). Dairut city recorded the highest seroprevalence rate (40.74%) of *C. burnetii*. *C. burnetii* seroprevalence was higher in hot season (20.10%) than cold season (5.95%). Cows free from ticks recorded higher seroprevalence (22.58%) than those infested with ticks (12%). Cows with fever and pneumonia recorded higher seroprevalence (14.29%) compared to animals with other signs. In conclusion, findings of this study revealed the wide spread of *C. burnetii* infection among cows at Assiut Governorate, Egypt.

Keywords: *C. burnetii*, ELISA, Pneumonia, Q Fever, Ticks.



**Biological Pollution****(CYSTICERCOSIS)**

|          |  |
|----------|--|
| NO       | : 28   |
| TITLE    | : CYSTICERCOSIS IN SMALL RUMINANTS SLAUGHTERED IN ASWAN SLAUGHTERHOUSE, EGYPT  |
| AUTHORS  | : AHMED K. DYAB*; MOHAMMED E. MARGHANY *; RAGAA A.OSMAN *<br>and MAHMOUD A.AHMED **  |
| ADDRESS  | : *Department of Medical Parasitology, Faculty of Medicine, Assiut University<br>**Department of Parasitology, Faculty of Veterinary Medicine, Aswan University. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 155 October 2017, 73-80  |

**ABSTRACT**

The aim of the present study was to determine the prevalence, organ distribution, morphological characters and economic importance of *Cysticercus ovis* and *Cysticercus tenuicollis* in sheep and goats. A total of 669 sheep and 484 goats slaughtered at Aswan Slaughterhouse were carefully examined for these metacestodes. *Cysticercus ovis* was detected (1.94%) from slaughtered sheep. *Cysticercus tenuicollis* was found (13.3%) in sheep and (24.2%) in goats. The prevalence of both *C. ovis* and *C. tenuicollis* was higher in females than males and their prevalence was higher in older animals compared to the younger ones. For *Cysticercus ovis*, the highest infection was found in spring while the highest seasonal infection rate of *Cysticercus tenuicollis* in slaughtered sheep and goats was noted in autumn season. The infection with *C. ovis* was only found in the heart, while *C. tenuicollis* in slaughtered sheep and goats was found mainly in the omentum. These results suggest that the high prevalence of the metacestodes infection in this area is a great concern for both medical and veterinary authorities to design therapeutic and preventive programs to overcome this problem.

**Biological Pollution****( DAIRY DESSERT )**

|          |   |   |
|----------|---|---|
| NO       | : | 29  |
| TITLE    | : | OCCURRENCE OF BACILLUS CEREUS AND STAPHYLOCOCCUS AUREUS ORGANISMS IN SOME DAIRY DESSERTS  |
| AUTHORS  | : | M.F. HUSSEIN; O.A. SADEK and EL TAHER, S.G.   |
| ADDRESS  | : | Animal Health Research Institute, Assiut Provincial Lab., Food Hygiene Department.<br>Email: onsi_2000@yahoo.com - Assiut University Email:<br>www.aun.edu.eg |
| BULLETIN | : | Assiut Vet. Med. J. Vol. 61 No. 145 April 2015  |

**ABSTRAC**

A total of 60 dairy desserts samples comprising ice cream, mehallabia and rice with milk (20 samples of each) were collected from different dairy shops and supermarkets in Assiut city, Egypt. All samples were examined bacteriologically for isolation and enumeration of *B. cereus* and *Staph. aureus* organisms. The incidences of *B. cereus* in ice cream, mehallabia and rice with milk samples were 55, 60 and 15%, and the average counts were  $3.1 \times 10^9$ ,  $1.07 \times 10^{10}$  and  $1.7 \times 10^9$  cfu/g food, respectively. The incidence of *Staph. aureus* in this study was 15% for each of ice cream and rice with milk samples with average of  $6.7 \times 10^5$  and  $2.7 \times 10^7$  cfu/g food, respectively. *Staph. aureus* organisms could not be detected in all examined mehallabia samples in this study. *Staph. aureus* enterotoxins A and C were detected in some food positive samples for staphylococcal isolation. The public health importance of the isolated organisms was also discussed.

**BIOLOGICAL POLLUTION  
( DAIRY FARMS )**

|          |   |
|----------|---|
| NO       | : 30  |
| TITLE    | : PSEUDOMONAS AERUGINOSA AND STAPHYLOCOCCUS AUREUS PROFILE IN SOME DAIRY FARMS  |
| AUTHORS  | : SHIMAA A. ABD-ELAZIZ HASSANEIN <sup>1</sup> ; WALAA M. ELSHERIF <sup>2</sup>  |
| ADDRESS  | : MOHAMED A.H. ELSHATER <sup>3</sup> AND MOHAMMED SAYED <sup>4</sup><br>1 Animal Health Research Institute, Agriculture Research Center, El-Minia Branch, Egypt<br>2 Vice-Dean of Health Sciences College for Education & Student Affairs, New Assiut Technological University, Egypt<br>3 Chief Researcher, Animal Health Research Institute, Dokki, Giza, Egypt<br>4 Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69No. 178July 2023 pp 109-99  |

**ABSTRACT**

The purpose of the current study was to evaluate the degree of contamination of dairy farms with both *Pseudomonas aeruginosa* and *Staphylococcus aureus*, in which, a total of 150 swab samples were collected from 3 different dairy farms (50 each) distributed in Assiut governorate (farm A) and El-Minia governorate (farms B & C), Egypt. The swabs were taken from different locations in the dairy farms such as teats of dairy animals, milking machines, workers' hands and stanchions, etc. All the samples were examined for detection of *Ps. aeruginosa* (conventionally biochemical followed by MICROBACT™ identification kits) and for *Staph. aureus* (coagulase +ve). The obtained results revealed the overall incidence of *Ps. aeruginosa* as 14%, 2% and 4% in farms A, B & C, respectively; while, the incidence of *Staph. aureus* was 4%, 30% and 4%, respectively. In conclusion, the profile of both *Ps. aeruginosa* and *Staph. aureus* among the examined dairy farms is highlighting the hygienic state of each farm separately.

Key words: *Pseudomonas aeruginosa*, *Staphylococcus aureus*, Dairy farms.

**BIOLOGICAL POLLUTION****( DUCKS )**

|          |   |
|----------|---|
| NO       | : 31  |
| TITLE    | : EPIDEMIOLOGICAL AND MOLECULAR STUDIES ON RIEMERELLA ANATIPESTIFER INFECTION IN DUCKS          |
| AUTHORS  | : DOHA ABD ALRAHMAN AHMED; MOSTAFA SAIF ELDIN; RAGAB SAYED IBRAHIM AND OMAR AMEN                |
| ADDRESS  | : *Department of Avian and Rabbit Diseases, Faculty of Vet. Medicine, Assiut University, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 168 January 2021, 61-74                                       |

**ABSTRACT**

Infectious serositis is a considerable economic problem in duck industry caused by *Riemerella anatipestifer*. The current study was conducted to investigate the circulating *R. anatipestifer* in ducks in Assiut Province and assessing their antimicrobial susceptibility. One-hundred and twenty diseased or freshly dead ducks aging 1-18 weeks were examined. Naturally infected birds showed respiratory, nervous, and locomotor disturbances, and low body weight. *R. anatipestifer* was detected in 16.6% (20) of birds. Among the bacteriologically positive 20 birds, only 10 could be identified by PCR as *R. anatipestifer* with a prevalence rate of 8.33%. The sensitivity biogram revealed that all the obtained isolates were sensitive to amoxicillin, doxycycline, and flumequine while resistance to streptomycin, chloramphenicol, ampicillin, erythromycin, spectinomycin, and cephradine was observed. On the basis of MIC, all isolates had 90- 100% sensitivity to doxycycline and amoxicillin, respectively. Experimentally, the isolated *R. anatipestifer* strains showed pathogenicity to 14-days-old ducklings.

Keywords: Ducks, *Riemerella anatipestifer*, PCR, MIC, pathogenicity.

**Biological Pollution****(DUCK DIETS)**

|          |  |
|----------|--|
| NO       | : 32   |
| TITLE    | : USING DRIED LEFTOVER FOODS AS UNTRADITIONAL FEED IN MUSCOVY DUCK DIETS   |
| AUTHORS  | : ENASA F. MOUSA 1; HASSAN A.M. ABDEL-RAHEEM 2 and GEHAN R.M. DAWOOD 3   |
| ADDRESS  | : 1 Animal and Clinical Nutrition Dept., Fac. of Vet. Med., South Valley University, Qena, Egypt<br>2 Animal and Clinical Nutrition Dept., Fac. of Vet. Med., Assiut University, Assiut, Egypt<br>3 Food Hygiene Dept. Fac. of Vet. Med., South Valley University, Qena, Egypt |
| BULLETIN | : Assiut Vet. Med. .Vol. 64 No. 158 July 2018, 31-39   |

**ABSTRACT**

The current work was conducted to investigate the effect of dietary leftover food inclusion on growth performance, carcass traits and some blood biochemical parameters of Muscovy ducks. Thirty six (36) two-week old ducks (average weight 393.2 g) were obtained from local commercial source and randomly distributed into 4 groups (9ducks/each). In the first group, ducklings were fed ad-libitum on grower-finisher control diet (diet 1), while birds in the second, third and fourth groups fed on diets containing 10%, 20% and 30% leftover food, respectively (diets 2, 3, 4). The experimental diets were formulated in a mash form (yellow corn, soybean meal, wheat bran and sunflower oil) to meet the minimum nutrient requirements cited by NRC (1994) for ducks. Ducklings were fed according to one phase feeding program (grower-finisher, 14- 70 days). Growth performance, carcass traits and some blood biochemical parameters were assessed. The results showed that, ducks fed on diets containing 10, 20, 30% leftover food achieved significantly ( $p<0.05$ ) higher body weight gain ( $3084.2\pm30.3$ ,  $3141.5\pm30.8$ ,  $3169.0\pm29.1$  g), respectively compared with the control ( $2945.2\pm22.3$ g) with lower feed intake. Highest weight gain averages with best feed conversion (3.22, 3.14, and 3.11) respectively compared with the control. The highest dressing percentage was recorded in ducks fed on diet containing 30% leftover food (79.3%), while the lowest was observed in control group (75.6%). Addition of leftover food to duck diets had no significant effect ( $p<0.05$ ) on the weights of internal organ. Total serum protein, albumin and globulin values were decreased significantly ( $p<0.05$ ) by increasing the level of dietary leftover food. Inclusion of leftover food to duck diets increase significantly ( $p<0.05$ ) triglycerides and had no significant effect on serum cholesterol. Results of the current study concluded that, the best growth performance and economical feed efficiency was observed in ducks fed on diet containing 30% leftover food which surpassing all treated groups and achieved the best body weight gain.

*Key words: Growth performance, carcass traits, leftover food, ducks*

**BIOLOGICAL POLLUTION****FARM ANIMALS**

|          |   |
|----------|---|
| NO       | : 33  |
| TITLE    | : RETROSPECTIVE STUDY ON BODY SURFACE ABSCESES IN FARM ANIMALS  |
| AUTHORS  | : MISK T.N. 1; EL-SHERRY T. 2 and MISK N.A. 3   |
| ADDRESS  | : 1 Department of Surgery, Anesthesiology and Radiology, Faculty of Veterinary Medicine, Sadat City University, Sadat City, Menofia, Egypt.<br>2 Department of Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt.<br>3 Department of Surgery, Anesthesiology and Radiology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 66 No. 164 January 2020, 47-61   |

**ABSTRACT**

The aim of the present study is to determine the predilection seats of body surface abscesses in some farm animals, their relations to the way of entrance of infection as well as the methods of surgical treatment, fate and complications. The present study was carried out on a total number of 790 animals (buffaloes = 131, cattle = 240, sheep = 230, goats = 81, donkeys = 64, horses = 17 and camels = 27) suffering from presence of abscesses at different localities on the body surface. All cases were recorded during field trips to villages of 27 provinces all over Egypt from 2003 – 2018. Diagnosis was established depending on case history, clinical signs and exploratory puncture. Surgical treatment was performed either by incision of the abscess wall and evacuation of the contents or by total excision. Results indicated that abscesses were detected at the parotid region in 129 animals (16.33%), mandibular region in 120 animals (15.19%), sub-conjunctival in 36 animals (4.56%), cheek region in 33 animals (4.18%), ear region in 10 animals (1.27%), neck region in 47 animals (5.95%), thoracic limbs in 72 animals (9.11%), thoracic wall behind the elbow in 34 animals (4.30%), abdominal wall in 60 animals (7.59%), umbilical region in 68 animals (8.61%), gluteal region in 45 animals (5.70%), pelvic limbs in 102 animals (12.91%), tail region in 16 animals (2.03%) and vulvar lips in 5 animals (0.63%). The results also revealed that the ways of entrance of infection include; breach on the surface of the skin, migrating foreign bodies from the lumen of the digestive tract, iatrogenic by using non-sterilized needle for intramuscular injection, punctured wounds by infected foreign bodies and blood and lymph borne infection. Solitary abscesses were recorded in 682 animals (86.33%) while multiple abscesses were diagnosed in 108 animals (13.67%). Surgical treatment was performed by incision and evacuation of abscesses in 686 animals (86.84%) and by total excision in 104 animals (13.16%). Considering the fate of cases after surgical treatment; 589 animals (74.56%) recovered after the first surgical interference, 66 animals (8.35%) recovered after the second surgical interference after management of complications, 43 animals (5.44%) were culling either by slaughtering or euthanasia and 92 animals (11.65%) the fate was not recorded postoperatively.

**BIOLOGICAL POLLUTION****FARM ANIMALS**

|          |  |
|----------|--|
| NO       | : 34   |
| TITLE    | : RETROSPECTIVE STUDY ON CONGENITAL AND ACQUIRED FISTULAE IN SOME FARM ANIMALS AND THEIR MANAGEMENT IN THE FIELD   |
| AUTHORS  | : MISK T.N.1 AND MISK N.A.2  |
| ADDRESS  | : 1 Department of Surgery, Faculty of Veterinary Medicine, Sadat City University, Sadat City, Menofia, Egypt.<br>2 Department of Surgery, Anaesthesiology and Radiology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 66 No. 164 January 2020, 62-74  |

**ABSTRACT**

The aim of the present study is to record the common congenital and acquired fistulae in some farm animals and to throw a light on the treatment regimes which can be satisfactory to correct the fistulae in field situation. The present study was carried out on 129 animals registered during field trips to villages of 27 provinces all over Egypt from 2003 – 2018. Animals were cattle (n=43), buffaloes (n=38), sheep (n=20), goats (n=11), camels (n=3), donkeys (n=7) and horses (n=7). 6 types of congenital and acquired fistulae were recorded in farm animals namely; recto-vaginal (n=58), urethral (n=31), teat (n=14), salivary (n=14), oral (n=9) and perianal (n=3). Diagnosis was based on case history and clinical examination conducted in the field. Surgical treatment was performed using routine maneuvers reported in literature and textbooks. Results indicated that surgical intervention is the only possible solution for treatment of more than 83% of all registered congenital and acquired fistulae to satisfy the requirements of the owners and make the affected animals more profitable to national income.

Keywords: Fistulae, farm animals.

**Biological Pollution****(FASCIOLIASIS)**

|          |  |
|----------|--|
| NO       | : 35   |
| TITLE    | : PREVALENCE AND HISTOPATHOLOGICAL CHANGES OF BOVINE FASCIOLIASIS, WITH UNUSUAL MIGRATION TO LUNG IN NEW-VALLEY GOVERNORATE  |
| AUTHORS  | : SOTOHY A. SOTOHY 1; ABDALLAH A. HASSAN 2; WAFAA G. MAHMOUD 3 and ABEER A. KHEDR 3  |
| ADDRESS  | : 1 Department of Animal and Environmental Hygiene, Fac. of Vet. Medicine, Assiut University<br>2 Department of Parasitology, Faculty of Medicine, Assiut University<br>3 Department of Parasitology, Faculty of Veterinary, Medicine, New-Valley University |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 161 April 2019, 1-11   |

**ABSTRACT**

The main objectives of this study were to determine the prevalence of fascioliasis in cattle, and to describe the histopathological changes in liver and lung. A total of 600 slaughtered bull's 1 ≤ 2 years were examined grossly to investigate Fasciola infection, from abattoirs in New-Valley Governorate. The livers of 120 bulls (20%) were positive for fascioliasis, with unusual migration to lung. The results indicated that Fasciola hepatica was more prevalent than other flukes infections including Fasciola gigantica and Fasciola hepatogigantica (58.3 vs. 12.5 and 29.2%, respectively). The histopathological examinations illustrate the presence of acute fascioliasis (66.7%), chronic fascioliasis (33.3%), and ectopic lesion of Fascioliasis (3.3 %). From the above results it could be concluded that bovine fascioliasis is endemic in New –Valley, constitutes a major cause of economic losses and threat public health.

Key words: Fasciola infection, bulls, histopathological changes, ectopic lesion, New-Valley Governorate.



**Biological Pollution****(FAST FOOD)**

|          |   |
|----------|---|
| NO       | : 36  |
| TITLE    | : THE ROLE OF FAST FOOD IN TRANSMITTING SOME BACTERIAL HAZARDS TO CONSUMERS |
| AUTHORS  | : LUBNA MOHAMMED IBRAHIM and AZHAR MOHAMMED HASSAN<br>E.5                   |
| ADDRESS  | : Animal Health Research Institute (Assiut Lab.)                            |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 149 April 2016, 110-117                   |

**ABSTRACT**

Thirty samples of ready to eat Kofta, beef burger and sausage sandwiches (10 from each) were collected from street vendors and another thirty samples of the same products (10 from each) were collected from different restaurants all were sourced from different areas in Assiut City and analyzed bacteriologically to assess the safety of these sandwiches. The results revealed that the mean values in the examined samples of street vended Kofta, beef burger and sausage sandwiches were  $42.3 \times 10^4$ ,  $96.4 \times 10^4$  and  $28.22 \times 10^5$  cfu/g for APC respectively, and they were  $26.7 \times 10^5$ ,  $97.3 \times 10^3$  and  $64.42 \times 10^4$  cfu/g in the examined samples of Kofta, beef burger and sausage sandwiches collected form restaurants respectively. Based on the microbiological guidelines for ready-to-eat food by center for food safety, 80% and 50% of street vended and restaurant kofta sandwiches were satisfactory according to their APC, also the street vended and restaurant burger sandwiches had the same results. Meanwhile, 20% and 80% of street vended and restaurant sausage sandwiches were satisfactory according to their APC. Results of Enterococcus count declared that the mean values were  $11.9 \times 10^5$ ,  $15.61 \times 10^4$  and  $22.68 \times 10^4$  cfu/g in the examined samples of street vended Kofta, beef burger and sausage sandwiches respectively, and they were respectively  $63.3 \times 10^4$ ,  $34.03 \times 10^4$  and  $28.63 \times 10^4$  in the examined samples of Kofta, beef burger and sausage sandwiches collected from restaurants. Some strains of Enterococcus spp. were isolated with different percentages, and identified as Ent. columbae, Ent. Cecroum, Ent.mundtii, Ent.Hirea and Ent. Facium. Staph.aureus could be isolated with an incidence of 10%, 40% and 60% from the examined sample of Kofta, beef burger and sausage street vended sandwiches respectively, and it was isolated with and incidence of 10% from kofta sandwiches collected from restaurants, while could not be isolated from beef burger and sausage sandwiches collected from restaurants. Based on the microbiological guideline for ready-to-eat food by center for food safety, all examined Kofta sandwiches, street vended sausage sandwiches and 80% of street vended burger sandwiches fell in the category satisfactory based on their limits of total staph.aureus count ( $< 20$ cfu/g). Also E.coli could be isolated with different percentages, the isolated serotypes were O55: H7, O26: H2, O26: H11 and O127: H4.

**BIOLOGICAL POLLUTION****( FEVER VIRUS )**

|          |   |
|----------|---|
| NO       | : 37  |
| TITLE    | : EPIDEMIOLOGICAL STUDY ON BOVINE EPHEMERAL FEVER VIRUS (BEFV) INFECTION IN CATTLE AND BUFFALOES IN EGYPT |
| AUTHORS  | : TAHA A.A. EL-ALLAWY; FATMA S. MAHMOUD AND SAFAA S. MALEK  |
| ADDRESS  | : Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University                        |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 171 October 2021, 120-132   |

**ABSTRACT**

The present study was conducted on 156 cattle and buffaloes. The age of these animals between 6 months to 4years, they examined during the period from January 2018 to September 2019. These animals from different localities in Assiut, sohag and El-Menia governorates. The investigated animals characterized by sudden onset of fever in 25.64% (40 /156) ranged from 40° to 42°C associated with severe congested mucous membranes, dry muzzle, foamy salivation, dullness, sickness, shivering and trembling, rapid shallow respiration in 19.23% (30/156) and ruminal stasis in 25% (39/156), enlargement of superficial lymph nodes. 7.05% (11/156) and 6.41% (10/156) of the examined cases showed drop in milk production and abortion, respectively. Little number of cases showed recumbency, subcutaneous emphysema and lameness respectively 1.28% (2/156), 0.64% (1/156) and 3.21% (5/156). The serological detection for ephemeral fever virus antigen was 9.52% (8 /84), and 4.76% (2 / 42) were positive for virus antibodies. 40/ 50 (80%) were positive for RT- PCR. The prevalence of infection was 17.95% (28/156) in Assiut governorate, 5.77% (9/ 156) in Sohag, 1.92% (3/ 156) in El-Menia. Frezian breeds had higher rate of infection 13.46% (21/156) than native breeds 6.41% (10/156) followed by buffaloes was 5.77% (9/156). The infection in females was 17.31% (27 / 156) but in males was 8.33% (13 / 156). The age group >2-4 years (13.45%) was more susceptible to virus infection than age group 6 months-2 years (12.5%). The infection rate was higher in hot months 19.23% (30/156) than non-hot months 6.41% (10/156).

Key words: BEFV infection, Assiut Governorate, Epidemiology

**Biological Pollution****(Fish)**

|          |   |
|----------|---|
| NO       | : 38  |
| TITLE    | : MYCOLOGICAL EVALUATION OF SALTED HYDROCYNUS FORSKALII FISH IN ASSIUT GOVERNORATE  |
| AUTHORS  | : H.A. ISMAIL*; M.A. ISMAIL**; H.Y. AHMED* and A.K. YOUSSEF*  |
| ADDRESS  | : *Food Hygiene Department, Faculty of Veterinary Medicine, Assiut University, Egypt<br>**Botany Department, Faculty of Science, Assiut University, Egypt<br>Mobile: +20 – 01019757109, Fax: +20- 882366503 |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 146 July 2015   |

**ABSTRACT**

The present study was performed to evaluate the mycological quality of 25 samples of commercially available salted fish (*Hydrocynus forskalii*) sold in retails outlets in Assiut Governorate, Egypt. Three isolation media [Dicloran Rose Bengal Chloramphenicol (DRBC); 10% NaCl malt extract agar and 20% NaCl malt extract agar] were used for counting and identification of fungi. Also, sensory quality, pH values and sodium chloride percentage were assessed. Sensory evaluation revealed that 12% of the samples were unacceptable while the remaining 88% samples were acceptable. Mean pH values were  $7.04 \pm 0.27$  and  $6.81 \pm 0.35$  for skin and muscular parts, respectively. Sodium chloride percentage ranged from 10.23 to 17.55% with a mean value of  $15.03 \pm 1.77$ . A total of 75 species in addition to some unidentified species of yeasts, dematiaceous hyphomycetes and pure mycelia were isolated from all samples on DRBC (61 species), 10% NaCl malt extract agar (46) and 20% NaCl malt extract agar (19). *Aspergillus*, *Petromyces*, *Penicillium*, *Eurotium*, *Cladosporium* and yeasts were the most common fungi recovered on the three media. Some of the isolated fungi are toxigenic and have the ability to produce mycotoxins which have potential hazards on human health.

**Biological Pollution****( Fish )**

|          |  |
|----------|--|
| NO       | : 39   |
| TITLE    | : BACTERIAL INFECTIONS IN SOME RED SEA FISHES  |
| AUTHORS  | : MAHMOUD MOSTAFA MAHMOUD *; EBTSAM SAYED HASSAN*; ESSAM ALI NOUR EL-DEEN **; MOHIE HARIDY ***; FATMA ABD EL-MOGHNY SALEM **** and MAHMOUD ABDEL-RAHMAN MOHAMED ****   |
| ADDRESS  | : * Fish Diseases and Management, Faculty of Veterinary Medicine, Assiut University, Egypt<br>** Fish Diseases, Faculty of Veterinary Medicine, South Valley University, Egypt<br>*** Pathology and Clinical Pathology, Faculty of Veterinary Medicine, South Valley University, Egypt<br>**** Fish Diseases Lab., National Institute of Oceanography and Fisheries, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 155 October 2017, 86-93  |

**ABSTRACT**

The present study was carried out to investigate the common bacterial infections of some saltwater fishes in Red Sea at Hurghada, Egypt. One hundred and twenty fishes of different species including *Hipposcarus harid*, *Scarus ferrugineus* and *Scarus niger* were subjected to bacteriological investigations. The bacteria isolated from the vital organs were phenotypically identified as *Vibrio logei*, *V. ichthyoenteri*, *V. fischeri*, *Moritella marina*, *Photobacterium damsela* subsp. *piscicida* and *Edwardsiella tarda*, in addition to two isolates of the genus *Streptococcus*. Experimental challenge with the dominant isolate, *V. logei*, proved its pathogenicity to *H. harid* with 86.7% mortality rate. Histopathological investigations of experimentally infected fish disclosed prominent pathological alterations in vital organs including liver and kidney. The antibiotic sensitivity of *V. logei*, revealed its sensitivity to Norfloxacin, Ciprofloxacin and Ofloxacin.

**Biological Pollution**

**( Fish)**

|          |   |
|----------|---|
| NO       | : 40  |
| TITLE    | : ACANTHOGYRUS TILAPIAE INFECTIONS IN WILD AND CULTURED NILE TILAPIA OREOCHROMIS NILOTICUS  |
| AUTHORS  | : EBTSAM SAYED HASSAN ABDALLAH *; AMNA MOHAMED AL TAYIP **; SARY KHALEEL ABD ELGHAFAR NASR ***; GEHAN MOHAMED SAYED****; AHMAD ABD ELHADY ELKAMEL*  |
| ADDRESS  | : * Fish Diseases and Management, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt<br>**Animal Health Research Institute, Department of Fish Diseases and Management, Assiut, Egypt<br>*** Department of Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt<br>****Animal Health Research Institute, Department of Parasitology, Assiut, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 155 October 2017, 44-50   |

**ABSTRACT**

Acanthogyrus tilapiae (Baylis, 1948) was isolated from the intestines of wild (from River Nile) and cultured (from ponds beside River Nile) Nile tilapia Oreochromis niloticus in Assiut city, Egypt. The study extended over one year starting from December 2013 to November 2014. The overall infection rate was 12.84%, while was 11.80% with a mean intensity of 4.70 in the wild fish, and was 13.19% with a mean intensity of 2.68 in the cultured fish. The highest infection rate was recorded in winter in both wild (36.1%) and cultured (33.3%) fish. Males have insignificantly higher infection rates than females in both wild and cultured fish. There was a positive correlation between fish length (age) and A. tilapiae infection rates where larger (older) fish showed significantly higher infection rates then younger fish. The parasite was found mainly in the anterior two thirds of the intestine with the lowest number of the parasite detected in the posterior third. Histopathologically, the intestine of fish infected showed parasitic enteritis with lytic necrosis in the intestinal mucosa which associated with eosinophilic cell reaction.

**BIOLOGICAL POLLUTION**

**(FISH )**

|          |  |
|----------|--|
| NO       | : 41   |
| TITLE    | : PARASITES OF PUBLIC HEALTH IMPORTANCE IN NILE AND CULTURED FISH IN EL-MINYA GOVERNORATE  |
| AUTHORS  | : SHIMAA MOHAMED AHMED <sup>1</sup> ; YEHIA ABD ELBADEE HEFNAWY <sup>2</sup> ; MOHSEN IBRAHIM ARAFA <sup>3</sup> AND ASHRAF MOHAMED ABD EL-MALEK <sup>2</sup>  |
| ADDRESS  | : 1 Department of Food Hygiene Assistant Researcher at Animal Health Research Intitute, El-Minia<br>2 Prof. of Meat Hygiene, Department of Food Hygiene, Faculty of Veterinary Medicine Assiut University<br>3 Prof. of Parasitology, Animal Health Research Institute, Assiut |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 176 January 2023 pp132-120  |

**ABSTRACT**

The present work aimed to investigate the prevalence of zoonotic parasites in the Nile and cultured freshwater fish in El-Minya Governorate, Egypt. A total of 200 fish samples (100 Nile and 100 cultured) included 50 for each; *Tilapia nilotica* (*Oreochromis niloticus*), catfish (*Clarias gariepinus*), bajad (*Bagrus bajad*) and carp fish (*Cyprinus carpio*) were randomly collected from markets and some fish farms from El-Minya city. Out of 200 examined fish 187 samples were infested by one or more zoonotic parasites with a prevalence of 93.5%, highest infestation rate was detected in Nile fish 100 % compared to 87 % in farmed ones. The total prevalence of Encysted metacercaria (EMC) among examined fish was 86.5%; it was 88% and 85% in Nile fish and farmed fish, respectively. Microscopic (EMC) was detected in 83 and 73% of Nilefish and farmed fish, respectively, while macroscopic (EMC) was detected in 5 and 12% of farmed fish and Nile fish, respectively. Microscopic (EMC) was identified as: *Cynodiplostomum* (EMC) and *Prohemistomum* (EMC) while, macroscopic (EMC) was identified as *Clinostomum phalacrocoracis*. On the other hand, the total prevalence of *Ichanthocephala* among examined fish was 8 %, it was 13 and 3 % in Nile fish and farmed respectively, while the total prevalence of *Cryptosporidium* spp and *Capillaria* spp. among examined fish was 39 and 14.5 %, respectively. The current study revealed a variable prevalence of different zoonotic parasites in different species of examined fish, which represents a potential risk to public health if consumed raw or improperly cooked.

Keywords: Fish, Encysted metacercariae, *Ichanthocephala*, *Capillaria*, *Cryptosporidiu*

**Biological Pollution****(FOOT AND MOUTH DISEASE)**

|          |   |
|----------|---|
| NO       | : 42  |
| TITLE    | : ASSESSMENT AND TOPICAL TREATMENT OF LESIONS OF FOOT AND MOUTH DISEASE IN CATTLE   |
| AUTHORS  | : N.A. MISK *; T.N. MISK** and H.Z. RATEB ***   |
| ADDRESS  | : * Department of Veterinary surgery, Anaesthesiology and radiology. Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt. - **Department of Veterinary surgery, Anaesthesiology and radiology. Faculty of Veterinary Medicine, Sadat City University, EI-Menofia, Egypt. - ***Department of Veterinary Medicine. Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 145 April 2015  |

**ABSTRACT**

The present study was carried out on a total number of 1106 cattle (females = 935 and males = 171) of an age varied between one year and eleven years. Animals were presented to the clinic within a range of 10 days of infection with different lesions of FMD outbreak occurred at April 2012 at Beni-Suef province, Egypt. The aim of the present study is to describe different lesions of foot and mouth disease (FMD) in cattle. The location and frequency of occurrence of lesions were recorded. Topical and systemic treatment was discussed as an alternative policy for control of FMD lesions in endemic countries. The main lesions of the affected cases were recorded in the dental bad (1053), tongue (1020), and inner aspect of the lower lip (713). A moderate number of lesions were recorded on the gum of lower jaw (318), coronary band and interdigital space (518) and teats (303). Lesions were seen in small number of cases on the muzzle (104), nostrils (17), and hard palate (15). Recovery of all lesions was obtained within 3-10 days with variable degree of scar tissue formation. Slight teat dysfunction and mastitis was supervening in 33 cases. Slight degree of lameness due to thimbling of the claws was recorded in 220 animals. Early management of FMD lesions decreases the economic losses and speeds returning of the animal to normal condition.

**Biological Pollution****(FUSARIUM SOLANI)**

|          |   |
|----------|---|
| NO       | : 43  |
| TITLE    | : FUSARIUM SOLANI INFECTION OF RED SWAMP CRAYFISH (PROCAMBARUS CLARKII)   |
| AUTHORS  | : MAHMOUD MOSTAFA MAHMOUD   |
| ADDRESS  | : Aquatic Animals Medicine and Management, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 161 April 2019, 1-11  |

**ABSTRACT**

In river Nile and its branches, numerous individuals of red swamp crayfish, *Procambarus clarkii*, displayed melanised areas in gills. To clarify the cause of these lesions, several isolates of *Fusarium* spp. were recovered. The fungi were first identified morphologically on culture media. Subsequently, molecular identification was carried out based on the internal transcribed spacer (ITS) region and beta-tubulin gene (TUB2) sequences. Based on GenBank database searches, the causative agent was identified as *Fusarium solani*. To fulfill Koch's postulates, an experimental infection was induced using a representative isolate (ESHA-1). The challenged crayfish showed similar lesions noticed on naturally-infected ones, and the pathogen was re-isolated from the lesions of the infected individuals. Zinc oxide nanoparticles (ZnO NPs) exhibited a significant reduction in fungal growth. To our knowledge, this is the first record of *Fusarium solani* infection in red swamp crayfish inhabiting the River Nile.

Key words: *Fusarium solani*, *Procambarus clarkii*, ITS, TUB2, challenge, ZnO NPs



**Biological Pollution** □**(GOAT)**

|          |   |
|----------|---|
| NO       | : 44  |
| TITLE    | : A PRELIMINARY SURVEY OF STAPHYLOCOCCUS AUREUS INFECTION IN GOATS WITH MASTITIS IN “NOUQRA” VALLEY OF ASWAN GOVERNORATE, SOUTH EGYPT                                       |
| AUTHORS  | : A.M.A. ZAITOUN 1; A.E.A. ABD-EL-WAHED 2; ALSAGHER O. ALI 2 and WALAA HUSSIEN 3  |
| ADDRESS  | : 1 Infectious Diseases, Dept. Animal Medicine, Assiut Univ., Egypt<br>2 Dept. Animal Med., South Valley Univ., Egypt<br>3 Vet. Directorate, Edfo, Aswan Governorate, Egypt |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 160 January 2019, 16-24   |

**ABSTRACT**

Prevalence of mastitis in goats located in Nouqra valley, Aswan Governorate, by indirect method (California Mastitis Test) in paralleling with culturing and molecular (PCR) procedures for detection of Staphylococcus aureus as a major mastitis pathogen. A total of 148 raw milk samples were subsequently collected from apparently healthy native breed goats, with different age and parity, and subjected to California Mastitis Test. By CMT, our results indicated that 117 (79.05 %) of the tested—samples were positive. Culturally using Baired Parker media, pure strains of Staphylococcus aureus was isolated from CMT—positive samples with a percentage of 1.35% and 77.7% of the samples showed fair growth, which classified as other non-aureus staphylococci. Coagulase test revealed 7 (4.7%) samples were positive and 141 (95.3%) were negative. These isolates were molecularly tested using 16s Rrna (Staphylococcus genus specific), nuc gene (S.aureus species specific) and mecA gene (methicillin resistance gene) by Multiplex PCR Technique. Their results indicated that 87.5% were positive for 16s Rrna, 25% were positive for nuc gene, 75% were positive for mec A gene and 12.5% were negative. The in-vitro antibiotic sensitivity testing revealed that the resistant percentages to penicillin were surprise (100% resistance). Amoxicillin, cefaclore, colistin, oxolinic acid, neomycin, erythromycin, and lincomycin were also examined with various resistant results. Approx. 85 % (85.71%) of the tested strains were Ciprofloxacin—sensitive.

Key words: Preliminary survey, Staph aureus, antibiotic resistance, mecA, Nuc genes, mastitis

**Biological Pollution****(GOLDFISH)**

|          |   |
|----------|---|
| NO       | : 45  |
| TITLE    | : IN-VIVO REPLICATION OF CYPRINID HERPESVIRUS-3 IN GOLDFISH   |
| AUTHORS  | : HATEM SOLIMAN   |
| ADDRESS  | : Department of Aquatic Animals Medicine and Management, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 162 July 2019, 1-6  |

**ABSTRACT**

Cyprinid herpes virus-3 (CyHV-3) is the causative agent of the lethal, highly contagious and notifiable koi herpesvirus disease (KHVD) in common carp and koi. Since its first identification, outbreaks of KHVD have occurred worldwide with significant economic losses in common carp and ornamental koi aquaculture industries. In the present study, experimental infection of goldfish by immersion rout was established. Apparently healthy common carp and goldfish were exposed to various concentrations of the CyHV-3 and monitored for mortality and development of clinical signs. CyHV-3 DNA was detected in the tissues of the challenged goldfish and common carp, which confirm the suitability of the immersion route to be used for infection of goldfish with CyHV-3. In addition, CyHV-3 terminase gene was amplified from the RNA extracted from the goldfish gill tissues at two- and eight-days post exposure to CyHV-3. The primer set used for amplification of this gene is specific for RT-PCR and did not amplify this gene from DNA. Results of this investigation confirm the replication of CyHV-3 in the goldfish tissues, which act as a true carrier not a vector or fomites and establish the experimental infection of goldfish with CyHV-3 by immersion route.

Keywords: CyHV-3, KHV, Koi, Carp, virus replication

**BIOLOGICAL POLLUTION****(HENS)**

|          |   |
|----------|---|
| NO       | : 46  |
| TITLE    | : SEROTAYPING AND SENSITIVITY TESTS OF PATHOGENIC ESCHERICHIA COLI ISOLATED FROM SALPINGITIS IN COMMERCIAL LAYING HENS. |
| AUTHORS  | : HASSAN H.KH.; AML A.M. BAKHEET and NAGLAA M. ALI  |
| ADDRESS  | : Dept. of Poultry Diseases, Animal Health Research Institute, Assiut Egypt.<br>Email: hassankhalil22@yahoo.com         |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 144 January 2015  |

**ABSTRACT**

Reproductive system disorders of laying hens have been gaining increasing attention due to immense economic losses that are being inflicted by these conditions on the growing poultry industry. Salpingitis is considered as an important one of these disorders. In order to determine the incidence of salpingitis in laying hens, 1050 recently dead laying hens from commercial laying farm in Assiut province were necropsied. Among these hens, 120 (11.43%) cases showed lesions of salpingitis. Bacterial examination detected 103(85.8%) bacterial cultures from 120 suspected cases of salpingitis that yielded *E. coli* in 46 (38.3%), *Enterobacter* spp in 31 (25.9%), *Klebsiella* spp in 11 (9.1%), *Citrobacter* spp in 8 (6.7%) of these cases and mixed bacteria in 7 (5.8%) cases. No bacteria were isolated from 17 (14.2%) of the suspected cases and also from normal oviducts of healthy hens. The forty-six *E. coli* isolates were serotyped and examined for susceptibility to 13 antimicrobials. O-serogroup determination test showed that the isolates belonged to nine different O serogroups including: O111, O26, O125, O55, O114, O127, O86, O124 and O142 serogroups. The most prevalent serogroups were O111, O26, O125, O55 respectively. However the maximum antimicrobial resistance of the tested *E. coli* isolates was demonstrated to sulfamethoxazol (100%), followed by amoxicillin (97.8%), erythromycin and oxytetracycline (89.1% for each), neomycin (87%), ampicillin (80.4%), kanamycin (67.4%) and streptomycin (60.9%), the minimal resistance was against gentamycin (2.2%) then ciprofloxacin (6.5%), norfloxacin (10.9%), nalidixic acid and lincospectin (23.9% for each). Multiple antimicrobial-resistant phenotypes (to 3 or more) were observed in 41/46 (89.1%) of *E. coli* isolates and one isolate was resistant to all tested drugs. The obtained results were recorded and compared with other workers results.

**Biological Pollution****( HEN'S EGGS )**

|          |   |
|----------|---|
| NO       | : 47  |
| TITLE    | : OCCURRENCE OF HELICOBACTER SPECIES WITH SPECIAL PRIORITY TO H. PYLORI IN HEN'S EGGS   |
| AUTHORS  | : MARWA EZZAT ABDEL GAID KHOLEAF1, MOSTAFA KHALIL MOSTAFA2,<br>NAGAH MOHAMMED SAAD2 and MARWA MOHAMMED NABIL HASSAN1  |
| ADDRESS  | : 1 Department of Food Hygiene, Animal Health Research Institute, Assiut Lab.<br>2 Department of Food Hygiene, Faculty of Vet. Med., Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. .Vol. 64 No. 158 July 2018, 31-39  |

**ABSTRACT**

A total of 300 random eggs, representing 60 samples, (30 from baladi hens, and 30 from poultry farms) were collected from different markets, poultry farms, groceries and supermarkets located in Assuit governorate, Egypt. Each egg sample composed of 5 eggs and these samples were examined for the incidence of Helicobacter species using Helicobacter pylori special peptone agar (HPSPA). The results revealed that the incidence of Helicobacter species from examined baladi hen's egg shells was 10 (33.33%), poultry farms hen's egg shells was 9 (30%) and 1(3.33%) from examined baladi hen's egg content samples. H. pylori was isolated in a percentage of 5 (16.67%) from examined baladi hen's egg shells while from poultry farms hen's egg shells was 4 (13.33%). In addition, other Helicobacter species were isolated from the examined samples as H. cinaedi in a percentage of (6.67%) from examined baladi hen's egg shells and (10%) from examined poultry farms hen's egg shells. H. felis was isolated in a percentage of (6.67%) from both examined baladi and poultry farms hen's egg shells samples and H. pullorum was isolated in a percentage of (3.33%) from examined baladi hen's egg shells. Also, it was isolated from examined baladi hen's egg contents in a percentage of (3.33%). Identification of ureC gene for H. pylori isolated from both baladi hen's egg shells and poultry farms hen's egg shells by using polymerase chain reaction (PCR) revealed that 8 from 9 samples were positive for H. pylori by using (PCR) in a percentage of (88.89%).

Key words: Helicobacter, H. Pylori, Hen's Eggs

**BIOLOGICAL POLLUTION****( HORSES )**

|          |   |
|----------|---|
| NO       | : 48  |
| TITLE    | : PREVALENCE OF GASTROINTESTINAL PARASITES IN HORSES IN LUXOR, EGYPT  |
| AUTHORS  | : LAMIAA M. ABD EL-RADY 1; AHMED K. DYAB 2; SALWA MAHMOUD ABD-ELRAHMAN 3 AND SARA A. MOHAMED 3  |
| ADDRESS  | : 1 Private Veterinary Clinic, , Assiut , Egypt<br>2 Department of Medical Parasitology, Faculty of Medicine, Assiut University, Egypt - 3 Department of Parasitology, Faculty of Veterinary Medicine Assiut University |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 171 October 2021, 12-20   |

**ABSTRACT**

Gastrointestinal parasites have a direct effect on the health of equines. This study was conducted to determine the prevalence and significance of gastrointestinal parasites of naturally infected horses in Luxor Governorate, Egypt. A total of 100 horse fecal samples were collected during the period from March - 2020 to February – 2021 from different ages, sexes and stables. All of these samples were examined by different fecal examination techniques including (direct wet mount, sedimentation and flotation techniques). The present study investigate that the total prevalence of infected horses was 15%. There is a relationship between the GIT infection and the age of the horse. The highest percent of infection was recorded by *Strongylus vulgaris* 9 % followed by *Parascaris equorum* 5%, while the percent of infection by *Balantidium coli* was 1% in infected horses. It consequence that horses are highly susceptible to *Strongylus* irrespective of gender and age or even deworming. Control measures should be put in consideration to totally overcome the parasitic infection.

Keywords: Gastrointestinal parasites, *Parascaris equorum*, *Strongylus vulgaris*, *Balantidium coli*.

## Biological Pollution

## ( ICE CREAM )

|          |   |  |
|----------|---|--|
| NO       | : | 49   |
| TITLE    | : | INCIDENCE OF ICE CREAM CONTAMINATION WITH COLIFORMS AND FECAL COLIFORMS IN ASSIUT CITY |
| AUTHORS  | : | YASSER S. WAFY   |
| ADDRESS  | : | Fellow, Assiut University Hospitals  |
| BULLETIN | : | Assiut Vet. Med. J. Vol. 65 No. 163 October 2019, 1-9                                  |

## ABSTRACT

A total of 90 random samples of raw cow's milk used in small scale ice cream, small scale ice cream and large scale plain ice cream (30 samples each) collected from Assiut city, *Egypt*, in the period between from April and September 2019. Each sample was put in ice tank with thermometer to maintain temp. at 4C. The samples were dispatched to the laboratory with a minimum of delay where they were examined for *coliforms*, *fecal coliforms* and *E.coli* true faecal type. The results show that *the mean counts of total coliforms in raw cow's milk, small scale and large scale plain ice cream were*  $2.4 \times 10^3$ ,  $2.8 \times 10^2$  and  $1.56 \times 10^2$  cfu/ml or g., respectively. *While the mean counts of fecal coliforms were*  $2.1 \times 10^3$ ,  $1.9 \times 10^2$  and  $1.32 \times 10^2$  cfu/ml or g., respectively and *the mean counts of E.coli true faecal type count cfu/ml or g. were*  $2.5 \times 10^2$ ,  $3.3 \times 10^2$  and  $1.12 \times 10^2$  cfu/ml or g., respectively. The health hazards of *coliforms*, *fecal coliforms* and *E.coli* true faecal type, methods of contamination and control were discussed.

Key words: raw milk, coliforms, fecal coliforms, E.coli, ice cream.

**BIOLOGICAL POLLUTION****( LAYER )**

|          |   |
|----------|---|
| NO       | : 50  |
| TITLE    | : DETECTION AND PATHOGENICITY OF PASTEURELLA MULTOCIDA ISOLATED FROM LAYER FARMS IN EGYPT   |
| AUTHORS  | : MOHAMED SAAD ABOOD <sup>1</sup> ; AWAD ABD EL HAFEZ IBRAHIM <sup>2</sup><br>AHMED KHALAF ABD EL HAMID <sup>3</sup> AND<br>MARWA MOHAMED SAFWAT MOHAMED <sup>4</sup> |
| ADDRESS  | : 1,2,3,4 Poultry Diseases Department Faculty of Veterinary Medicine<br>Assiut University   |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 171 October 2021, 174-181   |

**ABSTRACT**

In this study 300 samples were taken from different layer farms in Egypt (El-Sharqia, Elmina, Assiut and Sohag) showing remarkable signs for fowl cholera and examined for detection of *P. multocida*. Isolation of *P. multocida* was from liver, lung and trachea. The targeted bacteria were isolated, identified and molecularly characterized. *P. multocida* were recovered from 8 cases (2.6%) and confirmed using phenotypic characterization. By multiplex PCR assay which considered a rapid diagnostic method for fowl Cholera confirmatory recognition regardless to serotypes, isolates were *P. multocida* serotype (A) at expected size; 1044 bp. Antimicrobial susceptibility test used to determine the minimal inhibitory concentration to all isolates resulted in high susceptibility to amoxicillin and doxycycline and with variable pattern of sensitivity to the other antibiotic. Studying pathogenicity of *P. multocida* capsular type A was carried out in Ross broiler chickens aged 21 days old through oropharyngeal inoculation (0.5 ml) brain heart infusion broth containing  $2.93 \times 10^8$  CFU. Characteristic mild respiratory signs were observed within 48 h and persisted for 9 day with 8% mortality. Mild septicemic lesions comprising of white necrotic foci and pinpoint hemorrhages in the coronary fat of the heart, liver and sever inflammation in pancreas were observed. This study has documented the incidence of fowl cholera in broiler chickens to some extent mild to moderate degree of the disease.

Key words: *Pasteurella maltocida*, Multiplex PCR, Pathogenicity, Broiler chickens.

**Biological Pollution****( LISTERIA MONOCYTOGENES )**

|          |   |
|----------|---|
| NO       | : 51  |
| TITLE    | : LABEL-FREE DETECTION OF LISTERIA MONOCYTOGENES USING LIGHT-SCATTERING SENSOR  |
| AUTHORS  | : MAHA ABDELHASEIB*; TALAAT ELKHATEIB* and ARUN K BHUNIA**  |
| ADDRESS  | : *Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University.<br>**Dept. of Food Science, Purdue University, West Lafayette, IN, USA. |
| BULLETIN | : 17 Sci. Cong. 2016, Fac. Vet. Med., Assiut Univ., Egypt   |

**ABSTRACT**

Technologies for rapid detection and classification of bacterial pathogens are crucial for securing the food supply. This study describes a light-scattering sensor capable of real-time detection and identification of colonies of *L. monocytogenes* without the need for a labeling reagent or biochemical processing. Bacterial colonies consisting of the progeny of a single parent cell scatter light at 635 nm to produce unique forward-scatter signatures. In this study the ability of 4 selective and non selective agar medium to identify and differentiate pathogenic *L. monocytogenes* from both non pathogenic *Listeria* spp. and non *Listeria* were tested. The results showed that, BHI agar non selective medium showing the best differentiation. Unlike other methods, light-scattering sensor does not destroy the sample, but leaves it intact for other confirmatory testing, if needed.



**Biological Pollution****(MAYONNAISE)**

|          |   |
|----------|---|
| NO       | : 52  |
| TITLE    | : MOLECULAR CHARACTERIZATION OF SOME PATHOGENIC BACTERIA ISOLATED FROM MAYONNAISE   |
| AUTHORS  | : MARWA M.N. EL-GENDI and MANAL M. AMIN   |
| ADDRESS  | : Animal Health Research Institute (Assiut Provincial Lab.) Food Hygiene Department |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 161 April 2019, 1-11                                |

**ABSTRACT**

The purpose of this study was to determine the molecular characterization of some pathogenic bacteria isolated from commercial and small producers mayonnaise sold in restaurants and supermarkets in Assiut governorate. In the present study, the samples were analyzed for the presence of Salmonella spp., listeria spp. and staphylococcus aureus and according to microbiological analysis, Salmonella spp., listeria monocytogenes and staph. aureus were detected in 3 of 40 (7.5%), 3 of 40 (7.5%) and 7 of 40 (17.5%) of examined samples of small producers mayonnaise, respectively. The examined samples of commercial mayonnaise were free from salmonella spp. and listeria spp. but staph. aureus could be detected in 2 samples in a percentage of 5%. The presumptive isolates were further confirmed by PCR using specific primers of Salmonella invA isolates, L. monocytogenes 16S rRNA gene and Staph. aureus clfA gene and serotyping of Salmonella. These results indicated that small producers mayonnaise samples may contain pathogenic bacteria and thereby represent a risk to the consumers in regard to foodborne diseases. Thus, it is essential to include the effective hygiene practices as an important safety measure in the production of small producers mayonnaise. Bacterial loads were detected in mayonnaise including hazardous bacteria in spite of a high acidity of the product. This high light the importance of improving production situations and hygienic status in ready to eat foods establishments.

Key words: Mayonnaise, Molecular characterization

**Biological Pollution****( MILK )**

|          |   |
|----------|---|
| NO       | : 53  |
| TITLE    | : MOLECULAR DETECTION OF TOXOPLASMA GONDII DNA IN RAW GOAT AND SHEEP MILK WITH DISCUSSION OF ITS PUBLIC HEALTH IMPORTANCE IN ASSIUT GOVERNORATE   |
| AUTHORS  | : O.A. SADEK*; ZEINAB M. ABDEL-HAMEED* and HUDA M. KURAA**  |
| ADDRESS  | : * Animal Health Research Institute, Assiut Provincial Lab, Food Hygiene Department<br>** Animal Health Research Institute, Assiut Provincial Lab, Parasitology Department<br>Email: Onsi_2000@yahoo.com ; Zenb@dr.com;<br>Huda5380@yahoo.com Assiut University Email:<br>www.aun.edu.eg |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 145 April 2015  |

**ABSTRACT**

This study was carried out to investigate the incidence of *Toxoplasma gondii* in 105 sheep and goat raw milk samples in Assiut, Egypt. Milk samples were tested by microscopic examination, Latex agglutination test and 50 samples were tested with PCR assay. The incidence of *Toxoplasma gondii* in sheep and goat milk samples was 10.48% (11/105) by microscopic examination, 39% (41/105) by Latex agglutination test and 16% (8/50) by PCR assay. High significant differences were recorded in incidence of *Toxoplasma* in raw sheep milk in 8.62% (5/58) by microscopical examination, in 39.66% (23/58) by latex agglutination test and detection of B1 gene of *Toxoplasma gondii* in 10.71% (3/28) by PCR assay. While, significance differences were found in incidence of *Toxoplasma* in raw goat milk in 12.77% (6/47) by microscopical examination, in 38.30% (18/47) by Latex agglutination test in addition to detection of B1 gene of *Toxoplasma gondii* in 22.73% (5/22) by PCR assay. The results showed that sheep and goats were excreting *Toxoplasma gondii* DNA in their milk. The results of this study revealed that Latex agglutination test and PCR assay could become useful tools to diagnose the incidence of *Toxoplasma gondii* in sheep and goat milk samples. This study is the first report of direct detection of *Toxoplasma gondii* in sheep and goat milk samples in Assiut Governorate, Egypt. Control measures and public health importance were also discussed in this study.

**Biological Pollution****( MILK )**

|          |   |
|----------|---|
| NO       | : 54  |
| TITLE    | : MOLECULAR DETECTION OF COXIELLA BURNETII IN RAW COW'S MILK  |
| AUTHORS  | : A.M. Koriem*; M.F. Hussien**; N.H. Makar* and O.A. Sadek**  |
| ADDRESS  | : * Department of Bacteriology, Animal Health Research Institute, Assiut Provincial Lab.<br>** Department of Food Hygiene, Animal Health Research Institute, Assiut Provincial Lab.<br>Email: Ayman_koriem@yahoo.com - Assiut University web-site: www.aun.edu.eg |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 145 April 2015  |

**ABSTRACT**

This study aimed to detect Coxiella burnetii in raw cow's milk by using Polymerase Chain Reaction (PCR). A total of 50 raw milk samples collected from dairy farms were tested. The obtained result showed that, 7 (14%) of the tested samples were positive for Coxiella burnetii. The public heath importance of the disease and control measures was also discussed in this study.

**Biological Pollution****(Milk)**

|          |   |
|----------|---|
| NO       | : 55  |
| TITLE    | : DETECTION OF AEROMONAS HYDROPHILA IN RAW MILK AND SOME MILK PRODUCTS WITH REFERENCE TO ITS PUBLIC HEALTH HAZARD                                       |
| AUTHORS  | : O.A. SADEK*, N.H. MAKAR** and S.M. EL BERBAWY**   |
| ADDRESS  | : * Food Hygiene Department, Animal Health Research Institute, Assiut Lab.<br>** Bacteriology Department, Animal Health Research Institute, Assiut Lab. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 153 April 2017, 43-53   |

**ABSTRACT**

This study aimed to determine *Aeromonas* spp. in raw milk and some milk products. A total of 100 raw milk, kareish cheese, ice cream and baladi yoghurt (25 samples, each) were collected from different dairy shops and street peddlers in Assiut city, Egypt and were bacteriologically examined for presence and count of *Aeromonas* spp. The incidences of counted *Aeromonas* spp. in raw milk, kareish cheese, ice cream and baladi yoghurt were 36, 32, 24 and 0.0%, respectively, with average counts of  $1.0 \times 10^5$ ,  $3.2 \times 10^4$ ,  $5.0 \times 10^2$  and  $< 100$  cfu/ml, respectively. The incidences of counted *Aeromonas hydrophila*, in raw milk, kareish cheese and ice cream were 16, 12 and 8%, while for *Aeromonas caviae*, the incidences were 12, 16 and 12%, respectively. Moreover, the incidences of counted *Aeromonas sobria* in raw milk, kareish cheese and ice cream were 8, 4 and 4%, respectively. Baladi yoghurt samples were negative for *Aeromonas* spp. in this study. All the recovered *Aeromonas hydrophila* organisms were confirmed by PCR assay for the presence of 16S rRNA gene and 100% of the tested strains harboured this gene. The *aerA* and *ahh1* virulence genes were present in *Aeromonas hydrophila* in percentages of 66.67 and 77.78%, respectively. All the recovered *Aeromonas hydrophila*, *Aeromonas caviae* and *Aeromonas sobria* strains, in this study, exhibited 100% virulence properties on bases of proteolytic, lioplytic, psychrotrophic and  $\beta$ -haemolytic activities. The recovered *Aeromonas hydrophila*, *Aeromonas caviae* and *Aeromonas sobria* exhibited 100% resistance towards Ampicillin, Amoxicillin and Erythromycin antibiotics, while, they exhibited 100% sensitivity towards Ciprofloxacin. The public health hazards of occurrence of *Aeromonas* spp. in milk and its products as well as the suggestive control measures were discussed.

**Biological Pollution****( MILK)**

|          |  |
|----------|--|
| NO       | : 56   |
| TITLE    | : DETECTION OF ACINETOBACTER SPECIES IN MILK AND SOME DAIRY PRODUCTS   |
| AUTHORS  | : SAAD, N.M*; AMIN, W.F. * and MOSTAFA, S.M**  |
| ADDRESS  | : * Department of Food Hygiene, Faculty of Vet. Med., Assiut University<br>** Department of Food Hygiene, Animal Health Institute, Assiut.<br>Corresponding author: wallaa_800@yahoo.com |
| BULLETIN | : Assiut Vet. Med. J. Vol. 64 No. 156 January 2018, 34-40  |

**ABSTRACT**

Two hundred and forty random samples of milk and some dairy products; Domiati, Kareish cheese and cream were collected from Assiut city, Egypt. The collected samples were examined for the incidence of Acinetobacter species using Leeds Acinetobacter selective medium. The obtained results revealed that Acinetobacter species was isolated from 15% of the raw milk samples, 3.3% of the Domiati cheese samples, 13.3% of the Kareish cheese samples and 13.3% of the cream samples, while couldn't be detected in the pasteurized milk samples. The isolated species were Acinetobacter baumannii, Acinetobacter haemolyticus, Acinetobacter calcoaceticus and Acinetobacter junii. Acinetobacter baumannii was detected using blaOXA-23-like, blaOXA-51-like, and class 1 integrase genes. The characterization of the Acinetobacter species for the production of lipolytic enzyme was studied. Out of the 27 isolated Acinetobacter species, 23 possessed lipolytic activity. The public health hazard of this microorganism in milk and some dairy products was discussed.

**Biological Pollution****(MILK)**

|          |   |
|----------|---|
| NO       | : 57  |
| TITLE    | : DETECTION OF SUBCLINICAL MASTITIS IN MILK OF DAIRY COWS IN SOHAG CITY, EGYPT  |
| AUTHORS  | : NESREEN BAKR 1; EMAN M. SHAKER 2 and MOHAMMED SAYED 3   |
| ADDRESS  | : 1 Maragha Veterinary Management, Sohag Directorate of Veterinary Medicine, Sohag, Egypt<br>2 Department of Food Hygiene, Faculty of Veterinary Medicine, Sohag University, Sohag, Egypt<br>3 Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 160 January 2019, 16-24   |

**ABSTRACT**

This study aimed to detect the incidence of subclinical mastitis (SCM) in the milk of dairy cows in Sohag city, Egypt. 100 quarter milk samples from all quarters of 25 dairy cows with apparently healthy udders were examined by strip cup test, California mastitis test (CMT), White side test (WST), chemical and bacteriological tests. From the obtained results, it was found that none of the strip cup test was positive, while CMT revealed 53% positive with various degrees, and the WST revealed 49% positive with various degrees. According the estimation of chloride % and lactose %, the Koestler number was revealed 33% mastitic, 25% suspected and calculated 42% normal samples. According the bacteriological examination, out of the 39 bacterial isolates from the examined milk samples, Staph. aureus, Strept. agalactiae and E. coli were estimated 64.10%, 28.21% and 7.69%, respectively.

Key words: Subclinical mastitis, CMT, WST, Koestler number

**Biological Pollution****(MILK)**

|          |  |
|----------|--|
| NO       | : 58   |
| TITLE    | : PHENOTYPIC AND GENOTYPIC CHARACTERIZATION OF METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) ISOLATED FROM BOVINE MASTITIC MILK   |
| AUTHORS  | : S.A. SOTOHY 1; E. A-S HASSAN 2; E. A-M. SHOSHA3 and D.A. ABD-ALLAH 3   |
| ADDRESS  | : 1 Department of Animal Hygiene, Faculty of Veterinary Medicine, New Valley University<br>2 Department of Microbiology and Immunology, Faculty of Medicine, Assiut University.<br>3 Department of Microbiology and Immunology, Faculty of Vet. Medicine, New Valley University. |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 160 January 2019, 16-24  |

**ABSTRACT**

Methicillin resistant *Staphylococcus aureus* (MRSA) is recognized worldwide as a pathogen causing many serious diseases in humans and animals. The aim of this study was to evaluate the presence of MRSA in milk of mastitic bovine. A total of 260 bovines (Cow = 150 and Buffalo =110) were screened for mastitis by California Mastitis test (CMT). The positive milk samples in CMT score 123 (47.3%) were screened for *Staphylococcus aureus*. These strains were examined morphologically by gram stain, cultured on (Blood agar, nutrient agar and mannitol salt agar) and insured by biochemical test (Catalase test and Coagulase test). Forty eight (39.02%) strains were found to be positive for *S.aureus* positive. Pathogenic property of *Staphylococcus* is mainly related to its ability to form the adherent biofilm on implanted medical devices. For qualitative detection of biofilm formation, *S.aureus* cultured on congo red agar, production of black colonies indicate positive results and Microtitre Plate (MTR) For quantitative detection of biofilm formation in *S.aureus*. All *S.aureus* isolates were exposed to an antibiotic sensitivity assay using 10 antimicrobial agents (Oxacillin, Ampicillin, Penicillin, Cefoperazon, Erythromycin, Clindamycin, Sulfamethazole/trimethoprim 1:19, Gentamycin, Ciprofloxacin, Cephalexin) according to the Clinical Laboratory standards Institute; CLSI; 2015 guidelines. About 48 (39.02%) *S.aureus* isolates were streaked onto ORSAB media and incubated for 24 h at 37°C. Eleven (18.96%) blue green colonies considered as positive MRSA colonies. Twenty one samples of MRSA isolates were evaluated for presence of *mecA* gene. The PCR data indicated that 12 (57.14%) of MRSA isolates were positive for *mecA* gene, whereas, 9 (42.58%) isolates were negative for *mecA* gene.

Key words: Phenotypic, Genotypic, mastitis, MRSA

**BIOLOGICAL POLLUTION****MILK**

|          |  |
|----------|--|
| NO       | : 59   |
| TITLE    | : OCCURRENCE OF SHIGELLA SPECIES IN RAW MILK AND KAREISH CHEESE WITH SPECIAL REFERENCE TO ITS VIRULENCE GENES  |
| AUTHORS  | : ZEINAB M. ABD-ELHAMED 1 AND MANAL HASSAN THABET 2  |
| ADDRESS  | : 1 Food Hygiene Dep. Agricultural Research Center, Animal Health Research Institute (Assiut Provincial Lab.)<br>2 Bacteriology Dep. Agricultural Research Center, Animal Health Research Institute (Assiut Provincial Lab.) |
| BULLETIN | : Assiut Vet. Med. J. Vol. 66 No. 165 April 2020, 44-54  |

**ABSTRACT**

A total number of 100 random samples of raw milk and kareish cheese (50 for each) were collected from Assiut city farms and dairy shops. Shigella species were isolated, confirmed biochemically and by using Polymerase Chain Reaction (PCR). Also two virulence genes; invasive gene (*invC*) and plasmid- encoded virulence gene (*ipaH*) were identified using PCR technique. 10 isolated strains of Shigella isolates (37%) from dairy milk samples and 13 isolates (43%) from kareish cheese were identified as following: *S. dysenteriae*, *S. flexneri*, *S. sonnei* and *S. boydii*. The two virulence genes; (*invC*) and (*ipaH*) were detected in only six and four strains of the identified Shigella species, respectively. Four of them had both the virulence genes (isolated from milk and cheese samples). Even though conventional culture is considered the gold standard for Shigella detection and the PCR method is a useful tool which complements detection of foodborne pathogens such as Shigella. Chitosan was evaluated in this study as antibacterial substance on the identified Shigella strains by inoculating it in pasteurized milk, using 3 different concentrations: 0.25, 0.5 and 1% of chitosan. Chitosan reduced the inoculated Shigella strain mean counts with highly significant effect ( $P < 0.01$ ) at the 6th day reached to  $2.10 \pm 0.17$ ,  $1.00 \pm 0.30$  and  $< 1$  log cfu /ml for 0.25, 0.5 and 1% chitosan concentrations, respectively; while at the 12th day we noticed that chitosan concentration of 0.5% only was highly significant ( $P < 0.05$ ). Generally, the 0.5% chitosan concentration showed the highly reduction effect on the count and survival of the Shigella strain involved.

Keywords: Shigella, chitosan, antibacterial activities.



**BIOLOGICAL POLLUTION****( MILK)**

|          |  |
|----------|--|
| NO       | : 60   |
| TITLE    | : QUALITY EVALUATION AND PUBLIC HEALTH IMPORTANCE OF PROCESSED CHICKEN MEAT PRODUCTS IN ASSIUT GOVERNORATE   |
| AUTHORS  | : MOHAMMED M. NABIL <sup>1</sup> ; HUSSEIN YOUSSEF <sup>1</sup> ; DOOA M. ABDELAZIZ <sup>1</sup> AND FATMA EL-ZAHRAA A. MUSTAFA <sup>2</sup>   |
| ADDRESS  | : 1 Department of Meat Hygiene and Control, Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, Egypt.<br>2 Department of Cell and Tissues, Faculty of Veterinary Medicine, Assiut University, Egypt. |
| BULLETIN | : Assiut Vet. Med.J.Vol. 69 No. 179 October2023,pp 36-24   |

**ABSTRACT**

The present study was conducted to determine the sensory quality, nutritive value and public health importance of processed chicken meat products including 25 samples from each chicken burger, chicken luncheon, crispy chicken pane and chicken strips. Samples were randomly collected from supermarket shops with different generic names in Assiut City, Egypt, and were transferred to the laboratory under refrigerated conditions in an ice tank where they were left in the refrigerator for 24 hrs before being prepared for chemical analysis. The results revealed that processed chicken meat product samples contained low levels of protein and high levels of fat and carbohydrates. The results were compared with the Egyptian standards (E.O.S 2005) to evaluate their acceptability. The mean percentage of moisture content (%) in the inspected samples was  $59.20 \pm 0.69$ ,  $66.8 \pm 0.86$ ,  $57.40 \pm 0.82$  and  $52.50 \pm 0.93$  and the mean values of protein content (%) were  $10.94 \pm 0.20$ ,  $10.42 \pm 0.17$ ,  $11.76 \pm 0.25$  and  $11.92 \pm 0.26$  respectively. The mean percentage of fat content (%) were  $11.90 \pm 0.31$ ,  $6.96 \pm 0.46$ ,  $10.48 \pm 0.35$ , and  $15.76 \pm 0.80$ , respectively; mean values of ash content (%) were  $5.08 \pm 0.25$ ,  $4.03 \pm 0.14$ ,  $3.64 \pm 0.19$  and  $6.60 \pm 0.27$ , respectively. and the mean values of carbohydrate content (%) were  $12.86 \pm 0.37$ ,  $11.76 \pm 0.45$ ,  $16.71 \pm 0.66$  and  $12.85 \pm 0.85$ , respectively. It is obvious that all the examined processed chicken meat products were accepted organoleptically. To guarantee adherence to legal and compositional criteria, strict monitoring and routine inspection of meat products should be carried out.

Keywords: Quality evaluation, chicken meat products, chicken, luncheon, chicken burger.

**BIOLOGICAL POLLUTION**

**( MILK )**

|          |  |
|----------|--|
| NO       | : 61   |
| TITLE    | : IDENTIFICATION OF CRONOBACTER SAKAZAKII ISOLATED FROM POWDERED INFANT FORMULA AND STOOL OF INFANTS   |
| AUTHORS  | : NORHAN W. RAGAB 1; SHEREEN M. ABDELAZIZ 2; SHEREEN M. GALAL 3; EHSAN ABDELSABOUR 2 AND RAWHIA F. ABDELHAMID 2  |
| ADDRESS  | : 1 MSc of Microbiology and Immunology, Faculty of Veterinary Medicine, Assiut University, 71526 Assiut- Egypt.<br>2 Department of Medical Microbiology and Immunology, Faculty of Medicine, Assiut University, 71526 Assiut- Egypt.<br>3 Department of Pediatrics, Faculty of Medicine, Assiut University, 71526 Assiut- Egypt. |
| BULLETIN | : Assiut Vet. Med.J.Vol. 69 No.179 October2023,pp 37-48  |

**ABSTRACT**

Cronobacter sakazakii is an emerging opportunistic pathogen contaminating powdered infant formulas causing lethal threats to neonates and immune-deficient infants. It causes life-threatening infections, septicemia, neonatal meningitis, and necrotizing enterocolitis. The aim of this study was to test the commercially available formulas that are intended for consumption by 0-6 months old infants (neonates and immune-compromised infants), for the presence of Cronobacter spp., and to determine the presence of C.sakazakii in the stool of these infants who consumed these formulas through conventional methods as culturing, biochemical tests and PCR. Fifty PIF samples (different brands) retailed in upper Egypt were collected from Assiut University Children Hospital at the Gastroenterology and Hepatology and Preterm Units, and we checked the presence of C.sakazakii in them. Fifty Stool samples were also collected from the infants who were fed the studied PIF samples, to study the presence of C.sakazakii in the stool of these infants. The samples underwent three steps of pre-enrichment, enrichment procedures, and subculture onto chromogenic Enterobacter sakazakii agar plates. Biochemical tests were afterwards carried out. Finally, molecular characterization using specific PCR was done to detect Cronobacter sakazakii, targeting the ESA\_02797 gene which is found in all C.sakazakii strains. The results of this study shed light on the immense need for applying effective prevention and control measures and taking all the precautions needed during the production and preparation of PIF to hinder its contamination with C.sakazakii and to prevent the spreading of such fatal infections to infants with low immunity and neonates.

Keywords: C.sakazakii, PIF, Percentage, Detection, PCR

**Biological Pollution****( MILK-BASED DESSERTS )**

|          |  |
|----------|--|
| NO       | : 62   |
| TITLE    | : OCCURRENCE OF BACILLUS CEREUS IN SOME MILK-BASED DESSERTS                    |
| AUTHORS  | : WALLAA F. AMIN   |
| ADDRESS  | : 1 Department of Food Hygiene, Faculty of Vet. Med., Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 64 No. 156 January 2018, 41-46                      |

**ABSTRACT**

A total of one hundred and fifty milk-based desserts samples including rice with milk, pudding, and custard (50 each) were collected from different localities in Assiut city, Egypt. The collected samples were examined for the isolation and enumeration of *Bacillus cereus*. The Most Probable Number technique was used for the enumeration of *Bacillus cereus* using tryptone soy polymyxin broth and Mannitol Egg Yolk Polymyxin (MYP) agar. The incidence of *Bacillus cereus* was 62%, 44% and 32% in the examined rice with milk, pudding, and custard samples, respectively. The *Bacillus cereus* count in most of the examined samples was in the range of 10- $<$ 102 CFU/g. The public health importance of *Bacillus cereus* was also discussed.

Key words: *Bacillus cereus*, rice with milk, pudding, custard.

**Biological Pollution****(MILK SHAKE)**

|          |   |
|----------|---|
| NO       | : 63  |
| TITLE    | : MICROBIOLOGICAL RISKS OF MILK SHAKE SOLD IN ASSIUT CITY RESTAURANTS   |
| AUTHORS  | : MARWA M.N. EL-GENDI and MARIUM F. MANSY   |
| ADDRESS  | : Animal Health Research Institute (Assiut Provincial Lab.) Food Hygiene Department and Microbiology Department |
| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 154 July 2017, 67-74  |

**ABSTRACT**

An increase in the consumption of milk shakes has been observed in recent years all over the world. In this work, the hygienic quality of chocolate and fruity milk shake was examined. This study was carried out to evaluate presence of E.coli, Enterococcus spp. and Staph. aureus in 50 samples of milk shake which were collected from different restaurants in Assiut city. The obtained results revealed that E.coli, Enterococcus spp. and S. aureus were isolated and confirmed by chemical tests in percentages of 16%, 24%; 20%, 44% and 12% and 24% of examined samples of chocolate and fruity milk shake, respectively. Concerning the mean values of total psychrotrophic count of chocolate milk shake and fruity milk shake were  $9.9 \times 10^3$  and  $1.2 \times 10^4$  CFU/g, respectively. Whereas, it was indicated that total yeasts and molds counts of the examined samples of chocolate milk shake and fruity milk shake were  $3.2 \times 10^2$  and  $2.1 \times 10^3$ , respectively. The obtained results revealed that the average counts of Enterococci were  $4.9 \times 10^3$  and  $1.1 \times 10^4$  CFU/g in the examined chocolate and fruity milk shake samples, respectively. In general the analysis indicates unsatisfactory quality of milk shakes and need to be microbiologically controlled by regulatory authorities and the public health significance of isolated strains as well as suggested control measures were discussed.

**BIOLOGICAL POLLUTION  
(MILK PRODUCTS )**

|          |   |
|----------|---|
| NO       | : 64  |
| TITLE    | : PREVALENCE OF ENTEROBACTER AEROGENES IN RAW MILK AND SOME MILK PRODUCTS   |
| AUTHORS  | : ENGY KAMIL NASSIF FARAG 1; ISMAIL SEDDIK MOHAMMED 2;<br>WEGDAN ABD EL.HAMED MOHAMED 3 AND<br>AMAL AHMED MAHMOUD ELKHAWAGA 4   |
| ADDRESS  | : 1 Bachelor’s Degree in Veterinary Medicine, Assiut University<br>2,3 Professor of Medical Microbiology and Immunology, Faculty of<br>Medicine, Assiut University<br>4 Assistant professor of Medical Microbiology and Immunology,<br>Faculty of Medicine, Assiut University |
| BULLETIN | : Assiut Vet. Med.J.Vol.69 No. 170 October2023,pp236-229  |

**ABSTRACT**

Introduction: Enterobacter aerogenes is known as Aerobacter aerogenes and belongs to the family Enterobacteriace. It normally habitats the intestine of the animals so it is widely found in soil, sewage and water. It causes a wide variety of health problems for humans and animals. Objective: The following study was to detect Enterobacter aerogenes in milk, yoghurt and ice cream to assess their hygienic quality. Methods: The number of samples was 300 as follows: raw milk samples, 100 yoghurt samples and 100 ice cream samples. Samples were collected in Assiut Governorate and examined for the presence of E. aerogenes. Results: E. aerogenes were found in 13% of raw milk samples, and 5% of examined yoghurt samples, while detected in 6% of examined ice cream samples. Conclusion: E. aerogenes in milk is an index of direct fecal contamination of milk and milk products which is considered a public health hazard. Consumers and emphasizes must improve their hygienic standards to avoid E. aerogenes.

**Biological Pollution****(MOZZARELLA CHEESE)**

|         |   |   |
|---------|---|---|
| NO      | : | 65  |
| TITLE   | : | MICROBIOLOGICAL EVALUATION OF MOZZARELLA CHEESE   |
| AUTHOR  | : | DINA. N. ALI and WALAA M.A. ELSHERIF  |
| S       | : |   |
| ADDRESS | : | Animal Health Research Institute, Assiut Regional Laboratory<br>Email: dinanour2010@yahoo.com |
| BULLETI | : | Assiut Vet. Med. J. Vol. 61 No. 144 January 2015  |
| N       | : |   |

**ABSTRACT**

Mozzarella cheese is a good source of nutrients namely protein, fat, minerals and vitamins. The study was performed to evaluate the microbiological quality of Mozzarella cheese and it's correlation with Egyptian and International standards. A total of 50 mozzarella cheese samples were collected from supermarkets in Assiut City, Egypt. All samples were investigated to determine the total aerobic plate, yeasts, molds and coliforms counts also, for detection of Staph. aureus, E. coli and Salmonella spp. In the examined samples the incidence of yeasts, molds and coliforms were 94, 32 and 96 %, respectively while, Staph. aureus, E. coli and Salmonella were detected in 24, 20 and 12% of the examined samples. The microbiological results in this study were compared with the limits of Egyptian Organization Standards and International Standards.

**Biological Pollution****(ORNAMENTAL FISH )**

|          |   |
|----------|---|
| NO       | : 66  |
| TITLE    | : CLINICAL AND EXPERIMENTAL STUDY ON VIBRIOSIS IN ORNAMENTAL FISH   |
| AUTHORS  | : AYA G. Saad El-Deen* and Ahmad A. Elkamel**   |
| ADDRESS  | : *Animal Health Research Institute, Assiut Laboratory.<br>**Fish Diseases and Management, Department of Animal Medicine,<br>Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 146 July 2015   |

**ABSTRACT**

The aim of this study was to investigate vibrio infections among some species of ornamental fishes in Assiut, Egypt. A total number of 100 ornamental fishes showing signs of septicaemia were collected from private ornamental fish shops in Assiut Governorate. Dropsy, exophthalmia, detachment scale, and haemorrhage on the body surface were the main clinical signs observed on the fish collected. According to conventional identification, 59 isolates suspected to be vibrio species were recovered from 40 fish. Cultural, morphological and biochemical characteristics of these isolates identified them as *V. vulnificus* (38.98 %), *V. parahaemolyticus* (28.8), *V. harveyi* (11.86%), *Vibrio alginolyticus* (5.08%), *V. mimicus* (5.08%), *V. ordalii* (6.78%). and *V. fisheri* (3.39%). A molecular typing system based on amplification of the intergenic spacer (IGS) region was used to confirm the identity of a *Vibrio vulnificus* isolate to investigate its pathogenicity in fantail fish through an experimental challenge. *Vibrio cholerae* is also molecularly identified and discussed but not isolated. The prominent signs seen on experimentally infected fish included hemorrhages in the peritoneum and visceral organs. The intestine were filled with bloody fluid, while gelatinous exudates were covering the gas bladder. The *V. vulnificus* strain used for experimental challenge was sensitive to Oxytetracyclin, Neomycin, and Erythromycin, but was resistant to Ampicillin and Tobramycin.

## BIOLOGICAL POLLUTION

## OREOCHROMIS NILOTICUS

NO : 67  
 TITLE : MOLECULAR DETECTION OF ENTEROTOXIGENIC GENES FOR STAPHYLOCOCCUS AUREUS ORGANISM ISOLATED FROM RAW MILK AND SOME MILK PRODUCTS  
 AUTHORS : SADEK, O.A. <sup>1</sup>AND KORIEM, A.M. <sup>2</sup>  
 ADDRESS : <sup>1</sup>Food Hygiene Department, Assiut Lab., Animal Health Research Institute, ARC, Egypt-  
<sup>2</sup>Bacteriology Department, Assiut Lab., Animal Health Research Institute, ARC, Egypt.  
 BULLETIN : Assiut Vet. Med. J. Vol. 66 No. 167 October 2020, 48-61

## ABSTRACT

This study aimed to determine *Staph. aureus* in raw milk and some milk products and study the correlation between *Staph. aureus* enterotoxin genes and its ability to resist different types of antibiotics. A total of 120 raw milk, kareish cheese and baladi yoghurt (40 samples, each) were collected from different dairy shops and street peddlers in Assiut city, Egypt and were bacteriologically examined for presence and count of *Staph. aureus*. The incidences of counted *Staph. aureus* in raw milk, kareish cheese and baladi yoghurt were 62.5, 27.5 and 0.0%, respectively, with average counts of 3.25 log, 4.13 log and < 1 log cfu/ml, respectively. All the isolated *Staph. aureus* strains were tested by Multiplex PCR assay for the presence of enterotoxigenic *sea*, *seb*, *sec* and *sed* genes and 94.44% of the tested strains harbored *sea* gene and 2.77% were positive for *sed* gene, while none of the tested strains was positive for *seb* and *sec* gene. The recovered organisms exhibited 52.78, 11.11, 77.78, 61.11, 11.11, 36.11, 63.89 and 16.67% resistance towards Oxacillin (Methicillin), Vancomycin, Amoxicillin, Ceftriaxone, Gentamicin, Tetracycline, Erythromycin, and Trimethoprim-Sulfamethoxazole, while, they exhibited 100% sensitivity towards Ciprofloxacin. The tested organisms showed multi-antibiotics resistance percentage of 55.56% and with average resistance index of 0.37. The correlation between *Staph. aureus* enterotoxin genes and its ability to resist different types of antibiotics revealed that, most of the enterotoxigenic strains were multi-antibiotics resistance and resist simultaneously to Amoxicillin, Ceftriaxone and Erythromycin. All the methicillin resistant *Staph. aureus* (MRSA) isolates harbored *sea* gene. The public health hazards of *Staph. aureus* in milk and its products as well as the suggestive control measures were discussed.

**Keywords** : *Staphylococcus aureus*, enterotoxigenic genes, raw milk, kareish cheese, yoghurt, PCR



## Biological Pollution

## (QUAILS )

NO : 68  
 TITLE : EPIDEMIOLOGICAL STUDY ON THE ROLE OF QUAILS IN TRANSMITTING OF TOXOPLASMA GONDII TO MAN  
 AUTHORS : DONIA TAHER \*; ASMAA HUSSEIN \*\*; SYLVIA OSAMA \*\*  
 ALSHIMAA HASSANIEN \*\*\* and SARY ABD-ELGAFFAR\*\*\*\*  
 ADDRESS : \* MVSC Zoonoses, Sohag Directorate of Veterinary Medicine, Egypt.  
 \*\* Department of Animal Hygiene and Zoonoses, Faculty of Vet. Med., Assiut University, Assiut, Egypt.  
 \*\*\* Zoonoses Department, Faculty of Veterinary Medicine, Sohag University, Sohag – Egypt.  
 \*\*\*\* Department of Pathology and Clinical Pathology Department, Faculty of Vet. Med., Assiut University, Assiut, Egypt.  
 BULLETIN : Assiut Vet. Med. J. Vol. 64 No. 156 January 2018, 1-7

## ABSTRACT

This study aimed to detect *Toxoplasma gondii* in quail samples collected from different houses in Sohag Governorate by histopathological examination and determine the seroprevalence of IgM and IgG in aborted women using ELISA test. The results revealed that 10% of quail samples were positive for *Toxoplasma gondii*, 48.9 % of aborted women were seropositive for IgM (5.4%), IgG (38%) and both IgM and IgG (5.4%). Higher infection rate was reported in age group ranging from 18 to 20 years, in women with first time of abortion and in women live in rural areas. This study highlights on the role of quail as a source of *Toxoplasma* infection for human.

**Biological Pollution****(Rabbit)**

|          |  |
|----------|--|
| NO       | : 69   |
| TITLE    | : PATHOLOGICAL AND PARASITOLOGICAL STUDIES ON SOME EIMERIA SPECIES IN RABBITS USING LIGHT AND ELECTRON MICROSCOPE  |
| AUTHORS  | : ABEER H.M. ELHENDY*; HUDA M. KURAA** and BASEM R. NAGEIB**   |
| ADDRESS  | : * Pathology Department, Animal Health Research Institute, Assiut Governorate, Egypt<br>** Parasitology Department, Animal Health Research Institute, Assiut Governorate, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 64 No. 157 April 2018, 81-93  |

**ABSTRACT**

The prevalence of *Eimeria* in 50 examined rabbits was 84% (42/50). The prevalence was 92.6% in male rabbits while it was 73.9% in female rabbits. According to age, the prevalence was determined 88% in rabbits less than 4 months of age while it was 80% in rabbits 4 months of age or more. No significant difference was recorded between rabbits in correlation to age and sex. Ten species of *Eimeria* infecting rabbits were isolated in Assiut by parasitological examination. The prevalence of *Eimeria* species were *E. perforans* (66.7%) followed by *E. exigua* (26.2%), *E. media* (26.2%), *E. magna* (21.4%), *E. intestinalis* (19%), *E. coecicola* (19%), *E. irresidua* (19%), *E. piriformis* (14.3%), *E. flavescens* (7.1%) and *E. stiedae* (7.1%). Single infection of *Eimeria* spp. was found in 23.8% of the infected rabbits, where as mixed infection involved two, three or four *Eimeria* spp. was observed in 76.2% of the infected rabbits. Clinical signs were depression, anorexia, diarrhea while postmortem examination revealed hepatomegaly with presence of separate yellowish-white nodules of varying sizes spread over the surface with distended gall bladder. The intestinal lesions revealed varying degree of congestion, thickening of intestinal wall. Histopathological examination of the liver revealed dilated bile ducts and formation of papilliform projections of epithelium containing different developmental stages of *Eimeria*, associated with degeneration and pathological changes in hepatic parenchyma. The intestinal coccidiosis revealed hyperplasia of the epithelial cells and presence of *Eimeria* oocytes and gametocytes within the epithelial cells of the villi associated with lymphocytic infiltration in the lamina propria of the villi. The transmission electron microscope showed asexual and sexual developmental stages of rabbit *Eimeria* including developing schizont and macrogametocyte.

Key words: Pathology, parasitology, light microscope, electron microscope, *Eimeria* species, rabbits.

**BIOLOGICAL POLLUTION****(RAW MILK )**

|          |   |
|----------|---|
| NO       | : 70  |
| TITLE    | : INCIDENCE OF TRUEPERELLA PYOGENES IN RAW MILK                   |
| AUTHORS  | : NAGAH M. SAAD; SAHAR MAHMOUD KAMAL AND AMIRA GAMAL ABO-SAGHER   |
| ADDRESS  | : Dept. of Food Hygiene, Faculty of Vet. Med., Assiut University. |
| BULLETIN | : Assiut Vet. Med.J.Vol.69 No.179 October2023,pp 133-123          |

**ABSTACT**

One hundred and eighty raw milk samples were collected randomly from dairy farms, farmers' houses and dairy shops in Assiut city. These samples represented by 60 milk samples from cows and buffaloes of dairy farms (30 for each) , 90 samples from farmers' houses including cows, buffaloes and sheep milk (30 for each) and 30 raw dairy shops' milk samples. The samples were examined for the incidence of T.pyogenes and prevalence of Subclinical Mastitis (SCM) in raw milk. The prevalence of SCM in milk samples of dairy farms were 90% for both cows and buffaloes' milk based on California Mastitis Test (CMT) and 50% and 46.7% in cows and buffaloes' milk based on White Side Test (WST), respectively. In the contrary, prevalence of SCM in farmers' houses milk samples based on CMT and WST were 53.3%, 73.3% &33.3% and 33.33%, 46.7% & 50% in cow, buffalo and sheep, respectively. The incidences of T.pyogenes in dairy farms milk samples were 60% in both cows and buffaloes' milk, while 63.33%, 60% and 36.67% in cows, buffaloes and sheeps' milk of farmers' houses, respectively. Additionally, the incidence of T.pyogenes in dairy shops' raw milk samples was 43.3%. PCR for 18 strains of T.pyogenes revealed that 15 strains gave positive results for pyolysin virulence gene. The public health hazards of the organism and the suggestive measures were also discussed.

Key words: T.pyogenes; Subclinical mastitis; California mastitis test; White side test

**BIOLOGICAL POLLUTION****(ROW MILK )**

|          |  |
|----------|--|
| NO       | : 71   |
| TITLE    | : SEASONAL MONITORING OF AFLATOXIN M1 IN ROW MILK SAMPLES AT SOHAG GOVERNORATE   |
| AUTHORS  | : RANA B. AHMED 1; AHMED A. SHARKAWY 2 AND EMAN E. ELSHARKWY 2   |
| ADDRESS  | : 1 M.V.Sc. Student Degree in Forensic Medicine and Toxicology, Faculty of Veterinary Medicine, Assiut University, Egypt<br>2 Department of Forensic Medicine and Toxicology, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 176 January 2023pp 97-88  |

**ABSTRACT**

This work monitored the aflatoxin M1 (AFM1) in raw buffalo milk trailed in Sohag city, Egypt in different seasons. Milk samples were obtained from March to October 2021. The enzyme-linked immunosorbent assay (ELISA) was used as a methodology technique. The results of AFM1 presented that the highest frequency of occurrence, with a detection incidence of 85.5 % in winter samples and 78.5% in summer samples. The positive samples showed range levels of AFM1 between 0.06 to 0.8 $\mu$ g/kg in winter samples and range of 0.0 to 0.9  $\mu$ g/kg in summer milk samples. The percentage of aflatoxin M1 samples exceeded the MRL of Egyptian Standard Regulation 2010/7136 last updated, are 78 and 100% in two examined seasons, respectively. The residue levels of AFM1 obtained in the investigated samples; represented a serious concern about the health risk of consumers. It is worthy to sit a regular schedule for monitoring and inspection of dairy products for aflatoxin residues.

Keywords: Aflatoxin M1, row buffalo milk, enzyme-linked immunosorbent

**Biological Pollution****(SAUSAGE)**

|          |  |
|----------|--|
| NO       | : 72   |
| TITLE    | : EFFECT OF LACTIC ACID PRODUCING BACTERIA ON SOME POTENTIAL PATHOGENS IN SAUSAGE      |
| AUTHORS  | : AZHAR MOHAMED HASAN AHMED* and LUBNA MOHAMED IBRAHIM ELWY*                           |
| ADDRESS  | : *Animal Health Research Institute Assiut laboratory<br>Email: aaa_mmm_1993@yahoo.com |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 144 January 2015                                     |

**ABSTRACT**

A total of 128 isolates of lactic acid bacteria (LAB) were isolated from hundred sausages samples collected from different supermarkets in Assiut City. The obtained isolates were identified bacteriologically as *Pediococcus cerevisiae* (35), *Enterococcus faecium* (25), *Lactobacillus brevis* (12), *Lactobacillus acidophilus* (12), *Lactobacillus bulgaricus* (12), *Lactobacillus fermenti* (12), *Streptococcus thermophilus* (10) *Lactococcus garvieae* (10). Then they were screened for antagonistic activity against *listeria monocytogenes*, *Staphylococcus aureus*, *Escherichia coli* and *Salmonella Typhimurium* using agar well diffusions method. All these isolates exhibited antibacterial activity against *L.monocytogenes* and *E.coli*, the most active strain against both pathogens was *Pediococcus cerevisiae*, whereas *Enterococcus faecium*, *Streptococcus thermophilus* and *Lactococcus garvieae*. were not active against, *Staphylococcus. aureus*, also *Lactobacillus brevis*, *Lactobacillus acidophilus*, *Lactobacillus fermenti* and *Lactococcus garvieae* were not active against *Salmonella Typhimurium*.

**Biological Pollution****(SHARPTOOTH CATFISH)**

|          |  |
|----------|--|
| NO       | : 73   |
| TITLE    | : CITROBACTER SEPTICEMIA IN SHARPTOOTH CATFISH, AN EMERGING INFECTION  |
| AUTHORS  | : KARIMA A. BAKRY1; WALAA F.A. EMEISH1 and AHMAD A. ELKAMEL  |
| ADDRESS  | : 1Fish Diseases and Management, Department of Fish Diseases, Faculty of Veterinary Medicine, South Valley University, Qena<br>2Department of Aquatic Animals Medicine and Management, Faculty of Veterinary Medicine, Assiut University |
| BULLETIN | : Assiut Vet. Med. J. Vol. 64 No. 156 January 2018, 178-183  |

**ABSTRACT**

Bacterial septicemia are responsible for severe losses in fish farms over the world. This study aimed to investigate the Enterobacteriaceae infections in sharptooth catfish *Clarias gariepinus*. A total of 120 catfish were collected from small canal in Farshout, Qena Governorate, and were subjected to clinical and bacteriological examination. Catfish sampled showed signs of typical hemorrhagic septicemia on the skin and internal organs. Bacteriological investigations resulted in isolation of 240 isolates that belong to Enterobacteriaceae. Interestingly, conventional biochemical identification showed that 16 isolates are suspected to be *Citrobacter* spp. Based on genetic sequence analysis of the 16S rDNA, only 8 (50%) of the suspected isolates were identified as *Citrobacter freundii*. To investigate the pathogenicity of isolated *C. freundii* strains to catfish, an experimental challenge experiment was conducted where challenged fish showed signs and lesions of acute septicemia. The current study is the first to report *Citrobacter* infections in catfish in Upper Egypt.

Key words: *Citrobacter freundii*, *Clarias gariepinus*, 16S rDNA sequence analysis, bacterial septicemia.

**Biological Pollution****(SHEEP)**

NO : 74  
TITLE : MICROSCOPICAL AND SEROLOGICAL STUDIES WITH ULTRASTRUCTURE DESCRIPTION OF SARCOCYSTIS SPECIES IN SHEEP IN ASSIUT  
AUTHORS : BASEM R. NAGEI and HUDA M. KURAA  
ADDRESS : Parasitology Department in Animal Health Research Institute, Assiut Governorate, Egypt  
BULLETIN : Assiut Vet. Med. J. Vol. 64 No. 157 April 2018, 46-55

**ABSTRACT**

This study was conducted to determine the infection rate of Sarcocystis species in sheep in Assiut. A total of 100 slaughtered sheep examined for Sarcocystis, no macroscopic cysts were observed, 93% (93/100) were positive by microscopical examination and 28% (28/100) were positive by using Agar gel diffusion test. The infection rate of Sarcocystis had very high significant differences between microscopic examination and Agar gel diffusion test. High statistical significant effect was found on the infection rate of Sarcocystis in different examined muscles of sheep. The highest infection rate was recorded in oesophagus (71%), followed by diaphragm (65%), tongue (58%), skeletal muscles (53%) and heart muscles (43%). The infection rate of Sarcocystis in males was 95.2% (40/42) while in females were 91.4% (53/58) by microscopical examination. Higher infection rate of Sarcocystis were detected in sheep 6 months - 2 years age 95% (38/40) than that of sheep between 2-4 years old 92.7% (38/41) and those equal or older than 4 years 89.5% (17/19). No significant difference between infection and age groups or sex of animals was observed. The use of transmission electron microscope (TEM) allowed the identification of *S. tenella* and *S. arieticanis* in sheep in Assiut. Examination of *S. tenella* cyst wall with TEM showed palisade-like villar protrusions while, examination of *S. arieticanis* cyst wall showed hair-like villar protrusions parallel to cyst wall.

Key words: Microscopical - serological -ultrastructure - Sarcocystis species - sheep – Assiut.

**BIOLOGICAL POLLUTION****SHEEP**

|          |  |
|----------|--|
| NO       | : 75   |
| TITLE    | : PREVALENCE OF HELMINTHES OF SHEEP IN ASSIUT GOVERNORATE, EGYPT   |
| AUTHORS  | : FATMA MOHAMED ABEL-AZIZ <sup>1</sup> ; AHMED KAMAL DYAB <sup>2</sup> ; FATHY AHMED OSMAN <sup>3</sup> AND SARA ABEL-AAL MOHAMED <sup>1</sup>   |
| ADDRESS  | : 1 Department of Parasitology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt.<br>2 Department of Parasitology, Faculty of Medicine, Assiut University, Assiut, Egypt.<br>3 Animal Health Research Institute, Agriculture Research Center (ARC) New Valley Lab. |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 177 July 2023pp 18-27   |

**ABSTRACT**

The prevalence of helminthes of sheep concerning age, sex, and seasonal variation (the cold and temperate seasons including all months of the year except July and August, were studied in Assiut Governorate, Egypt from February 2022 to January 2023. Fecal examination of 100 sheep revealed 47 (47%) were positive. Mixed infection with at least two species of helminth parasites was recorded. Five genera of helminthes were identified. Of them, three genera were nematodes, namely, Strongyle spp. (33%), Strongyloides papillosus (32%), and Trichuris ovis (5%); one genus was trematodes, namely, Paramphistomum cervi (7%); and one genus was cestodes, namely, Moniezia spp (2 %). The prevalence of helminthes was higher in young sheep aged < 2 years (60.4%) than in adults aged > 2 years (34.6%). Prevalence of helminthes in females was higher (47.1%) than in males (46.7%). Regarding seasonal variation, the prevalence of helminthes was significantly higher in the cold and temperate season (47%) than in the hot seasons (July and August) (0%). A higher prevalence of helminth infection during the cold and temperate season might be due to high humidity, which flourishes the development and growth of the larval stage and intermediate host in pasture, whereas in the hot season, dryness led to killing larval stage and intermediate host. We recommend increasing the prevention and treatment of parasitic infestation during cold and climate seasons by veterinarians to keep higher production of farm animals.

Keywords: Prevalence, Helminthes, Sheep, Assiut.



**BIOLOGICAL POLLUTION  
( SOFT CHEESE )**

|          |   |  |
|----------|---|--|
| NO       | : | 76   |
| TITLE    | : | MICROBIOLOGICAL EVALUATION OF LOCALLY MANUFACTURED SOFT CHEESE   |
| AUTHORS  | : | RASHA FAWZY EID 1; AHMED ABDEL-HAMEID AHMED 2; WALLAA FAROUK AMIN 2 AND MANAL MOHAMED AMIN 1   |
| ADDRESS  | : | 1 Department of Milk Hygiene, Animal Health Research Institute (AHRI), Assiut Branch, -Agriculture Research Center (ARC), Egypt.<br>2 Department of Milk Hygiene, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt |
| BULLETIN | : | Assiut Vet. Med. J. Vol. 68 No. 174 July 2022, 28-37   |

**ABSTRACT**

One hundred and fifty random samples of soft cheeses represented by Domiati, Kareish and Tallaga (50 samples each) were collected from different local retails, dairy shops and street vendors in Assiut city, Egypt, for microbiological evaluation. Aerobic bacteria were enumerated with average count values of  $4.2 \times 10^4$ ,  $2.6 \times 10^5$  and  $6.1 \times 10^4$  cfu/g in Domiati, Kareish and Tallaga cheese, respectively. Coliforms were detected with average count values of  $8.5 \times 10^2$ ,  $3.3 \times 10^3$  and  $2.0 \times 10^3$  cfu/g in Domiati, Kareish and Tallaga cheese, respectively. Fecal coliforms were detected with average count values of  $5.3 \times 10^2$ ,  $9.7 \times 10^2$  and  $8.4 \times 10^2$  cfu/g in Domiati, Kareish and Tallaga cheese, respectively. Isolation of *E. coli* in 32, 50 and 42 % samples that were examined with average count values of  $3.0 \times 10^2$ ,  $4.0 \times 10^2$  and  $4.4 \times 10^2$  cfu/g in Domiati, Kareish and Tallaga cheese, respectively. Isolation of *Staph. aureus* in 74, 72 and 64 % samples that were examined with average count values of  $1.8 \times 10^3$ ,  $1.7 \times 10^3$  and  $8.7 \times 10^2$  cfu/g in Domiati, Kareish and Tallaga cheese, respectively. Anaerobic bacteria were found in 46, 66 and 54% in Domiati, Kareish and Tallaga cheese samples, respectively. Yeasts and molds were present with average count values of  $2.3 \times 10^2$ ,  $5.4 \times 10^2$  and  $8.2 \times 10^2$  cfu/g and  $3.8 \times 10^2$ ,  $4.1 \times 10^2$  and  $3.9 \times 10^2$  cfu/g in Domiati, Kareish and Tallaga cheese, respectively. The results reflect the poor general hygiene conditions during production and storage which call for more restriction and preventive measures in milk herds, milk production and dairy factories in respect to quality control, sanitation and health care.

Keywords: Domiati cheese, Kareish cheese, Tallaga cheese, Aerobic bacteria, Coliforms, Fecal coliforms, *E. coli*, *Staph. Aureus*, Anaerobic bacteria, Yeasts, Molds.

**Biological Pollution****(SUBCLINICAL MASTITIS)**

|          |  |
|----------|--|
| NO       | : 77   |
| TITLE    | : BACTERIOLOGICAL, CYTOLOGICAL, AND HEMATOLOGICAL CHANGES ASSOCIATED THE OVINE SUBCLINICAL MASTITIS  |
| AUTHORS  | : KHALED A.S. EL-KHABAZ*; SAFAA S. MALEK* and HUSSEIN A. HUSSEIN**   |
| ADDRESS  | : *Department of Animal Medicine (Infectious Diseases) – Faculty of Vet. Med. – Assiut University.<br>** Department of Animal Medicine (Internal Vet. Medicine) - Faculty of Vet. Med. – Assiut University<br>Email: khaled.sayed@vet.au.edu.eg - Assiut University web-site: www.aun.edu.eg |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 145 April 2015   |

**ABSTRACT**

The problem of subclinical mastitis and the associated bacteriological, cytological, and hematological changes were studied in a sheep flock consists of 28 lactating ewes. 56 milk and 28 duplicate blood samples were collected. The milk samples were tested firstly by California mastitis test (CMT) and the animal prevalence rate was 85.7% (24/28) while the udder halves prevalence rate was 67.9% (38/56). By bacteriological examination, Coagulase Negative Staphylococci (CNS) were isolated from 37 samples (as a single pathogen from 33 samples and mixed with Staph aureus from 4 samples) with a prevalence rate 66.1%, while Staph aureus was isolated from 5 samples with a prevalence rate 8.9% (as a single pathogen from 1 sample and as mixed infection with CNS from 4 samples). The isolated bacteria were subjected to the antibiotic sensitivity test and it was found that all the CNS isolates were 100% sensitive to both Enrofloxacin and Gentamicin, while the Staph aureus isolates were sensitive to Enrofloxacin and Oxytetracycline. Somatic cell count (SCC) were estimated in these milk samples and 7 samples were found to have SCC in the range from 250x10<sup>3</sup>-500x10<sup>3</sup> cells/ml and the rest of samples contain SCC level above 500x10<sup>3</sup> cells/ml. The results of hematological and serum biochemical examinations revealed that there is no significant changes in the examined parameters between infected or control groups.

**Biological Pollution**

**(SUBCLINICAL MASTITIS)**

|          |   |
|----------|---|
| NO       | : 78  |
| TITLE    | : STUDIES ON THE BOVINE SUBCLINICAL MASTITIS CAUSED BY STREPTOCOCCUS DYSGALACTIAE AND ITS PUBLIC HEALTH IMPORTANCE                        |
| AUTHORS  | : GAADEE, H.I.M 1 and MANAL M AMIN 2  |
| ADDRESS  | : 1Animal Health Research Institute, Biochemical Unit, Assiut Branch.<br>2 Animal Health Research Institute, Food Hygiene, Assiut Branch. |
| BULLETIN | : Assiut Vet. Med. .Vol. 64 No. 159 October 2018, 33-38   |

**ABSTRACT**

The present study was conducted to investigate the effect of subclinical mastitis on clinic-pathological changes and public health importance in Mastitic cow. A total of 100 individual milk samples from clinically normal udder quarters of 100 dairy cow were collected and examined microbiologically as well as by using California Mastitis Test (CMT) for detection of subclinical mastitis and designing rapid diagnostic tests for other infection. The prevalence of Streptococcus species in the examined samples was (50%), where, 17% *S. agalctiae*, 10 % *S. dysgalactiae*, 10 %, *S. pyogenes*, 2%, *S. Salivaris*, 4%, *S. mitis*, 3% *S. equi*, 2% *S. mutans* and 2%, *S. angionosus*, respectively. Streptococcus *dysgalactiae* are Gram-positive bacterial pathogens that affect cows in dairy herds and considered as the major causes of economic losses of dairy producers without a control program, somatic cell count revealed highly significant increase in count  $\geq 145.000$  cell than normal cows  $< 100.000$ cells. Two types of blood samples were analyzed for hematology and biochemical analysis (total protein, inorganic phosphorous and calcium. Also LDH (Lactate dehydrogenase enzyme) was detected, where the results indicated that there is highly significant decrease in HB (Hemoglobin) concentration, significant decrease of PCV (packed cell volume) and RBCs (Red blood cells) and significant increase in WBCs (White blood cells) in hematological analysis, while biochemical analysis revealed that, highly significant increase in LDH activity while a notable decrease in total protein and serum calcium were observed. However; Serum phosphorous level did not exhibit obvious changes.

Key word: Subclinical mastitis, beef cow, Streptococcus. *dysgalactiae*, Hematobiochmical analysis

**Biological Pollution**

**(THEILERIOSIS)**

|          |  |
|----------|--|
| NO       | : 79   |
| TITLE    | : CLINICAL AND PATHOLOGICAL STUDY OF THEILERIOSIS IN CATTLE AND BUFFALOES IN AL-GHANIEM REGION, ASSIUT GOVERNORATE, UPPER-EGYPT  |
| AUTHORS  | : AHMED M.A. ZAITOUN 1; AHMED ABDEL-RADY 1; AMIRA ALHOUSARY 1 and MICHEAL R.A. MAXIMOUS 2  |
| ADDRESS  | : 1 Infectious Diseases, Dept. Animal Med., Faculty of Vet. Med. Assiut Univ.<br>2 Vet. Directorate of Assiut Governorate<br>This article is an abstracted form of the Master Vet Thesis in Infectious Diseases, Edited by the fourth author (**) under supervision of the first three authors (*) |
| BULLETIN | : Assiut Vet. Med. J. Vol. 65 No. 163 October 2019, 1-9  |

**ABSTRACT**

A detailed Clinico-pathological profile of clinically diseased cattle and buffaloes with Theileriosis located in Al-Ghaniem region, Assiut Governorate, was aimed. Theileria annulata was confirmed by the presence of T. annulata piroplasms in blood smears and/or lymph smears followed by polymerase chain reaction (PCR). During the period of investigation (April 2015 to August 2018), out of the clinically inspected cattle (n= 300) and buffaloes (n= 100), 80 (26.67%) and 15 (15 %) cases were clinically suspected to have Theileriosis, respectively. The positive cases were molecularly identified (PCR). The general observed signs were anorexia, fever, swelling of superficial lymph nodes. ocular lesions were white cloudiness were more obvious in the center of cornea rather than the borders (yellowish colored corneoscleral opacity surrounded by hyperemic band). a watery discharge from the eyes. Serous ocular discharge (watery lacrimation) was remarkable, however in severe cases the ocular discharges was accumulated in the medial canthus. Some newly born calves of less than one month exposed to ocular symptoms mainly protruding of eye ball with ictric conjunctiva. The clinical examination of conjunctivae of the clinically suspected cases with Theileriosis indicated that icteric appearance of conjunctivae in some cases. Three cases showed petechiated conjunctivae. In our study some animals showed up--word visible bulging of temporal fossa. visible protrusion of hemorrhagic conjunctiva with apparently exophthalmia (ocular edema) were observed. Bloody diarrhea and tarry like diarrhea, change in feeding behavior or habit like depraved appetite by eating mud ,soil were noticed. On the other side, the most prominent necropsy features the recently succumbed animals: Gross changes in various organs including heart lungs, trachea, stomach, liver, spleen, kidneys superficial lymph nodes, mesenteric lymph nodes, small and large intestine. All mucous membranes and conjunctivae, peritoneum and abdominal fatty tissues were icteric. On external observation. Jaundice, petechial hemorrhages involving mucosal and serosal surfaces of many organs as well as body fat. In the thoracic cavity, the most prominent autopsy findings were obviously extra edematous swelling of all lobes of the lung, hydrothorax and the lung was distended, discolored, solid in texture, and filled with exudate by palpation, The liver was friable, yellowish, and larger than normal, with the gall bladder being markedly distended with dark olive-green or brownish green bile. The abomasum was the most severely affected organ in the alimentary canal, it contains numerous ulcers about 3 mm. in diameter .a few linear ulcers were present on the leaves. There were prominent hemorrhagic ulcers and petechial hemorrhages were seen in the abomasum of the most cases. There were remarkable enlargement of spleen (splenomegaly) were also recorded. The kidneys were congested or dark brown in color and their perirenal fat were yellowish in color. The heart had petechial and hemorrhages on the outer and inner surface of the auricles.

Key word: Cattle, Buffaloes, Theileriosis, polymerase chain reaction, autopsy finding

**BIOLOGICAL POLLUTION****WHITE SOFT CHEESE**

|          |  |
|----------|--|
| NO       | : 80   |
| TITLE    | : INCIDENCE OF COLIFORMS IN WHITE SOFT CHEESE WITH SPECIAL REFERENCE TO E. COLI  |
| AUTHORS  | : ENAS EL-PRINCE MOHAMED <sup>2</sup> ; WALLAA FAROUK AMIN <sup>2</sup> ; MOHAB RASHED MOHAMED <sup>1</sup> AND MARIAN GAMAL YOUSEF NAN  |
| ADDRESS  | : 1 Department of Avian and Rabbit Diseases, Faculty of Veterinary Medicine, Assiut University, Egypt<br>2 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Egypt<br>3 Food Hygiene Department, Veterinary Teaching Hospital, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 175 October 2022, 97-105   |

**ABSTRACT**

Coliforms generally are pointer to possible fecal contamination and reflect the hygienic standards of cheese processing. To determine the chemical and microbiological quality of some traditional Egyptian white soft cheese, a total of 200 samples represented by Tallaga, Feta, Baramili and Istamboli (50 samples each) were collected randomly from supermarkets, dairy shops and street-vendors in Giza Governorate, Egypt. Chemically; the averages of pH value and NaCl% in the examined cheese were 6.354, 3.732%; 5.018, 7.0%; 3.441, 6.702% and 4.465, 5.94% for Tallaga, Feta, Baramili and Istamboli cheese, respectively. Microbiologically; Coliforms, faecal Coliforms and Escherichia coli (E.coli) bacteria were detected in 86, 76 and 60% of Tallaga cheese, 64, 54 and 32% of Feta cheese, 88, 68 and 50% of Baramili cheese and 78, 64 and 54% of Istamboli cheese, respectively. The average Coliforms count was  $1.3 \times 10^4$ ,  $1.2 \times 10^3$ ,  $6.5 \times 10^3$  and  $3.6 \times 10^3$  cfu/g, while, the fecal Coliforms average values were  $2.1 \times 10^3$ ,  $3.1 \times 10^2$ ,  $1.2 \times 10^3$  and  $6.3 \times 10^2$  cfu/g and E.coli average was  $2.7 \times 10^2$ ,  $1.8 \times 10^2$ ,  $2.9 \times 10^2$  and  $1.2 \times 10^2$  cfu/g for the examined samples, respectively. Serological identifications of the isolated E.coli revealed that 14, 6, 12 and 8% out of all examined cheese samples were pathogenic. The most relevant detected serotypes in cheese were related to enterohemorrhagic (EHEC) and enterotoxigenic (ETEC) strains. Also, enteroinvasive (EIEC) and enteropathogenic (EPEC) related serotypes have been detected in some examined cheese samples. The Coliforms content and incidence of different pathogenic E.coli serotypes reflect the poor hygienic conditions of manufacturing and absence of microbial load elimination. It could be concluded from the obtained results that there is a lack of a standardized method for production and keeping quality of white soft cheese. So, it's suggested to apply strict hygienic measures during all stages of white soft cheese production.

Key Words: Cheese; Colifoms; E.coli; fecal Coliforms



# *Chemical Pollution*

**Chemical Pollution****(AFLATOXIN)**

NO : 81

TITLE : AFLATOXIN M<sub>1</sub> RESIDUES IN RUMINANTS MILK IN LUXOR GOVERNORATE

AUTHORS : TOHAMEYA A. HUSSIEN<sup>1</sup>; ABDEL-LATIEF SH. SEDDEK<sup>1</sup> and DIEFY A. SALEM<sup>2</sup>

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BULLETIN : Assiut Vet. Med. J. Vol. 63 No. 153 April 2017, 26-33

**ABSTRACT**

This study was carried out to investigate aflatoxin M<sub>1</sub> (AFM<sub>1</sub>) in raw milk of ruminant animals (cows, buffaloes, sheep, goats and camels) in Luxor Governorate to know any of these species milk is contaminated by the toxin and to determine its concentration to avoid its harmful effect on consumers' health. A total number of 165 milk samples were collected from various villages at the main three cities in Luxor Governorate (Esna, Armant and Luxor cities) in winter season 2015-2016 (11 milk samples from each species per city) and the samples had been analyzed by ELIZA test kits. The obtained results revealed that AFM<sub>1</sub> levels were lower than previous surveys in Egypt. The percent of positive milk samples in all species were 32.7, 58.18 and 56.36% from Esna, Armant and Luxor cities, respectively. AFM<sub>1</sub> could not be detected in sheep and goat samples from Esna, camel and goat samples from Armant and camel samples from Luxor city. Overall, the percent of positive milk samples in all cities from Luxor Governorate were 66.6% (22 out 33) in cows, 63.6% (21 out 33) in buffaloes, 15.2% (5 out 33) in camels, 66.7% (22 out 33) in sheep and 33.3% (11 out 33) in goats. AFM<sub>1</sub> mean values in milk samples of cows, buffaloes, camels, sheep and goats were 4.518, 1.951, 0.091, 2.966 and 0.582 ng/l respectively. The highest mean value of AFM<sub>1</sub> (10.953 ng/l) was found in cow's milk from Armant followed by sheep milk from Luxor (6.811ng/l) then buffaloes milk from Armant (4.005 ng/l). The highest value of AFM<sub>1</sub> (14.307 ng/l) was detected in cow's milk from Armant city followed by (13.177 ng/l) in buffaloes milk from Luxor. Concerning the health hazard for consumers, no milk samples exceeded the permissible limits of the US regulations (500ng/l) and the European Commission regulations (50ng/l), while all positive samples of raw milk are exceeding Egyptian regulations (free from AFM<sub>1</sub>). In conclusion, high prevalence of AFM<sub>1</sub> in milk from Luxor Governorate indicated that the contamination of raw milk is very high and this due to the contamination of feedstuffs of these animals with AFB<sub>1</sub>. Because of these findings, we need to survey aflatoxins incidence and levels in feedstuffs and milk during all seasons of the year in this areas.



**Chemical Pollution**

**(AFLATOXINS)**

NO : 82  
 TITLE : ASSESSMENT OF AFLATOXINS IN FEEDS AND FEED INGREDIENTS OF BOTH LIVESTOCK AND POULTRY  
 AUTHORS : AHMED A. SHARKAWY EL-SHERIF and MOHAMMED A.M. ALI  
 ADDRESS : Forensic Medicine and Toxicology Dept.- Fac. of Vet. Medicine - Assiut Univ. - Egypt.  
 BULLETIN : Assiut Vet. Med. .Vol. 64 No. 159 October 2018, 33-38

**ABSTRACT**

Aflatoxin (AFs) are secondary metabolites produced primarily by aspergillus flavus and aspergillus parasiticus in agricultural foodstuff such as peanuts, maize grains, cereals, and animal feeds. Moreover, AFs are highly toxic, mutagenic, teratogenic and carcinogenic. A total of 141 samples comprising of feed ingredients (n=58) and complete feeds (n=83) used for cattle and poultry nutrition were analyzed for detection of aflatoxin in both seasons winter and summer. The incidence and level of aflatoxin B1 in feed ingredients was 26.923% (n=7/26) by mean of 78.285 ppb in summer but in winter was 28.125% (n=9/32) by mean of 47.333 ppb. For aflatoxin B2, the incidence and level in feed ingredients was 7.692% (n=2/26) and mean (54 ppb) in summer while in winter was 9.375% (n=3/32) by mean of 52.666 ppb. The incidence and level of total aflatoxins in feed ingredients was 11.538% (n=3/26) by mean of 98.333 ppb in summer but in winter was 15.625% (n=5/32) by mean of 112 ppb. Out of 7 cotton seed cake samples, one was contaminated with total aflatoxins (TAF) (14.285%) and had 300 ppb. Among 13 maize samples, only one had TAF (7.692%) and contains 14 ppb. From 4 sorghum grain samples, 2 were contaminated with AFB1 (50%) and had 12.5±5.303 ppb. Among 8 soybean processed cake, one of them (12.5%) was had AFB1 in summer and contained 10 ppb, and 2 samples in winter (25%) with range of 3-5 ppb (4±0.707). One soybean sample was contaminated with AFB2 (12.5%) and had 3 ppb. From sunflower feed samples (n=26), 11 were contaminated with AFB1, 6 in summer (23.076%) with mean of 89.666±22.188ppb (range 80-150), and 5 in winter (19.230%) with mean level 78.6±17.226ppb (range 40-150ppb). Four samples were contaminated with AFB2, 2 in summer (7.692%) with mean level of 54±32.526ppb (range 8-10) and 2 samples in winter (7.692%) had average level of 77.5±1.767ppb (range 75-80). Six samples had TAF, 2 samples in summer (7.692%) with average level of 140.5±77.428 ppb (range 31-250) and 4 in winters (15.384%) with mean of 65±5.303 ppb. The occurrence of B1, B2 and TAF in complete feed samples was high in winter than in summer. B1 in winter samples was 42±11.798 ppb while in summer was 16.562±3.027 ppb. B2 in winter was 65±4.082 ppb while in summer was 36.833±11.996 ppb. TAF in winter samples was 140±56.319 ppb while was 22±4.242 ppb in summer. Overall incidence of detected aflatoxin in total samples as 35.82% (n=24/67) in summer, 33.783% in winter but in total samples was 34.751% (n=49/141). From these obtained results, it was clarified that about 1/3 of analyzed samples were contaminated with aflatoxins which represent great hazard for their consumers in both animals and humans. So More efforts must be done to minimize this contamination by application of suitable conditions to prevent fungal growth and thereby prevent more production of aflatoxins.

Key words: Aflatoxins - feed ingredients - corn- livestock feed - soybean cake

## Chemical Pollution

## (AFLATOXINS)

|          |  |
|----------|--|
| NO       | : 83   |
| TITLE    | : DETECTION OF AFLATOXINS IN UHT AND POWDERED FLAVORED MILK  |
| AUTHORS  | : ZEINAB M. ABDEL-HAMEED 1; MARWA M.N. EL-GENDI 1 and NOHA H. ORABY 2  |
| ADDRESS  | : 1 Food Hygiene Department, Animal Health Research Institute, Assiut Regional Lab.<br>2 Mycology Department, Animal Health Research Institute, El-Dokii, Giza |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 162 July 2019, 1-6   |

## ABSTRACT

In this study, a total of 150 random samples of flavored milk (75 for UHT and 75 for powdered form) including banana, strawberry and chocolate (25 samples each) were collected from different dairy shops and supermarkets in Assiut city, Egypt. The samples were evaluated mycologically, in addition to aflatoxins detection using thin layer chromatography (TLC) and enzyme-linked immunosorbent assay (ELISA). The obtained results showed that 33.33 and 49.33% of the examined UHT and powdered milk samples contained molds, respectively; with average counts of 28.33 and 56.67 cfu/g, respectively. The most isolated molds were *Aspergillus* species, followed by *Pencillium* species then *Alternaria* species and *Cladosporium* species. Regarding the aflatoxins production, 2 out of 5 (40%) and 8 out of 16 (50%) of *A. flavus* strains produced variable levels of aflatoxins that were isolated from the examined UHT and powdered milk samples, respectively. The toxogenic *A. flavus* strains produced AFB1 and AFB2 with mean values of  $0.88 \pm 0.13$  and  $1.2 \pm 0.18$  ppb, respectively. The mean concentrations of AFM1 in the examined UHT and powdered milk samples were  $2.01 \pm 0.02$  and  $1.72 \pm 0.28$  ppt, respectively; and these estimated levels were above the permitted level of the Egyptian standard regulations and below the tolerated levels of the European countries. The public health hazard of aflatoxins was discussed.

**Chemical Pollution****AFRICAN CATFISH**

|          |   |
|----------|---|
| NO       | : 84  |
| TITLE    | : THE HEPATOTOXIC EFFECTS OF 4-NONYLPHENOL ON AFRICAN CATFISH (CLARIAS GAREPINUS) PHYSIOLOGICAL AND HISTOLOGICAL STUDY  |
| AUTHORS  | : NASSER SAYED ABOU KHALIL* and MAHMOUD ABD-ELKAREEM**  |
| ADDRESS  | : * Department of Physiology – Faculty of Vet.Med. Assiut University.<br>** Anatomy, Histology and Embryology Department, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt. |
| BULLETIN | : 17 Sci. Cong. 2016, Fac. Vet. Med., Assiut Univ., Egypt   |

**ABSTRACT**

4- Nonylphenol (NP) toxicity in fish attracts much attention due to its ability in targeting several organs; however, the researches regarding its potential hepatotoxicity are conflict and still require further investigation. Therefore, the objective of this study is to focus on this issue from the histo-physiological point of view using NP intoxicated African catfish (*Clarias garepinus*) as a model of hepatotoxicity. 12 adult fish (6 per group) were divided into two groups; the first was considered as control and the second was exposed to NP dissolved in water at a dose of 0.1 mg/kg BW for 3 weeks. A significant reduction in the hepatic alanine aminotransferase, asparatate aminotransferase and lactate dehydrogenase levels was observed in NP exposed fish. Concerning the oxidant/antioxidant balance, a significant depletion in superoxide dismutase, catalase and glutathione peroxidase was found along with a significant elevation in total peroxide and malondialdehyde. The histopathological examination of the liver tissue revealed that NP had marked hepatotoxic effects including hepatitis, centrilobular and focal hydropic and fatty degeneration, fatty change (steatosis), apoptosis of hepatocytes and necrosis of endothelial cells, hepatic coagulative necrosis, and nuclear alterations. Depletion of the glycogen and increased in pigments (lipofuscin and hemosiderin) content in the hepatocytes were also recorded. Hemosiderosis and proliferation of the connective tissue around the blood vessels, branches of bile ducts and in the portal areas were also observed. In the light of these findings, it was concluded that NP has a well defined hepatotoxic impact in *Clarias Gariepinus* paving the road towards other studies investigate other detrimental cyto-physiological influences of this aquatic pollutant.

**Chemical polution****BRAIN TOXICITY**

|          |   |
|----------|---|
| NO       | : 85  |
| TITLE    | : AMELIORATIVE EFFECTS OF ERYTHROPOIETIN AND THYMOQUINONE ON VINCRISTINE-INDUCED BRAIN TOXICITY IN ALBINO RATS  |
| AUTHORS  | : ROFIDA M. TAGHYAN 1; HOSSAM EL-DIN M OMAR 2; MAHMOUD ABD-ELZAHER 3 AND SARY KH. ABD ELGHAFAR 3  |
| ADDRESS  | : 1 Department of Pathology, Faculty of Veterinary Medicine, Al-Arish University, Egypt.<br>2 Department of Zoology, Faculty of Science, Assiut University, Egypt.<br>3 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 173 April 2022, 43-56   |

**ABSTRACT**

Vincristine (VCR) is a powerful anticancer medication, but one of its most serious adverse effects is neurotoxicity. The current experiment investigated the adverse effect of VCR on the brain and the potential neuroprotective effect of Erythropoietin (EPO) and Thymoquinone (TQ) or their combination against VCR toxicity in a rat model. The adverse effects were monitored by estimation of brain oxidative stress markers and neurotransmitters and by histopathological observation. Intraperitoneal injection of VCR (150 µg/kg) three times weekly for five consecutive weeks, significantly decreased both the level of glutathione (GSH) and the activity of acetylcholinesterase (AChE) and significantly increased the lipid peroxidation (LPO), nitric oxide (NO) and glutamate levels. Moreover, VCR caused marked histopathological changes such as neuronal degeneration, demyelination, sub-meningeal edema, hemorrhage, dilatation of brain ventricles and hyperplasia of the choroid plexus. Co-treatment of rats with EPO (80µg/kg) and their combination with TQ (10 mg/kg) improved all VCR-induced changes, however, TQ alone improved almost all changes except neurotransmitters alterations. These results suggested that the combination of EPO and TQ had an obvious neuroprotective effect against VCR neurotoxicity on oxidative stress markers, brain neurotransmitters levels and the histopathological findings in comparison with each one alone.

Keywords: Vincristine, Neurotoxicity, Erythropoietin, Thymoquinone, Neurotransmitters.

**CHEMICAL POLLUTION****CANNED TUNA**

|          |   |
|----------|---|
| NO       | : 86  |
| TITLE    | : NUTRITIONAL VALUE AND ORGANOLEPTIC CHARACTERISTICS OF SOME IMPORTED CANNED TUNA SOLD IN ASSIUT GOVERNORATE  |
| AUTHORS  | : ABEER M. HASSAN 1; FATMA EL-ZAHRAA A. MUSTAFA 2; HUSSEIN YOUSSEF 3 and ASHRAF ABD EL-MALEK 4  |
| ADDRESS  | : 1, 3, 4 Department of Meat Hygiene and Control, Department of Food Hygiene, Faculty of Veterinary Medicine, Assuit University, Egypt.<br>2 Department of Histology, Faculty of Veterinary Medicine, Assuit University, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 172 January 2022, 68-77   |

**ABSTRACT**

The current research was conducted to evaluate chemically and organoleptically some imported canned tuna sold in local supermarkets in Assiut governorate. The number of collected samples randomly was 90 canned tuna. The organoleptic assessment was done using 9- point hedonic scale ranging from dislike extremely (1) to like extremely (9). Proximate composition analysis was carried out for drained samples of canned tuna to determine moisture, crude protein, crude lipid and ash following the methodologies of the Association of Official Analytical Chemists. The results revealed that canned tuna samples contained high percentage of crude protein that ranged from 22.50% to 28.10%, with a mean value of  $25.23 \pm 0.14$ . The moisture percentage of the examined samples varied from 61.35% to 73.55%, with a mean value of  $66.24 \pm 0.26\%$ , while total fat values varied from 0.86% to 16.68%, with a mean value of  $7.32 \pm 0.40\%$ . Ash percentage of the examined samples ranged from 0.33% to 3.18%, with a mean value of  $1.47 \pm 0.07\%$ . While total cholesterol content values of the examined samples varied from 34.62 to 51.48, with a mean value of  $39.61 \pm 0.40$  mg/100gm. Total carbohydrate content, caloric value, calcium content, phosphorus content, free fatty acids content (%) and fatty acid composition (%) of canned tuna samples were detected in all examined samples. From the obtained results, it is evident that all the examined canned tuna were accepted organoleptically and were considered safe for human consumption.

Keywords: Canned tuna, Sensory evaluation, Chemical analysis and Food safety.

**Chemica pollution****CHICKENS**

|          |  |
|----------|--|
| NO       | : 87   |
| TITLE    | : EFFICIENCY OF FOUR DISINFECTANTS AGAINST EIMERIA TENELLA ISOLATES FROM EGYPTIAN CHICKENS (IN VITRO ASSESSMENT)   |
| AUTHORS  | : SHIEM EL-SHERRY 1; MOHAMED A. ALY 1; MOHAMED A. SOLIMAN 2 ; MADEHA DARWISH 3 AND OMAR AMEN 1   |
| ADDRESS  | : 1 Poultry Diseases Department, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt - 2 Poultry and Fish Diseases Department, Faculty of Veterinary Medicine, Al Minia University, Al Minia 61519, Egypt. - 3 Department of Animal and Poultry Behavior and Management, Faculty of Veterinary Medicine, Assiut University, 71526, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 169 April 2021, 91-100   |

**ABSTRACT**

Background: Control of coccidiosis depends, in addition to the commercial preparation of herbal extracts, on good sanitation and litter management, along with the use of medication or vaccination programmes. In addition to the chemotherapeutic treatment of coccidiosis early disinfection of the poultry houses should be done using various disinfectants for controlling presence of oocysts. The objective of this research was to evaluate in vitro the action of four different coccidicidal disinfectant including (Quaternary ammonium compounds QACs, chlorocresol, glutaraldehyde and kilcox) on oocysts of *Eimeria tenella*.

Methods: In this study the action of four coccidicidal disinfectant including (Quaternary ammonium compounds QACs, chlorocresol, glutaraldehyde and kilcox) on both sporulated and unsporulated oocysts of *Eimeria tenella* was evaluated in vitro. *E. tenella* Oocysts were obtained from naturally infected Egyptian native breed chickens. The oocysts were exposed to the disinfectants at different concentrations and different contact times. The efficacy of the disinfection was assessed by either destruction of sporulated oocyst or inhibition of sporulation. Results: It was observed that the most efficacious disinfectants against unsporulated and sporulated *E. tenella* oocysts was kilcox followed by chlorocresol, while QACs and, glutaraldehyde were less effective. kilcox sporulation inhibition reached 100 % on unsporulated *E. tenella* oocysts, and their destructive effect reached 99% on sporulated oocysts. furthermore, the results showed that both inhibitory and destructive activity of the tested disinfectants was significantly increased by increasing their concentrations and/or the contact time.

Key words: *Eimeria tenella*; chlorocresol; Chickens; sporulation

**Chemical Pollution**

**( Fish)**

|          |   |
|----------|---|
| NO       | : 88  |
| TITLE    | : ESTIMATION OF LEAD AND CADMIUM LEVELS IN FLESH OF SOME IMPORTED SALTED CANNED FISH  |
| AUTHORS  | : NAHED M. ABDELAZIZ* and Z.M. ZAKY**   |
| ADDRESS  | : * Department of Food Hygiene, Fac. of Vet. Med., Sohag Univerisity, Sohag, Egypt.<br>** Department of Forensic Medicine and Toxicology Fac. of Vet. Med., Assiut Univerisity, Assiut, Egypt. - Email: nahedvet2012@yahoo.com<br>Assiut University<br>web-site: www.aun.edu.eg |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 145 April 2015  |

**ABSTRACT**

Fish accumulates substantial amounts of metals in their tissues especially muscles and thus, consider one of major dietary sources of these metals for humans. The objective of the present study is to determine the concentration of lead and cadmium levels in flesh of some imported salted canned fish (Sardine, Salmon and Anchovies) by Atomic Absorption Spectrophotometer with Graphite furnace. Fourty five imported canned salted fish were collected from different supermarkets in Sohag city produce during 2014. Samples were divided into three groups (15 for each) according to the geographic areas of production (G1 from Thailand, G2 from Morocco and G3 from Spain). Each group was subdivided into three (5 each) subgroup (Sardine, Salmon and Anchovies). Our results revealed that lead mean± SE (wet weight) levels were 2.495±0.013, 2.320±0.010, 0.271±0.047 ppm in sardine, 0.298±0.158, 0.452±0.127 ppm and 0.275±0.132 in salmon and 6.939±2.370, 2.060±0.061 and 2.691±0.473 ppm in anchovies flesh in G1, G2 and G3 respectively. For cadmium mean levels±SE (wet weight) were 0.063±0.011, 0.098±0.025 and 0.066±0.021 in sardine flesh, 0.037±0.009, 0.053±0.010 and 0.061±0.020 in salmon flesh and 1.007±0.093, 0.464±0.055 and 1.908±0.540 in Anchovies ppm, in G1, G2 and G3 respectively. According to data presented in this study, it can be concluded that lead levels in flesh of salted canned fish collected from Sohag city were above the Egyptian Organization for Standardization and Quality Control EOSQC. (1993) recommended limit in sardine and anchovies and below this limit in salmon. Cadmium values were below the established values in all samples except G2 of anchovies. It recommended that more research and assessments of seafood quality is needed to provide more data and help safeguard the health of consumers.

## CHEMICAL POLLUTION ( GASTRIC ULCER )

|          |  |
|----------|--|
| NO       | : 89   |
| TITLE    | : THERAPEUTIC IMPACT OF ALOE VERA GEL ON ETHANOL-INDUCED GASTRIC ULCER IN RAT THROUGH MODULATION OF MYD88 GENE EXPRESSION  |
| AUTHORS  | : AMANY O. MOHAMED 1; SARY KH. ABD-ELGHAFFAR 2, 3; REHAB A. MOUSA 4 AND AMIRA A. KAMEL 1   |
| ADDRESS  | : 1 Department of Medical Biochemistry and Molecular Biology, Faculty of Medicine, Assiut University, Assiut, Egypt<br>2 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt<br>3 School of Veterinary Medicine, Badr University, Assiut, Egypt<br>4 Department of Biochemistry, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt |
| BULLETIN | : Assiut Vet. Med.J.Vol. 69 No.179 October2023,pp 196-208  |

### ABSTRACT

Gastric ulcers are among the major GIT problems impacting people globally. A number of natural compounds have been evaluated for gastric ulcer treatment. One of the most popularly used medicinal plants is Aloe vera, which has powerful anti-inflammatory and healing actions. Pantoprazole was used as a reference drug. The current investigation is intended to determine the therapeutic benefits of Aloe Vera in gastric ulcers triggered by ethanol in rats and to clarify if Aloe Vera achieves its therapeutic benefits by improving mucosal immunity through modulating MyD88 expression. Rats were divided into four groups: normal control, ethanol, ethanol + Aloe Vera, and ethanol + Pantoprazole. Gastric ulceration was triggered by giving only a single dose of 100% ethanol (5 ml/kg b.w.t.) orally. Aloe Vera and Pantoprazole were given orally for 2 weeks. At the end of the experiment, after rat sacrificing and stomach harvesting, macroscopic, molecular, and histopathological evaluations were done. The results revealed that the stomach mucosa in the ethanol group developed a severe ulcerative lesion. Also, myeloid differentiation primary response protein 88 (MYD88) gene expression was significantly upregulated. The ethanol group's histopathological examination revealed severe epithelial damage, inflammation, and edema. The macroscopic mucosal lesion, molecular alterations, and histopathological abnormalities are all alleviated by Aloe Vera treatment. Aloe Vera is more significant than medical treatment with pantoprazole. Finally, we concluded that Aloe Vera's ability to mitigate stomach ulcers is through its anti-inflammatory and healing capacities. Thus, Aloe Vera could potentially be utilized as a medication for relieving gastric ulcers.

Keywords: Aloe Vera, Ethanol, gastric ulcer, Rat, MYD88



## CHEMICAL POLLUTION

## GINGER OIL

|          |  |
|----------|--|
| NO       | : 90   |
| TITLE    | : GINGER OIL ALLEVIATES SERO-BIOCHEMICAL AND HISTOPATHOLOGICAL CHANGES IN PANCREATIC AND LIVER TISSUES OF DIABETIC-INDUCED RATS  |
| AUTHORS  | : NERMEEN YOUSSEF M. MOHAMED 1; MAHMOUD, A.Z.; SARY KH.ABD-ELGHAFAR 2 and FATMA ABO ZAKAIB ALI 1   |
| ADDRESS  | : 1 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Sohag University, Sohag 82524, Egypt.<br>2 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 174 July 2022, 72-87   |

## ABSTRACT

There is no satisfactory therapy for diabetes. Therefore, there is a need to develop recent co-treatment strategies of plant origin which might have no side effects and are cost-effective. Ginger (*Zingiber officinale*) has anti-diabetic, antioxidant, and anti-inflammatory effects as documented previously. This study aims to investigate the histopathological alterations which occur in the pancreas and liver associated with experimentally diabetic-induced animals, in addition to evaluating the effect of Ginger in modulating the histopathology and the level of blood sugar and insulin in diabetic-induced animals. Fifty-one mature male and female Wister albino rats weighing between 200 and 280 grams were used in this study. Animals were split into three groups, each of 17 rats. The negative control group is referred to as Group I, Group II: Diabetes positive control group injected with (45mg/kg body weight) Streptozotocin intraperitoneally and Group III: Diabetic rats; received Ginger oil (dose of 1.5 mL/kg b.wt) approximately about 460 mg/kg b.wt day after day for 7 weeks. The fasting blood sugar levels were determined during the treatment. Blood was collected after scarification for an additional examination of insulin levels, cumulative blood sugar and liver enzymes. Pancreas and liver tissue specimens were dissected and processed for histological examination. Our results showed that diabetic animals treated with Ginger showed significant ( $P \leq 0.05$ ) improvements in fasting blood sugar, insulin, cumulative blood sugar and liver enzymes when compared with the diabetic untreated group. Histopathological examination of diabetic rats' liver and pancreatic tissues revealed vascular changes including congestion and perivascular edema and atrophy in pancreatic cells of Islets of Langerhans associated with necrobiosis. On the other hand, hepatic tissue from diabetic rats showed also severe vascular changes, vacuolar hepatocellular degeneration and focal nodular leucocytic aggregations. However, treatment with Ginger reversed these changes in both pancreatic and hepatic diabetic tissues, and the majority of the cells returned to a more or less normal state. This improvement in the cells may explain Ginger's anti-diabetic action. Ginger oil exhibited an antidiabetic effect as it improved both pathophysiological and pathomorphological alterations associated with hyperglycemia. As a result, we advised diabetic patients to use Ginger as a daily co-treatment for the control of Diabetes mellitus.

Keywords: Diabetes mellitus. Streptozotocin, Ginger, hypoglycemic, pancreas, liver

**Chemical Pollution****(GROUNDWATER)**

|          |   |   |
|----------|---|---|
| NO       | : | 91  |
| TITLE    | : | ASSESSMENT OF HEAVY METALS POLLUTION IN GROUNDWATER AND COW'S MILK IN UPPER EGYPT   |
| AUTHORS  | : | HAZEM A. AAMER**; DALIA M. HASSAN*and SABER KOTB*   |
| ADDRESS  | : | ** Animal Hygiene Department, Faculty of Veterinary Medicine, Sohag University. Egypt.<br>* Animal Hygiene Department, Faculty of Veterinary Medicine, Assiut University. Egypt |
| BULLETIN | : | Assiut Vet. Med. J. Vol. 62 No. 149 April 2016, 1-12  |

**ABSTRACT**

The present work deals with the evaluation of heavy metals pollution in raw cow's milk and groundwater in Upper Egypt. So, a total of 102 milk and ground water samples were collected from three Governorates in Upper Egypt, namely, Assiut, Sohag and Qena. Concentrations of lead (Pb), Cadmium (Cd), Iron (Fe) and Manganese (Mn) in the digested water and milk samples were determined by Buck model 210 VGP atomic absorption spectrophotometer with flame atomization. Our data showed that the average mean of lead, Iron and cadmium in collected water and milk samples were (0.195 ppm and 0.075 ppm), (0.00040 ppm and 0.00026 ppm) and (3.949 ppm and 0.869ppm), respectively. However, we could not detect Manganese either in milk or water samples. Furthermore, Statistical analysis of data showed that there was a significant correlation ( $p < 0.05$ ) between heavy metal pollution in milk and that of correspondent examined groundwater samples.

**Chemical Pollution****(GROUNDWATER)**

|          |   |
|----------|---|
| NO       | : 92  |
| TITLE    | : GROUNDWATER QUALITY ASSESSMENT OF AL-DAKHLA CITY,<br>THE NEW VALLEY, EGYPT  |
| AUTHORS  | : AHMED, A. SHARKAWY 1; DALIA, M. A. HASSAN 2 and SAMIRA, A.A. SANOUSY 3  |
| ADDRESS  | : 1 Forensic Medicine and Toxicology Dept., Fac. Vet. Med., Assiut University, Assiut, Egypt.<br>2 Dept. of Animal Hygiene, Fac. Vet. Med., Assiut University, Assiut, Egypt.<br>3 Lab. Institute of Animal Health, The New Valley. |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 161 April 2019, 1-11  |

**ABSTRACT**

This study aimed to clarify the hygienic quality of groundwater samples collected from multiple wells from Al-Dakhla city, The New Valley, with special reference to heavy metals pollution. Groundwater samples from 10wells were investigated (3 samples each). Metals concentrations were determined using the ICP [Inductively Coupled Plasma Emission Spectrometer (ICAP 6200)]. The results revealed that the levels (ppm) of estimated metals were  $0.803\pm 0.011$  (0.250-3.033) for Pb;  $0.0082\pm 0.0008$  (0.0001-0.0325) for Cd;  $30.595\pm 0.197$  (4.225-56.325) for Mn;  $326.233\pm 3.077$  (27.75-512.75) for Fe;  $0.375\pm 0.002$  (0.150-1.125) for Cu and  $9.256\pm 0.222$  (5.150-14.833) for Zn. The levels of tested water chemical parameters were  $1476.380\pm 14.711$  (441.6-2028.8) mg/l for TDS;  $2.307\pm 0.061$  (0.690- 3.170) dc/m for EC;  $6.186\pm 0.082$  (5.4 - 6.7) for pH and  $467.5\pm 13.352$  (275-525) for TH. It is found that lead, iron, manganese and zinc mean values are exceeding the MCL (maximum contaminant level) in 100% of the examined wells. However, copper recorded mean values within the permissible limits listed by each of Egyptian Standards (2007), EPA (2009), WHO (2011) and EU (2014). Eighty percent of examined wells showed total dissolved solids higher than the limits of Egyptian Standards (2007), EPA (2009), WHO (2011). Eighty percent of examined wells recorded EC in higher level than Egyptian standers (2007). Total hardness exceeded the permissible levels in 100% of the examined wells while pH values were all in the acidic range which was slightly around the permissible limits.

Key words: Groundwater - heavy metals –water quality – electric conductivity – total dissolved solids – pH– total hardness –Dakhla Oasis – The New Valley.

**CHEMICAL POLLUTION****(HEPATOTOXICITY )**

|          |  |
|----------|--|
| NO       | : 93   |
| TITLE    | : HISTOPATHOLOGICAL AND BIOCHEMICAL EVALUATION OF HEPATOTOXICITY AND NEPHROTOXICITY INDUCED BY 5-FLUOROURACIL IN RATS  |
| AUTHORS  | : FATEN T. ABD ELATY <sup>1</sup> ; YASMIN O. EL-AMIR <sup>1</sup> ;<br>MOHAMED K. ABDEL RAHMAN 1 AND ABEER S. HASSAN 2  |
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| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 178 July 2023pp 154-145   |

**ABSTRACT**

The goal of the study is to examine the potentially harmful histopathological and biochemical effects of 5- Fluorouracil (5-FU) on the liver and kidney. Thirty rats were divided into two groups. The control group was given physiological saline intraperitoneally for 5 days. The 5-FU group received 5-FU at a dose of 20 mg/kg b. wt. intraperitoneally for 5 days. Blood samples were collected and used for biochemical indexes. For histological analysis, samples of the liver and kidney were collected. There was a significant increase in the levels of serum creatinine, urea, aspartate aminotransferase (AST), alanine aminotransferase (ALT), malondialdehyde (MDA) in the 5-FU group when compared to the control group. Compared to the control group, there was a significant decrease in total antioxidants (TAO). Microscopic examination of the liver showed vascular changes, apoptosis, vacuolar degeneration, kupffer cell proliferation, focal inflammatory cell infiltration, hepatocellular necrosis and mononuclear cellular infiltration in the portal area. While the histopathological changes in kidneys varied from vascular changes, glomerular necrosis and atrophy and vacuolar degeneration of the renal tubules. It was concluded that the hepatotoxic and nephrotoxic effects were due to the oxidative stress induced by 5-FU.

Key words: 5-Fu, liver, kidney, histopathology

**CHEMICAL POLLUTION****(HEPATOXICITY)**

|          |  |
|----------|--|
| NO       | : 94   |
| TITLE    | : HISTOPATHOLOGICAL AND BIOCHEMICAL STUDIES OF METHOTREXATE HEPATOXICITY ON ALBINO RATS              |
| AUTHORS  | : WALAA H. KAMEL; MARWA F. ALI AND SALAH H. AFIFI  |
| ADDRESS  | : Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University. |
| BULLETIN | : Assiut Vet. Med.J.Vol. 69 No. 179 October2023,pp 68-60   |

**ABSTRACT**

Methotrexate (MTX), the antiproliferative, anti-inflammatory, and immunosuppressive drug is one of the most effective drugs used for the treatment of a large number of solid tumours, hematologic malignancies, and autoimmune disorders. However, its significant hepatotoxicity limits its applicability, so this study was suggested to investigate the side effects of a high dose of MTX on the liver in experimental rats. Ten rats were divided randomly into two groups, including the control group and MTX-injected group. MTX group received a single dose of 40 mg/kg MTX intraperitoneally to induce liver injury. Physiological saline was injected into the control rats in the same manner. The period of the experiment was 14 days. At the end of the experiment, the rats were sacrificed. Sera and liver specimens were then collected for the evaluation of hepatic function by measurement of aspartate transaminase (AST) and alanine transaminase (ALT) serum levels and histological examination of liver tissues. The results showed that MTX administration induced a highly significant increase in serum AST and ALT levels. Additionally, the histopathological examination of livers indicated the presence of clear vacuoles in the hepatocytes, hydropic degeneration, and multi-focal necrosis. Additionally, there was mononuclear cell infiltration and Kupffer cellular hyperplasia. Congestion, desquamation of lining endothelial cells in some blood vessels, and haemorrhages were also detected. Therefore, we concluded that administration of high doses of MTX induced severe hepatotoxicity in experimental rats manifested by a significant increase of liver enzymes in serum and severe alteration in the liver histological structure.

Keywords: Methotrexate; hepatotoxicity; histopathological examination; hepatic enzymes.

**CHEMICAL POLLUTION****KETOPROFEN**

|          |   |
|----------|---|
| NO       | : 95  |
| TITLE    | : HISTOPATHOLOGICAL AND BIOCHEMICAL CHANGES OF ACUTE KETOPROFEN INDUCED NEPHROPATHIC LESIONS IN RATS        |
| AUTHORS  | : AMIRA S. SADEK; MARWA F. ALI; SARY K. ABD ELGHFAR and MOKHTAR TAHA  |
| ADDRESS  | : Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 169 April 2021, 54-73   |

**ABSTRACT**

The current work was undertaken to evaluate the nephrotoxic effect of Ketoprofen on adult male rats. Eighteen rats were divided into two groups. Ketoprofen- received group (I) included 10 rats were administered Ketoprofen at a therapeutic dose of 13.5 mg/kg by I/M injection daily for 4 successive weeks. Five rats were randomly selected from group I and sacrificed at 2 and 4 weeks of the experiment. The control group (II) that received olive oil included 8 rats, where 4 rats were sacrificed after 2 weeks and the rest of rats were sacrificed after 4 weeks. Tissue specimens from kidneys of all groups were collected for histopathological examination as well as the serum was obtained for the determination of biochemical parameters. The histopathological examination of group I showed glomerular changes such as expanding of glomerular matrix, glomerular sclerosis and congestion of glomerular capillary in the cortex. Renal tubular degeneration and necrosis accompanied with infiltration of inflammatory cells in interstitial tissue in both cortex and medulla were also observed. The biochemical results revealed that animals in group I showed a significant increase in malondialdehyde, creatinine, and urea compared to the control group, while total antioxidant capacity was numerically decreased. In conclusion, the therapeutic dose of Ketoprofen caused damage in kidney tissue even if was taken for a short period as well as altered biochemical parameters.

Keywords: Ketoprofen, Nephrotoxicity, Histopathological examination, Biochemical parameters.

**CHEMICAL POLLUTION****( MALATHION )**

|          |  |
|----------|--|
| NO       | : 96   |
| TITLE    | : EFFECT OF LONG-TIME MALATHION ADMINISTRATION ON TESTOSTERONE, OXIDATIVE STRESS, AND SPERM CHARACTERISTICS IN RATS  |
| AUTHORS  | : MARWA A. GABER 1; TAHIA HASHIM SALEEM 1; AHMED Y. NASSAR 1; HEBA F. HOZYEN 2; MAHMOUD GAMAL MAHMOUD 3 AND HASSAN ABDEL-SABOUR ALI HUSSEIN 4  |
| ADDRESS  | : 1 Department of Medical Biochemistry Faculty of Medicine Assiut University, Assiut, 71526, Egypt<br>2 Animal Reproduction and Artificial Insemination National Research Centre, Giza,12622, Egypt<br>*3 Department of Medical Biochemistry Faculty of Veterinary Medicine Assiut University, Assiut, 71526, Egypt<br>4 Department of Theriogenology Faculty of Veterinary Medicine Assiut University, Assiut, 71526, Egypt |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 176 January 2023 pp 55-64   |

**ABSTRACT**

Organophosphorus pesticides are one of the most extensively used forms of pesticides that could adversely impact fertility in both animals and humans. The current research aimed to investigate the potential effects of long-time malathion administration on testosterone in serum, oxidative stress biomarkers in testicular tissue and sperm characteristics of rats as an experimental model. Twenty adult male Wistar rats were split into two groups: the control group (n = 10) and the malathion-treated group (n = 10) based on the medication received orally by gavage (3 times/week for 60 days). Long-time administration of malathion negatively affected testosterone level, sperm count, sperm viability, and sperm morphology when compared to the control group. Lipid peroxidation increased significantly in the malathion-treated group when compared to the control group. On the other hand, Malathion administration caused a significant reduction in testosterone level, activities of glutathione peroxidase, reduced glutathione, and superoxide dismutase enzymes in the testicular tissue of male rats. In conclusion, long-term with space interval administration of malathion had deleterious effects on testosterone level and testicular oxidative status as well as semen quality in male rats. Consequently, it is essential to monitor surveys of organophosphorus pesticide residues in plants to protect consumer health.

**Keywords:** Malathion; oxidative status; semen quality; testes; and male rats.

## Chemical Pollution

## ( NANDROLONE)

NO : 97

TITLE : MORPHOLOGIC AND HISTOPATHOLOGIC CHANGES ASSOCIATED WITH NANDROLONE DECAONATE (NANDURABOLIN) ON THE SEMINAL VESICLE OF RATS

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BULLETIN : Assiut Vet. Med. J. Vol. 63 No. 153 April 2017, 166-171

## ABSTRACT

Twenty adult male rats three month old, weighing 80-190 gm were obtained from the Animal House Assiut University and divided into one control group and three treated groups (5 rats each group). Treated groups were injected intramuscular with Nandrolene Decaonate at doses of 2.5,5, and 10mg/kg body weekly for three months. At the end of exp. the whole body weight and the seminal vesicle weight of both treated and control group were recorded. The relation wight of the seminal vesicle to the body weight was increased significantly in treated group compared to the control. The thickness of the smooth muscle fiber layer also was increased in treated groups compared to the control group. Histopathologically, shortening of the mucosal folds, abundant seminal secretions, fragmentation of the smooth muscle fiber layer and hemorrhage and hyperemia below the muscular layer were observed. Desquamation of the epithelium lining the folds of seminal vesicle was evident at a dose of 10mg/kg body weight of Nandrolene Decaonate. The study concluded that Nandrolene Decaonate induced alterations in the seminal vesicle.



**Chemical pollution****(pyrethroid)**

|          |   |
|----------|---|
| NO       | : 98  |
| TITLE    | : HEPATIC AND NEURAL TOXICITY AND TISSUE RESIDUE OF CYPERMETHRIN IN MALE SOMALI SHEEP (BERBERA BLACKHEAD)   |
| AUTHORS  | : ADEL G. EL-SHEMI * and GHADA A,**. ABOU EL-ELLA***  |
| ADDRESS  | : * Department of Laboratory Medicine, Faculty of Applied Medical Sciences, Umm Al-Qura University, Saudi Arabia.<br>** Department of Pharmacology, Faculty of Medicine, Assiut University, Egypt.<br>*** Clinical Laboratory diagnosis, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 146 July 2015   |

**ABSTRACT**

The effect of type II synthetic pyrethroid, cypermethrin on selected physiological and biochemical parameters of liver and neural system were studied in male Somali sheep. In addition, the residue of cypermethrin in different tissues and body excreta were also evaluated. Two tested doses (6 and 12 mg /kg b.wt/day) of cypermethrin were given orally to sheep for 63 consecutive days. A vehicle-control group of sheep given corn oil (0.1 ml/kg/day) only was used for comparison. Investigated animals of all groups were slaughtered 24 h after the last dose. No fatality was recorded during the course of this study. Cypermethrin produced significant increase in the weights of liver and spleen, while there were no effects on the weights of brain, kidneys, heart and testes. A significant increase in liver aspartate amino transaminase (AST) and alanine amino transaminase (ALT) activities and a significant decrease in liver lactate dehydrogenase (LDH) activity were recorded in the pesticide-treated animals. Significant decreases were observed in brain Na<sup>+</sup>, K<sup>+</sup>-ATPase and Mg<sup>++</sup>-ATPase in cypermethrin-treated animals that were dose-dependant. Residue analysis revealed higher levels of cypermethrin in spleen, kidneys and muscle than liver. Residues of tested pesticide were detected in all samples of urine and faeces of treated sheep, and were dose-dependent. From this study it can be concluded that exposure of farm animals for long periods to cypermethrin pesticide will affect their physiological and biochemical parameters with subsequent adverse effect on animal health and production. Moreover, the presence of large amount of tissue residues of this compound in animal tissues and excreta could affect human health as well. Therefore, farm animals should not exposed to theses pesticide for long times via food or water.

**CHEMICAL POLLUTION****(RAT)**

|          |   |
|----------|---|
| NO       | : 99  |
| TITLE    | : HISTOPATHOLOGICAL AND BIOCHEMICAL ASSESSMENT OF LIVER FIBROSIS INDUCED BY CARBON TETRACHLORIDE ADMINISTRATION IN RAT  |
| AUTHORS  | : EMAN SHAABAN <sup>1</sup> ; NASHWA HAMMAD <sup>2</sup> ; DENA TORRA <sup>3</sup> AND MOKHTAR TAHA <sup>2</sup>  |
| ADDRESS  | : 1 Animal Health Research Institute, Sohag, Egypt.<br>2 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Egypt.<br>3 Department of Pathology and Clinical Pathology, Animal Health Research Institute, Agriculture Research Center, Assiut, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 69 No177. April 2023pp70-58  |

**ABSTRACT**

This study investigated liver fibrosis and hepatotoxicity caused by carbon tetrachloride (CCL4) in albino rats. Two groups of twenty-two adult male rats, each weighing 150 to 170 gms, were created. Ten rats from the CCL4-administered group (I) received subcutaneous injections of CCL4 in olive oil at a dose of 2 ml/kg twice weekly for 12 consecutive weeks. The control group (II) contained twelve rats and was divided into two groups of six rats each. One group served as the standard control, and the other group only got olive oil via the same route and dosage as group (I). All rats were sacrificed 12 weeks post dosing, and tissue specimens from livers were collected for histopathological examination. Additionally, serum samples were collected in order to measure various biochemical factors, including (alanine aminotransferase (ALT), aspartate aminotransferase (AST), total protein (TP), total antioxidant capacity (TAC) and lipid peroxidation (LPO). The histopathological examination of group I showed hepatic degenerative, necrotic and angiopathic alterations, as well as pronounced hepatic fibrosis. The histopathological examination of group II showed normal hepatic appearance with no pathological changes. The biochemical results detected a significant upregulation in serum AST, ALT and LPO in group I compared to the control group, while TP and TAC were significantly downregulated. In conclusion, the administered dose of CCL4 in rats caused variable degenerative and necrotic hepatic changes, besides activation of the proliferative potential of collagen fibers, and changed the biochemical parameters compared to normal control rats.

Keywords: Carbon tetrachloride, liver fibrosis, Histopathological examination, Biochemical parameters

## Chemical pollution

## TUNA FISH

NO : 100  
 TITLE : HEAVY METALS CONTENT IN CANNED TUNA FISH MARKETED IN ASSIUT CITY, EGYPT AND ITS RELATED HUMAN HEALTH RISK ASSESSMENT  
 AUTHORS : AHMED A. SHARKAWY 1; ABEERA M. EL-SAYED 2 AND MOHAMMED A.M. ALI 1  
 ADDRESS : 1 Forensic Medicine and Toxic. Dept., Fac. of Vet. Medicine, Assiut Uni., Assiut, Egypt.  
 2 Fellow - Sohag University Hospital, Sohag University, Sohag, Egypt  
 BULLETIN : Assiut Vet. Med. J. Vol. 66 No. 165 April 2020, 1-20

## ABSTRACT

Some heavy metals are harmful and dangerous and cause many risks for food and public health. Also accumulated in fish such as tuna fish as a result of contaminated water or during transport, processing or canning. The present study was conducted to measure the concentration of some heavy metals (Pb, Cd, Al, Hg, Ni, Co and Cr) in canned tuna of five brands. Materials and Methods: Forty canned tuna samples from five brands were examined to determine their metal concentration. The samples were collected from supermarkets found in Assiut city (Egypt) from June 2017 to November 2017. The metals were determined using Atomic Absorption Spectrometer Perkin Elymer (Analyst 400) for Pb, Cd, Co, Ni and Cr while Hg was estimated by using ICP (iCAP 6200) and Al was determined using Atomic Absorption Spectrometer (ZEE nit700P). Results: The results revealed that the levels (ppm wet weight) of metals were as following in the examined five brands: (1) Lead: (2) Cadmium: (3) Aluminum: (4) Mercury: (5) Nickel: (6) Cobalt:

In this study, the Target Health Quotient (THQ) in the total examined tuna samples was 0.219-0.323 (0.254) for Pb, 0.308-0.351 (0.327) for Cd, 0.00176-0.00185 (0.00181) for Al, 2.913-11.380 (7.757) for Hg, 0.047-0.051 (0.049) for Ni, 0.033-0.049 (0.052) for Co and 0.00001-0.000082 (0.000035) for Cr while the Hazard Health Index (HI) for all metals was 11.709 for brand 1, 9.268 for brand 2, 12.015 for brand 3, 5.604 for brand 4, 3.601 for brand 5, all of these are exceeding 1.

Conclusion: The calculated hazard index (HI) in this study in all examined canned tuna in all brands exceeds 1. The data indicate that the examined canned tuna were polluted with Pb, Cd, Al, Hg and Ni. Hazard indices for the estimated metals in these canned tuna imply that excessive and continuous intake of these tuna could result in chronic adverse health effects on the consumers. However, consumption of large quantities of these canned tuna increases human exposure to the risk especially of Hg toxicity. Recommendation: It recommended that more studies for assessment for quality control should be done to help safeguard the health consumers.

Key words: Canned tuna, pollution, heavy metals, health risk assessment, Hazard Index.



# *Biological & Chemical Pollution*

**BIOLOGICAL AND CHEMICAL POLLUTION****BUTTER SOLD**

|          |  |
|----------|--|
| NO       | : 101  |
| TITLE    | : PHYSICOCHEMICAL ANALYSIS AND MICROBIAL EVALUATION OF BUTTER SOLD IN ASSIUT CITY, EGYPT   |
| AUTHORS  | : SEHAM FAWZY HASSAN1; ONSI ADIB SADEK1 AND WALLAA FAROUK AMIN2  |
| ADDRESS  | : 1 Department of Milk Hygiene, Animal Health Research Institute (AHRI), Assiut Branch, Agriculture Research Center (ARC), Egypt.<br>2 Department of Milk Hygiene, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 174 July 2022, 38-48   |

**ABSTRACT**

In this aspect, this study aimed to evaluate the quality of pasteurized and cooking (Falahy) butter in Assiut City, Egypt. A total of random 160 pasteurized and Falahy butter samples (80 samples each) were bought from different localities in Assiut city. The sensory assessment for pasteurized and Falahy butter showed that 78.75, 62.5% of samples exceeded a score of 90 (excellent) and 21.25, 37.5% had a score (80-89). The mean values of peroxide index, TBRA reactive substances and acid index were (0.39±0.02, 0.44±0.03 meq/kg), (0.46±0.03, 0.51±0.02 mg MDA/Kg) and (0.67±0.01, 0.82±0.02 mg KOH/g) for pasteurized and Falahy butter samples, respectively which revealed that all samples were acceptable with the absence of both hydrolytic and oxidative types of rancidity. The mean values of the microbiological evaluation were (1.3×10<sup>5</sup> ± 1.6×10<sup>4</sup>, 8.8×10<sup>6</sup> ± 1.3×10<sup>4</sup>), (1×10<sup>5</sup> ± 2.3×10<sup>4</sup>, 3.2×10<sup>5</sup> ± 3.3×10<sup>4</sup>), (5.7×10<sup>4</sup> ± 1.3×10<sup>4</sup>, 9.4×10<sup>4</sup> ± 2×10<sup>4</sup>), (1.5×10<sup>4</sup> ± 3×10<sup>3</sup>, 2.8×10<sup>4</sup> ± 4.5×10<sup>3</sup>) and (1.3×10<sup>3</sup> ± 3.3×10<sup>2</sup>, 1.6×10<sup>4</sup>±4.2×10<sup>3</sup>) CFU/g for the total colony, psychrotrophic, lipolytic, yeast and mold counts in pasteurized and Falahy butter samples, respectively. The results revealed the substandard production and storage conditions which call for improvement of butter production modern technologies and awareness creation about the hygienic production, processing and handling of butter.

Keywords: Pasteurized butter; Falahy butter; Peroxide value; TBRA; Acid value; Microbiological assessment.

**Biological and Chemical Pollution**

**(MEAT)**

|          |  |
|----------|--|
| NO       | 102  |
| TITLE    | : A COHORT STUDY ON SHIGA TOXIN PRODUCING <i>E. COLI</i> O157:H7 ISOLATED FROM SOME MEAT PRODUCTS IN ASSIUT GOVERNORATE AS A CAUSE OF BLOODY DIARRHEA IN CHILDREN  |
| AUTHORS  | : RAAFAT HASSANEIN <sup>*,**</sup> ; SOHAILA F.H. ELHAWARY <sup>***</sup> ; K. IBRAHIM ELSAYH <sup>****</sup> and ASMAA A. A. HUSSEIN <sup>**</sup>  |
| ADDRESS  | : Department of Laboratory Medicine, College of Applied Medical Sciences, Umm Al-Qura University, Makkah, Saudi Arabia.<br><sup>**</sup> Department of Animal Hygiene and Zoonoses, Faculty of Veterinary Medicine, Assiut University, Egypt.<br><sup>***</sup> Animal Health Research Institute, Assiut Branch, Egypt.<br><sup>****</sup> Department of Pediatric, Faculty of Medicine; Assiut University, Egypt. |
| BULLETIN | : <u>Assiut Vet. Med. J. Vol. 61 No. 147 October 2015</u>  |

**ABSTRACT**

The present study was conducted to investigate the presence of *E. coli* especially *E. coli* O157:H7 and to detect the presence of the stx1 and stx2 genes in isolates derived from a total of 80 samples including 20 samples each of frozen beef burgers, frozen sausages, beef burger sandwiches and sausage sandwiches. The samples were randomly collected from retail supermarkets and restaurants in Assiut, Egypt. In addition, 20 stool cultures collected from hospitalized children admitted in Assiut Pediatric University Hospital with history of diarrhea or fever. *E. coli* was detected in 9 (45%), 6 (30%), 1 (5%), 1 (5%) and 12 (60%) of frozen beef burgers, frozen sausages, beef burger sandwiches, sausage sandwiches and children stool samples, respectively. *E. coli* O157 was detected in eleven of the 100 (11%) samples tested (two from frozen beef burgers, three from frozen sausages, one from each of beef burger sandwiches and sausage sandwiches and four from children stool samples). Whereas H7 gene was not detected in all *E. coli* O157 positive samples, but, the genes stx1 and stx2 were detected in two *E. coli* O157 isolates obtained from two frozen sausage samples. The public health significance of this pathogen and consumer's safety were discussed.

**Biological and Chemical Pollution****(Milk)**

|          |  |
|----------|--|
| NO       | : 103  |
| TITLE    | : BACTERIOLOGICAL ASSESSMENT OF RAW MILK AND YOGHURT FOR PRESENCE OF STAPHYLOCOCCUS AUREUS WITH SPECIAL REFERENCE TO ITS ENTEROTOXINS                  |
| AUTHORS  | : M.F. HUSSIEN* and A.M. KOREIM**  |
| ADDRESS  | : * Food Hygiene Department, Animal Health Research Institute, Assiut Lab.<br>** Bacteriology Department, Animal Health Research Institute, Assiut Lab |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 148 January 2016, 52-57  |

**ABSTRACT**

A total of 150 of raw milk and yoghurt samples (75 of each) were obtained from different small daries and supermarkets in Assiut city, Egypt and were examind for presence of Staph aureus. The isolated strains were examined for the production of Staphylococcal enterotoxins (SEs) using the enzyme - linked immunosorbant assay (ELISA) method. 39(52%) out of 75 examind raw milk samples were positive for Staph aureus while the organism failed to detect in yoghurt. Out of 39 Staph aureus isolates 12 (30.8%) were positive for at least 1SE, out of which 5(41.7%) were positive for SEA 3(25%) for SEC, 2(16.7%) for SED. Two isolates of Staph aureus are able to produce more than one type of enterotoxin as one strain produce SEA&C and another produce C&D, both in percentage of 8.3%. It could concluded that examind milk samples were contaminated with enterotoxigenic strains of Staph. aureus and the public health hazards of SEs were also discussed.



# *Biological Pollution & Control*

**BIOLOGICAL POLLUTION AND CONTROL****AFLATOXICOSIS**

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|----------|--|
| NO       | : 104  |
| TITLE    | : EVALUATION OF THE EFFECT OF SOME ANTIOXIDANTS FOR CONTROLLING AFLATOXICOSIS IN BROILER CHICKENS  |
| AUTHORS  | : YASMIN ALI HASSAN SADIEK 1; TOLBA YOUNIS ABD ELMOTELIB1; NASHWA HAMAD MOHAMED 2; ALAA ELDIN KAMAL YOUSSEF 3 AND OMAR AMENI   |
| ADDRESS  | : 1 Department of Avian and Rabbit Diseases, Faculty of Veterinary Medicine, Assiut University, Egypt<br>2 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Egypt<br>3 Food Hygiene Department, Veterinary Teaching Hospital, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 175 October 2022, 58-75  |

**ABSTRACT**

This study aimed to evaluate the ability of antioxidants (curcumin and lipoic acid) to ameliorate the hazardous effects of aflatoxins in broiler chickens in terms of performance, liver and kidney functions, and histopathological structures as well as compare them with the effect of a mycotoxin adsorbent (Agrimos®), a specific combination of mannan-oligosaccharides (MOS) and  $\beta$ -glucans extracted from the yeast cell walls of *Saccharomyces cerevisiae*. A total of 120 broilers were used and divided into 5 equal groups (n=24), each group subdivided into 2 replicates (12 birds/replicate). control negative (G1) received the basal diet, control positive (G2) basal diet+ 100 $\mu$ g AFB1/kg diet; Curcumin treated group (G3) received control Positive + 1 g Curcumin /kg diet ; Lipoic acid treated group (G4) received control Positive + 300 mg Lipoic acid /kg diet; Agrimos treated group (G5) received control Positive + 1 g Agrimos /kg diet. All treatments were administered from 1-30 days of age. By the end of the experiment, antioxidants (curcumin and lipoic acid) ameliorated the harmful effects of aflatoxin on performance, histopathology of target organs and serum biochemical parameters in broilers as the same degree of improvement induced by Agrimos® (mycotoxin binders).

Key words: aflatoxicosis; curcumin; lipoic acid; manan and betaglucan

**Biological Pollution and Control**

**(ARCOBACTER)**

|          |   |
|----------|---|
| NO       | : 105   |
| TITLE    | : ARCOBACTER SPECIES AND THEIR RISKS IN SOME MEAT AND FISH WITH A SODIUM ACETATE AND SODIUM CHLORIDE INTERVENTION |
| AUTHORS  | : M.A.M. AMMAR and S.H. AL-HABATY   |
| ADDRESS  | : Animal Health Research Institute, Assiut Regional Lab. (AHRI), Egypt  |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 146 July 2015   |

**ABSTRACT**

A surveillance study of retail foods was conducted in Assiut, Egypt to assess the presence of Arcobacter spp. on retail food samples. A total of 75 fresh samples of beef, minced beef, and fish (*Oreochromis niloticus*), 25 each were purchased from fresh markets in Assiut city and tested for Arcobacter spp. The survey was carried out by differential culture, phenotyping and genotyping. A total 35 (47 %) of samples was contaminated with Arcobacter spp. Beef was the most contaminated 13(52%) followed by minced beef 12(48%) then fish 10 (40%). By genotyping using PCR, only a total 11 (15%) of samples harbor Arcobacter spp. Five (20%) of beef, 2 (8%) of minced beef and 4 (16%) of fish were contaminated with Arcobacter spp. When the isolates were confirmed by genus-based PCR, *A. butzleri*, *A. skirrowii* and *A. cryaerophilus* were present in a total 4 (5%), 5 (7%) and 2 (3%) of examined retail foods. The highest *A. butzleri* contamination level was in beef samples 2 (8%). *A. cryaerophilus*, *A. skirrowii* and *A. butzleri* were examined for their susceptibilities to antibiotics using a disk-diffusion method. All were resistant to Lincomycin, Vancomycin, Tetracycline, Cloxacillin, Cephadrine, Novobiocin and Oxacillin but susceptible to Gentamycin and Neomycin. With the exception of *A. cryaerophilus* the tested Arcobacters were susceptible to Ciprofloxacin. The effect of sodium acetate (SA) and sodium chloride (SC) on growth inhibition of Arcobacter spp. was investigated by determining the minimum inhibitory concentration (MIC) and the minimum lethal concentration (MLC). Sodium acetate provided overall greater inhibition in comparison with (SC). The MLCs were 6% and 9% for (SA) and (SC), respectively. The corresponding MIC values were 4% and 6%, respectively. The combined effect of (3% SC) and SA at different concentrations (0.01 - 0.05%) were tested against *A. butzleri* in the growth medium. A significant ( $P < 0.05$ ) reduction level of *A. butzleri* cells was obtained by the combination of 3% (SC) and 0.04 or 0.05% (SA). The greatest reduction (2.7 log) was achieved by the combined effect of 3% (SC) and 0.05% (SA). In minced beef model, (3% SC + 0.05% SA) mixture took 12 h to produce 1 log reduction in the initial *A. butzleri* count and the reduction was proximate at 24h period. The difference in *A. butzleri* count between treatment and control samples was significant ( $P < 0.05$ ). The present study identified beef and minced beef as important food sources of *A. butzleri* which pose a threat for human health. Also it cleared that fish at retail has been detected to be a further food matrix for *A. butzleri*. Regarding the enteropathogen *A. butzleri*, (3% SC + 0.05% SA) mixture can improve the safety of minced meat under refrigerate storage. This study also shows that Gentamycin would be drugs of choice and Neomycin as alternative for treatment of Arcobacter borne gastrointestinal infection in this geographical area. The public health significance of Arcobacter spp. and the control measures were also discussed.

**Biological Pollution and Control****(BROILER CHICKENS)**

|          |  |
|----------|--|
| NO       | : 106  |
| TITLE    | : COMPARATIVE STUDY ON COMMERCIAL VACCINES AGAINST E.COLI IN BROILER CHICKENS  |
| AUTHORS  | : H. M. ASAAD 1; OMAR AMEN 2; MOAMEN ABD ELAZEEM 2   |
| ADDRESS  | : 1 Department of Poultry and Rabbit Diseases, Faculty of Veterinary Medicine, Sohag University.<br>2 Department of Poultry and Rabbit Diseases, Faculty of Veterinary Medicine, Assiut University |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 161 April 2019, 1-11   |

**ABSTRACT**

E. coli infections in avian species have become an economic threat to the poultry industry worldwide. The objective of this study is to determine whether the immunization using commercially available living Escherichia coli vaccines as Nisseiken Avian Colibacillosis Vaccine (Nisseiken Co., Ltd., Ome, Tokyo, Japan) and O78 aroA deleted vaccine (Poulvac ® E.coli, Zoetis) are protective against APEC challenges or not. Ninety eight chicks (Arbor, Acres) of both sexes were divided into seven groups (14 birds/each); two groups were vaccinated at day 1 of age by spray route using Nisseiken Avian colibacillosis Vaccine, then one of them challenged intratracheally with homologous E.coli O78 and the other with heterologous O1 at day 14, the other two groups were vaccinated at day 1 of age by eye drop route using Poulvac ® E.coli, Zoetis vaccine then one of them challenged intratracheally with homologous E.coli O78 and the other with heterologous O1 at day 14. The other two groups were positive control (challenged, unvaccinated); one challenged with O78 and the other with O1 at day 14 using intratracheal route. The last group served as environmental control (non vaccinated, non challenged). At day 28, birds were necropsied and examined to evaluate the efficacy of both of the two different vaccines. The best obtained results were recorded to the vaccinated challenged groups with the homologous and heterologous strains and vaccinated by spraying and eye drop methods which showed a decrease in organ lesion scores in comparison to the other groups (non-vaccinated, challenged broilers). These results suggest that the two different vaccines used in our study are efficient in reducing lesion scores against homologous and heterologous challenge using spray and eye drop methods that could lead to minimizing the time for treatment and cases of condemnation in processing plants.

Key words: APEC, broiler chickens, Vaccine, challenge, air sacculitis, pericarditis, perihepatitis

## BIOLOGICAL POLLUTION AND CONTROL

### BROILER CHICKENS

|          |  |
|----------|--|
| NO       | : 107  |
| TITLE    | : ISOLATION AND IDENTIFICATION OF ORNITHOBACTERIOSIS FROM BROILER CHICKENS IN NEW VALLEY AND ASSIUT GOVERNORATES   |
| AUTHORS  | : MOHAMED S. ABD EL HAFEZ 1; MOHAMED KHAMES 2; SOTOHY AHMED 3; MOSTAFA A. SHEHATA 4 AND MOHAMED A. SOLIMAN5  |
| ADDRESS  | : 1,2 Birds and Rabbits Diseases Department, Faculty of Veterinary Medicine, New Valley University, Egypt - 3 Animal Hygiene Department, Faculty of Veterinary Medicine, Assiut University - 4 Birds and Rabbits Diseases Department, Faculty of Veterinary Medicine, Assiut University, Egypt<br>5 Poultry and fish Diseases Department, Faculty of Veterinary Medicine, Al Minia University, Al Minia 61519, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 169 April 2021, 136-151  |

#### ABSTRACT

Respiratory infections are the most dangerous diseases facing poultry industry. Ornithobacteriosis is a respiratory disease in chicken broiler farms, it causes severe economic losses (high condemnation rate at slaughter, high treatment costs). Scientific research papers should be focused on the causative agent in order to make a plan for the ideal steps for its isolation and identification, in addition to prevention and control of this infection. The present work was conducted to isolate and identify *Ornithobacterium rhinotracheale* (ORT) in chicken broilers. A total of 195 samples (trachea, lungs and air sacs) were collected from dead and sacrificed broiler chickens aged (20 - 42 days old) from different broiler chickens farms in Assiut and New Valley Governorates for possible recovery of ORT. Samples were cultured on blood agar plates under 7.5 – 10 % CO<sub>2</sub> tension at 37°C for 48 hours. Bacteriological examination used for isolation and identification of the ORT bacteria (cellular and colonial morphology, biochemical reactions, API 20 NE and growth on MacConkey's agar) showed 32 suspected isolates at percentage of 16.4%. Results of isolation by conventional method were confirmed by molecular identification using Polymerase Chain reaction technique (PCR); which revealed the positive detection of only 5 strains of ORT and produced the predicated 625 bp amplification product. Serotyping of the isolates by using agar gel precipitation test proved that all isolates belonged to serotype A. Challenge of broilers aged 14 days old with ORT strain alone or combined with live ND vaccine by spraying method caused mild respiratory manifestations with tracheitis, pneumonia and mild airsacculitis. While Infection of chicks with ORT via spray combined with prior administration of ND vaccine (stress factor) caused a moderate respiratory signs and more severe lesions. From the results obtained in this work, we can conclude that: The prevalence of ORT infection in broiler chickens in Assiut and New Valley governorates was 2.56% from living and scarified birds. The current investigation revealed that the isolates of ORT bacteria belonged to serotype A. Post mortem lesions especially yogurt like exudate in the abdominal air sac considered very pathognomonic in the tentative diagnosis of ORT infection. While PCR technique was proved to be more sensitive and specific for detection of ORT pathogen.

Key words: ORT, broilers, PCR, challenge

**BIOLOGICAL POLLUTION AND CONTROL****(BROILER CHICKEN )**

|          |   |
|----------|---|
| NO       | : 108   |
| TITLE    | : THERAPEUTIC POTENTIAL OF SOME ORGANIC ACIDS AND ESSENTIAL OILS AGAINST EIMERIA SPP. ISOLATES COLLECTED FROM BROILER CHICKEN FARMS IN ASSIUT   |
| AUTHORS  | : ASMAA AE NASR 1; GEHAN M SAYED 3; ADEL M SOLIMAN 2; GAMAL M. SULTAN ZAYED 4 AND SHIEM EL-SHERRY 2*  |
| ADDRESS  | : 1 Poultry Diseases Department, Animal Health Research Institute, Assiut<br>2 Avian and Rabbit Diseases Department, Faculty of Veterinary Medicine, Assiut University<br>3 Parasitology Department, Animal Health Research Institute, Assiut<br>4 Department of Industrial Pharmaceutics, Faculty of Pharmacy, Al-Azhar University, Assiut |
| BULLETIN | : Assiut Vet. Med. J. Vol. 69 No. 177 April 2023pp 1-15   |

**ABSTRACT**

Different Eimeria isolates were collected and identified in 50 intestinal specimens. The therapeutic potential of the organic acids and essential oils blends against *E. tenella* was compared with the anticoccidial drugs toltrazuril and amprolium in broiler chickens. Results revealed that *E. tenella* was the most frequent identified Eimeria species (48 %) followed by *E. acervulina* (30 %) and *E. mitis* (28 %), while the least detected were *E. mivati* (2%) and *E. brunetti* (2 %). Organic acids medication reduced the clinical signs and mortality to 33.3 % compared to amprolium (40 %), Essential oils (40 %), and toltrazuril (53.3 %) medicated groups and the positive control (60 %). The best relative body weight gain percent during the experimental course was achieved by birds medicated with organic acids (40 %) and toltrazuril (40 %) followed by amprolium (30 %) and essential oils (30 %) medicated group and the least in the positive control (10 %). The severity of the cecal lesions was reduced similarly by 34 % in all the medicated groups; all scored 2.3 on average in comparison to 3.5 in the positive control. Both organic acids and essential oils were unable to reduce the output of oocysts by over 17% and 3%, respectively, as opposed to 37% in the toltrazuril and 20.6% in the Amprolium treated groups. Microscopic observations revealed their healing effect of on the cecal tissue (epithelium and inflammatory response). The results support the notion that integrating the organic acids and or essential oils may have the ability to induce positive therapeutic effects similar to some chemical drugs such as toltrazuril and amprolium.

Keywords: *E. tenella*, Organic acids, Essential oils, Toltrazuril, Amprolium



**Biological Pollution and Control****(CAMELS)**

|          |   |
|----------|---|
| NO       | : 109   |
| TITLE    | : PREVALENCE AND CHEMOTHERAPY OF TRICHOSTRONGYLOIDS IN CAMELS IN CHARSA DA  |
| AUTHORS  | : MUHAMMAD QASIM*; AZHAR MAQBOOL*; MUHAMMAD IJAZ**;<br>ABRAR AHMAD*** and AHMED DYAB****  |
| ADDRESS  | : * Department of Parasitology, University of Veterinary and Animal Sciences, Lahore.<br>2 Department of Clinical Medicine and Surgery, University of Veterinary and Animal Sciences, Lahore.<br>*** Department of Veterinary Pharmacology Sindh Agriculture University Tandojam<br>**** Department of Parasitology Faculty of Medicine Assiut University Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 152 January 2017, 78-82   |

**ABSTRACT**

The prevalence of Trichostrongyloids among camels in Charsada district was measured and trials conducted to determine the efficacy of Saussurea lappa and Fumaria parviflora and Albendazole. 500 camels were examined, and trichostrongyloids were observed in 175 (35%). Haemonchus longisteps was the most predominant specie with the prevalence of (52.57%), followed by Trichostrongylus probolurus, Ostertagia Ostertagi, Dictyocaulus and Nematodirus dromedari being 10.85%, 9.71%, 9.14% and 9.14% respectively. Cooperia was found to be the least prevalent 8.57% parasite. Young animals were found to be at higher risk of infection than adult animals. The efficacy of Saussurea lappa was 65.85%, Fumaria parviflora was 46.34, and albendazole was (66.66%) at one dose. Whereas the efficacy after second dose was of Saussurea lappa (85.36%), Fumaria parviflora was (82.92 %), and albendazole was (97.43%). Making albendazole is the most effective treatment against trichostrongyloids in camels.



**Biological Pollution and control**

**(CATTLE)**

|          |   |
|----------|---|
| NO       | : 110   |
| TITLE    | : EVALUATION OF CLINICAL RECOVERY AND HEALING OF ORAL LESIONS BY 3 DIFFERENT THERAPEUTIC REGIMENS IN CATTLE WITH FOOT AND MOUTH DISEASE (FMD)   |
| AUTHORS  | : AL-LETHIE A. AL-LETHIE 1; SAYED F. EL-HAWARI 2; KHALED A.S. EL-KHABAZ 3; ENAS ELMELIGY 4; ARAFAT KHALPHALLAH 5 and USAMA T. MAHMOUD 6   |
| ADDRESS  | : 1 Department of Surgery, Anaesthesiology and Radiology, Faculty of Veterinary Medicine, Aswan University, Aswan 81528, Egypt. -2 Department of Surgery, Anaesthesiology and Radiology, Faculty of Veterinary Medicine, Sohag University, Sohag 82524, Egypt. - 3 Department of Animal Medicine (Infectious Diseases) Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt.<br>4 Veterinary Teaching Hospital, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt.<br>5 Department of Animal Medicine (Internal Medicine) Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt.<br>6 Department of Animal Hygiene, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 64 No. 156 January 2018, 89-95   |

**ABSTRACT**

The study compares the clinical outcome of the use of different topical treatments for oral lesions in cattle suffering from foot and mouth disease (FMD). One hundred diseased cattle, during an outbreak of FMD in Assiut governorate, Egypt, were used in this study. The animals divided into four equal groups. The oral lesions after being washed with physiological saline solution to remove necrotic tissues, were sprayed twice daily by Phenytoin (PHEN group), Bacitracin and Neomycin (BAC-NEO group), Oxytetracycline and Crystal violet (OXY-CRY group), and the lesions leaved without any topical applications (control group). All animals in the four groups treated daily and for 3 consecutive days by the intramuscular injection of both Oxytetracycline as a broad spectrum antibiotics and Flunixin meglumine as antipyretic and anti-inflammatory drugs. It was observed that all animals in PHEN group show complete healing of oral lesions and the animals return to its normal appetite after 4 days whereas animals in BAC-NEO and OXY-CRY groups take a longer time to show improvement. The lesions in control group remain unhealed with bad appetite till the end of the observation period. It is concluded that Phenytoin (Healosol®) has a potent wound healing activity comparable to Bacitracin-Neomycin (Bivatracin®) and Oxytetracycline-Crystal violet (Oxy G®) in treatment of the oral lesions of FMD in cattle.

**BIOLOGICAL POLLUTION AND CONTROL  
CHEESE**

|          |   |
|----------|---|
| NO       | : 111   |
| TITLE    | : USING LACTOFERRIN AS A TRAIL TO CONTROL E COLI AND STAPH. AUREUS ISOLATED FROM SOME TYPES OF CHEESE   |
| AUTHORS  | : AZHAR MOHAMMED HASSAN 1; JAKLEEN HALIM TAWFIK BEBAWY 2; MARY RAFAT HAFAZ 3 AND WALAA S. HASAN 4   |
| ADDRESS  | : 1 Prof. of Microbiology in Agriculture Research Institute-Animal Health Research Institute - 2, 3 Researcher in Agriculture Research Institute-Animal Health Research Institute - 4 Colleague of Milk Hygiene Veterinary Teaching Hospital, Faculty of Veterinary - Medicine, Assiut University, Assiut 71526, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 174 July 2022, 49-57  |

**ABSTRACT**

In this study, the effect of lactoferrin as an antibacterial activity on the phagocytic activity of *E. coli* as Gram-negative bacteria and *Staph. aureus* as Gram-positive bacteria was investigated. The microbiological status of different types of cheese (Kareish, Domiati and Tallaga cheese) was also evaluated. A total of sixty cheese samples (20 samples each) were collected randomly from different markets and restaurants. Pathogenic bacteria including *E. coli* and *Staph. aureus* were isolated and considered as indicators of the microbiological quality. The effect of lactoferrin on *E. coli* and *Staph. aureus* was evaluated to improve the quality of cheese. Lactoferrin antibacterial activity was tested using different concentrations of lactoferrin (zero, 0.5, 1.0, 5.0, 10, and 20 mg/ml) on the survivability of *E. coli* and *Staph. aureus* in different varieties of cheese. Lactoferrin showed various inhibition activity on *E. coli* viability than *Staph. aureus*, and significantly influenced the count of *E. coli* in Kareish and Domiati cheese while, and 20% of lactoferrin can inhibit the viability of *Staph. aureus* in Kareish cheese. Furthermore, their viability in Tallaga cheese was not significantly affected by lactoferrin even by using high concentration. So, lactoferrin could become a promising method to decrease the viability of *E. coli* and *Staph. aureus* in cheese.

Keywords: lactoferrin, *E. coli*, *Staph. aureus*, antimicrobial activity.

**Biological Pollution and Control** □**(CHICKENS)**

|          |   |
|----------|---|
| NO       | : 112   |
| TITLE    | : ROLE OF ESSENTIAL OIL FOR CONTROL OF AVIAN ASPERGILLOSIS IN EXPERIMENTALLY INFECTED CHICKENS  |
| AUTHORS  | : YASMIN SADIEK; T.Y. ABD EL MOTELIB and OMAR AMEN  |
| ADDRESS  | : 1 Department of Pharmacology, Faculty of Medicine, Assiut University. Department of Avian and Rabbit Diseases, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 65 No. 163 October 2019, 1-9   |

**ABSTRACT**

This study was designed to investigate the efficacy of essential oils as an alternative prophylaxis and treatment for avian aspergillosis. The in vitro susceptibility of *Aspergillus fumigatus*, *A.flavus*, and *A.niger* strains to antifungal drugs ( Nystatin, Amphotericin B (AMP ), Ketoconazole (KTC ), Itraconazole (ITR) and Fluconazole (FLU), and to essential oils (Garlic, thyme, cinnamon, tea tree, clove and chamomile oils) was determined using the macro diffusion methods. All fungal isolates demonstrated variable degrees of drugs resistances. All fungi showed 100% resistance to fluconazole, while ketoconazole is highly effective than itraconazol, amphotericin B and nystatin in all isolated fungi. Essential oils showed antifungal effect especially cinnamon oil followed by clove and garlic among tested EOs in vitro. Cinnamon oil showed the highest inhibition zone diameter to all fungi, so it was chosen for experimental trial based on the obtained antifungal activity results, Cinnamon oil was highly effective against *A.fumigatus* infection with a dose of 1 ml \ kg ration and could be used in the field of poultry instead of other antifungal drugs.

Key word: Essential oils, Cinnamon oil, Aspergillosis

**Biological Pollution and control****(CLARIASGARIEPINUS)**

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| NO       | : 113   |
| TITLE    | : APPLICATION OF GINGER (ZINGIBER OFFICINALE) AS ANTIBACTERIAL AND ANTISTRESS AGENTS IN SHARPTOOTH CATFISH, CLARIASGARIEPINUS   |
| AUTHORS  | : AYA G. SAAD EL-DEEN <sup>1</sup> and YOSRA M. I. EL-SHERRY  |
| ADDRESS  | : Fish Diseases and Management, Animal Health Research Institute, Assiut Laboratory*<br>** Fish diseases and Management, Department of Fish diseases and Management, Faculty of veterinary -medicine, Aswan University, Aswan, Egypt. |
| BULLETIN | : <i>17 Sci. Cong. 2016, Fac. Vet. Med., Assiut Univ., Egypt</i>  |

**ABSTRACT**

This study aimed to evaluate the effects of ginger (*Zingiber officinale*) as an immune stimulator and a stress resistance agent in sharptooth catfish (*Clarias gariepinus*). 348 fish with average weight  $100 \pm 20$  grams were used in the experiment. The potential anti-stress ability of *Z. officinale* was evaluated by challenging fish with increasing salinity up to 10 ppt (n=180) and rising the PH up to 8.6 (n=108). To test its immune stimulant ability, *Clarias gariepinus* (n=60) were experimentally injected with *Streptococcus faecium*. Before challenge, fish were divided into 2 main groups: one group (control group) received basic diet and the other group (ginger group) was fed on basic diet with 5 grams ginger/ kg diet for 30 days. Before challenge time, control group was divided into 2 sub-groups; one was left as a normal control and the other was subjected to challenge as a challenge (Salinity/pH/ experimental infection) control. Ginger group was also divided into 2 sub-groups; one was left as a control (ginger control) and the other was subjected to challenge as a challenged ginger group. Serum cortisol, glucose, sodium, potassium and chloride were measured after 4,8, 24,48 and 72 hours for salinity stress and 24,48 and 72 hours for pH stress. Ginger significantly lowered serum glucose during salinity challenge from the first 8 hours comparing to salinity control until the end of experiment. Also *Z. officinale* significantly ( $P < 0.05$ ) lowered serum chloride, sodium and potassium from 24 to 48 hours post stress exposure comparing to salinity control. After 72 hours, cortisol level in ginger salinity challenged group was not significant from that of salinity control group but it was at the same level of ginger control group. During the first two days of alkaline stress (pH 8.6), ginger lowered the serum glucose and chloride significantly comparing with alkaline control. Upon challenge with a bacterial pathogen *Streptococcus faecium*, mortality was significantly reduced in the ginger fed fish when compared to the control group. This study demonstrated that ginger could positively affect the innate immune responses. *Z. officinale* significantly increased total protein and globulin level in compared to control group. Ginger group maintained the total protein level and globulin during infection as that of control group. This study concluded that *Zingiber officinale* at concentration of 5g/kg diet can be used as a protective measure in *C. gariepinus* aquaculture with dual effect as anti-stressor especially against salinity stress and immune stimulator against bacterial infection.

**Biological Pollution and Control****(Diabetes mellitus)**

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| NO       | : 114  |
| TITLE    | : ENHANCEMENT OF THE ANTIDIABETIC EFFECT OF GLICLAZIDE BY THE ANTIPEPTIC DRUG OMEPRAZOLE IN ALLOXAN-INDUCED DIABETIC RATS  |
| AUTHORS  | : MAHMOUD H. ABDELRAHIM 1; SAFWAT A. MANGOURA1; SOTOHY A. SOTOHY 2; SARY KH. ABDELGHAFAR 3 and ASMAA M. SADEK 4  |
| ADDRESS  | : 1 Department of Pharmacology, Faculty of Medicine, Assiut University.<br>2 Department of Animal & Poultry Hygiene, Faculty of Veterinary Medicine, Assiut University.<br>3 Department of Pathology, Faculty of Veterinary Medicine, Assiut University.<br>4 Department of Pharmacology, Faculty of Veterinary Medicine, New Valley University. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 65 No. 163 October 2019, 1-9  |

**ABSTRACT**

**Introduction:** Diabetes mellitus (DM) is a global emerging disease with progressive incidence worldwide. Diabetic patients have a higher incidence of peptic ulcer disease than the non-diabetic population. So, diabetic patients treated with oral antidiabetic drugs, as gliclazide, may be also treated with anti-peptic ulcer drugs, as omeprazole. Aim of the Study: Evaluation of the possible drug-drug interactions between gliclazide and omeprazole in alloxan-induced diabetic rats. Materials and Methods: The study was done on 40 adult male albino rats (250-300 gm) classified into five groups. Diabetes was induced in group II, III, IV & V using alloxan monohydrate while group I was left as a negative control. Group II received no treatment, group III received gliclazide, group IV received omeprazole, while group V received combination of gliclazide and omeprazole. After the end of the experiment, rats were sacrificed and blood samples were collected for measurement of glucose, insulin, total antioxidant capacity (TAC), tumor necrosis factor- $\alpha$  (TNF $\alpha$ ) level. Also, histopathological study of the pancreas specimens was done. Results: diabetic rats showed significant increase in serum glucose level compared to normal rats. Treatment with gliclazide, omeprazole or combination of them had significant decrease in high serum glucose level. Serum insulin level in diabetic rats had significant decrease compared to normal rats. While, Treatment with gliclazide, omeprazole or combination of them had significant increase in its low level. Besides, diabetes in rats caused significant decrease in TAC compared to normal rats. Treatment with gliclazide, omeprazole or combination of them had significant increase in its low level. Regarding TNF- $\alpha$ , alloxan-induced diabetes in rats caused significant elevation in its level compared to normal rats. Treatment with gliclazide, omeprazole and combination of gliclazide and omeprazole caused significant reduction in its high level. Conclusion: The antidiabetic action of gliclazide was enhanced by omeprazole.

**Key word:** Alloxan monohydrate, Diabetes mellitus, Gliclazide, Omeprazole, Peptic ulcer.

**Biological Pollution and control****( Dog)**

|          |  |
|----------|--|
| NO       | : 115  |
| TITLE    | : PROSPECTIVE STUDY OF CLINICAL AND EPIDEMIOLOGICAL TRENDS OF INTESTINAL NEMATODES INFECTION IN DOGS IN UPPER EGYPT  |
| AUTHORS  | : NASR-ELDIN M. AREF*; ARAFAT S. SAYED*; AHMED K. DIAB** and MAHEETAB M. MOHAMMED***   |
| ADDRESS  | : * Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt<br>** Department of Medical Parasitology, Faculty of Medicine, Assiut University, Assiut, Egypt<br>*** Directorate of Veterinary Medicine Sohag, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 64 No. 157 April 2018, 60-73  |

**ABSTRACT**

The study was carried out to determine the clinical course and epidemiological pattern of intestinal nematodes in dogs in Upper Egypt, and their impact on various hematological and biochemical parameters. A total number of 120 dogs (Age =1 month to 3 year), both sex and of different breed's size (small and large) were included in the present study. Parasitological, clinical, hemato-biochemical and epidemiological examinations were conducted. Microscopic analysis of fecal samples (n=120) revealed three types of intestinal nematodes: *Toxocara canis* (n= 28), *Toxascaris leonina* (n =5), *Ancylostoma caninum* (n = 4) and mixed infection of *Toxocara canis* and *Dipylidium caninum* (n =2) with an overall infection rate 32.5% (39/120). *Toxocara canis* was predominate type of nematodal parasite infection in the studied population (23.3%). Puppies (0-<3 months) were greatly affected with intestinal nematodes (54.8%), in particularly *Toxocara canis* (45.2%). Infected puppies showed off food, pale mucous membrane diarrhea abdominal bloating with potbellied appearance and vomiting. Other group of examined animals (n= 54) showed no clinical signs (asymptomatic) however a portion of this group (25.9%) was infected suggesting that absence of clinical symptoms was not an evidence of the absence of infection. Sex and breed showed non-significant differences ( $P>0.05$ ) on infection rate of intestinal nematodes but season had high impact on nematodal infection The infection rate showed significant ( $P<0.05$ ) increasing in winter (42.3%) and autumn (43.8%) with a maximum infection rate reported in December (60%) and January (56.5%). Hematological data generated from 35 blood samples of infected and 40 samples of healthy dog populations showed significant decrease ( $P<0.05$ ) in erythrocytic parameters (RBCs, Hb, PCV) and platelets count in infected group, whereas group differences for TWBCs, neutrophils, monocytes, lymphocytes, eosinophils and basophils were non-significant high. Biochemical data generated revealed significant decrease ( $P<0.01$ ) in the value of serum total protein in infected group. Liver enzymes showed significant increase ( $P<0.01$ ) in serum AST, ALT and ALP in infected group compared with healthy one. In conclusion, intestinal nematode in dogs was common in Upper Egypt with infection rate of 32.5% and *Toxocara canis* was the most common nematode infection (23.3%). They have significant effects on hematological and biochemical parameters suggesting their importance as a health problem in dogs.

Key word: Nematodes, *Toxocara canis*, *Toxocara leonina*, infection, dogs.

## BIOLOGICAL POLLUTION AND CONTROL ( DUCKS)

|          |   |
|----------|---|
| NO       | : 116   |
| TITLE    | : MOLECULAR CHARACTERIZATION OF ANTIBACTERIAL RESISTANCE GENES OF SALMONELLA IN DUCKS   |
| AUTHORS  | : ZEINAB KHALIFA MOSTAFA KHALIFA1; AWAD ABD EL-HAFEZ IBRAHIM 2; TOLBA YOUNES ABD EL-MOTELIB AND AZHAR ABDEL-AZIZ1   |
| ADDRESS  | : 1 Assistant Researcher of Poultry Diseases Department, Animal Health Research Institute, Assiut Branch, Egypt. - 2 Avian and Rabbit Diseases Department, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 171 October 2021, 52-66   |

### ABSTRACT

Due to financial losses associated with avian salmonellosis, high costs of prohibiting its spread and prevention and its multiple drug resistance, Salmonella infection, particularly in ducks, attracted interest of many researchers as duck is a main reservoir of salmonella transmitted to human. Therefore, this study aimed at identifying circulating salmonella of ducks in Assiut governorate and assessing their antimicrobial susceptibility profile. Five hundred and sixty samples (150 livers and 410 cloacal swabs) of infected, freshly dead and apparently healthy ducks, were obtained from different farms in Assiut governorate for bacteriological, serological and molecular examination. An overall 16.6% Salmonella detection rate was recorded, where 15 isolates were identified serologically and molecularly as *S. typhimurium* (93.3%) and *S. infantis* (6.7%). Basing on antibiogram guidelines, detected Salmonella isolates were completely resistant (100%) to cephradine and amoxicillin, but had variable resistance degrees to colistin sulfate (80%), streptomycin (60%), chloramphenicol (33.3%), ampicillin and neomycin (26.7% of each). MIC test presented that all isolates were absolutely sensitive to colistin and doxycycline, but completely resistant to sulfaquinoxaline. High resistance rates occurred to cephradine, amoxicillin, streptomycin and florfenicol. *sul-1*, *strA-strB*, *bla TEM*, *aadA* and *floR* antibacterial resistance genes were assigned in variable frequencies (100%, 73.3%, 73.3%, 66.7% and 46.7%, respectively). In conclusion, *S. typhimurium* and *S. infantis* serovars are circulating among duck farms in Assiut. These serotypes exhibited genetic multiple drug resistance, that require special strict biosecurity and searching alternative effective control strategies.

Keywords: Ducks, Salmonella, PCR, MIC, Resistance gene.

**Biological Pollution and Control****(EARMITE)**

|          |   |   |
|----------|---|---|
| NO       | : | 117   |
| TITLE    | : | evaluation of the Clinical efficacy of three medications used for treatment of earmite-induced otitis externa in cats: a Preliminary study  |
| AUTHORS  | : | M.I. HAMED*; R.K. SAYED*** and N.E. WALY**  |
| ADDRESS  | : | * Division of Infectious Diseases<br>** Division of Internal Veterinary Medicine, Animal Medicine Department<br>*** Veterinary Teaching Hospital, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt. |
| BULLETIN | : | Assiut Vet. Med. J. Vol. 61 No. 144 January 2015  |

**ABSTRACT**

The aim of this study was to compare the clinical outcome of three different medications (ivermectin injection, canaural eardrops and frontline combo) in treatment of ear mite infestation accompanied by otitis externa in cats using a randomized trial. Cases presented to the Small Animal Clinic, Faculty of Veterinary Medicine, Assiut University for investigating signs of ear mite infestation and/or otitis externa were recruited (n=17) and randomly assigned to one of the 3 groups for evaluation of response to treatment over a period of 30 days. Cases that did not respond to treatment within 2 weeks of treatment were changed to one of the other two medication. A simple questionnaire was designed to evaluate owner satisfaction of the medication price, ease of administration, cat tolerance and improvement of signs. Recruited cases were either brought to the clinic for re-evaluation or the owner was contacted by phone to evaluate progress of each case. In the ivermectin-treated group (Group 1; n=7), 75% of cases recovered from ear mite infestation based on signs resolving and disappearance of presenting signs. Only 60% of cases treated with frontline (Group 2) showed an improvement of signs (n=5). All cases treated with Canaural (Group 3) showed complete recovery with complete absence of presenting signs and signs of otitis externa (n=5). Average age of cats in all groups ranged from two to 72 months (mean= 17.33, median=6.5). Statistically there were no significant difference between the three medications ( $p>0.5$ ), but according to the clinical findings, we can suggest that Canaural is the most suitable when otitis externa is present along with ear mite infestation. Frontline Combo is not as effective as the two other medications used in this study.



**BIOLOGICAL POLLUTION AND CONTROL  
( ESSENTIAL OILS )**

|          |   |  |
|----------|---|--|
| NO       | : | 118  |
| TITLE    | : | INFLUENCE OF ESSENTIAL OILS ON THE VIABILITY OF LISTERIA MONOCYTOGENES   |
| AUTHORS  | : | MARY ISHAQ 1; WALAA M. ELSHERIF 1; AND MOHAMMED SAYED 2  |
| ADDRESS  | : | 1Department of Food Hygiene, Animal Health Research Institute, Agriculture Research Center, Egypt<br>2Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : | Assiut Vet. Med. J. Vol. 68 No. 172 January 2022, 78-87  |

**ABSTRACT**

The present investigation was applied to study the influence of cinnamon (C), rosemary (R) and thyme (T) essential oils (EOs) on the viability of *Listeria monocytogenes*, in which, a total of 225 cheese samples (Tallaga, Bramily and Ras cheese, 75 each) were collected from different dairy markets and shops in Assiut city, Egypt for the isolation of *L. monocytogenes*. The isolates were identified and examined for 16S rRNA as positive for *L. monocytogenes*. The obtained results showed that *Listeria* spp. could be detected in 66.2% of the examined samples, while *L. monocytogenes* was in 17.6%. After that, the minimum inhibitory concentration (MIC) of the prepared cinnamon EO (CEO), rosemary EO (REO) and thyme EO (TEO) was detected against the isolated *L. monocytogenes*. Samples of Tallaga cheese were manufactured using MIC of the 3 prepared EOs separately, and the influence of EOs was done by agar well diffusion method and showed the MIC as 1.56% for CEO, 3.125% for REO and TEO. In conclusion, the CEO was the most effective against *L. monocytogenes* after Tallaga cheese manufacture although the unpleasant sensory quality of the manufactured cheese with the 3 oils, in which, the count of *L. monocytogenes* was 6.3 log<sub>10</sub> at 0 h and then was 2.7 log<sub>10</sub> after 1st week.

Key words: Essential oil; *Listeria monocytogenes*; cinnamon; rosemary; thyme

**BIOLOGICAL POLLUTION AND CONTROL  
(FAYOUMI CHICKENS)**

|          |  |
|----------|--|
| NO       | : 119  |
| TITLE    | : EVALUATION THE RESISTENCE OF EIMERIA SPP. LOCAL ISOLATES TO ANTICCOCIDIAL DRUGS AND THE EFFICACY OF LIVE ATTENUATED VACCINE AND/OR PREBIOTIC IN CONTROL OF EIMERIA INFECTION IN FAYOUMI CHICKENS   |
| AUTHORS  | : HASSAN, AHMED 2 ; MAHMOUD, WARDAA 1; SHEHATA, MOSTAFA 2 AND ARAFA, MOHSEN 3  |
| ADDRESS  | : 1 Animal Health Research Institute, El-Menia Branch, El-Menia, Egypt<br>2 Department of Avian and Rabbit Medicine, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt.<br>3 Dept. of Parasitology, Animal Health Research Institute, Assiut Lab. |
| BULLETIN | : Assiut Vet. Med. J. Vol. No. April 2023  |

**ABSTRACT**

Coccidiosis is the most important intestinal parasitic disease of poultry worldwide. It may lead to high economic losses in poultry because of the high mortality rates and high cost of medication. The present study aimed to evaluate the resistance of Eimeria species local isolates to anticoccidials and to study the efficacy of live attenuated vaccines and/or prebiotics in control of Eimeria infection in Fayoumi chickens. Seventy gut samples of Fayoumi chickens at 29-39 days old suspected for coccidiosis infection were collected from the research station of animal production at Malawi city, El-Minia Governorate, and subjected to isolation and morphological identification. Resistance of Eimeria species to anticoccidial drugs was evaluated using anticoccidial sensitivity profiles 1 (ASP1) and 2 (ASP2). Evaluation of the effectiveness of living attenuated vaccine (Fortegra) and/or prebiotic (Agrimos) in control of coccidiosis was done using experimental challenge with isolated Eimeria species. It was concluded that using morphological methods for identification of Eimeria spp. in Fayoumi chickens, five Eimeria spp. could be isolated; E. mitis, E. maxima, E. acervuline, E. tenella, and E. praecox. The present study provides evidence for the resistance of isolated Eimeria spp. to toltrazuril and good sensitivity to sulfaclozine and amprolium in fayoumi chickens. This study showed that living attenuated vaccine is effective for control of coccidiosis and better results will be obtained in case of addition of prebiotic to vaccine. The use of prebiotics in control of Eimeria infection is not effective.

**Key words:** Coccidiosis, Vaccine, Prebiotic, Control, Fayoumi chickens.

**Biological Pollution and Control****(Fish)**

|          |  |
|----------|--|
| NO       | : 120  |
| TITLE    | : ISOLATION AND CHARACTERIZATION OF EDWARDSIELLA ICTAURI-SPECIFIC BACTERIOPHAGES   |
| AUTHORS  | : MAHMOUD MOSTAFA MAHMOUD 1 and TOSHIHIRO NAKAI 2  |
| ADDRESS  | : 1 Aquatic Animals Medicine and Management, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt.<br>2 Fish pathology laboratory, Graduate School of Biosphere Science, Hiroshima University, Higashi-Hiroshima 739-8528, Japan |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 161 April 2019, 1-11   |

**ABSTRACT**

The present study aimed to isolate and characterize bacteriophages (phages) specific for *Edwardsiella ictaluri* to be used as a biological control of the infection in fish as a final goal. Twenty-six phages (PEi1 ~ PEi26), lytic to *E. ictaluri* were isolated from ayu *Plecoglossus altivelis* and its surrounding environment (water and mud) using enrichment and double agar layer methods. All phages formed clear plaques ranging in size from 0.3 to 8 mm in diameter. Transmission electron microscopy revealed that all the isolated bacteriophages belonged to the family Myoviridae. According to phage morphology, plaques size and DNA restriction patterns with EcoRI, the phages were classified into four groups (I ~ IV). *E. ictaluri* strains isolated from ayu (n=57) were sensitive to these phages with various degrees, resulting in twenty-five phage types of the bacterium. *E. ictaluri* strains isolated from catfish in the USA (type strain; JCM1680), Indonesia (n=4) or Vietnam (n=2) exhibited no or very limited susceptibility to the present phages. In addition, *E. tarda*, the most closely related species to *E. ictaluri*, as well as other fish pathogens were not susceptible to any of the phages examined.

Key words: *E. ictaluri* specific-bacteriophage, TEM, phage typing, host range, restriction enzyme

**BIOLOGICAL POLLUTION AND CONTROL****( LUNG )**

|          |   |
|----------|---|
| NO       | : 121   |
| TITLE    | : EFFECTS OF DEXMEDETOMIDINE ON SEPSIS INDUCED-LUNG INJURY AND CD54 EXPRESSION  |
| AUTHORS  | : LOBNA A. ABDELZAHER 1 AND MARWA F. ALI 2  |
| ADDRESS  | : 1 Department of Pharmacology, Faculty of Medicine, Assiut University, Assiut, Egypt.- 2 Department of Veterinary Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 172 January 2022, 28-43   |

**ABSTRACT**

Sepsis is a systemic inflammatory response syndrome (SIRS) that occurs when the body's immunity overreacts to an infection. It is followed by life-threatening medical consequences, including multiple organ failure (MOD). Dexmedetomidine (DEX) is a selective 2 adrenergic agonist that is used as a short-term sedative in the ICU. Apart from improving sepsis prognosis, it is believed to have an organ protecting function. Our study aimed at confirming DEX ameliorative role in sepsis-induced organ damage. We also studied DEX mitigating effect on sepsis-induced acute lung injury (ALI) and elucidated the possible mechanism. Thirty rats were randomly assigned into three groups (n=10): sham, cecal ligation and puncture (CLP)-induced sepsis, or DEX-treated CLP (DEX + CLP). 15 minutes before the CLP procedure, a prophylactic dosage of DEX (5g/kg) was given intraperitoneally (IP). Animals were slaughtered 48 hours after the surgery was completed. Histological examination for tissue samples from lung, liver and kidney. CD54 expression in lung tissue was also investigated. Blood was also taken for hematological analysis. CLP rats showed different pathological lesions in lung, kidney and liver. We reported severe pulmonary tissue damage in CLP group accompanied with enhanced CD54 expression. DEX decreased the severity of histopathological changes in the affected organs and reduced the expression of CD54 in the lung tissue as well. However, DEX could not improve sepsis-induced hematological impairment. DEX attenuated sepsis through decreased CD54 expression in the lung as well as its hepato-renal protective effect in the CLP model.

**List of abbreviations**

AKI: acute kidney damage; ALI: acute lung injury;  $\alpha 7nAChRs$ :  $\alpha 7$ -nicotinic acetylcholine receptors; ARDS: acute respiratory distress syndrome; CLP: cecal ligation and puncture;

DEX: Dexmedetomidine; ECs: endothelial cells; H& E: hematoxylin and eosin; H<sub>2</sub>O<sub>2</sub>: hydrogen peroxide; ICAM-1: intracellular cell adhesion molecule; IP: intraperitoneally; MOD: multiple organ failure; PBS: phosphate-buffered saline; PMNs: polymorphonuclear leukocytes; ROS: reactive oxygen species SC: subcutaneously; SIRS: systemic inflammatory response syndrome. VCAM-1: vascular cell adhesion molecule.

**Keywords:** Dexmedetomidine; Sepsis; Hematological picture; Histopathology; CD54.

**Biological Pollution and Control****(MASTITIS)**

|          |   |
|----------|---|
| NO       | : 122   |
| TITLE    | : CONVENTIONAL AND MOLECULAR DETECTION OF INTRAMAMMARY STAPHYLOCOCCUS AUREUS INFECTION IN CLINICAL AND SUBCLINICAL MASTITIS OF BUFFALOES WITH A FIELD THERAPEUTIC TRIAL   |
| AUTHORS  | : A.M.A. ZAITOUN 1; A.S. ABD-EL-WAHED 2; ALSAGHER O. ALI 3 and RADWA HARTH 4  |
| ADDRESS  | : 1 Infectious Diseases, Dept. Animal Med., Faculty Assiut Univ.<br>2 Laboratory and Clinical Diagnosis, Faculty of Vet. Med. South Valley Univ.<br>3 Infectious Diseases, Dept. Animal Med., Faculty Assiut Univ.<br>4 Veterinary Directorate, Sohag Governorate |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 160 January 2019, 16-24   |

**ABSTRACT**

In this study, the bacteriocin nisin at various concentrations (50, 100 and 200 IU/ml) was studied as a bio-preservative to extend the shelf life of pasteurized milk. A minimum of one week extension in shelf life was obtained for pasteurized milk at refrigerator temperature storage. Higher concentration of nisin (200 IU/ml) showed no different effect than the lower one. The effect of nisin added on microbiological quality (standard plate count (SPC), psychrotrophs, proteolytic and thermophilic counts) of pasteurized milk studied and showed significant decrease in all of them than control samples (free from nisin). Also, nisin reduced the development of acidity so extend the shelf life of examined samples. The antibacterial effect of nisin studied on *Staphylococcus aureus* (*Staph. aureus*) inoculated in pasteurized milk and the result clarified complete inhibition of *Staph. aureus* at 6th day. Palatability of addition of different concentrations of nisin was also discussed. Nisin had the ability to control the spoilage bacteria so could be control the acidity of products and have antibacterial effect against pathogenic bacteria so act as a principal, safe and natural preservative for pasteurized milk.

Key words: Nisin; Biopreservative; *Staph. aureus*; Pasteurized milk; Psychrotrophs; Thermophilic and Proteolytic bacteria.

**Biological Pollution and control**

**(MEAT )**

|          |   |
|----------|---|
| NO       | : 123   |
| TITLE    | : <b>PUBLIC HEALTH HAZARDS OF SOME BACTERIAL PATHOGENS ASSOCIATED WITH MEAT AND STUDYING THE MOST EFFECTIVE METHODS OF COOKING ON THEIR DESTRUCTION</b> |
| AUTHORS  | : <b>GHADA M. MOHAMED*; Lubna M. EBRAHEEM and M.A.M. AMMAR</b>  |
| ADDRESS  | : <b>*Animal Health Research Institute, Assiut Regional Lab. (AHRI), Egypt.</b>   |
| BULLETIN | : <b>Assiut Vet. Med. J. Vol. 61 No. 146 July 2015</b>  |

**ABSTRACT**

The present investigation aimed to evaluate the prevalence of some microorganisms of public health importance (*Escherichia coli*, *Salmonella*, *Staphylococcus aureus* and *Listeria monocytogenes*) in fresh beef and study the growth and survival behavior of these pathogens when subjected to different types of cooking. Our findings showed that out of 100 fresh beef samples analyzed for microbial quality 90 (90%) were contaminated with different kinds of microorganisms namely *E.coli* (48%), *Salmonella* spp. (18%), *Staphylococcus* spp. (16%) and *Listeria* spp. (8%). The most *E.coli* isolated was *E.coli* O111: H4 (43.75%) followed by *E.coli* O126:H11 (27.08%), *E.coli* O128:H11 (22.92%) and *E.coli* O157:H7 (6.25%). Three species of *Salmonella* were isolated. The highest prevalence of them was *S.typhimurium* (44.4%), while *S.enetertiidis* and *S. anatum* rank as a second (27.8%) for each. *Staphylococcus* spp was isolated from (16%) of tested samples whereas (75%) of them recorded as *Staph. aureus* and (18.75%) recorded as *Staph. epidermis*, while (6.25%) recorded as *Staph. gallinarum*, all of them were coagulase-positive. Fifty percent of isolated *Listeria* spp. were characterized as *L. monocytogenes*, (25%) as *L.innocua* while the presence of *L.welshimeri* and *L.invanovii* was (12.5%) for each. Thermal inactivation of inoculated *E.coli* O157:H7, *S.enetertiidis*, *Staph. aureus* and *L.monocytogenes* inoculated in fresh beef were evaluated by boiling, frying and roasting treatments. At internal temperature of 65°C using boiling, the log cycles reduction were 1.3, 2.1, 2.2 and 2.2 for aforementioned microorganisms, respectively. By frying the reduction values were 1.5, 2.1, 2.3 and 2.1, respectively. The corresponding values by roasting were 2.6, 2, 2.3 and 1.4, respectively. *E.coli* O157:H7 couldn't be detected at internal temperature of 80, 83 and 74°C by boiling, frying and roasting, respectively. Both *S. enetertiidis* and *Staph aureus* couldn't be detected at internal temperature of 80, 80 ad 71°C by the treatments, respectively, while *L. monocytogenes* couldn't be detected at internal temperature of 80, 80 and 78°C respectively. The sensitivity of the isolated pathogens to heat inactivation was measured by assessing the D-values. These values were calculated from the survival curves. For *E.coli* O157:H7, they were 1.1, 1.1 and 1.2 minutes by boiling, frying and roasting treatments, respectively. Those recorded for *S. enteritidis* were 1.1, 1.0 and 1.2 minutes, respectively. In case of *Staph aureus* they were 1.1, 0.9 and 1.1 minutes, respectively while in case of *L. monocytogenes* the recorded values were 1.1, 0.8 and 1.1, minutes, respectively. Cooking fresh beef by boiling resulted in cooking weight loss (CWL) ranged from 8.1 to 17.47% according to time of exposure. By roasting the CWL ranged from 4.77 to 23.5% while by frying it was 15 to 23.53%. The increase in the pH value was directly proportional to time of exposure to boiling but not clearly demarked by other cooking methods. This study cleared that fresh beef from fresh beef shops at Assiut City, Egypt can acts as a source of major human pathogens. For safe consumption, such meat must cooked to internal temperature of 83°C when using traditional cooking methods. The D-values recorded in this study may be helpful guide for thermal processing of meat.

**BIOLOGICAL POLLUTION and Control****(MILK)**

|          |   |
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| NO       | : 124   |
| TITLE    | : BACTERICIDAL EFFICIENCY OF SILVER NANOPARTICLES AGAINST METHICILLIN-RESISTANCE (MRSA) AND METHICILLIN-SUSCEPTIBLE STAPHYLOCOCCUS AUREUS (MSSA) STRAINS ISOLATED FROM MILK AND ITS SURROUNDING MILKING ENVIRONMENT   |
| AUTHORS  | : SABER KOTB* and MOHAMMED SAYED**  |
| ADDRESS  | : *Department of Animal Hygiene, Faculty of Veterinary Medicine, Assiut University, 71526 Assiut, Egypt.E-mails: <a href="mailto:saberkotb@yahoo.com">saberkotb@yahoo.com</a> ; <a href="mailto:saber.kotab@vet.au.edu.eg">saber.kotab@vet.au.edu.eg</a><br>**Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, 71526 Assiut, Egypt.E-mails: <a href="mailto:dr.mohammedsayed@yahoo.com">dr.mohammedsayed@yahoo.com</a> ; <a href="mailto:dr.mohammedsayed@vet.au.edu.eg">dr.mohammedsayed@vet.au.edu.eg</a> |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 144 January 2015  |

**ABSTRACT**

This investigation was done to evaluate the bactericidal efficiency of silver nanoparticles (Ag-NPs) against methicillin-resistance *Staphylococcus aureus* (MRSA) and methicillin-susceptible *Staphylococcus aureus* (MSSA) strains. The strains were previously isolated and obtained from milk and its surrounding animal milking environment from 60 dairy cattle houses including 30 houses for cows and 30 houses for buffalos. Ag-NPs solution was prepared and MIC (minimal inhibitory concentrations) and MBC (minimal bactericidal concentration) were determined. The obtained results showed that the mean values of MIC and MBC of Ag-NPs against MRSA were  $23.44 \pm 0.21$  and  $31.25 \pm 0.26$   $\mu\text{g} / \text{ml}$ , respectively; while the mean values of MIC and MBC of Ag-NPs against MSSA were  $11.33 \pm 0.14$  and  $13.28 \pm 0.17$   $\mu\text{g} / \text{ml}$ , respectively. The statistical analysis showed that no significant difference between the effect of Ag-NPs on MRSA and MSSA ( $p > 0.05$ ), as the bactericidal activity of Ag-NPs was not affected by the resistant mechanisms to methicillin. It can be concluded that Ag-NPs have potent bactericidal activity against MRSA as well as MSSA strains.

**Biological Pollution and Control****(MILK)**

|          |   |
|----------|---|
| NO       | : 125   |
| TITLE    | : INHIBITORY EFFECT OF ENTEROCIN WITH SOME FOOD ADDITIVES ON ESCHERICHIA COLI O18 IN UHT MILK   |
| AUTHORS  | : RANIA M. EWIDA and ENAS EL-PRINCE   |
| ADDRESS  | : 1 Department of Food Hygiene (Milk Hygiene), Faculty of Veterinary Medicine, New Valley University<br>2 Department of Food Hygiene (Milk Hygiene), Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. .Vol. 64 No. 159 October 2018, 33-38   |

**ABSTRACT**

Biopreservation is the oldest method for food preservation by addition of natural compounds to the food to increase its shelf-life and inhibit the growth of foodborne pathogens. Enterocin is a protein produced by *Enterococcus faecium* which have a great effect on Gram-positive bacteria, but it has limited effect on Gram-negative bacteria. The aim of this work is to study the addition of food additives as honey and EDTA to increase the inhibitory effect of enterocin against *Escherichia coli* O18 in UHT milk stored at ambient and refrigerator temperatures. The UHT milk inoculated with *E. coli* O18 was divided into 8 parts as the following, the first part without any additives as control, the second with 10% honey, the third and fourth parts contained 10% honey with different concentrations of enterocin (150 and 300 µg/ml), respectively. Each part of these prepared four parts was divided into two groups; the first group was stored at ambient temperature (30±2 °C) while, the second group was stored at refrigerator temperature (4±2 °C) for 24 hours. The obtained results showed that, the most effective treatment was the 10% honey and enterocin (300µg/ml) and stored in the refrigerator where the count of *E. coli* O18 reduced from 6x10<sup>6</sup> cfu/ml to 7.1x10<sup>4</sup> cfu/ml at the end of 24 h. Also, another trail was done as the previous experiment except the replacement of the honey with EDTA (20 mM). The highest inhibitory effect of the treatments obtained by the addition of EDTA (20mM) with enterocin (300 µg/ml) which was stored at the refrigerator temperature. The count of *E. coli* O18 was reduced from 1.5x10<sup>5</sup> cfu/ml to 3.6x10<sup>4</sup> cfu/ml by the end of 24 h. In conclusion, the addition of honey or EDTA with enterocin and preservation of milk in refrigerator temperature reduced *E. coli* O18 count. In addition, this method can be used as a safe method for preservation of milk which consumed directly or used in manufacture the milk products.

Key words: Enterocin, honey, EDTA, *E. coli* O18, UHT milk



**BIOLOGICAL POLLUTION AND CONTROL  
(MILK )**

|          |   |
|----------|---|
| NO       | : 126   |
| TITLE    | : MOLECULAR CHARACTERIZATION OF ANTIBIOTICS RESISTANCE GENES OF ENTEROCOCCI ISOLATED FROM RAW MILK IN ASSIUT CITY   |
| AUTHORS  | : HEBA K.M. NAFADI 2; AHMED S. AHMED 1; RAGAA S. RASHWAN 1; SHEREEN M. GALAL 3; DOAA M. ABD EL-KAREEM 4 AND RAWHIA F. ABDEL HAMID *1  |
| ADDRESS  | : 1 Department of Medical Microbiology and Immunology, Faculty of Medicine, Assiut University.<br>2 Department of Microbiology and Immunology, Faculty of Veterinary Medicine, Assiut University.<br>3 Department of Pediatrics, Assiut University Children Hospital, Faculty of Medicine, Assiut University.<br>4 Department of Clinical Pathology, Faculty of Medicine, Assiut University |
| BULLETIN | : Assiut Vet. Med.J.Vol. 69 No. 179 October2023,pp 148-159  |

**ABSTRACT**

Enterococcus species are Gram-positive cocci that are characterized by being catalase-negative, facultative anaerobic bacteria, and non-spore forming. Enterococci is often isolated from environmental and animal sources and inhabits the human gastrointestinal tract. Enterococcus species, which gets its resources from the dairy industry, animals, and people, is one of the most abundant lactic acid bacteria in raw milk. The aim of the present study is to detect antibiotic resistance of Enterococci isolated from raw milk by phenotypic and genotypic methods. Vitek 2 Compact System was used to identify the samples and assess their antimicrobial susceptibility. Following that, drug resistance genes (ermB, aph (3')-IIIa, and TetM) and one virulence gene (esp) were molecularly detected by PCR. Twenty isolates of Enterococci were phenotypically identified by routine laboratory examination and Vitek2. High rates of antibiotic resistance were found to erythromycin and tetracycline with percentages of 65% and 35%, respectively. The presence of tetM and ermB in milk isolates was found to be 100%, similarly. No detection of aph (3')IIIa was found in milk isolates. Esp was detected only in 5% of isolated samples. The prevalence of Enterococci among studied samples was 11.8% (20/170). The fact that Enterococci were resistant to erythromycin and tetracycline in our study was noteworthy since these bacteria could potentially be transmitted to people by drinking milk that has not been properly treated.

Key words: Enterococci, Vitek2, Resistant genes, PCR

**Biological Pollution and Control****(MILK PRODUCTS)□**

|          |   |
|----------|---|
| NO       | : 127   |
| TITLE    | : ANTIBACTERIAL ACTIVITY OF CHITOSAN AND ITS OLIGOMERS ON SOME PATHOGENIC BACTERIA ISOLATED FROM SOME MILK PRODUCTS |
| AUTHORS  | : MANAL M. AMIN and WALAA M.A. EL-SHERIF  |
| ADDRESS  | : Animal Health Research Institute, Assiut Lab., Egypt  |
| BULLETIN | : Assiut Vet. Med. .Vol. 64 No. 159 October 2018, 33-38   |

**ABSTRACT**

Chitosan and its oligomers N-acetyl chitooligosaccharides and chito-oligosaccharides prepared by deacetylation and chemical hydrolysis, respectively and have a broad antimicrobial spectrum to Gram-positive (Staph.aureus and List. monocytogenes) bacteria and Gram-negative (Sal.typhimurium). Staph.aureus, List. monocytogenes and Sal. typhimurium were isolated in lower percentages (23.3, 0 and 6.67%, respectively) from talaga cheese, followed by zabadi-baladi and kariesh cheese. This study focused on antimicrobial activity of chitosan and its oligomers by inoculation it and the isolated bacteria in yoghurt. 1% of chitosan completely inhibited the Staph.aureus, List. monocytogenes at 5th and 3rd day, respectively and Chitosan exhibited a bacteriostatic effect on Sal. typhimurium. while 0.1% of N-acetyl chitooligosaccharides and chito-oligosaccharides had reduced the count of List. monocytogenes and bactericidal effect on Staph.aureus and Sal. typhimurium. The antimicrobial properties of chitosan and its oligomers also, the perception of palatability to consumers toward it were discussed.

Key words: Chitosan, Zabadi baladi, Cheese, Antibacterial, Oligomers

**Biological Pollution and Control****( MOLOUHA )**

|          |   |   |
|----------|---|---|
| NO       | : | 128   |
| TITLE    | : | PREVALENCE OF METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) IN MOLOUHA (SALTED FISH) |
| AUTHORS  | : | LUBNA MOHAMED IBRAHIM and MANAL HASSAN THABET   |
| ADDRESS  | : | Animal Health Research Institute (Assiut lab.)  |
| BULLETIN | : | Assiut Vet. Med. J. Vol. 62 No. 150 July 2016, 107-11                                     |

**ABSTRACT**

Fifty samples of Salted Hydrocynus Froskali Fish (Molouha) were subjected for enumeration, isolation and identification of Staph.aureus. 34 strains (68%) of Staph.aureus were isolated, 16 (32%) were coagulase positive and 18 (36%) were coagulase negative, the mean Staph.aureus count was 35x10<sup>3</sup> cfu/g. It was found that 46% of examined samples were unaccepted based on the Egyptian Organization for standardization and quality control. The antimicrobial sensitivity revealed that isolated coagulase positive Staph.aureus were resistance to Neomycin, Penicillin, Kanamycin, Ampicillin, Chloramphenicol, Erythromycin, Oxytetracycline, Cloxacillin, Sulphamethoxazol, Ciprofloxacin, Cephalothin, Gentamicin, Methicillin and Vancomycin with a percentage of 100, 100, 93.7, 81.3, 75.0, 62.5, 56.3, 56.3, 50.0, 43.7, 37.5, 25.0, 25.0 and 6.3% respectively, whereas the high resistance rate was observed against Neomycin and Penicillin (100%) and the isolates showed 11 different patterns of antimicrobial sensitivity, whereas the high sensitive rate was observed with vancomycin (87.5%). Detection of mecA gene was done for all coagulase positive Staph.aureus strains (16) by PCR using specific primer with amplification length of 533 pb. The obtained results showed that all (MRSA) isolates were positive for presence of mecA gene and one of these isolets could not produce enterotoxin, whereas two could produce SEA and one could produce SEC.

**BIOLOGICAL POLLUTION AND CONTROL  
(NANOURCUMIN )**

|          |   |
|----------|---|
| NO       | : 129   |
| TITLE    | : HEPATOPROTECTIVE ROLE OF NANOURCUMIN AND PUMPKIN SEED OIL IN TRICHINELLA SPIRALIS INFECTION: PATHOGENESIS AND MODULATION OF MATRIX METALOPROTEINASIS (MMP9)   |
| AUTHORS  | : SHIMAA HAMDI ABD ELSADEK1; MAHMOUD ABDEL-ZAHER ABDEL-SAMIEE2; MOHAMED SALAH ELDIN YOUSSEF 3 AND SARA SALAH ABDEL-HAKEEM 4   |
| ADDRESS  | : 1 Researcher in Directorate of Veterinary Medicine, Assiut, Egypt.<br>2 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt.<br>3 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt.<br>4 Parasitology Laboratory, Zoology and Entamology Department, Faculty of Science, Assiut University, Assiut, Egypt.<br>sara_assiut86@aun.edu.eg |
| BULLETIN | : Assiut Vet. Med.J.Vol.69. No. 179 October2023,pp 100-114  |

**ABSTRACT**

Background: Trichinella spiralis is a unique zoonotic parasite that has two phases during its life cycle, enteral and parenteral phase. To the best of our knowledge, few literatures have been demonstrated the effect of T. spiralis infection on hepatic tissue. Aim: The present study aimed to investigate the impact of Nanocurcumin and Pumpkin oil, as natural compounds, against the hepatic pathogenesis and MMP-9 production during T. spiralis infection compared to Albendazole. Methods: One hundred and twenty mice were divided into four groups: the control group, the infected untreated group, the Nanocurcumin treated group, the Pumpkin treated group, and the Albendazole treated group. Histology and Immunohistochemical techniques were applied. Results: The infected untreated group showed acute liver inflammation with coagulative necrosis during the enteral and parenteral phase of infection. The treated groups showed more or less normal hepatic tissue, however necrobiotic changes were observed in the Pumpkin treated group. The immunohistochemical staining showed significant reduction in the expression of MMP-9 in the treated groups. Conclusion: Our results suggest that Nanocurcumin could effectively act against hepatic inflammation associated with T. spiralis infection through reduction of MMP-9 activity. However, the present results suggest that Nanocurcumin exhibited high efficacy compared to the Pumpkin seed oil. Additional research and clinical studies are necessary to validate these findings and determine the practical applications of these treatment strategies.

Key words: Curcumin chitosan nanoparticles, pumpkin seed oil, trichinellosis, immunohistochemistry of MMP9 mediator

**Biological Pollution and Control****OREOCHROMIS NILOTICUS**

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| NO       | : 130   |
| TITLE    | : EFFECT OF GUARDIZEN-M AS A PROBIOTIC ON SOME BLOOD PARAMETERS AND HISTOLOGICAL STRUCTURE OF SOME INTERNAL ORGANS OF NILE TILAPIA OREOCHROMIS NILOTICUS  |
| AUTHORS  | : S.Y. HUSSEIN 1, O.S. AFIFI 2, M.G. ABDELFATTAH 3, AHMED A.G. TOLBA 4 AND HANAN H. ABDEL-HAFEEZ 5  |
| ADDRESS  | : 1 Prof. of Fish Physiology – Dept. of Poultry Production –Fac. of Agri. Assiut University - 2 Prof. of Poultry Physiology – Dept. of Poultry Production Fac. of Agri. Assiut University - 3 Associate Prof. Dept. of Poultry Production –Fac. of Agri. Assiut University - 4 B.Sc. Poultry Production Dept. – Fac. of Agri. Assiut University - 5 Associate Prof. Anatomy, Embryology and Histology Dept. Fac. of Vet. Med. Assiut University |
| BULLETIN | : Assiut Vet. Med. J. Vol. 66 No. 166 July 2020, 108-120  |

**ABSTRACT**

This work aimed to evaluate the effect of different dietary levels of Guardizen-M as a probiotic on some blood parameters and histological structure of some internal organs of Nile tilapia. The experimental design was completely randomized; a total number of 180 Nile tilapia with average weight  $68 \pm 2.66$ g and total length  $15.41 \pm 0.27$  cm. were reared in 12 floating cages. The fish groups were distributed as four treatments and three replicates; a control group and three Guardizen-M treated groups (1g /kg feed, 2g /kg feed, and 3g /kg feed). All experimental groups were fed the experimental diets at a rate of 3% of the live body weight of the fish. The results of the present work revealed that no significant ( $P > 0.05$ ) differences were recorded in blood parameters except in glucose and alkaline phosphatase. Histological studies of liver and intestine indicated that increase epithelial height of enterocytes lining the intestinal villi with increase in acidic secretion of goblet cells. The intensity of the Periodic acid–Schiff (PAS) staining increased proportionally with the increasing of the concentration of probiotics in treatment groups in comparison to control. Alkaline phosphatase activity revealed a difference among three experimental groups in comparison to control one. Results of the current study concluded that reversal effect of probiotics considering the proportion of dose. The greater area of hepatic cells increased proportionally with an increasing of the concentration of probiotics and created a greater area of nutrient storage as observed in hepatic cells.

Keywords: Probiotic, Blood Parameters, Immune response, Nile Tilapia

**Biological Pollution and Control****OREOCHROMIS NILOTICUS**

|          |  |
|----------|--|
| NO       | : 131  |
| TITLE    | : MOLECULAR DETECTION OF ENTEROTOXIGENIC GENES FOR STAPHYLOCOCCUS AUREUS ORGANISM ISOLATED FROM RAW MILK AND SOME MILK PRODUCTS  |
| AUTHORS  | : SADEK, O.A. <sup>1</sup> AND KORIEM, A.M. <sup>2</sup>   |
| ADDRESS  | : <sup>1</sup> Food Hygiene Department, Assiut Lab., Animal Health Research Institute, ARC, Egypt-<br><sup>2</sup> Bacteriology Department, Assiut Lab., Animal Health Research Institute, ARC, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 66 No. 167 October 2020, 48-61  |

**ABSTRACT**

This study aimed to determine Staph. aureus in raw milk and some milk products and study the correlation between Staph. aureus enterotoxin genes and its ability to resist different types of antibiotics. A total of 120 raw milk, kareish cheese and baladi yoghurt (40 samples, each) were collected from different dairy shops and street peddlers in Assiut city, Egypt and were bacteriologically examined for presence and count of Staph. aureus. The incidences of counted Staph. aureus in raw milk, kareish cheese and baladi yoghurt were 62.5, 27.5 and 0.0%, respectively, with average counts of 3.25 log, 4.13 log and < 1 log cfu/ml, respectively. All the isolated Staph. aureus strains were tested by Multiplex PCR assay for the presence of enterotoxigenic sea, seb, sec and sed genes and 94.44% of the tested strains harbored sea gene and 2.77% were positive for sed gene, while none of the tested strains was positive for seb and sec gene. The recovered organisms exhibited 52.78, 11.11, 77.78, 61.11, 11.11, 36.11, 63.89 and 16.67% resistance towards Oxacillin (Methicillin), Vancomycin, Amoxicillin, Ceftriaxone, Gentamicin, Tetracycline, Erythromycin, and Trimethoprim-Sulfamethoxazole, while, they exhibited 100% sensitivity towards Ciprofloxacin. The tested organisms showed multi-antibiotics resistance percentage of 55.56% and with average resistance index of 0.37. The correlation between Staph. aureus enterotoxin genes and its ability to resist different types of antibiotics revealed that, most of the enterotoxigenic strains were multi-antibiotics resistance and resist simultaneously to Amoxicillin, Ceftriaxone and Erythromycin. All the methicillin resistant Staph. aureus (MRSA) isolates harbored sea gene. The public health hazards of Staph. aureus in milk and its products as well as the suggestive control measures were discussed.

Keywords : Staphylococcus aureus, enterotoxigenic genes, raw milk, kareish cheese, yoghurt, PCR

**Biological Pollution and Control****(PASTEURIZED MILK)**

|          |  |
|----------|--|
| NO       | : 132  |
| TITLE    | : EFFECT OF NISIN AS A BIOPRESERVATIVE ON SHELF LIFE OF PASTEURIZED MILK       |
| AUTHORS  | : ZEINAB M. ABD-EL HAMEED and WALAA M.A. ELSHERIF                              |
| ADDRESS  | : Animal Health Research Institute, Food Hygiene, Assiut Regional Lab., Egypt. |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 160 January 2019, 16-24                        |

**ABSTRACT**

In this study, the bacteriocin nisin at various concentrations (50, 100 and 200 IU/ml) was studied as a bio-preservative to extend the shelf life of pasteurized milk. A minimum of one week extension in shelf life was obtained for pasteurized milk at refrigerator temperature storage. Higher concentration of nisin (200 IU/ml) showed no different effect than the lower one. The effect of nisin added on microbiological quality (standard plate count (SPC), psychrotrophs, proteolytic and thermophilic counts) of pasteurized milk studied and showed significant decrease in all of them than control samples (free from nisin). Also, nisin reduced the development of acidity so extend the shelf life of examined samples. The antibacterial effect of nisin studied on *Staphylococcus aureus* (*Staph. aureus*) inoculated in pasteurized milk and the result clarified complete inhibition of *Staph. aureus* at 6th day. Palatability of addition of different concentrations of nisin was also discussed. Nisin had the ability to control the spoilage bacteria so could be control the acidity of products and have antibacterial effect against pathogenic bacteria so act as a principal, safe and natural preservative for pasteurized milk.

Key words: Nisin; Biopreservative; *Staph. aureus*; Pasteurized milk; Psychrotrophs; Thermophilic and Proteolytic bacteria.

**Biological Pollution and Control****(POULTRY FARMS)**

|          |  |
|----------|--|
| NO       | : 133  |
| TITLE    | : DETECTION OF ANTIBIOTICS RESISTANCE GENES IN STAPHYLOCOCCUS AUREUS ISOLATED FROM POULTRY FARMS   |
| AUTHORS  | : OMAR AMEN 1 ABEER G. HUSSEIN 2; ASHGAN M. SAYED 2 and RAGAB S. IBRAHIM 1   |
| ADDRESS  | : 1Department of Poultry Diseases, Faculty of Veterinary Medicine, Assiut University, Egypt.<br>2 Poultry Diseases, Animal Health Research Instiute, Assiut Regional Laboratory. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 65 No. 163 October 2019, 1-9  |

**ABSTRACT**

Poultry industry in Egypt was subjected to various problems one of them was the early chick mortalities that cause great economic losses and its investigation is the request of many poultry scientists and men. In poultry staphylococci, including *Staphylococcus aureus* are known to cause various diseases from acute septicemia to chronic osteomyelitis. Two hundred and sixty samples of chickens, ducks and turkeys were collected from different poultry farms. A survey on Staphylococcal infection among chickens, ducks and turkeys was carried out. It was found that out of 260 infected and dead chickens, ducks and turkeys suspected to be infected with Staphylococcosis, 54 cases (20.76%) revealed *Staphylococcus* micro-organisms. The isolated strains were typed as: *Staphylococcus aureus* (74.07%), *Staphylococcus epidermidis* (14.8 %) and *Staphylococcus saprophyticus* (11%). The results of sensitivity biogram revealed that *S. aureus* were highly sensitive to Amoxicillin, Ampicillin, Ciprofloxacin, Enrofloxacin and lincomycin and resistant to Erythromycin, Streptomycine and Chloramphenicol. The results of MIC of 6 representative coagulase positive Staphylococci isolates against 6 selected antibiotics commonly used in poultry farms showed that 100% of isolates were sensitive to amoxicillin, enrofloxacin, ciprofloxacin and oxytetracyclin, while 100% of 6 isolates were resistant to streptomycin and lincomycin. The incidence of isolation of Staphylococci from the internal organs of examined birds and from unabsorbed yolk sac, joints, liver, intestinal content and heart blood was 36.3%, 20%, 19.2%, 17.3% and 16.9% respectively. Ten of each detected isolates were examined by cPCR for resistance genes *blaZ* and *aac(6') aph (2'')*. The isolates harbored these resistance genes with percentage of 100% for *S. aureus*. In experiment, the pathogenicity of the isolated strains of *S. aureus* for 7 day- old chicks was studied. *S. aureus* injected subcutaneously, oral and intranasal caused death of 100%, 100% and 26.7% of the used chicks respectively.

Key words: *Staphylococcus aureus*, MIC, cPCR, *blaZ* and *aac (6') aph (2'')* genes resistance.



**BIOLOGICAL POLLUTION AND CONTROL****(PREGNANCY TOXAEMIA)**

|          |   |
|----------|---|
| NO       | : 134   |
| TITLE    | : SERUM PARAOXONASE-1 ACTIVITY AND METABOLIC PROFILE IN EWES WITH PREGNANCY TOXAEMIA      |
| AUTHORS  | : MOHAMMED G. MOHAMMED; ABDELRAHEIM A. MOTTELIB; NASHWA E. WALY AND HANAN K. ELSAYED      |
| ADDRESS  | : Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 178 July 2023pp 36-51                                      |

**ABSTRACT**

This research intended to assess the energy metabolism indices (BHBA, NEFA and glucose) and evaluate the diagnostic relevance of oxidative stress indicators oxidant (MDA) and antioxidant (TAC and PON-1 enzyme), lipid profile and liver enzymes in pregnancy toxaemia in ewes. The study comprised a total number of 72 late pregnant ewes (14-20 weeks of gestation). Ewes were divided based on the result of clinical and biochemical findings (glucose and BHBA) into three groups; a clinical pregnant toxemic group (CPTG) (n=36), a subclinical PTG (n=20) and a control group (CG) (n=16). Blood samples were collected for each group and a panel of biochemical parameters was measured. Most of the biochemical markers showed notable variations in comparison with the control group ( $P < 0.05$ ). BHBA, NEFA, MDA, Liver enzymes (ALT, AST and  $\gamma$ GT), Triglycerides and VLDL in clinical and subclinical pregnant toxaemic groups showed a significant increase above normal values of control group ( $P < 0.05$ ). Glucose, TAC, PON-1 enzyme, Cholesterol, HDL, LDL and serum proteins in clinical and subclinical pregnant toxaemic groups showed a significant decrease below normal values of control group ( $P < 0.05$ ). Based on these findings, we suggest that monitoring changes in the presented energy metabolism indices, oxidant-antioxidant status, lipid profile, liver enzymes and protein assays in late pregnant ewes could be useful in early diagnosis of pregnancy toxaemia. The present study also showed that paraoxonase-1 enzyme (PON1) appears to hold potential as a biomarker for diagnosis of pregnancy toxaemia in ewes.

Key words: Pregnancy toxaemia, metabolism indices, paraoxonase-1 enzyme (PON1), lipid profile, oxidative stress.

**BIOLOGICAL POLLUTION AND CONTROL  
(SHEEP )**

|          |   |
|----------|---|
| NO       | : 135   |
| TITLE    | : Studies on renal bacterial affections in sheep IN Matrouh Governorate |
| AUTHORS  | : Jakleen Halim Twafik  |
| ADDRESS  | : Researsher In Animal Health Research Institut Assiut                  |
| BULLETIN | : Assiut Vet. Med.J.Vol. 69 No. 179 October2023,pp 171-160              |

**Abstract**

Urine and tissues samples were collected for bacteriological examination from 50 apparently diseased sheep of different ages and sexes which were clinically suspected suffering from renal infection and from slaughtered animals. We were collected samples from many locations at Matrouh Governorate and sent for laboratory. Post mortem examination of the renal system of affected cases revealed different investigations. kidneys appeared swollen, its surface was mottled red. Some kidneys were pale and greatly enlarged. Cut section of the kidney showed areas of hemorrhage and abscess formation. The results indicated that 80% (40) sheep were positive for bacterial infection however 10 show negative results of bacterial renal infection. Bacteriological investigations revealed that the isolated organisms were: *Escherichia coli* (20%), *Staphylococcus aureus* (25%), *Pseudomonas aeruginosa* (5.0%), *Streptococcus spp.* (7.5%), *Enterococcus faecalis* (7.5%), *Corynebaeterium spp.* (17.5%), *Klebseilla pneumoniae* (2.5%). and *Listeria monocytogene* (2.5%). Moreover, mixed infection found in 12.5% of the examined samples. A total of eight isolates of *E coli* from renal examined samples were serologically positive to O111, O104, O26, O113, O91, O103 and O126. PCR results showed that two strains for *Listeria* isolates were *Listeria monocytogenes* and some of them have InI B gene. Antibigram was applied upon the isolated bacterial pathogens and found that Garamycine was the drug of choice for treatment of infected animals.

Keywords: Urine, tissue, diseased, age, sex der.

**Biological Pollution and Control****(TABLE EGGS)**

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| NO       | : 136  |
| TITLE    | : ISOLATION AND CHARACTERIZATION OF METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) FROM TABLE EGGS |
| AUTHORS  | : MARWA M.N. EL-GENDI and MANAL M. AMIN  |
| ADDRESS  | : Animal Health Research Institute (Assiut Provincial Lab.) Food Hygiene Department                    |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 161 April 2019, 1-11   |

**ABSTRACT**

Eggs continue to be significant in terms of the world economy and human nutrition and routine non-therapeutic antimicrobial use and overcrowding in animal farming may facilitate the propagation of Methicillin-Resistant Staphylococcus aureus (MRSA). The aim of this study was to estimate the prevalence of MR Staphylococcus aureus (MRSA) in table eggs production. Three hundred and fifty eggs represent 35 samples from balady egg and 35 sample from poultry farm egg (each sample 5 egg) were tested for isolation of Staphylococcus aureus. These findings are important for local risk assessments concerning possible human foodborne infections via cross-contamination of eggs. *S. aureus* was isolated from balady and poultry farm egg shell in percentage of 57.1 and 80 %, also *S. aureus* could be isolated from the content of balady and poultry farm egg in percentages of 74.4 and 85.8 %, respectively. In addition, *S. aureus* was identified by the coagulase test and our findings showed that 37.1 and 51.4% of examined samples of balady and poultry farm, respectively were coagulase positive *S. aureus*. Notably, 34.3% and 48.6% of coagulase positive *S. aureus* isolates were isolated from balady and poultry farm egg contents, respectively. The results revealed that the incidence of coagulase negative staphylococci on examined balady egg shell and contents were 20 and 40%, respectively. Coagulase negative staphylococci was isolated in a percentage of 10 (28.6%) and 13 (37.1%) from examined poultry farms egg shells and contents. Identification *mecA* gene carriage, hence MRSA, using polymerase chain reaction (PCR) revealed that 3 from 10 samples were positive for *mecA* by using (PCR) in percentage of (30%). Risk of egg borne disease strongly increases because of unhygienic conditions of egg production and improper practices of egg handling, including also storage times and temperatures. If all the necessary precautions are not taken during the poultry production, marketing and processing chains in that case poultry meat and eggs can be contaminated by infectious agents that are harmful to humans.

Key words: MRSA – Table egg

**Biological Pollution and control****(THEILERIA)**

|          |  |
|----------|--|
| NO       | : 137  |
| TITLE    | : OXIDATIVE STRESS AND HEMATOLOGICAL PROFILE IN THEILERIA ANNULATA CLINICALLY INFECTED CATTLE BEFORE AND AFTER TREATMENT   |
| AUTHORS  | : AMIRA A.T. AL-HOSARY*; HANAN K. ELSAYED** and LAILA S. AHMED*  |
| ADDRESS  | : *Infectious Diseases, Faculty of Veterinary Medicine, Assiut University, 71526 Assiut, Egypt.<br>**Internal Medicine, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, 71526 Assiut, Egypt.<br>E-mail: hanankamal726@yahoo.com<br>Mobile phone: (00201006988789). |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 144 January 2015   |

**ABSTRACT**

Bovine theileriosis is a destructive disease that affected cattle of all ages, breeds and sex and leads to severe losses in production and reproduction. To assess the antioxidant status and oxidative stress in bovine theileriosis due to *Theileria annulata*, blood samples were collected from 17 clinically infected cattle referred to the Veterinary Teaching Hospital, Assiut University. Complete blood picture, Nitric oxide, Malondialdehyde and total antioxidants capacity were determined and the results were compared with those of 10 healthy controls. The concentration of Nitric oxide (NO), Malondialdehyde (MDA) were significantly higher ( $P < 0.0001$ ) and the total antioxidant capacity (TAC) was significantly lower in the infected cattle than in healthy ones ( $P < 0.001$ ). Conventional and molecular techniques will help in early and accurate diagnosis and enables the effective treatment. The treatment with buparvaquone aims to eliminate the parasite from the blood and lymph node and consequently improvement in the clinical state without any adverse effect on the animal's cells. After treatment noticeable improvement was observed in clinical signs and significant increase in total RBCs count ( $6.58 \pm 0.98 \times 10^6/\text{mm}^3$ ) and hemoglobin concentration ( $9.82 \pm 0.98 \text{g/dl}$ ) compared with ( $4.37 \pm 2.05 \times 10^6/\text{mm}^3$  and  $6.67 \pm 2.76 \text{g/dl}$ ) before treatment, respectively. Also, the oxidative stress was significantly altered and a significant increase of the (TAC), significant decrease of (NO) and (MDA) was noticed.

**BIOLOGICAL POLLUTION AND CONTROL  
TOXOPLASMA GONDII)(**

|          |   |
|----------|---|
| NO       | : 138   |
| TITLE    | : EFFECT OF MIXTURE OF SODIUM CHLORIDE AND POTASSIUM LACTATE ON THE VIABILITY OF TOXOPLASMA GONDII IN MEAT  |
| AUTHORS  | : BASEM REFAT NAGEIB 1 AND MOHAMED HAMDY MOHAMED 2  |
| ADDRESS  | : 1Department of Parasitology, Animal Health Research Institute, Assiut Regional Lab. - (AHRI), Agriculture Research Center, Egypt.<br>2Department of Food Hygiene, Animal Health Research Institute, Assiut Regional Lab - (AHRI), Agriculture Research Center, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 169 April 2021, 37-53   |

**ABSTRACT**

The present study is a trial to implement an accurate and easily detectable test applied on meat juice to detect *T. gondii*. Besides realization the ability of table salt mixture to deactivate *T. gondii*. In the present study seroprevalence of *T. gondii* in sheep and cattle meat juice by LAT was 21.43% and emphasis by PCR was 17.14% which indicate very strong agreement between LAT and PCR as a reference test (Kappa = 0.862) with high specificity (94.83%) of meat juice LAT in comparison with PCR and strong relationship between these two tests (Correlation coefficient  $r = 0.871$ ,  $p < 0.0001$ ). Sheep meat showed a high prevalence of *T. gondii* by both LAT and PCR tests (42.86%, 34.29%), respectively. No infection was recorded among the examined cattle meat. There was a very high statistical significance between the prevalence of infection among sheep and cattle by both tests. Both ewes and rams showed the same prevalence of *T. gondii* 42.9% without showing statistical significance according to the sex of the meat animal. By mice bioassay for salt mixture on the viability of *T. gondii*, a mixture of (2% sodium chloride and 1.4% potassium lactate) was able to deactivate of *T. gondii* cyst in sheep meat after 8 hours from exposure, while low concentration (1% of both mixture components) has no effect.

Keywords: *Toxoplasma gondii* latex agglutination PCR Sodium chloride Potassium lactate

**Biological Pollution and Control****( TRICHOMONAS )**

|          |  |
|----------|--|
| NO       | : 139  |
| TITLE    | : STUDY THE EFFECT OF AQUEOUS EXTRACT OF PROPOLIS ON TRICHOMONAS GALLINAE, IN VITRO  |
| AUTHORS  | : ARAFA, M.I.*; HASSAN, H.HK**; MAHMOED, W.G.M.*** and ABDEL-RAHMAN, M.F****   |
| ADDRESS  | : * Dept. of Parasitology, Animal Health Research Institute, Assiut Lab.<br>** Dept. of Poultry Diseases, Animal Health Research Institute, Assiut Lab.<br>*** Dept. of Parasitology, Faculty of Veterinary Medicine, New Valley Branch, Assiut University<br>**** Plant Protection Research Institute, Doki Cairo |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 150 July 2016, 82-88   |

**ABSTRACT**

This study was designed to investigate the in vitro inhibitory activity of aqueous extract of propolis (AEP) on the growth of *Trichomonas gallinae* in comparison to metronidazole. Aqueous extract of propolis inhibited the growth of *T. gallinae* trophozoites and the level of inhibition varied according to the extract concentration and incubation times. The highest reduction of parasitic growth (100%) was observed in cultures treated with 100 and 75 mg/ml of propolis aqueous extract after 24 h. The same result was detected in cultures treated with 50 mg/ml of AEP but after 48h. While Growth reduction by 92.5 and 80% was observed in 25 and 12.5 mg/ml propolis-treated cultures respectively after 96 h. Minimal lethal concentration of aqueous extract of propolis was 50mg /ml after 48 hours. In comparison complete inhibition of parasite growth was obtained by metronidazole (50 µg/ml) after 24hours. Light microscope observations revealed changes of the pear-shaped aspect of the cell as a result of presence of large vacuolations in the cytoplasm of the trophozoites. Our results hold the perspective for the utilization of propolis as an antitrichomonal agent after the complementary in vivo studies.



# *Chemical Pollution & Control*



## Chemical Pollution and Control

## ( CASSIA OCCIDENTALIS L)

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|----------|--|
| NO       | : 140  |
| TITLE    | : CHEMICAL CONSTITUENTS AND HEPATOPROTECTIVE EFFECT OF CASSIA OCCIDENTALIS L. CULTIVATED IN EGYPT  |
| AUTHORS  | : HANAA M. SAYED *; MAHMOUD A. RAMADAN *; MANAL M. SAYED**;<br>SARY KH. ABD ELGHAFAR*** and HEBA H. SALEM *  |
| ADDRESS  | : * Department of Pharmacognosy, Faculty of Pharmacy, Assiut University, Assiut 71526, Egypt.<br>** Department of Chemistry, Animal Health Research Institute, Assiut Lab., Egypt.<br>*** Department of pathology and Clinical Pathology, Faculty of Vet. Med. Assiut University, Assiut 71526, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 149 April 2016, 139-148  |

## ABSTRACT

This study was designed to investigate the hepatoprotective effects of the different successive extractives of the aerial parts of *Cassia occidentalis* L., on carbon tetrachloride (CCL4) induced hepatotoxicity in adult Wistar rats. Sixty-six male albino rats were divided into eleven groups. First group received Tween only and served as control group. The second group injected with CCL4 (1:1) in olive oil, at a dose of 2 ml/kg B.W. The third group injected with CCL4 in the same dose and Silymarin (25 mg/kg) orally for 7 days and served as reference group. Groups from four to eleven served as test groups injected with CCL4 in the same previous dose in addition to oral daily administration by one of either 200 or 400 mg/kg B.W. from each of the four extractives of *Cassia occidentalis* (total methanolic, chloroform, ethyl acetate and n- butanol extracts). Treatment started one day after the injection of CCL4 and extended for two weeks. Parameters for liver function tests: Aspartate Aminotransferase (AST), Alanine Aminotransferase (ALT) and Bilirubinas as well as kidney function tests: Serum urea and Creatinine were determined spectrophotometrically. The different extractives of *C. occidentalis* L. showed improvement in both liver and kidney function indices, while ethyl acetate extractive either in 200 or 400 mg/kg B.W., showed the best results. Histopathology of liver tissue specimens supported these results. The biologically guided fractionation of *C. occidentalis* L. methanolic extract, revealed that the ethyl acetate fraction exhibited a significant dose dependant protective effect on both liver and kidney. The ethyl acetate fraction revealed activity approached that of silymarin (a known hepatoprotective agent). Chromatographic fractionation of the ethyl acetate fraction afford 6 purified compounds, identified on the basis of chemical and spectroscopic analysis as: naringenin (1), quercetin (2), 1,8-dihydroxy anthraquinone (3), 1,3,8-trihydroxy anthraquinone (4), chrysoeriol-7-O-rutinoside (5) and rutin (6). The isolated phenolics probably account for the hepatoprotective effect of the extract.

**Chemical Pollution and Control****(CADMIUM)**

NO : 141  
 TITLE : A STUDY ON THE ROLE OF TRIBULUS TERRESTRIS IN CADMIUM-INDUCED TOXICITY ON SOME ORGANS OF ADULT MALE ALBINO RATS  
 AUTHORS : EMAN AHMED NEGM<sup>1</sup>; ALSHAIMAA A. ALGHRIANY<sup>2</sup> AND AHMED A. MOHAMMED<sup>3</sup>  
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 BULLETIN : Assiut Vet. Med.J.Vol. 69 No. 179 October2023,pp 209-228

**ABSTRACT**

Cadmium (Cd) is a dangerous environmental pollutant that causes toxicity to humans and animals even when exposed to a small amount as it is hard to expel from the body affecting all body parts. Tribulus terrestris (Tt) is a natural herb used for its medicinal effects around the world. This study directed to detect the possibility of Tt to protect from Cd toxicity in adult male albino rats. Twenty-four rats were separated into four groups, each 6 rats: The first group (C); served as a control without any treatments. Group (2) (Tt + Cd); administrated daily by oral dose of Tt (5 mg/ kg b. wt. liquified in distilled water) for eight weeks then from the start of the ninth week, they daily injected intraperitoneally with Cd (2 mg/kg b. wt.) for eight days. Group (3) (Cd); injected with Cd only at the same dose for eight days. Group (4) (Cd + Tt); firstly, injected with Cd at the same dose for eight days then on the ninth day they had the same Tt dose for eight weeks. In this study, results clarified that Cd application significantly decreased plasma SOD level and the time spent in the opened arms of the elevated plus maze test while increased plasma levels of H<sub>2</sub>O<sub>2</sub>, CRP, IL-6, immunoreaction of brain cleaved caspase-3 and the time spent in the closed arms of the elevated plus maze test compared to control. Administration of Tt succeeded to increase SOD level and the time spent in the opened arms of the elevated plus maze test; however, it reduced plasma levels of H<sub>2</sub>O<sub>2</sub>, CRP, IL-6, immunoreaction of brain cleaved caspase-3 and the time spent in the closed arms of the elevated plus maze test in comparison with Cd group. In conclusion, Tt is highly protective for the brain from harmful Cd effects, referring to its antioxidant, anti-inflammatory and antiapoptotic properties.

**Chemical Pollution and Control****COOKING BUTTER**

|          |  |
|----------|--|
| NO       | : 142  |
| TITLE    | : PHYSICOCHEMICAL EVALUATION OF COOKING BUTTER AND HYDROGENATED OILS   |
| AUTHORS  | : AHMED ABDEL-HAMEID AHMED 1; MOHAMMED SAYED 1; SAHAR MAHMOUD KAMAL 1 AND OMAR AHMED ABDEL-HAFEEZ 2  |
| ADDRESS  | : 1 Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, Egypt<br>2 Teaching Veterinary Hospital, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 175 October 2022, 106-114  |

**ABSTRACT**

This research aimed to evaluate the physical and chemical properties of cooking butter and hydrogenated oils sold in Assiut Governorate, in which 70 samples (35 of each type) were collected from different localities in Assiut Governorate in the period from November 2021 to April 2022, and a number of tests were conducted to find out the physicochemical evaluation, which included pH, moisture%, free fatty acids%, acid value, peroxide value, p-ansidine value and total oxidation, then the obtained results were compared with the permissible limits of the Egyptian Standard specifications. The average results for cooking butter and hydrogenated oil samples were 6.02 and 5.45 for pH, respectively, 24.16 and 0.33% for moisture%, respectively, 1.86 and 0.4% for free fatty acids%, respectively, 2.63 and 0.57 for acid value, respectively, 2.18 and 1.83 for peroxide value, respectively, 2.23 and 1.98 for p-ansidine value, respectively, and 6.59 and 5.61 for total oxidation respectively; and when compared with the Egyptian Standards, it was found that 97.14 and 34.29% of the cooking butter and hydrogenated oil samples, respectively, were above the permissible limits for moisture%. Also, 97.14% of the cooking butter samples were above the permissible limits for peroxide value, as well as, all the cooking butter samples exceeded the permissible limit for free fatty acids%, but 28.57% of the hydrogenated oil samples exceeded the permissible limit for acid value.

Keywords: Physicochemical evaluation, cooking butter, hydrogenated oils

**Chemical Pollution and Control****(QUERCETIN NANOPARTICLES)**

NO : 143  
TITLE : AMELIORATIVE EFFECT OF QUERCETIN NANOPARTICLES ON CYCLOPHOSPHAMIDE-INDUCED HEPATOTOXICITY IN RATS  
AUTHORS : ARMIA N.M. GHALY <sup>1,2</sup>; MOKHTAR TAHA <sup>2</sup>; ABEER S. HASSAN <sup>3</sup> AND KHALED M.A. HASSANEIN <sup>2</sup>  
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BULLETIN : Assiut Vet. Med.J.Vol. 69No. 179 October2023,pp 134-147

**ABSTRACT**

Cyclophosphamide (CYP) is a chemotherapeutic agent used to treat cancers, but its therapeutic uses are limited due to its hepatotoxicity. Consequently, the current work aimed to investigate the potential hepatoprotective impact of quercetin (QRC) nanoparticles against CYP-induced liver damage. Twenty albino rats were divided into four even groups. Group (A) was carried out as the control group. Group (B) injected a single dose of CYP (200 mg/kg) intraperitoneally. Group (C) received orally nano quercetin at a dosage of 50 mg/kg for 10 days, they were also given a single dose of CYP i.p. and Group (D) was given nano-QRC orally at a dose of 50 mg/kg for 10 consecutive days. Samples were collected 24 hours after CYP injection for biochemical, histopathological and ultrastructural examinations. CYP significantly elevated the AST, ALT and MDA levels and substantially reduced the total antioxidant capacity (TAOC) in comparison to the control group. Moreover, the nano-QRC + CYP treated group significantly declined the raised AST and MDA levels, and significantly raised the diminished TAOC as compared to CYP treated group. Histopathological examination revealed a severe degree of congestion and dilatation of the central vein, perivascular fibrosis and hepatocellular vacuolation and necrosis were recorded in CYP treated group. However, only mild hepatic lesions were observed in nano-QRC + CYP treated group. It could be concluded that the administration of nano-QRC ameliorated the hepatic damage induced by CYP via its antioxidant activity.

Keywords: Cyclophosphamide, Hepatotoxicity, Histopathology, Oxidative Stress, Quercetin nanoparticles.

**CHEMICAL POLLUTION AND CONTROL****( LEAD )**

|          |  |
|----------|--|
| NO       | : 144  |
| TITLE    | : HEMATOLOGICAL AND BIOCHEMICAL IMPROVEMENT BY CATECHIN AND EDTA IN LEAD INTOXICATED RATS  |
| AUTHORS  | : WAFFA HASSANIN MOHAMED*; MANAL MOHAMED SAYED**; AHMED ABD ELBAKY SHARKAWY***; DOHA YEHIA AHMED*** and HOSSAM MOHAMED OMAR****  |
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| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 152 January 2017, 161-172  |

**ABSTRACT**

The present study was conducted to evaluate the efficacy of both Catechin and Calcium Disodium Ethylene diamine Tetraacetic Acid (CaNa<sub>2</sub>EDTA) in treatment of long-term lead toxicity through assessment of some biochemical indices (hematological picture and biochemical parameters). Eighty male albino rats weighting 100-150 g of 10-12 weeks old were randomly divided into 4 groups (20 each). Group 1 was left without any treatment as negative control group. The other three groups (G2, G3 and G4) were exposed to lead acetate in drinking water at a concentration of 30 mg/L for 3 months. G2 was used as positive control group. G3 was divided into three subgroups A, B & C was treated with catechin in drinking water at a concentration of 49 mg/L for 7 days after 1, 2 and 3 month after Pb exposure, respectively. G4 was also divided into three subgroups (D, E & F) and treated through IP injection CaNa<sub>2</sub>EDTA in a dose of 50 mg/kg body weight, for 5 days after 1, 2 & 3 months of lead exposure. Six rats were taken randomly after 30, 60 and 90 days from negative and positive controls, 37, 67, 97 days from rats treated with catechin and 35, 65 and 95 days from rats treated with CaNa<sub>2</sub>EDTA. Rats were anesthetized with ether and sacrificed for blood and tissues collection. Blood samples were collected in vacutainer tubes containing EDTA as anticoagulant for hematological pictures. Brain tissue samples were collected from each rat for the subsequent biochemical parameters (total protein, nitric oxide, lipid peroxidation, glutathione, superoxide dismutase, catalase, glucose 6 phosphatase dehydratase and, acetylcholinestrace activity). The results revealed that administration of catechin or CaNa<sub>2</sub>EDTA can minimize any toxic effects on hematological picture & biochemical parameters. Catechin was more effective than CaNa<sub>2</sub>EDTA in improvement of Hb concentration, HCT %, MCV, MCH values and NO, LPO parameters but CaNa<sub>2</sub>EDTA was more effective than Catechin in improvement of WBCs, lymphocyte, monocyte count and GSH, SOD, CAT activities.

**Chemical Pollution and Control****(MILK ADULTERATION)**

|          |   |   |
|----------|---|---|
| NO       | : | 145   |
| TITLE    | : | DETECTION OF RAW COW'S, BUFFALO'S MILK AND UHT MILK ADULTERATION IN ASSIUT GOVERNORATE, EGYPT |
| AUTHORS  | : | YASSER, S., WAFY  |
| ADDRESS  | : | Fellow, Assiut University Hospitals Egypt   |
| BULLETIN | : | Assiut Vet. Med. .Vol. 65 No. 162 July 2019, 1-6  |

**ABSTRACT**

A total of 90 random samples of raw cow's, buffalo's milk and UHT milk (30 samples each), from different street vendors, dairy shops and supermarkets in Assiut city, Egypt during the period from April 2018 to march 2019 were collected in a clean, dry and sterile containers, and transferred to the laboratory with a minimum of delay, whereas they directly examined or held in the refrigerator until time of examination. Each milk sample was mixed thoroughly before being divided into 3 sub-samples. The first was used for detection of heat treatment, the second was used for compositional quality evaluation and the third was used for detection of preservatives. The results show that all samples were in raw state and the most prominent types of adulteration were addition of water in different percentages, partial skimming or both and adding salicylic acid and Hydrogen peroxide as preservatives to the examined samples of raw cow's and buffalo's milk. UHT milk appear as the most save milk for use due to its free from any adulteration and preservatives. The methods of adulteration and healthy importance of it were discussed.

Kay word: Adulteration, milk, raw, cow's, buffalo's, UHT and Assiut.

## Chemical Pollution and Control

## (MYCOTOXICOSIS )

|          |   |
|----------|---|
| NO       | : 146   |
| TITLE    | : PATHOLOGICAL STUDIES ON THE EFFECT OF YEAST ON MYCOTOXICOSIS IN RATS  |
| AUTHORS  | : ABEER HASHEM MOSTAFA*; ALLAM A. NAFADY**; SALAH M. AFIFI**; ABDEL-NASER A. ZOHRI***; NEVEN ABD EL GHANI *   |
| ADDRESS  | : * Pathology Department, Animal Health Institute<br>** Pathology Department, Faculty of Veterinary Medicine, Assiut University<br>*** Botany Department, Faculty of Science, Assiut University |
| BULLETIN | : Assiut Vet. Med. J. Vol. 63 No. 153 April 2017, 205-216   |

## ABSTRACT

The present study aimed to investigate the protective effect of yeast against mycotoxicosis induced by *Aspergillus parasiticus* and *Fusarium tricinctum* as common fungal contaminants on albino rats. 60 albino rats were randomly divided into three experimental groups: (A, B and C), each contain 20 animals. Group A: rats were kept as a control group was feed on uncontaminated feed and drinking water without any treatments. Group B: animals were feed contaminated diet with aflatoxins in level of 0.5 mg/kg ration and diacetoxyscirpenol in level of 10mg/kg ration. Group C: animals were feed contaminated diet as in group B. mixed with *Saccharomyces cerevisiae* (2g/kg of feed) during the whole time of the experiment. At the end of 1st, 2nd, 3rd, and 4th month, respectively, five animals from each group were weighted and dissected. Tissue samples were obtained from liver, kidneys and intestine for histopathological examination by light and electron microscope. The rats showed reduction of body weight and weight gain in group B. Addition of yeast to contaminated diet in the group C improved this reduction. Histopathological and ultrastructural studies revealed pathological changes in liver and kidney in group B. administration of yeast improve the intensity and the prevalence of the lesions and enhances the immune response of the body against mycotoxicosis (Lymphocytes and plasma cells).

## Chemical Pollution and Control (NEUROTOXICITY)

|          |   |
|----------|---|
| NO       | : 147   |
| TITLE    | : VINCRISTINE-INDUCED NEUROTOXICITY IN RATS MEDIATED BY UPREGULATION OF INOS, IBA1, NESTIN, PARP AND CASPASE 3: AMELIORATIVE EFFECT OF ERYTHROPOIETIN AND THYMOQUINONE  |
| AUTHORS  | : SAHAR A AHMED 1, HOSSAM EL-DIN M OMAR <sup>2,7</sup> , MAHMOUD SOLIMAN <sup>5</sup> , ABO BAKR ABDEL SHAKOR <sup>2</sup> , MANAL M SAYED 3, OMNIA HM OMAR <sup>4</sup> AND SARY KH. ABD ELGHAFFAR 5,6   |
| ADDRESS  | : 1Department of Molecular Biology, Molecular Biology Researches & Studies Institute, Assiut University, Assiut - Egypt.<br>2Department of Zoology and Entomology, Faculty of Science, Assiut University, Assiut, Egypt<br>3 Department of Chemistry, Animal Health Research Institute, Assiut Lab.<br>4Assiut International Center of Nanomedicine, El-Rajhy Liver Hospital, Assiut University, Assiut, Egypt<br>5Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Egypt<br>6Department of Pathology and Clinical Pathology, School of Veterinary Medicine, Badr University in Assiut, Egypt<br>7 Department of Basic Science, School of Biotechnology, Badr University in Assiut, Egypt |
| BULLETIN | : Assiut Vet. Med.J.Vol. No. October2023,   |

### ABSTRACT

Vincristine (VCR) is an effective anticancer medication, although it has neurotoxic side effects. Erythropoietin (EPO) is the main regulator of erythropoiesis. Thymoquinone (TQ) protects brain cells from oxidative stress that causes neurodegenerative disorders such as Alzheimer's and Parkinson's. This study aims to investigate the VCR toxicity on the cerebrum as well as the possible neuroprotective effects of TQ and EPO against VCR toxicity in a rat model. An intraperitoneal injection of VCR (150 µg/kg) 3 times a week for 5 weeks caused marked histopathological changes in the brain such as neuronal degeneration with aggregations of glial cells around the degenerated neurons (satellitosis), congestion of blood vessels and severe demyelination in the white matter of the cerebrum. VCR considerably increased nestin, iBA1 and iNOS expression, while synaptophysin expression decreased. It also caused upregulation of caspase 3 and PARP expression, resulting in hemorrhage, demyelination, and neuronal degeneration. Treatment of rats with TQ or EPO either alone or in combination improved histopathological changes through down-regulation of nestin, iBA1, iNOS, caspase 3 and PARP. It was concluded that EPO and TQ ameliorate the neurotoxic effect of VCR on the cerebrum, however, a synergetic effect was evident when TQ and EPO were combined.

Keywords: Vincristine, brain, erythropoietin, thymoquinone, apoptosis, demyelination.



**Chemical Pollution and Control****SILVER NITRATE NANOPARTICLES**

|          |   |
|----------|---|
| NO       | : 148   |
| TITLE    | : EFFECTS OF SILVER NITRATE NANOPARTICLES ON THE OXIDATIVE STATUS IN SPRAGUE DAWLEY RATS  |
| AUTHORS  | : ESRAA, M. FAHMY 1; SHARKAWY, A.A. 2; IBRAHEIM, TH.A. 2 and DOHA YAHIA 2   |
| ADDRESS  | : 1Dept. of Forensic Medicine and Toxicology, Fac. Vet. Medicine, Sohag University 2 Dept. of Forensic Medicine and Toxicology, Fac. Vet. Medicine, Assiut University |
| BULLETIN | : Assiut Vet. Med. J. Vol. 66 No. 164 January 2020, 85-91   |

**ABSTRACT**

This study investigated the toxic effects of silver nanoparticles (8.67-26.3 nm) on body weight, organs body weight ratio and oxaditive status of male Sprague Dawley rats over a period of three months. In this experimental study, 100 male Sprague Dawley rats were categorized in four groups including control group and three experimental groups (n=25 in each group). The rats in the experimental groups were orally intubated 5 mg/kg, 25 mg/kg and 50 mg/kg of AgNPs solution by gavage, five days a week. Samples of blood were taken from the rats for oxidative stress assessments. Afterwards, lungs, kidney, liver and brain removed and weighted to calculate organs body weight ratio. The results demonstrated a statistically no significant change in final body weight nor organs relative weight % , oxidative stress condition were investigated with increase MDA level and decrease SOD, CAT and TAC level in serum.

Keywords: Silver nano-particles, body weight, malondialdehyde, catalase, total antioxidants capacity.

## Chemical Pollution and Control

## SILVER NITRATE NANOPARTICLES

NO : 149  
TITLE : ASSESSMENT OF LEAD, CADMIUM AND SELENIUM LEVELS IN SOME DRIED MILK SOLD IN MARKETS  
AUTHORS : AHMED ABDEL-HAMEID AHMED 1, WALLAA FAROUK AMIN 1, MANAL M. AMIN 2 AND RASHA FAWZY EID GHETANY 2  
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BULLETIN : Assiut Vet. Med. J. Vol. 66 No. 164 January 2020, 92-102

## ABSTRACT

Dairy products samples were contaminated with variable amounts of heavy metals. Drinking water used to mix infant powdered formula may add cadmium and lead significantly to the concentrations in the ready-made products. The presence of heavy metals in human's diet even in low level, can lead to presence of these metals in human's body by considerable concentration. Metals that cannot be metabolized (as cadmium and lead), persisted in the body and exerted their toxic effect by combining with one or more reactive group essential for normal physiological function and cellular disturbance or clinical manifestations may be appeared. Hence, seventy random samples of some dried milk products (infant powdered milk based formulae) were collected from different markets and pharmacies in Assiut Governorate, Egypt. These samples were collected in their original containers and packets, and transported to the laboratory for estimation of lead (pb), cadmium (cd) and selenium (se) levels. The digest, blanks and standard solutions were aspirated by Atomic Absorption Spectrophotometer (VARIAN, model AA240 FS, Australia). The percentage of positive samples for lead, cadmium and selenium was 60, 51.4 and 100%, respectively, in the first type and 48.6, 40 and 100%, respectively, in the second type. The results of positive samples that exceeded the MPL for lead, cadmium and selenium showed in the first type 76.2, 72.2 and 17.1%, respectively, and in the second type 82.4, 57.1 and 2.9%, respectively. The values of the quantities measured weekly (EWI) for lead, cadmium and selenium were in the first type according to the averages 7.546, 4.312 and 0.973 mg / kg of body weight, respectively, while the second type was 3.675, 1.652 and 0.553 mg / kg of body weight.

Keywords: Heavy metals, infant powdered formula, lead, cadmium, selenium, toxic effect.



# *Biological & Chemical Pollution & Control*

## BIOLOGICAL &amp; CHEMICAL POLLUTION AND CONTROL

## MEAT SLICES

|                 |  |
|-----------------|--|
| <b>NO</b>       | : 150  |
| <b>TITLE</b>    | : INFLUENCE OF DIFFERENT FORMULATIONS OF ALGINATE-BASED FILMS IN THEIR ANTIBACTERIAL AND ANTIOXIDANT ACTIVITY IN MEAT SLICES |
| <b>AUTHORS</b>  | : MAHMOUD AMMAR MOHAMED AMMAR AND MOHAMED HAMDY MOHAMED  |
| <b>ADDRESS</b>  | : Agriculture Research Center, Animal Health research institute, Assiut Regional Certified Lab., Egypt.                      |
| <b>BULLETIN</b> | : Assiut Vet. Med. J. Vol. 68 No. 174 July 2022, 58-71   |

**ABSTRACT**

In the current study, the antibacterial and antioxidant effects of three formulated alginate-based edible coats on refrigerated beef were investigated. The formulated coats included 2 organic acids (OAs) based (T1 and T2) and one nisin-OAs based (T3). Control and coated beef slices were sampled immediately (zero time) and then periodically for 15 days of storage at 1°C. The antibacterial effects of coating were assessed by aerobic plate count (APC), *Enterobacteriaceae* and coliforms count. Peroxide value (POV) and catalase (CAT) activity were applied as indexes of oxidation. Moreover, the copper sulphate test and pH were used as freshness indexes. The coats appeared efficient antibacterials. By coating, APC didn't exceed 6 log cfu/g 15 for days of storage with OAs-based coats more significant. T1 and T2 were more effective against enteric bacteria where the load of *Enterobacteriaceae* and coliforms were reduced to undetectable levels for 15 days. The coats also successfully functioned as antioxidants. POV of coated slices significantly reduced where their values were 2.27, 1.87, 2.27 and 2.20 (meq/kg) for control, T1, T2 and T3, respectively after 15 days of storage. Nisin-OAs-based coats appeared the most antioxidant defense mechanism in stored beef where CAT levels were 0.005, 0.010, 0.007 and 0.044 U/g for control, T1, T2 and T3, respectively at end of 15 days of storage. According to freshness indexes, coated slices continued fresh for at least 3 days in excess to control with nisin-OAs coating the most effective. The obtained data indicate that studied coats can be effectively applied to improve the marketability of beef and preserve its quality.

**Keywords:** Antimicrobial, Antioxidant, alginate, coats, beef

# *Health & Environment*

**HEALTH AND ENVIRONMENT****BROILERS**

|          |  |
|----------|--|
| NO       | : 151  |
| TITLE    | : IMPACT OF DIETARY SUPPLEMENTATION OF PREBIOTICS ON THE GROWTH PERFORMANCE AND IMMUNITY IN BROILERS FED LOW PROTEIN DIETS |
| AUTHORS  | : NAGLAA S.K. IBRAHIM; ABDEL-BASET N.S. AHMED AND GHADA S.E. ABDEL-RAHEEM  |
| ADDRESS  | : Department of Nutrition and Clinical Nutrition, Faculty of Veterinary Medicine, Assiut University, Egypt.                |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 171 October 2021, 103-119  |

**ABSTRACT**

The current study was conducted to find out the influence of feeding broilers on low protein diets supplemented with prebiotic. Growth performance, carcass traits, muscle cholesterol, triglycerides, chemical composition, blood parameters and immune response of broilers were evaluated. A total number of 68 birds' one- day old broiler chicks (Ross 308) randomly distributed into 4 equal groups each of 17 chicks. The first group (control) was fed the basal (100%NRC CP) diet free from prebiotic. The other three groups (T2, T3 and T4) were fed on low protein diets (95, 90 & 85% of NRC requirements, respectively) and supplemented with prebiotic at level of 0.1%. The results showed that, birds in the second group had significantly higher live body weight, feed conversion, and dressing percentages. Supplementation of prebiotic had no significant effects on relative weight of liver, gizzard and immune organs. Reduction in the relative weight of abdominal fat pad in all prebiotic treated groups. There were significant reduction ( $P<0.05$ ) in the meat cholesterol, triglycerides and fat mass of broiler breast and thigh, while protein content was significantly ( $P<0.05$ ) increased in all prebiotic treated groups. A numerical increased in antibody titre in birds in the second and third groups. Birds in the second group had the best economic feed efficiency. It could be concluded that adding prebiotic to broiler diets low in protein (95, 90 and 85% of NRC) has a beneficial effect on growth parameters, carcass traits, economic value in addition to healthy and nutritious poultry products for consumers.

Key words: Prebiotic, Low protein diet, Growth Performance, Immunity, and Broiler.

**HEALTH AND ENVIRONMENT**

**(BROILERS)**

|          |   |
|----------|---|
| NO       | : 152   |
| TITLE    | : ASSESSMENT OF MEAT PROTEIN QUALITY OF EXPERIMENTALLY BROILERS FED DIET SUPPLEMENTED WITH PROBIOTICS USED AS SUBSTITUTE TO ANTIBIOTICS IN LUXOR CITY   |
| AUTHORS  | : ZEINAB AHMED MOHAMED AHMED1, ENAS MOHAMED IBRAHIM MOHAMED2, SAHAR GAMAL ABDELAZIZ ALI3 AND AMAL ISHAK GERGIS4   |
| ADDRESS  | : 1 Dept. of Food Hygiene, Agriculture Research Center (ARC), Animal Health Research Institute (AHRI), Reference Laboratory for Veterinary Quality Control on Poultry Production (RLQP), Luxor, Egypt, Dokki, Giza.<br>2 Dept. of Poultry Diseases, Agriculture Research Center (ARC), Animal Health Research Institute (AHRI), Reference Laboratory for Veterinary Quality Control on Poultry Production (RLQP), Luxor, Egypt, Dokki, Giza.<br>3 Dept. of Microbiology, Agriculture Research Center (ARC), Animal Health Research Institute (AHRI), Qene, Egypt Dokki, Giza.<br>4 Dept. of Microbiology, Agriculture Research Center (ARC), Animal Health Research Institute (AHRI), Assiut, Egypt, Dokki, Giza. |
| BULLETIN | : Assiut Vet.Med.J.Vol.69 No. 179 January 2023pp 98-107   |

**ABSTRACT**

It has been proven that including probiotics in the diet of poultry will increase the quality of the meat and protein. Therefore, the purpose of this paper was to evaluate the administration of antibiotics and probiotics to broiler chickens and to determine the contribution of probiotics to the prevention of Salmonella typhimurium infection in Ross broiler hens. Three groups of one-day-old Ross broilers each contained: group1(G1-50 chicks), group2 (G2-100 chicks), and group3(G3 -100 chicks). (G1-50 chicks)negative management (non-infected and non-treated chicks). (G2-100 chicks) gentamycin and colistin sulphate were administered to chicks at the age of one who had S. typhimurium infections for five days at a dose of 0.5 gm/25 liters of drinking water. G3 third group (100 chicks) probiotics (Guardizen M) mixed probiotics concentrate 5.6 g (1x10<sup>10</sup> cfu) of Lactobacillus plantarum, Lactobacillus acidophilus, Lactobacillus rhamnosus, Lactobacillus bulgaricus, and Bifidobacterium bifidum were given to chickens who had S. typhimurium infections. It was supplementary to the water for five days in a row. Each chick in the experimentally infected groups received an oral inoculation of 1 mL of saline suspension containing 10<sup>9</sup> CFU of S. typhimurium at the age of 6 days. After infection, the experiment's time frame was extended by three weeks. Take a swab for a Salmonella count to detect infection at 14, 21, and 28 days of age after the onset of symptoms. Results showed that group G3 had lower clinical symptoms and a lesser mortality level than group G2. The PM examination showed that the liver had hypertrophy, round borders, and white necrotic foci on its surface in addition to being discoloured. The bowel displayed enteritis with hemorrhagic patches, a bloody yolk sac that wasn't digested, petechial intestinal mucosal bleeding, and enteritis. In G2 treated with antibiotics, the S. typhimurium count was 4x10<sup>7</sup>, 3x10<sup>6</sup>, and 2x10<sup>6</sup> CFU in the second, third, and fourth weeks, respectively. Antibiotics were used to treat the other group, G3. The counts of S. typhimurium in the second, third, and fourth weeks were, respectively, 3.6x10<sup>7</sup>, 2.3x10<sup>6</sup>, and 1.1x10<sup>6</sup> CFU. In the meat of broilers nourished feed treated with probiotics and antibiotics, the percentage of protein content was 22,8% and 22,0%, respectively. The current analysis found that samples containing colistin sulphate had residue levels of 200 ppb that were higher than the permitted residue limits (150 ppb).

Keywords: Fish, Encysted metacercariae, Ichanthocephala, Capillaria, Cryptosporidiu



**HEALTH AND ENVIRONMENT****(BROILER CHICKENS)**

|          |   |
|----------|---|
| NO       | : 153   |
| TITLE    | : EVALUATION OF COMMERCIAL ESCHERICHIA COLI VACCINE IN BROILER CHICKENS   |
| AUTHORS  | : AHEMD MANSOUR1 , RAGAB S. IBRAHIM1, NAGLAA M. ALI2, ABEER H. M. EL HENDY3 AND OMAR A. AMEN1   |
| ADDRESS  | : 1Poultry Diseases Department, Faculty of Veterinary Medicine, Assiut University.<br>2Poultry Diseases Department, Animal Health Research Institute, Agriculture Research Center,<br>3Pathology and Clinical Pathology, Animal Health Research Institute, Agriculture Research Center. |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 176 January 2023 pp 39-54  |

**ABSTRACT**

This study is conducted to evaluate the protective effectiveness live-attenuated E.Coli vaccine. A total of 140 broiler chicks were classified into seven groups; the first two groups (1 & 2) were labeled as challenge control for E.Coli O78 and O91 strains, the second two groups (4 & 5) were vaccinated with the E.Coli live-attenuated vaccine at day 1, the third two groups (3 & 6) treated with Difloxacin "second generation fluoroquinolone" 1ml/L drinking water for first three days of life then vaccinated at day 7 with the E.Coli live-attenuated vaccine. The last group (7) was kept as a control negative group.

The challenge was directed to the 21-day-old chicks with either homologous O78 or heterologous O91 E.Coli strains  $1.2 \times 10^9$  Colony Forming Unit/mL injected intratracheally using 0.5 ml/ bird of each avian pathogenic E.Coli (APEC) strain. Clinical signs, gross and histo-pathological lesions, the intestinal total count of E.Coli (CFU), the chick body weight and the weight of lymphoid organs were calculated at 28 days of age. The results postulated that Poulvac® E.Coli vaccine gives a significant protective effect against the challenge with homologous O78 and the most common heterologous serotype O91. Based on the for-mentioned parameters, vaccinated birds at 7 days of age (Groups 3&6) which were treated with Difloxacin and challenged with both homologous and heterologous E.Coli serotypes (O78 & O91) showed superior protection over those vaccinated at day one of age (Groups 4&5), challenged with O78 & O91 E.Coli serotypes and did not receive any antibiotic.

Key words: E.Coli, live vaccine, serotypes, growth performance, Poulvac® E.Coli



## HEALTH AND ENVIRONMENT (COLITIS)

|          |  |
|----------|--|
| NO       | : 154  |
| TITLE    | : EVALUATION OF FECAL ACTIVIN-A AS A NOVEL BIOMARKER FOR EARLY DIAGNOSIS OF ULCERATIVE COLITIS USING EXPERIMENTAL MURINE ANIMAL MODEL  |
| AUTHORS  | : KHADIGA A. ABOELAIL <sup>1</sup> ; MAHMOUD RUSHDI <sup>1</sup> ; NASHWA E. WALY <sup>2</sup> AND AMR M.A. MOHAMED <sup>1</sup>   |
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| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 178 July 2023pp   |

### ABSTRACT

The present study was undertaken to evaluate fecal activin-A, in comparison with the currently used calprotectin, as a potential biomarker for early detection of ulcerative colitis (UC). Rats were divided into 4 groups (5 rats each). These included the acute UC group, where rats received 3% dextran sodium sulphate (DSS) for six consecutive days, and the chronic UC group, where rats received 3% DSS for three cycles (each cycle composed of 3 days of treatment and 12 days off). Control groups included animals that received tap water for six days and kept it as a negative control for short-term treatment and those received tap water for 45 days and served as a negative control for long-term treatment. Fecal samples were collected from all animal groups at the end of the study. Activin A and calprotectin levels were measured in collected fecal samples using a commercial ELISA kit for rat Calprotectin and rat Activin-A. The results revealed significant increases in fecal activin-A, and fecal calprotectin in chronic UC and a significant increase in fecal activin-A in acute colitis. It could be concluded that fecal activin-A is a useful biomarker for both acute and chronic UC. However, fecal calprotectin can be used as an indicator for chronic UC.

Keywords: Activin-A, Calprotectin, Dextran sodium sulphate, Rats, Ulcerative colitis.

**HEALTH AND ENVIRONMENT****DOGS**

|          |   |
|----------|---|
| NO       | : 155   |
| TITLE    | : EVALUATION OF THE HEALING OF WOUNDS DRESSED WITH ZINC METAL-ORGANIC FRAMEWORKS (ZN-MOFS) IN DOGS: AN EXPERIMENTAL STUDY   |
| AUTHORS  | : REHAM M. ABD-EL AZEEM 1; AHMED IBRAHIM 2; MOHAMED H. KOTOB 3; ABDELNABY ELSHAHAWY 4 AND SAMIA M. SELIM 5  |
| ADDRESS  | : 1 B.V.Sc., Assiut University, Assiut, Egypt<br>2 Veterinary Teaching Hospital, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt, Email: elgrah38@gmail.com<br>3 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt, Email: mohammedkotob@yahoo.com<br>4 Department of Physics, Faculty of Science, Assiut University, Assiut, Egypt, Email: a.elshahawy97@gmail.com<br>5 Department of Surgery, Anesthesiology, and Radiology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 175 October 2022, 139-146   |

**ABSTRACT**

This study aimed to evaluate the healing of wounds dressed with Zn-MoF in dogs. The study was conducted on fifteen clinically healthy mongrel dogs. Each dog has bilateral cutaneous excisional wounds ( $2 \times 2$  cm<sup>2</sup>). Right-side wounds were dressed with Zn-MOF dressing (treated wounds) under the effect of 1 mg/kg of xylazine HCL 2% and 10 mg/kg of ketamine HCL 5% , administered in one syringe intramuscularly (IM), while left-side wounds were dressed with normal saline (control group). Wounds were undergone to histopathological evaluation 7-, 15-, and 21-days post-wound induction (5 dogs each interval). Zn-MOF positively enhanced the re-epithelization of the wound area promoting the epidermal hyperplasia resulting in reduction of the wound size and epithelial gap that was completely closed and restored on day 21 post-wound induction. The control wounds were at a slower healing rate with time leaving epithelial gaps and did not completely close day 21 post-wound induction. Zn-MOF treated wounds' dermis was pervaded with the inflammatory cells on day 7 post-wound induction that gradually reduced by time and replaced by fibroblasts 14- and 21-days post-wound induction. The dermis of control wounds was severely infiltrated with a larger number of inflammatory cells and excessive hemorrhage throughout the study. Zn-MOF treated wounds had an augment in the number and size of newly formed blood vessels in comparison to the control ones, reaching their highest point on day 14- and declining on day 21 post-wound induction. Collagen deposition increased obviously 21 days post-wounding in Zn-MOF treated wounds. Zn-MOF accelerated and enhanced the wound healing process and abundant granulation tissue formation in dogs.

Key words: Zinc, Zn-MOF, wound, healing, dogs.

## HEALTH AND ENVIRONMENT (EQUINES)

NO : 156

TITLE : EVALUATION OF THE ENHANCEMENT EFFECTS OF COD-LIVER OIL ON THE HEALING OF LARGE-SIZED METACARPAL WOUNDS IN EQUINES

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BULLETIN : Assiut Vet. Med. J. Vol.69 No.177 April 2023 pp 80-88

### ABSTRACT

Equine distal limb wounds are frequent and healed after a long time, with the development of excessive granulation tissue and poor wound contraction and epithelialization. This study intended to investigate the effect of the local application of cod-liver oil on the healing of large-sized metacarpal wounds in equine. Three adult donkeys were generally anesthetized. A large-sized metacarpal full-thickness skin wound (5x10 cm) was inflicted on the lateral aspect of the right forelimb. Cod liver oil was applied locally, followed by a protective bandage. Follow-up of wound healing was evaluated at week intervals until healing was complete. Evaluation of healing was carried out by gross examination, photographing and image analysis by ImageJ software, and histopathology. Results revealed that granulation tissues filled the gap of the wound without signs of infection. Epithelialization was grossly observed by day 35. Reduction in wound size was significant by day 56 (60% reduction of the original size) and stayed significant until the end of the study. Histopathology revealed new blood vessels and epithelial hyperplasia, scar tissue heavily infiltrated with inflammatory cells at the surface of the wound area, and a moderate amount of collagen fiber. In conclusion, cod-liver oil was beneficial in the healing of surgically-induced large-sized wounds by the acceleration of epithelialization and enhancement of healthy scar formation. Therefore, it is recommended to use cod-liver oil for dressing recent surgical wounds.

**HEALTH AND ENVIRONMENT****LIVER**

|          |  |
|----------|--|
| NO       | : 157  |
| TITLE    | : NUTRITIVE VALUE AND CHEMICAL QUALITY INDICATORS OF IMPORTED CATTLE'S LIVER   |
| AUTHORS  | : AHMED, H.Y. 1; ABD-ALLAH SH.M.S. 2; MOHAMMED, D.B. 3   |
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| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 168 January 2021, 8-21   |

**ABSTRACT**

The present study was conducted to assess the quality of imported frozen liver sold in Assiut markets, Egypt. A total of 100 samples were randomly collected over a 2 months period (January to March, 2020) from poultry slaughter shops, supermarkets and frozen meat markets. The liver samples were evaluated for chemical indicators of spoilage (pH, TVBN "Total Volatile base nitrogen", and TBA "Thiobarbituric acid") and some of the nutritional aspects (percentage of moisture, protein, fat, ash, and carbohydrates, as well as, gross energy (Kcal/100g) and cholesterol content (mg/100g), beside levels of iron (mg/100g). The obtained mean values of pH, TVBN (mg/100 g) and TBA (mg/kg) of the examined samples were  $6.38 \pm 0.01$ ,  $25.76 \pm 0.44$ , and  $0.65 \pm 0.03$ , respectively. Of the examined samples, 92 % showed pH value exceeded the permissible limits of Egyptian standards; however, 88 % showed TVBN content within the set limit. The mean values of moisture, protein, fat, ash and carbohydrates (%) were  $70.54 \pm 0.11$ ,  $21.64 \pm 0.08$ ,  $3.58 \pm 0.12$ ,  $1.50 \pm 0.018$ , and  $2.74 \pm 0.11$ , respectively. The calculated gross energy mean value was of  $133.09 \pm 1.06$  Kcal/100 g. Additionally, the cholesterol and iron content mean values were  $130.85 \pm 2.17$  mg/100 g and  $16.07 \pm 0.24$  mg/100 g, respectively in the examined imported frozen liver samples. In conclusion, imported frozen liver sold in markets of Assiut city Egypt is of fair quality; it should be consumed sporadically and with care of TBARS, cholesterol and iron potential hazards.

Keywords: Imported frozen liver, Chemical quality, Nutritional aspects

**HEALTH AND ENVIRONMENT****(MILK)**

|          |  |
|----------|--|
| NO       | : 158  |
| TITLE    | : EVALUATION OF THE HYGIENIC ASPECTS OF DRIED MILKS AND INFANT FORMULAS  |
| AUTHORS  | : OMNIA M. EL-TAYEB 1; SAHAR M. KAMAL 2 AND MOHAMMED SAYED 2   |
| ADDRESS  | : 1 Children's University Hospital, Assiut University, Egypt<br>2 Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet.Med.J.Vol.69 No.178July 2023pp 64-73  |

**ABSTRACT**

The purpose of the current study was to explore the hygienic aspects of different dried milks and infant formulas procured from different supermarkets and pharmacies in Assiut city, Egypt. All the samples were examined for some sensory, physical, chemical and microbiological parameters. The obtained results for the examined dried milks and infant formulas showed the mean values of the insolubility index as 3.24 & 2.17 mg, respectively; pH as 6.9 & 7.1, respectively. The chemical parameters showed the results of acidity%, moisture content, total solids%, fat% and SNF%. For the results of coliforms, fecal coliforms & E. coli, all the examined samples were acceptable according to the Egyptian Standards. In contrast, B. cereus was detected in 33.33 & 26.67% of the examined dried milk and infant formula samples, respectively. It was noticed that all the samples were free from Cronobacter species. Unfortunately, the unacceptable samples according to Cl. perfringens were 6.67% of the dried milk and 3.33% of the infant formula samples. The average yeasts & molds count was  $1.09 \times 10^5$  and  $1.44 \times 10^5$ , respectively.

Keywords: Hygienic quality, Dried milks, Infant formulas.

**HEALTH AND ENVIRONMENT****SALMONELLA TYPHIMURIUM**

|          |   |
|----------|---|
| NO       | : 156   |
| TITLE    | : NANOPARTICLES-PHENOLICS AS ANTI SALMONELLA TYPHIMURIUM  |
| AUTHORS  | : MAHMOUD AMMAR MOHAMED AMMAR1; ASMAA MOHAMMED HENETER2; TALAAT SAYED ALY EL-KHATEIB 3;ASHRAF ABD EL-MALEK4 AND AHMAD MOHAMED AHMAD ABO MARKEB 5  |
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| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 170 July 2021, 59-80  |

**ABSTRACT**

The present study was designed to evaluate the activities of six phenolic compounds. Their activities against the potential foodborne pathogen *S. Typhimurium* were assessed using macro dilution and spectrophotometric methods. Their activities were in the order of thymol > benzoic acid > coumarin > cinnamic acid > curcumine > gallic acid. Thymol was bactericidal at a concentration of 0.08 mg /ml. With exception of curcumine, other phenolics revealed bactericidal effect in concentration varied from 1.25 to 10.00 mg/ml. Minimum inhibitory concentration (MICs) values by spectrophotometric method were significantly different compared to visual method in some antimicrobial assays. Coating fish with solutions of thymol or chitosan nanoparticle (CNPs) significantly reduced salmonella population. The nanostructured thymol CNPs capsule controlled the release of thymol and the effect in fish matrix continued significant during cold storage without adverse effect on pH value. The tested phenolics have the potential to be used in development of food coating technology. Also the formulated nanocapsule is promising in controlling the hazard of *S. Typhimurium* in fish.

Keywords: Phenolics —thymol- Salmonella – Nanoparticles encapsulation.



**HEALTH AND ENVIRONMENT****SLICED MEAT**

|          |  |
|----------|--|
| NO       | : 160  |
| TITLE    | : ASSESSMENT OF NUTRITIVE VALUE AND HYGIENIC STATE OF LIVER (KIBDA) AND SLICED MEAT SANDWICHES IN NEW VALLEY GOVERNORATE |
| AUTHORS  | : SHAIMAA MOHAMMED ABD EL-MOTELB; HESHAM ABDEL-MOEZ AHMED ISMAIL1 AND SHERIEF MOHAMMED SAYED ABD-ALLAH                   |
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| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 175 October 2022, 115-124  |

**ABSTRACT**

In the present work, 50 samples of each ready-to-eat (RTE) sandwiches of the liver (kibda) and sliced meat were collected at random from the points of sale in El-Kharga city, New Valley Governorate, Egypt. The hygienic (coliforms, fecal coliforms, E. coli, yeast, and mould counts) and nutritional (moisture, protein, fat, ash, gross energy, and cholesterol content) quality were assessed. All samples were sensory accepted. The coliforms were detected in 52 and 50%; fecal coliforms in 10 and 2%; and E. coli in 4 and 2% of the examined RTE sandwiches of kibda and sliced meat, respectively. Pathogenic E. coli strains were identified from the liver (3 strains) and sliced meat (1 strain) samples. The average yeast count was  $4.20 \pm 0.0.25$ , and  $3.46 \pm 0.17$ ; while that of mould was  $3.18 \pm 0.13$  and  $2.90 \pm 0.07$  log<sub>10</sub> cfu/g, respectively. The average moisture contents (%) were  $55.62 \pm 0.43$  and  $43.50 \pm 0.68$ ; protein (%) were  $24.29 \pm 0.47$  and  $24.45 \pm 0.60$ ; fat (%) were  $10.41 \pm 0.25$  and  $16.13 \pm 0.43$ ; and ash (%) were  $2.75 \pm 0.08$  and  $1.41 \pm 0.06$ , respectively. The average gross energy contents (Kcal/100g) were  $190.90 \pm 3.30$  and  $243.0 \pm 4.6$ , respectively. The average total cholesterol contents (mg/100g) were  $60.12 \pm 6.93$  and  $50.45 \pm 6.02$ , respectively. In conclusion, although nutritious, RTE sandwiches under investigation may pose public health concerns (pathogenic bacteria and cholesterol), especially those of liver (kibda).

Key Words: Quality, Microbial, Nutritional, Sandwiches, Sliced meat, Liver (Kibda), Ready-to-Eat.

## HEALTH AND ENVIRONMENT (TISSUES)

NO : 161  
TITLE : A COMPARATIVE STUDY ON ZINC LEVELS BETWEEN BUFFALO AND CATTLE EDIBLE TISSUES IN ASSIUT CITY, EGYPT  
AUTHORS : YOUSSEF, T.H. 1; HEFNAWY, Y.A. 1 and HASSAN, H.A.2  
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BULLETIN : Assiut Vet. Med. J. Vol. 66 No. 164 January 2020, 10-14

### ABSTRACT

A total of 168 samples of livers, kidneys and muscles (part of the diaphragm) of both buffalo and cattle were screened in the period from October 2007 to September 2008. The samples were subjected to preparation & for measurement the level of zinc by using Atomic Absorption/Flaming Emission Spectrophotometer. Buffalo organs showed variations in their zinc content. Concentrations of zinc in buffalo livers were  $11.89 \pm 2.03$  as a mean with a range varied from 8.0 to 16.0  $\mu\text{g/g}$  wet weight. While the concentration of zinc in kidneys of buffalo varied from 11.00 to 22.00 with a mean value of  $14.06 \pm 3.24$   $\mu\text{g/g}$  wet weight, respectively. Moreover, the concentrations of zinc in muscles were  $18.07 \pm 6.39$ , 12.21 and 35.0  $\mu\text{g/g}$  wet weight, respectively as a mean, minimum and maximum. On the other hand, concentrations of zinc in cattle livers, the levels varied from 8.78 to 40.0 with a mean value of  $13.19 \pm 6.40$   $\mu\text{g/g}$  wet weight. While in kidneys the concentrations were 10.23, 30.0 and  $14.60 \pm 4.30$   $\mu\text{g/g}$  wet weight, respectively as a minimum, maximum and mean. Moreover, the mean zinc concentrations in cattle muscles was  $17.25 \pm 5.77$  with a range of 11.43 – 35.00  $\mu\text{g/g}$  wet weight. In conclusion, 3% - 28% of the examined samples of both cattle and buffalo were higher than the results obtained by Egyptian Organization Standardization and Quality Control (2008), muscles samples have high concentrations of zinc than livers and kidneys. However, it is still not toxic to human because zinc daily requirement is about 15 mg/day which is never found in the daily serving of meat group of food.

Keywords: Zinc toxicity in cattle, Zinc toxicity in buffaloes, Egypt.

**HEALTH AND ENVIRONMENT****(TURMERIC POWDER) □**

NO : 162

TITLE : EFFECT OF DIETARY SUPPLEMENTATION OF TURMERIC POWDER ON GROWTH PERFORMANCE, BEHAVIOR AND BLOOD BIOCHEMICAL PARAMETERS OF FAYOUMI BROILERS

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<sup>2</sup> Department of Animal Hygiene, Faculty of Veterinary Medicine, New Valley University

BULLETIN : Assiut Vet. Med. J. Vol. 66 No. 164 January 2020, 15-23

**ABSTRACT**

The present study was undertaken to investigate the effect of dietary supplementation of turmeric (*Curcuma longa*) powder on the performance, carcass traits and behavior of native Fayoumi broiler. A total number of 120 one month old commercial male Fayoumi broilers with nearly similar weights were randomly distributed into three experimental groups each 40 birds in 4 replicates (10 bird/replicate). Birds in the first group were fed on standard basal diet without any addition ( control T1) while, Fayoumi broilers in the second and the third groups fed on the same basal diet supplemented with 0.5 and 0.75% turmeric powder (T2&T3). Growth performance parameters, carcass traits, and behavioral parameters were assessed. The results showed that, there was a significant increased in body weight gain, feeding, drinking and sitting behavior, total protein, globulin, calcium, phosphorus and dressing percentage while, significant decrease in FCR, walking and standing behavior. Addition of turmeric powder in the second and third treatment had no significant effect on albumin level, relative weights of liver, gizzard, heart and spleen over six weeks of experimental period. Results of the current study concluded that using turmeric (*curcuma longa*) powder supplement in Fayoumi broiler diets improved growth performance and ingestive behavior, in addition, total serum protein, globulin, calcium, phosphorus and dressing percentage were increased significantly.

**Keywords:** Turmeric, Feeding behavior, Growth performance, Carcass traits, Fayoumi broilers



# *Nature & Environment*

**Nature and Environment**

**(BROILERS)**

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| NO       | : 163  |
| TITLE    | : EFFECT OF DIETARY OLIVE LEAVES AND CHAMOMILE FLOWERS POWDER ON THE GROWTH PERFORMANCE AND CARCASS TRAITS AND OF BROILERS (SASSO BREED)   |
| AUTHORS  | : HALA Y.A. NASSAR <sup>1</sup> ; HASSAN A.M. ABDEL-RAHEEM <sup>2</sup> and SOTOHY A. SOTOHY <sup>3</sup>  |
| ADDRESS  | : <sup>1</sup> Animal & Clinical Nutrition Dept., Fac. of Vet. Med., New Valley University, Egypt<br><sup>2</sup> Animal & Clinical Nutrition Dept., Fac. of Vet. Med., Assiut Univ., Assiut, Egypt<br><sup>3</sup> Animal Hygiene Dept. Fac. of Vet. Med., Assiut University, Assiut, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 65 No. 163 October 2019, 1-9  |

**ABSTRACT**

The current work was conducted to evaluate the effect of feeding Olive leaves and chamomile flowers powders either single or in combination on growth performance, carcass traits, serum parameters and immune response of Sasso broilers. A total number of 126 one-day old unsexed Sasso chicks (average weight 35 g) were obtained from local commercial source and randomly distributed into 6 equal groups each of 21 chicks (7 chicks/replicate). In the first group, birds were fed ad-libitum on starter, grower and finisher basal control diets, while chicks in the second and third groups fed on diets supplemented with 1 & 2% olive leaves powder (OLP). Birds in the fourth and fifth groups fed diets containing 0.75 & 1% chamomile flowers powder, while broilers in the sixth group fed on diet supplemented with 2% olive leaves powder + 1% chamomile flowers powder. Control basal starter, grower and finisher diets were formulated according to guidelines of Sasso breed requirements. Birds were fed according to three phases program (starter, grower and finisher) for 70 days experimental period. Growth performance, carcass traits, serum biochemical and immune parameters were assessed. The results showed that, olive leaves powder supplemented groups (groups 2, 3), chamomile flower powder supplemented group (group 4) and birds in the sixth group (group 6) recorded higher body weight gain ( $1277.67 \pm 33.42g$ ,  $1375.75 \pm 46.07g$ ,  $1277.17 \pm 50.30$  and  $1267.25 \pm 37.12 g$ ), respectively and best feed conversion (2.17, 2.03, 2.17 and 2.11) than that recorded by control group ( $1221.50 \pm 47.29g$  & 2.26). Addition of olive leaves powder, chamomile flower powder or their combination to broiler diets had no significant effect ( $p < 0.05$ ) on dressing percentage or the relative weights of internal organ compared with the control group. Total serum protein and globulin were significantly increased, while albumin/globulin ratio was significantly decreased in the third group compared with control one. There were significant decreases in serum cholesterol levels in all treatment groups except fourth group, while there was significantly decrease in triglycerides level in sixth group in comparison with other groups and control group. Serum levels of malondialdehyde (MDA) were significantly decreased in the second, third and fourth groups, while there were no significant differences were observed in fifth and sixth groups. Serum catalase enzyme was significantly increased in the third and fourth groups compared with treated groups and control. WBCs counts and lymphocytes % were significantly increased in all treated groups except the third group which show no significant effect. The relative weights of bursa were significantly increased in all treated groups compared with control. There were significantly increased in the relative weight of thymus in third and fifth groups, while the relative weight of spleen significantly increased in fifth and sixth groups comparison with control. Results of the current study concluded that, the best growth performance and immune response were observed in broilers of the third group fed diet containing 2% olive leaves powder. *Key words: Growth performance, carcass traits, broilers, Sasso breed*

## Nature and Environment

**(BROILERS)**

|          |  |
|----------|--|
| NO       | : 164  |
| TITLE    | : EFFECT OF STOCKING DENSITY ON BROILERS BEHAVIOUR AND WELFARE INDICES   |
| AUTHORS  | : AHMED A. ABDELGABER; AHMED A.A. MOHAMMED; USAMA T. MAHMOUD AND MADEHA H. A. DARWISH  |
| ADDRESS  | : Department of Animal, Poultry, and Aquatic Life Behavior and Management, Faculty of Veterinary Medicine, Assiut University, Egypt. |
| BULLETIN | : Assiut Vet. Med.J.Vol.69 No.179 October2023,pp 1-13  |

**ABSTRACT**

The purpose of the research was to determine how stocking density affected the behaviour, growth, physiological responses, and leg condition of broilers. 195 five-day old, unsexed Ross strain chicks were randomly allotted into 3 treatments. low stocking density (10 birds/m<sup>2</sup>, LSD), medium stocking density (15 birds/m<sup>2</sup>, MSD) and high stocking density (18 birds/m<sup>2</sup>, HSD). Each treatment had 3 pens (1.5 m<sup>2</sup>), and approximately four weeks were spent on the study. The HSD demonstrated reduced rates ( $P < 0.05$ ) of laying, locomotion, eating, preening and longer periods of tonic immobility. Final body weight and total body weight gain were significantly ( $P < 0.05$ ) reduced in the HSD. Also, HSD group showed increased ( $P < 0.05$ ) heterophil/lymphocyte ratio, serum corticosterone, glucose and cholesterol, and significantly increased gait issues and footpad and hock burns. However, no significant ( $P > 0.05$ ) difference was found in litter quality (moisture, ASH, pH) and bone quality (tibiae and femurs measurements) between all treatments. Conclusion, the results indicate that HSD had a negative effect on broiler's behaviour and welfare indicators, therefore it should be avoided in poultry farms and further investigations are still required to figure out the best methods for its control.

Keywords: Stocking density, broilers, behaviour, leg health.

**Nature and Environment****(BROILER CHICKENS)**

|          |  |
|----------|--|
| NO       | : 165  |
| TITLE    | : INVESTIGATION ON ENTEROCOCCUS INFECTION IN BROILER CHICKENS  |
| AUTHORS  | : HESHAM AHMED HAMMAM 1; MOSTAFA ABDELMOTELEB SHEHATA 2; HEBATALLAH ABDELHALIM 1 AND OMAR AMEN 2   |
| ADDRESS  | : 1 Poultry Diseases Department, Animal Health Research Institute, Assiut, Egypt<br>2 Avian and Rabbit Diseases Department, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 176 January 2023pp 18-30  |

**ABSTRACT**

Enterococcus species (*Enterococcus* spp.) are considered one of the most common pathogens causing economic losses in poultry production. To isolate and identify *Enterococcus* spp, 110 broiler chickens (some diseased and others recently dead) were collected aged from 1 to 45 days, also 65 dead in shell chicken embryos were collected from different farms and Balady hatcheries in Assiut province. Four samples were taken from each bird from 110 broiler chickens (liver, spleen, heart), (intestines), (joints), (brain) and the samples from dead shell chickens embryos were cultured on Brain heart infusion broth then inoculated broth cultured on KF streptococcal agar and bile esculine agar. *E. hirae* was isolated from (liver, spleen and heart) at a rate of (66.2%), intestine (66.7%), joint (81.8%), brain (66.7%) and dead in shell chicken embryos (44.1%), *E. durans* was isolated from (liver, spleen and heart) with a percentage of (22%), intestine (14.3%), joint (18.2%), brain (33.3%) and was (41.2%) from dead in shell chicken embryos, *E. faecalis* was isolated at a rate of (11.8%) and (19%) from (liver, spleen, heart) and intestine respectively but the percentage of dead in shell chicken embryos was (14%) and did not isolate from joint or brain. we used *E. hirae* isolate in this experiment because it is the largest percentage of isolation. Four days-old broiler chicks were infected by I/V inoculation (wing vein), I/T inoculation, and contact chicks for each of them the mortality rates were 100%, 90% and 60% for I/V, I/T and in both contact chicks respectively. We found that *E. hirae* isolates were sensitive to neomycin, ampicillin, streptomycin, penicillin g, and amoxicillin and resist tetracycline, erythromycin and tylosin.

Key Words: Enterococci, *E. hirae*, *E. durans*, *E. faecalis*.



## Nature and Environment

**(BROILER CHICKENS)**

|          |   |
|----------|---|
| NO       | : 166   |
| TITLE    | : THE EFFECTS OF RAYEB MILK ON PERFORMANCE, BEHAVIOUR AND CECAL LACTOBACILLI COUNT IN BROILER CHICKENS DURING STARTER PERIOD  |
| AUTHORS  | : U.T. MAHMOUD*, O.A. AMEN**, D.H. SALEH, M.A. ABDEL-RAHMAN**   |
| ADDRESS  | : * Department Of Animal Hygiene( Behaviors) -<br>** Department of Poultry Diseases, Faculty of Veterinary Medicine, Assiut University.<br>***Department of Microbiology, Faculty of Veterinary Medicine, Univ. |
| BULLETIN | : 17 Sci. Cong. 2016, Fac. Vet. Med., Assiut Univ., Egypt   |

**ABSTRACT**

The present work aimed to study the effect of Rayeb milk as a probiotic on the growth performance, behaviour, and cecal lactobacilli count in broiler chickens during the starter phase (0-15 days). One hundred and twenty 1-day-old male broiler chicks (Ross 308) were allotted into two treatments 1) control group (drinking water only); 2) Rayeb milk group: 10% Rayeb milk were added in the drinking water. The results indicated that Rayeb milk supplementation had no effect on the body weight and body weight gain. While, there was a significant reduction in feed intake and improvement in feed conversion ratio of Rayeb milk treated birds in comparison to control. Also there was a significant decrease in feeding, resting, and dust bathing activities, and a significant increase in drinking water activities of Rayeb milk treated birds in comparison to the control. While there were no significant changes in walking, standing, preening and wall pecking activities between Rayeb milk treated birds and the control. In addition the results showed that there was a significant increase in total lactobacilli count in Rayeb milk treated birds in comparison to the control one. In conclusion the current preliminary study reflected that dietary supplementation of Rayeb milk may improve the health status and reduce the production cost of the birds. However, further investigation is still required to determine the best dose before it could be applied in the field.

Key words: broiler, Rayeb milk, performance, behaviour, cecal microflora

## Nature and Environment

## (BROILER CHICKENS)

NO : 167  
TITLE : PREVALENCE OF SOME ANTIMICROBIAL RESISTANCE GENES IN MULTIDRUG RESISTANT SALMONELLA ISOLATED FROM BROILER CHICKENS  
AUTHORS : WALID H. HASSAN\*, AHMED H. ABED\*, ABD EL RADY THABET\*\* and EMAN A.M. EL NADY\*\*.  
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BULLETIN : Assiut Vet. Med. J. Vol. 63 No. 154 July 2017, 146-152

## ABSTRACT

Salmonellosis is one of the major bacterial problems in the poultry industry in Egypt and worldwide. Resistance to antimicrobial agents within nontyphoidal Salmonellae is a serious problem. The present study aimed to analyze some  $\beta$ -lactamase resistance genes in Salmonella isolates from broiler chicken. Five hundred samples were collected from diseased broiler chickens of different ages (3-6 weeks) from different farms in Assiut Governorate during the period from January 2015 to December 2015. Bacteriological examination showed that 26 salmonella isolates were recovered with a prevalence rate of 5.2%. Serotyping of Salmonella isolates showed that S. Enteritidis, S. Typhimurium, and S. Kentucky were identified at rates of 50%, 30.8% and 19.2%, respectively. Results of antibiogram showed that 18 salmonella isolates (92.3%) were multidrug resistant. All isolates were screened for the presence of 2  $\beta$ -lactamase resistance genes (blaCTX and blaCMY) using multiplex PCR. The overall prevalence was 14/26 (53.9%) for blaCTX and 9/26 (34.6%) for blaCMY.

**Nature and Environment****(BROILER CHICKENS)**

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| NO       | : 168  |
| TITLE    | : EFFECT OF DIETARY SUPPLEMENTATION OF ECHINACEA AND NUCLEOTIDES ON PRODUCTIVE PERFORMANCE, INTESTINAL HISTOMORPHOLOGY AND GENE EXPRESSION OF BROILER CHICKENS |
| AUTHORS  | : WALAA FATHI RADY; ABDEL-BASET N. SAYED AND HASSAN A. ABDEL-RAHEEM  |
| ADDRESS  | : Department of Nutrition and Clinical Nutrition, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt.  |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 176 January 2023pp 141-155  |

**ABSTRACT**

The current study was conducted to evaluate the effects of dietary Echinacea purpurea leaves powder, nucleotides single and in a combination on growth performance, carcass traits, intestinal morphology, genes expression, biochemical parameters, immune and antioxidant status of broiler chickens. A total number of 108 one-day old unsexed broiler chicks (Ross 308) randomly distributed into 4 equal groups each of 27 chicks in 3 replicates (9 chicks per each). First group (control) fed basal diet without additives, while second group received diet supplemented with 1.0% Echinacea. Third group fed on diet containing 0.05% nucleotides and fourth group received diet supplemented with a combination of Echinacea 0.5% & nucleotides 0.05%. The results showed that, birds in second and third groups had significantly ( $P<0.05$ ) higher weight gain ( $2012.60\pm 75.82\text{g}$  &  $2005.40\pm 38.19\text{g}$ ) and improved feed conversion ratios ( $1.44\pm 0.05$  &  $1.45\pm 0.02$ ). Dietary supplementation of Echinacea increased relative weight of bursa and thymus while decreased relative weight of spleen and liver. Addition of nucleotides to broiler diets significantly ( $P<0.05$ ) increased the serum level of total protein, triglycerides and high density lipoproteins (HDL), while decreased cholesterol and low density lipoproteins (LDL). Echinacea addition significantly ( $P<0.05$ ) increased the level of serum total protein and HDL, while decreased cholesterol and LDL. Group 3 showed improvement in the intestinal histomorphology, while group 4 showed degeneration in the jejunal epithelium. Nucleotides up regulated both (IL-10) and (IGF). It could be concluded that the dietary supplementation of Echinacea or nucleotides improved the growth performance, intestinal histomorphology, immunity and antioxidant status.

**Nature and Environment****(BROILERS CHICKEN)**

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| NO       | : 169  |
| TITLE    | : EVALUATE THE EFFECT OF SOME PHYTOBIOTICS ON THE CONTROL OF NECROTIC ENTERITIS IN BROILERS CHICKEN  |
| AUTHORS  | : MOHAMED A. SAYED <sup>1</sup> ; MOSTAFA A. SHAHTA <sup>1</sup> ; MOHAMED H. KOTOB <sup>2</sup> ; NAGLAA M. ALI <sup>3</sup> USAMA T. MAHMOUD <sup>4</sup> , MANAL A.M. MAHMOUD <sup>5</sup> AND OMAR AMEN <sup>1</sup>   |
| ADDRESS  | : 1 Avian and Rabbit Medicine, Faculty of Veterinary Medicine, Assiut University, Egypt<br>2 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Egypt.<br>3 Poultry Diseases Department, Animal Health Research Institute, Agriculture Research Center, Egypt.<br>4 Department of Animal, Poultry and Aquatic Life Behavior and Management, Faculty of Veterinary Medicine, Assiut University, Egypt.<br>5 Department of Animal Hygiene and Environmental Pollution, Faculty of Veterinary Medicine, Assiut University, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol.69 No.177April 2023 pp 89-104  |

**ABSTRACT**

The harmful economic impacts on chicken production are caused by the bacterium *Clostridium perfringens*, which is also responsible for necrotic enteritis in chicken. The study's objective is to assess the beneficial benefits of a few phytobiotics as substitutes for antibiotics when treating necrotic enteritis and broiler performance. Seven treatment groups were created at random from 280 broilers. All groups, except the negative control group, faced *C. perfringens* type A strain seven days after receiving sporulated coccidia oocyst inoculations. G3 and G4 received a basal diet containing 1 and 2 gm of curcumin /kg of diet, respectively. G5 was given a control infection, while G6 received a basal diet containing 1 and 2 gm of propolis /kg of diet. The results revealed that a high concentration of curcumin 1&2 gm/kg as a feed additive had a significant detrimental effect on chicken growth performance. Moreover, the total count of *C. perfringens* in the cecum was significantly increased and severe histopathological alterations in the intestinal mucosa, including severe sloughing of villi epithelium were detected. On the other side, Propolis, when added to the diet at a dose of 1-2 gm/kg ration, protected the digestive system and ameliorated the pathological lesions induced by the concurrent infections with *Eimeria* and *C. perfringens*. Consequently, a considerable decrease in the overall number of *C. perfringens* in the cecum, and restoration of the normal histological structure of the intestine and the lesions were mild compared to curcumin groups.

Keywords: *C. perfringens* Curcumin. Propolis. Growth performance. Intestinal pathology.

## Nature and Environment

**(BUFFALO HEIFERS)**

NO : 170  
 TITLE : PRELIMINARY STUDY ON LIPID PROFILE WITH RELATION TO TOTAL ANTIOXIDANT CAPACITY AND SOME HEMATOLOGICAL AND BIOCHEMICAL CHANGES OF PRE-POST-PARTUM BUFFALO HEIFERS AT ASSIUT CITY  
 AUTHORS : GHADA A.E. MOHAMED\*; EMAN M.ABD- ELNASER\*and HANAN K. ELSAYED\*\*  
 ADDRESS : \* Animal Health Research Institute, Assiut Branch.  
 \*\*Dept. of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt.  
 Email: eman\_191069@yahoo.com  
 BULLETIN : Assiut Vet. Med. J. Vol. 61 No. 144 January 2015

**ABSTRACT**

The objectives of this study were to evaluate the relation between lipid profile and total antioxidant capacity (TAC) and to investigate the changes in some hematological and biochemical parameters in buffalo heifers during pre and post-partum period. The study was conducted on 30 buffalo heifers from a buffalo's farm that belongs to Assiut City, Egypt. These pregnant buffaloes were followed until delivery. Blood samples were taken at 3 weeks pre-partum (late pregnancy) and one month post-partum (early lactation). Two types of samples were collected, whole blood samples for hematological picture, and serum samples for biochemical analysis which included total proteins, albumin, globulins, AST, ALT, triglycerides, total cholesterol, HDL-C, LDL-C, and total antioxidant capacity (TAC). The hematological indices including mean values of RBC, Hb, PCV, MCV, and MCH, TLC, lymphocyte % and neutrophil % revealed significant decrease in the early lactation period if compared with late pregnancy mean values. There were significant increase in total proteins, albumin and globulins in the early lactating group compared with late pregnancy group. The mean values of AST, revealed significant increase in the early lactating group compared with late pregnancy group. A significant decrease in the mean values of triglycerides was observed in the early lactating period compared with late pregnancy results. The mean value of total cholesterol, HDL-C and total antioxidant capacity (TAC) revealed significant increase, in the early lactating group compared with late pregnancy group. There were a positive correlation between Total antioxidant capacity (TAC), albumin, total cholesterol and HDL-C.

**Nature and Environment****( CALVES )**

|          |  |
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| NO       | : 171  |
| TITLE    | : SURVEY OF NEWLY BORN CALVES MANAGEMENT PRACTICE IN NEW VALLEY GOVERNORATE  |
| AUTHORS  | : NORA ABD ELBAETH S. MOHAMED 1; MOATAZ A. M. ABDEL-RAHMAN 2; SOTOHY A. SOTOHY 3 AND RAMADAN D. EL SHOUKARY  |
| ADDRESS  | : 1 Department of Animal Hygiene, Faculty of Veterinary Medicine, New Valley University - 2 Department of Behavior and Management of Animal Wealth, Dean of Faculty Veterinary Medicine –Minia University, 71526, Egypt. - 3 Department of Animal Hygiene, Faculty of Veterinary Medicine, Assiut University, 72511, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 67 No. 168 January 2021, 53-60  |

**ABSTRACT**

The objective of this work was to conduct a broad survey of newly born calves management practices that have an effect on animal behavior and mortality. Animal's farms were visited during the summer of 2019 in new valley government. Data were collected on 70 farms to answer the questions about Calving pen presence, calves raising method, colostrum feeding number or volume, mortality rate, care of newly born animal, weaning age and method used. The obtained data showed that, 85% of Calves were raised by the owner till fattening and 13 % were purchased from the market, A total of 95% of owners haven't calving pen in their frame beside that, 73% of them were fed all colostrum during 6 hours after parturition and 60% of them were feed colostrum two days. On the other hand, 67% of owners did not used disinfectant after parturition which associated with 22% mortality rate of newly born calves. Finally data obtained show that, about 75% of owners were weaned the animal more than 4 month with gradually weaning type.

Keywords: Newly born calve management, weaning method, calf rearing.

**Nature and Environment**

**(CASTRATION )**

|          |  |
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| NO       | : 172  |
| TITLE    | : CHEMICAL CASTRATION WITH FORMALIN VERSUS SURGICAL CASTRATION IN DOGS: HORMONAL, SEMINAL FLUID, CELLULAR STRESS RESPONSE, AND TESTICULAR TISSUE ALTERATIONS   |
| AUTHORS  | : SAMIA MOUSTAFA <sup>1</sup> ; KHALED M.A. HASSANEIN <sup>2</sup> ; MOHAMED ABDOU <sup>3</sup> ; LAMIAA R. FADL <sup>1</sup> AND MAHMOUD S. SABRA <sup>4</sup>  |
| ADDRESS  | : 1 Department of Surgery, Faculty of Veterinary Medicine, Assiut University,.<br>2 Department of Pathology and Clinical Pathology, Faculty of Veterinary Medicine, Assiut University, Egypt, 71526, Egypt.<br>3 Department of Theriogenology, Faculty of Veterinary Medicine, Assiut University, Egypt, 71526, Egypt.<br>4 Pharmacology Department, Faculty of Veterinary Medicine, Assiut University, Egypt, 71526, Egypt. |
| BULLETIN | : Assiut Vet. Med.J.Vol.69 No.179 October2023,pp 69-87   |

**ABSTRACT**

**Aim:** Castration is almost the only way to reduce pet overpopulation. Dog overpopulation and stray dogs are global issues that harm both public health and animal welfare. As a result, the current study sought to provide alternate surgical castration approaches, if viable. Also included is a comparison between surgical and pharmacological castration.

**Methods:** Under the anaesthetic effect of intravenous (IV) 2% xylazine HCl (1 mg/kg) and 5% ketamine HCl (10 mg/kg), standard surgical castration and intra-testicular injections were done. The dogs were positioned dorsally recumbent. Using a 24-gauge, 2.4 cm sterile needle, a 10% formalin solution was placed within the testes (2 ml / testis).

**Results:** Clinical follow-up in the formalin group demonstrated edema and redness in the scrotum and prepuce following injection, according to the findings. In the formalin group, a dog developed a little scrotal ulcer. In the current study, blood testosterone concentrations in the formalin and surgery groups fell considerably at the end of the experiment compared to day 0. Cortisol levels were elevated at the start of the trial and thereafter returned to normal. Histopathological evaluation of the testes in the formalin group, showing necrosis of seminiferous tubules. In addition, oxidative stress markers rose in both the formalin and surgical groups and steadily reduced towards the conclusion of the trial. Histopathological evaluation of the testes in formalin group showing necrosis of seminiferous tubules

**Conclusion:** Based on the seminal and biochemical assessments in this work, intratesticular injection of 10% formalin (2 ml) seemed successful for chemical sterilization of dogs and applicable on a broad scale.

**Nature and Environment****(CANINE)**

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| NO       | : 173  |
| TITLE    | : INVESTIGATING THE EFFECT OF A CANINE COMMERCIAL DRY DIET ON THE COMPLETE BLOOD PICTURE AND FECAL QUALITY IN DOMESTIC DOGS PREVIOUSLY KEPT ON HOME-PREPARED FOOD IN EGYPT   |
| AUTHORS  | : HASSAN S. SHEHATA <sup>1</sup> ; HANAN K. ELSAYED <sup>2</sup> AND NASHWA E. Waly <sup>3</sup> .   |
| ADDRESS  | : Demonstrator of Veterinary Internal Medicine, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Egypt.<br>2 Professor of Veterinary Internal Medicine, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Egypt.<br>3 Professor of Small Animal Internal Medicine, Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Egypt. |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 178 July 2023 pp 7-17   |

**ABSTRACT**

In Egypt, dogs are routinely fed a home-cooked diet prepared by their owner (e.g. boiled chicken legs). The nutrition of pets is crucial to the health state of various body systems and that can be reflected in the complete blood count picture as well as general health of the animal. Poor nutrition can result in various nutritional deficiency disorders such as nutritional deficiency anemia. Nine native breed puppies were screened at regular intervals using a general health physical examination including monitoring their temperature, general inspection, heart and respiratory rate measurements before changing their diet in a controlled experiment. The dogs were kept indoors and their diet was changed from the traditional home cooked food into a commercially available dry diet. Blood samples were also collected for a complete blood count on day one before starting the commercial diet and day 30 at the end of the experiment. The complete blood picture was monitored on set days throughout the experiment and the fecal score was assessed using a fecal scoring system of Royal Canine on day 1 before starting the commercial diet and day 30 at the end of the experiment. There was a significant difference in most blood parameters following the change in diet. Those that were significantly higher were: the total RBCs count, hemoglobin concentration, hematocrit value, mean corpuscular volume, mean corpuscular hemoglobin and the mean corpuscular hemoglobin concentration ( $p < 0.05$ ). The fecal score also improved from loose stool into clearly defined shape and that change was statistically significant ( $p < 0.05$ ).



## Nature and Environment

## ( CHILLING )

|          |   |
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| NO       | : 174   |
| TITLE    | : CHANGES IN CAMEL AND CATTLE MEAT DURING CHILLING PRESERVATION   |
| AUTHORS  | : MAHMOUD SAYED HASSANIEN 1; TALAAT SAYED ALY EL-KHATEIB 2; MOHAMED AHMED HASSAN 3 AND ASHRAF ABD EL-MALEK 4  |
| ADDRESS  | : 1 Quality Assurance Section Head<br>2&4 Faculty of Veterinary Medicine, Assiut University, Egypt<br>3 Faculty of Veterinary Medicine, Banha University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 173 April 2022, 1-9   |

## ABSTRACT

The intent of the current study was to assess the changes concerning beef and camel meat during chilling at 4 °C and their role in shelf life of camel and cattle meat. The studied parameters included sensory (colour, odour, consistency and appearance). Microbiological characteristics (total bacterial count (TBC), yeast and mould count, coliforms and Staph. Aureus counts) and chemical parameters (Potentiality of hydrogen (pH), Thiobarbituric Acid (TBA), Total Volatile Nitrogen (TVN), Peroxide value (PV), Glutathione peroxidase (GSH-Px), catalase (CAT), Fractionation of amino acid, Fractionation of fatty acid and Free Fatty Acids (FFAs)). The results revealed that the sensorial quality of fresh cattle meat was acceptable until at 6 Th day but still at 8 Th day of camel meat. The microbiological quality indicated that the validity of cattle meat at 8 th day and camel meat at 10 th day for all mentioned microbial parameters. Chemically, the results were evaluated for cattle meat until the 8 Th day and camel meat at 10 th day for pH., TBA, TVN, PV, Glutathione peroxidase, Catalase and free fatty acids, as well as fractionation of amino acids and fatty acids. In summary, chilling preservation at 4 °C enhanced fresh camel meat shelf life for 8 days and fresh cattle meat shelf life for 6 days without undesirable and detrimental effects on its sensory acceptability.

Keywords: Cattle meat, Camel meat, Chilling, Sensory evaluation, Microbiological characteristics and Chemical Changes.

## Nature and Environment

## ( CHICKEN)

NO : 175  
 TITLE : DETERMINATION OF SOME MINERALS IN BREAST, THIGH, LIVER AND GIZZARD OF CHICKEN  
 AUTHORS : ASMAA MOHAMED1; MOHAMED ABD EL SALAM2; DOAA MOHAMMED3 AND HUSSEIN YOUSSEF3  
 ADDRESS : 1 Upper Egypt Pharmaceuticals (UP Pharma), Industrial Zone, Arab Al-Awamer, Assiut, Egypt  
 2 Animal Institute Research, Laboratory Assiut  
 3 Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, Egypt  
 BULLETIN : Assiut Vet. Med.J.Vol.69 No.179 October2023, pp 88-99

## ABSTRACT

The present study aimed to assess the mineral content in chicken meat (thigh and breast) and organs (liver and gizzard) in Assiut City, Egypt. 100 random samples of fresh chicken samples (25 for each) were collected during the period from March to May 2021 from different butcher's markets. Samples were subjected to sensory and chemical evaluation. The findings revealed that the examined samples have satisfied scores of sensory in which color means were  $8.24 \pm 0.13$ ,  $8.20 \pm 0.13$ ,  $8.20 \pm 0.13$ ,  $8.12 \pm 0.13$  odor means were  $8.24 \pm 0.12$ ,  $8.08 \pm 0.14$ ,  $8.24 \pm 0.13$ ,  $8.16 \pm 0.14$  taste means were  $8.04 \pm 0.14$ ,  $7.76 \pm 0.13$ ,  $7.80 \pm 0.13$ ,  $8.04 \pm 0.14$  and overall acceptance means were  $8.20 \pm 0.12$ ,  $8.16 \pm 0.13$ ,  $8.00 \pm 0.12$ ,  $8.12 \pm 0.15$  in thigh, breast, liver and gizzard, respectively. The findings revealed that the examined samples have satisfied scores of minerals content in which Ca scores were  $36.24 \pm 1.71$ ,  $23.56 \pm 1.46$ ,  $24.88 \pm 1.25$ ,  $25.65 \pm 2.09$  Ph scores were  $148.00 \pm 5.01$ ,  $79.24 \pm 4.94$ ,  $100.70 \pm 5.29$ ,  $72.87 \pm 5.94$ ; Fe scores were  $3.20 \pm 0.17$ ,  $3.70 \pm 0.25$ ,  $10.22 \pm 0.52$ ,  $3.29 \pm 0.35$ ; Mg scores were  $18.57 \pm 2.06$ ,  $10.24 \pm 0.88$ ,  $3.47 \pm 0.38$ ,  $3.57 \pm 0.25$  and Zn scores were  $1.19 \pm 0.06$ ,  $0.77 \pm 0.12$ ,  $2.27 \pm 0.20$ ,  $3.01 \pm 0.26$  in thigh, breast, liver and gizzard, respectively. In chicken meat, phosphorus is thought to be the most prevalent trace element, followed by calcium, magnesium, iron, and zinc.

Keywords: Chicken, minerals, liver, gizzard.

## Nature and Environment

*CLARIAS GARIEPINUS*

|          |   |
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| NO       | : 176   |
| TITLE    | : IMMUNOMODULATORY EFFECTS OF THYME AND FENUGREEK IN SHARPTOOTH CATFISH, CLARIAS GARIEPINUS   |
| AUTHORS  | : WALAA F.A. EMEISH *and AYA G. SAAD EL-DEEN88.   |
| ADDRESS  | : * Fish Diseases and Management, Department of Fish Diseases and Management, Faculty of Veterinary Medicine, South Valley University, Qena<br>88 Fish Diseases and Management, Animal Health Research Institute, Assiut Laboratory |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 150 July 2016, 45-51  |

## ABSTRACT

The aim of this study was to investigate the modulation effects of thyme and fenugreek as food additives on sharptooth catfish immunity. Three diet regimes, a basic (control); Thyme diet (1%) and fenugreek diet (1%) were formulated and used to feed fish for 30 successive days. Half of the fish were used to investigate some of the immune parameters as differential leucocytic counts, serum globulins, phagocytic activities, phagocytic index, catalase and glutathione peroxidase. The other half of fish was subjected to challenge infection with *Aeromonas hydrophila* to investigate the disease resistance ability of the fish received the feeding additives. The results showed that, the serum globulins have significantly increased in fish fed with fenugreek, while the total serum protein has significantly increased in fish fed with thyme or fenugreek. Glutathione peroxidase (Gper) and catalase (CAT) increased significantly in the groups fed on fenugreek or thyme diets when compared to the control group. Phagocytic percent and index of fish fed on fenugreek were significantly higher than those of the control and thyme groups. Monocytes were significantly increased in all treated groups, while lymphocytes were significantly decreased in all treated groups. Weight gain of *C. gariepinus* was significantly lower in the group fed on thyme than in the control group, while it was insignificantly higher in fish fed fenugreek. After 30 days of feeding, fish were challenged with *A. hydrophila*, the cumulative mortalities were 40% and 26.67 % in fish fed on diet supplemented with 1% thyme and fenugreek, respectively, compared to 66.7% in the control group. It was concluded that thyme and fenugreek are be able to positively stimulate the immune system of *C. gariepinus* and decrease mortality rate in fish challenged with *A. hydrophila*.

## Nature and Environment

## (CLARIAS GARIEPINUS)

|          |  |
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| NO       | : 177  |
| TITLE    | : EFFECTS OF LACTOFERRIN ON THE IMMUNE RESPONSE AND DISEASE RESISTANCE OF SHARPTOOTH CATFISH, CLARIAS GARIEPINUS   |
| AUTHORS  | : AYA G. SAAD EL-DEEN *; YOSRA M. I. EL-SHERRY** and SAMIA F. AHMED*   |
| ADDRESS  | : * Dep of Fish Diseases and Management, Animal Health Research Institute, Assiut Laboratory<br>** Dept. of Fish diseases and Management, Faculty of veterinary medicine, Aswan University, Aswan, Egypt |
| BULLETIN | : 17 Sci. Cong. 2016, Fac. Vet. Med., Assiut Univ., Egypt  |

## ABSTRACT

This study aimed to evaluate the effect of various dietary concentrations of lactoferrin (Lf) powder on immune response and disease resistance of Sharptooth catfish (*Clarias gariepinus*) infected by *Vibrio vulnificus*. Histopathological changes also put in consideration. Four experimental groups, including; a control group G1 (fed on basic diet) and groups G2, G3 and G4 (fed on bovine lactoferrin supplemented diet, 200, 400, and 600 mg lactoferrin /kg diet respectively) were used. Fish were fed for 30 and 60 successive days. Two hundred and sixty apparently healthy Sharptooth catfish (*C. gariepinus*) (average Bw 100± 25g) were used. 80 fish were used to investigate the immune parameters such as total protein, serum globulins and albumin, A/G ratio, differential leucocytic count and phagocytic activities and indices. 120 fish were subject to infection challenge with *V. vulnificus* to investigate the ability of Lf to enhance fish resistance against diseases. 60 fish were used as sham and negative control. After 1 and 2 months of feeding lactoferrin, monocytes and neutrophils percent increased significantly in G3 (400 mg Lf/kg diet) and G4 (600 mg Lf/kg diet) fed groups comparing to the other groups. On the other hand, lymphocytes percent decreased significantly in Lf fed groups G3 and G4 in comparison with the control (G1) group. At the same doses; phagocytic activities significantly increased, while phagocytic index has no significance difference except for 600 mg (G4) fed group after 2 months. Globulin and total protein were significantly increased in fish received 400 (G3) and 600 (G4) mg lactoferrin / Kg diet. Albumin had no significant difference ( $P > 0.05$ ) in all groups. The highest recorded total protein, globulin, phagocytic activity and percentage of monocyte cells were in group received 600 mg lactoferrin/kg diets while the lowest were in the control group. Mortality rates of fish fed with different concentrations of lactoferrin and challenged with *V. vulnificus* were significantly lower than those received basic diet. Histopathological examination revealed, partial restoration of the normal histological structure of liver, kidney and spleen. That was mostly seen in fish group (G4) supplemented with Lf at dose of 600mg Lf/ Kg diet for two months. The current study clearly demonstrated that bovine lactoferrin had a high significant stimulating effect on the immune system and disease resistance of *C. gariepinus* especially with concentration (600 mg/ Kg ration).

## Nature and Environment

## (Copper)

|          |   |
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| NO       | : 178   |
| TITLE    | : RELATIONSHIP BETWEEN HEPATIC COPPER CONCENTRATION AND LIVER ENZYMES ACTIVITY LEVELS IN BUFFALOES              |
| AUTHORS  | : EMAN M. ABD-EL NASER  |
| ADDRESS  | : Biochemistry and Nutritional Deficiency Diseases Department, Animal Health Research Institute, Assiut Branch. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 150 July 2016, 52-57  |

## ABSTRACT

This study was conducted on 35 buffalo calves, which were randomly collected from a buffalo farm. All calves were classified according to the determination of hepatic and serum Cu concentration. (10) of them considered as a control group, while the rest ( 25) considered as cu accumulated group. All calves were slaughtered in Bani Adi slaughter house (Assiut, Egypt). Blood and liver samples were collected during ordinary slaughter of the animals. Serum samples used for determination of serum copper concentration, ceruloplasmin (CP) activity, and hepatic enzyme activities (AST and GGT).Cu concentration was determined in the liver samples and feed stuffs. Results showed that the mean value of both AST and GGT enzymes activity were significant ( $p < 0.01$ ) and ( $p < 0.05$ ) increased in the cu accumulated group than the control one. The mean values of serum cu and hepatic cu were significant ( $p < 0.01$ ) increase in the cu accumulated group than the control group and also for molybdenum while for cereloplasmin was non-significant. The mean value of cu concentration in barseem, wheat straw and concentrates were evaluated. Significant correlation between hepatic Cu accumulation, serum AST activity and serum GGT activity were recorded in this study. Analysis of Cu content in the liver with determination of both AST and GGT enzymes activity is probably the best diagnostic tool currently available for assessing the risk of increase cu accumulation

**Nature and Environment****(DAIRY COWS)**

|          |   |
|----------|---|
| NO       | : 179   |
| TITLE    | : MONITORING THYROID HORMONES, SOME OF OXIDATIVE STRESS MARKERS AND BIOCHEMICAL CHANGES DURING THE EARLY AND MID STAGE OF LACTATION IN DAIRY COWS |
| AUTHORS  | : GHADA A.E. MOHAMED and GAADEE H.I. M  |
| ADDRESS  | : Biochemistry and Nutritional Deficiency Diseases Unit., Animal Health Research Institute, Assiut Branch.  |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 161 April 2019, 1-11  |

**ABSTRACT**

This study aimed to compare changes in biomarkers of nutrient metabolism, thyroid hormones and oxidative stress parameters present during the early (EL) and mid-lactation (ML) stages in dairy cows reared under the hot summer conditions at Assiut city, Upper Egypt. Blood serum of twenty nine multiparous clinically healthy lactating Holstein Fresien cows (16 early lactating and 13 mid lactating cows) belonged to a private farm located under the same temperatures and living conditions were used in this study. Cows of ML had significantly lower values ( $P < 0.05$ ) than those of EL stage for glucose and cholesterol concentrations and also non-significantly differences in total protein, albumin and triglycerides ( $P > 0.05$ ). Similarly, non-significance differences ( $P > 0.05$ ) were found between the two lactation stages for thyroid hormones (Triiodothyronine, Thyroxine). For oxidants/antioxidant parameters, ML cows had significantly decreased values ( $P < 0.05$ ) for Superoxide dismutase and significantly increased values ( $P < 0.05$ ) for Glutathione S- Transfereas activities than those of EL as well as non-significantly differences ( $P > 0.05$ ) for Malondialdehyde concentrations and catalase activity. Pearson's correlation coefficients between the metabolic parameters, thyroid hormones and oxidative indices in early and mid-stages of lactation showed different positive and also negative correlations. Can be concluded that this study gives evidence that the lactating cows undergo a substantial oxidative stress that related to metabolic and physiological adaptation during early lactation to mid lactation stages under the under the influence of high temperature conditions at Upper Egypt.

Key words: Thyroid hormones- Lactation- Oxidative stress- antioxidant- dairy cow.

## Nature and Environment

## ( DRIED DAIRY DRINKS )

|          |   |
|----------|---|
| NO       | : 180   |
| TITLE    | : MICROBIOLOGICAL EVALUATION OF SOME DRIED DAIRY DRINKS SOLD IN ASSIUT CITY         |
| AUTHORS  | : MARWA M.N. EL-GENDI and ZEINAB M. ABDEL-HAMEED                                    |
| ADDRESS  | : Animal Health Research Institute (Assiut Provincial Lab.) Food Hygiene Department |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 150 July 2016,98 -106                             |

## ABSTRACT

This study was aimed to evaluate some dried dairy drinks as salep, hot chocolate and coffee milk powder. A total of 75 random samples (25 each) were purchased from different dairy shops and supermarkets in Assiut city, Egypt. Each sample was microbiologically examined in both forms; powdered form (as it was packed) and reconstituted form (as manufacturing instructions) as well as isolation of *Bacillus cereus* and detection of its toxigenic genes (cytK, and hblC) using PCR technique was performed. The obtained results showed that the average psychrotrophic counts in the powdered form were  $1.2 \times 10^3$ ,  $3.6 \times 10^2$  and 80cfu/g, respectively; and the counts in the reconstituted form were  $1.25 \times 10^4$ ,  $1.69 \times 10^4$  and  $7.8 \times 10^3$ cfu/g, respectively. Moreover, the average thermophilic counts in the powdered form were  $2.68 \times 10^3$ , 40 and 40 cfu/g, respectively; and in the reconstituted form were  $6.8 \times 10^2$ , 40 and  $<10$  cfu/g, respectively. The average counts of total yeasts and molds in the powdered form of the examined samples were  $1.72 \times 10^3$ ,  $1.6 \times 10^2$  and  $1.01 \times 10^3$  cfu/g, respectively, and the counts in the reconstituted form were  $9.6 \times 10^2$ ,  $9.2 \times 10^2$  and  $2.6 \times 10^3$  cfu/g, respectively. Regarding the total *Bacillus* count, the average counts in the powdered form were  $4 \times 10^2$ ,  $3.2 \times 10^2$  and 40cfu/g, respectively;  $1.8 \times 10^3$ ,  $1.96 \times 10^3$  and  $2 \times 10^2$ cfu/g were the counts in the reconstituted form, respectively. In addition, identification of the isolated *Bacillus* species was performed and recorded in the previous products. By using PCR, twenty eight strains of the isolated *B. cereus* were enterotoxigenic.

## Nature and Environment

**( Dog)**

|          |   |
|----------|---|
| NO       | : 181   |
| TITLE    | : INTRA-ARTICULAR INJECTION OF WHOLE BONE MARROW ASPIRATE ACCELERATES AVASCULAR MENISCAL HEALING IN CANINE MEDIAL MENISCAL TEAR MODEL |
| AUTHORS  | : A. ASADEK*, S.M. SELIEM*, M.M. SEMIEKA* and S.K. ABDELGAFFAR**  |
| ADDRESS  | : Dep.of Sergey – Faculty of Vet. Med.- Assiut University*.<br>Dep.of Pathology – Faculty of Vet. Med.- Assiut University**.          |
| BULLETIN | : 17 Sci. Cong. 2016, Fac. Vet. Med., Assiut Univ., Egypt   |

**ABSTRACT**

The present study was performed to evaluate the effect of whole bone marrow aspirate on the healing of full-thickness meniscal tear in the avascular zone in dogs. This study was carried out on 18 health adult mongrel dogs which were subjected to meniscal tear, and were divided into 2 groups. The first group was treated using whole bone marrow aspirate, while in the other group no treatment used (control group). The evaluation of the study involved clinical examination of lameness as well as morphological and histopathological examinations of the meniscal tears. The study concluded that the use of BMA for treatment of the full-thickness longitudinal meniscal tear in the avascular region in a canine model was successful as determined by the achievement of full limb function and meniscal tear healing morphohistologically.



**Nature and Environment****( DOGS)**

|          |  |
|----------|--|
| NO       | : 182  |
| TITLE    | : ASSESSMENT OF THERMOMETRY PRACTICES IN DOGS UNDERGOING GENERAL HEALTH EXAMINATIONS       |
| AUTHORS  | : AHMED R. KHAYRI; HUSSEIN AWAD HUSSEIN; REHAB K. SAYED AND NASHWA E. WALY                 |
| ADDRESS  | : Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University, Egypt. |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No.178 July 2023pp 88-98  |

**ABSTRACT**

Dogs' temperature is measured through the rectum, which can be difficult to obtain in animals with aggressive nature, or those with ano-rectal conditions. Alternative instruments and routes have also been developed. These alternative methods may yield different results. This study aimed to compare different methods in measuring the internal temperature of dogs.

Cases referred to the small animal clinic (n=20) for a general health check were included in this study upon confirming their health status. Axillary, tympanic membrane and rectal temperature were measured 30 minutes post-arrival. Rectal temperature (RT) was measured first using a mercury thermometer and a digital thermometer. Axillary temperature (AT) was measured using a digital thermometer. The tympanic membrane temperature (TMT) was measured last using an infrared thermometer. Complete blood count (CBC) profiles, heart rates and respiratory rates of animals were within normal range. The difference between RT and AT ranged from 0.1°C to 1.1°C, whereas that between RT and TMT ranged from 0.03°C to 2.1°C. 40% of temperatures measured by AT and 90% of those measured with TMT differed by more than 0.5°C from those measured by RT. AT and TMT were positively correlated with RT ( $r = 0.833$ ,  $P < 0.0001$ ) and ( $r = 0.475$ ,  $P = 0.035$ ) respectively. AT and TMT were weakly correlated ( $r = 0.542$ ,  $P = 0.014$ ). The present study showed that RT shouldn't be substituted for AT or TMT in dogs. AT and TMT cannot be used interchangeably with rectal temperature in dogs.

## NATURE AND ENVIRONMENT

## DUKS

NO : 183  
TITLE : HISTOLOGICAL STUDIES ON THE SKIN OF THE HEAD OF SUDANESE DUCK (CAIRINA MOSCHATA) DURING POST-HATCHING PERIOD  
AUTHORS : MADEHA HASHIM 1; AHMED H.S. HASSAN 2; DOAA M. MOKHTAR3; HANAN H. ABD-ELHAFEEZ 4 AND NADA ABDELLAH5  
ADDRESS : 1,5 Histology Department, Faculty of Veterinary Medicine, Sohag University, Sohag, Egypt  
2,3,4 Department of Anatomy and Histology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt  
BULLETIN : Assiut Vet. Med. J. Vol. 66 No. 166 July 2020, 92-107

## ABSTRACT

The integumentary system of birds is quite different from that of mammals. The current study was applied on the skin covering the head of sudanese duck (*cairina moschata*) from hatching day until the skin became mature. In all different ages. The skin is composed of epidermis, dermis and subcutis. The epidermis consists of stratum corneum and stratum germinativum. The later is formed of stratum basal, stratum intermedium and stratum transivivum. The dermis is divided into stratum superficiale, stratum compactum, stratum laxum and lamina elastic. The skin of Sudanese duck was as any bird, characterized by feathers which generate from dermal papilla. The dermal papilla with the epidermal collar formed the blastema which found at early age, particularly at hatching day. Feather follicle was completely mature at two months. The completely formed feather was pushed by the new formed feather through the same dermal papilla. The maturity of the skin of head region is mainly associated with the maturity of the head feathers.

Keywords: head, *cairina moscata*, feather, epidermis, dermis

## NATURE AND ENVIRONMENT

## DUKS

|          |   |
|----------|---|
| NO       | : 184   |
| TITLE    | : EFFECT OF SOME TRACE ELEMENT DEFICIENCIES ON THE REPRODUCTIVE PERFORMANCE OF COWS INNEWVALLEY GOVERNORATE |
| AUTHORS  | : GALBAT S.A.   |
| ADDRESS  | : Department of Animal Medicine, Faculty of Vet. Med. New valley University, Egypt                          |
| BULLETIN | : Assiut Vet. Med. J. Vol. 66 No. 167 October 2020, 62-68   |

## ABSTRACT

Minerals play an important role in improving reproductive efficiency in all animals. It is very important for animal production and reproduction. Deficiency of minerals may lead to disorders affecting growth, production and reproductive health of animals. Different trace elements (selenium, cobalt, iodine, iron, zinc, copper and manganese) can influence reproductive performance of animals. Reproductive failure may be occurred by deficiencies of one or mor trace minerals and by imbalances. A total number of 230 cows from New Valley governorate (Kharga, Dakhla and Paris) were used in this study. About 35 hybrids cattle were suffered from silent heat, inactive ovaries and post parturient reproductive troubles. Animals were clinically and gynecologically examined, blood samples were collected for carrying out some related analyses. Results explained that 22 of the examined animals showed clear clinical signs of copper deficiency (hypocupremia) and had a poor body condition, score and anemia, Also, 13 of these hypocupremic cows had a mixed selenium, cobalt and iodine deficiency and suffered from ovarian inactivity in comparison with control cows.

Keywords: Nutritional deficiency, Parameters, New Valley.

**)EGGS(**

|          |   |
|----------|---|
| NO       | : 185   |
| TITLE    | : A COMPARATIVE STUDY BETWEEN ORGANIC AND CONVENTIONAL TABLE EGGS   |
| AUTHORS  | : YASSER, S. WAFY   |
| ADDRESS  | : Fellow, Assiut University Hospitals<br>Email: yasserwafy2014@yahoo.com - Assiut University web-site: www.aun.edu.eg |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 145 April 2015  |

**ABSTRACT**

A total of 300 random samples of organic and conventional eggs (150 of each) were obtained from supermarkets in Assiut city, Egypt from July to December, 2014. Thirty batches of eggs from each type were examined. Each batch comprised 5 eggs (one from each for bacteriological examination and detection of antibiotic residues). In organic eggs, all samples [30] (100 %) were contaminated with bacteria and the total bacterial counts / shell and ml of albumen and yolk egg samples ranged from  $3.6 \times 10^2$ ,  $1.5 \times 10^1$  and  $> 10^1$  to  $2.7 \times 10^4$ ,  $4.3 \times 10^2$  and  $4.8 \times 10^1$  with average counts of  $6.4 \times 10^3$ ,  $6.6 \times 10^1$  and  $2.8 \times 10^1$  cfu, respectively. The highest frequency distribution was 16 (53.33%), 21(70%) and 25(83.33%) lied within the ranges of  $10^3$  - ,  $10^1$  - and  $10^1$  - cfu in shell and ml of albumen and yolk of organic egg samples, respectively. In conventional eggs, all samples [30] (100 %) were contaminated with bacteria and total bacterial counts / shell and ml of albumen and yolk samples ranged from  $4.7 \times 10^1$ , ,  $1.6 \times 10^1$  and  $1.1 \times 10^1$  to  $2.2 \times 10^3$ ,  $2.8 \times 10^1$ and  $1.9 \times 10^1$  with average counts of  $7.4 \times 10^2$ ,  $1.9 \times 10^1$  and  $1.5 \times 10^1$  cfu ,respectively. The highest frequency distribution was 15 (50%), 30(100 %) and 30(100%) lied within the ranges of  $10^2$  ,  $10^1$  and  $10^1$  cfu / shell and ml of albumen and yolk of conventional egg samples, respectively. All organic egg samples were free from antibiotics, but only 3 samples (10%) of conventional eggs were contaminated by antibiotics. The health importance of organic and conventional eggs, methods of contamination by antibiotics and methods of control are discussed.

## Nature and Environment

## (EWES)

|         |   |
|---------|---|
| NO      | : 186   |
| TITLE   | : ASSESSMENT OF ADENOSINE DEAMINASE (ADA) LEVEL IN PREGNANT EWES IN RELATION TO LIVER FUNCTION TEST AND SOME OXIDANT INDICATOR  |
| AUTHOR  | : GHADA A.E. MOHAMED *and NASSER S. ABOU-KHALI **   |
| S       |   |
| ADDRESS | : * Biochemistry and Nutritional Deficiency Diseases Department, Animal Health Research Institute, Assiut Branch.<br>** Faculty of Medicine, Assiut University, Department of Medical Physiology. |
| BULLETI | : Assiut Vet. Med. J. Vol. 63 No. 154 July 2017, 1-9  |
| N       |   |

## ABSTRACT

Pregnancy represents a major challenge to animal based on the analysis of immunological and metabolic responses. Thus, the aim of this study to assess the potential changes in adenosine deaminase (ADA) enzyme activity level, representative indicators of liver function, and some markers of oxidative stress. This study was conducted on 36 Saidi ewes divided into four equal groups (n=9). The first group (non pregnant) was kept as control, while the other three groups were classified according to the time intervals of pregnancy (4-5, 11-12 and 16-17 weeks). The study showed that ADA level exhibited a bimodal pattern with highly significant increase in early pregnancy, decline in mid pregnancy, and further increase in late pregnancy. A significant increase in total protein (TP) was observed at early pregnancy, and returned to the basal level followed by further significant decrease at the late stage of pregnancy. Albumin (ALB) and triglyceride (TG) undergone significant decreased at the late stage. Mean while, total bilirubin (TB), total cholesterol (TC) and aspartate aminotransferase (AST) remained significantly lower than the pre-pregnancy values. The maximum level of gamma-glutamyl-transferase (GGT) appeared at early pregnancy, and the minimum level was observed at the late period. Malondialdehyde (MDA) has undergone a significant reduction along all time intervals in comparison to its non pregnant value. At the mid and late periods, significant reductions in nitric oxide (NO) levels were observed relative to the non pregnant values. Using Pearson correlation, ADA correlated positively with TP, globulin (GLOB) and GGT, and negatively with TB. In conclusion, the pregnancy in Saidi ewes is marked with biphasic modulation in ADA, impairment in liver functionality and adaptation in the face of oxidative stress at least on the level of lipid peroxidation. In addition, monitoring of the biochemical measurements in the blood of ewes in the different stages of pregnancy gives the basis for carrying out the treatment more effectively, and implementation of preventive measures against the metabolic disorders of ewes in order to reduce the economic losses.

## Nature and Environment

## (EWES)

|          |  |
|----------|--|
| NO       | : 187  |
| TITLE    | : EFFECT OF ATMOSPHERIC TEMPERATURE ON BLOOD CHANGES OF TOTAL OXIDATIVE STRESS INDEX, (OSI) AND LIPID PROFILE IN PERIPARTUM EWES   |
| AUTHORS  | : GHADA A.E. MOHAMED 1 and HAYAM M. A. MONZALY 2   |
| ADDRESS  | : 1 Animal Health Research Institute, Assiut Branch- Biochemistry and Nutritional Deficiency Diseases Unit.<br>2 Animal Production Research Institute- Sheep and Goat Research Department. |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 161 April 2019, 1-11   |

## ABSTRACT

Oxidative stress index (OSI) is recently used as a valid tool for providing an in depth picture about redox status and oxidative stress. The study was conducted on Fourteen multiparous, singleton bearing Osimi ewes (1.5-2 years, 35-40 kg) belonging to agriculture research station, Assiut district, A.R. Egypt during spring (as controls, N=7) and during summer (as heat stressed, N=7). Ewes were blood sampled weekly throughout the last three weeks prepartum and weekly throughout the first three weeks post-lambing for determination of blood serum lipids and oxidative stress biomarkers. Results showed increased blood serum total cholesterol, triglycerides, high density lipoprotein (HDL) and low density lipoprotein LDL ( $p < 0.05$ ) before lambing and then decreased ( $p < 0.05$ ) after lambing. Total Cholesterol, triglycerides and HDL was lower ( $p < 0.05$ ) in summer compared to spring. In spring and summer, total peroxide (TPX) increased at the first week ( $p < 0.05$ ) before and after lambing in addition to summer values were higher ( $p < 0.05$ ) than spring values. In spring, total antioxidant capacity (TAC) increased at the second week ( $p < 0.05$ ) after lambing, whereas a reverse trend was noticed in summer season, so that summer TAC values were lower ( $p < 0.05$ ) than spring values. Pearson's Product Moment Correlation between TPX and TAC did not reveal significant indication. However, values of oxidative stress index ( $OSI = TPX / TAC$ ) x100 progressively increased ( $p < 0.05$ ) in summer and reached its maximal value at the first week after lambing, then steadily decreased until reached the basal data at the third week after lambing. Summer TPX values were higher ( $p < 0.05$ ) than spring values. This study is the first to evaluate the degree of OS in HS ewes during the peripartum period by detection of TPX, TAC and OSI values. Our data clarified that the maximal oxidative stress occurred at the first week after parturition that was associated with an increase of pro-oxidants rather than reduction of antioxidants during spring. Instead, both the increase in pro-oxidants and the reduction of antioxidants are sharing in the oxidative stress in summer.

Key words: Ewes-Lactation-pregnancy-heat stress- lipid profile.

**Nature and Environment****(Fish)**

|          |  |
|----------|--|
| NO       | : 188  |
| TITLE    | : MONITORING THE EFFECT OF GARLIC ON THE IMMUNE RESPONSE OF NILE TILAPIA |
| AUTHORS  | : AYA GALAL SAAD EL-DEEN and EMAN M. ABD- ELNASER                        |
| ADDRESS  | : Animal Health Research Institute, Assiut Branch, Assiut Egypt.         |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 145 April 2015                         |

**ABSTRACT**

The objective of this experiment to study the immunomodulation response of garlic as a feed additive for Nile tilapia. Therefore, to investigate the influence of this additive on the immune hematological parameters. Non-specific immune response of Nile tilapia and diseases resistance abilities will be evaluated. The current study demonstrated that garlic, *Allium Sativum* can be used to modulate the immune system of Nile tilapia to the favorer of resistance to diseases. Two diet regimes basic, (control), and 3% garlic were formulated and used to feed fish for 60 successive days. Fifty fish were used to investigate some of the immune parameters as serum globulins, total and differential white blood cell counts, phagocytic activities and phagocytic indices. The other fifty fish was subjected to infection challenge with *Aeromonashydrophila* to investigate the disease resistance ability of the fish received the feed additive. Results showed that the white blood cell counts, serum globulins, phagocytic activities and phagocytic indices have significantly increased in fish fed on 3% garlic supplemented diet than the control one. The mortality rate of fish fed on 3% garlic supplemented diet and challenged with *Aeromonashydrophila* were significantly lower than those that received basal diet. Obtained results concluded that garlic has an immunostimulative effect and garlic powder could be recommended to be used for farmed fish to decrease mortalities caused by pathogenic microorganisms.

## Nature and Environment

## (FRIESIAN CATTLE)

|          |   |
|----------|---|
| NO       | : 189   |
| TITLE    | : PRODUCTIVE AND REPRODUCTIVE PERFORMANCE OF FRIESIAN CATTLE UNDER ASSIUT ENVIRONMENTAL CONDITIONS  |
| AUTHORS  | : HASSAN, A.H <sup>1</sup> ; M. ABD-ALLAH <sup>2</sup> ; A.I. ZANOUNY <sup>1</sup> and A.A. AYAD <sup>2</sup>   |
| ADDRESS  | : <sup>1</sup> Animal Production Department, Faculty of Agriculture, Minia University, Minia, Egypt.<br><sup>2</sup> Animal Production Department, Faculty of Agriculture, Al-Azhar University, Assiut, Egypt |
| BULLETIN | : Assiut Vet. Med. .Vol. 64 No. 159 October 2018, 33-38   |

## ABSTRACT

Environmental factors such as animal origin, parity, year of calving and season of calving affect productivity. This work focused on the study of the effect of these factors on milk yield and reproductive traits of Friesian cows raised under Upper Egypt conditions. Data used in this investigation were collected from 1975 lactation records of pure Friesian cows raised at the station of Abnoub Alhamam belonging to the project livestock development in Assiut Governorate. The records represented 49 sires and 427 dams during the period from 1987 to 2004. Least square means and standard errors for the studied traits were estimated using SAS 9.13. The General Linear Model (GLM) was utilized for variance analyses of milk yield and reproductive traits. Duncan's multiple range test (DMRT) was used for multiple comparisons of each trait. Animal origin constituted a significant source of variation in lactation milk yield and 305-days milk yield, while did not have any significant effect on lactation length and dry period. Season of calving had no significant effect on lactation milk yield while it has significant effect on the 305-day milk yield, lactation length and dry period. Parity effect was found to be significant on lactation milk yield, 305-day milk yield and length of lactation period, while it does not have a significant effect on the dry period. Year of calving showed significant effects on lactation milk yield, 305- day milk yield, lactation length and dry period. For reproductive traits animal origin has not had any significant effect on the lactation milk yield. Animal origin had significant effect ( $P<0.01$ ) on calving interval and the age at first calving. Season of calving had significant effect ( $P<0.01$ ) on days open, calving interval and age at first calving ( $P<0.05$ ). All reproductive traits under study were significantly affected by year of calving. The results indicated that Friesian cows born and raised in Egypt were better in some reproductive traits, while imported cows tended to have more total milk yield.

*Key words:* Friesian cows, environmental factors, milk traits, reproductive traits



**Nature and Environment**

**(GOATS)**

|          |   |
|----------|---|
| NO       | : 190   |
| TITLE    | : SEMEN QUALITY, TESTICULAR CHARACTERISTIC, BIOCHEMICAL PROFILE AND HISTOPATHOLOGY OF TESTES OF GOATS UNDER HEAT STRESS CONDITIONS  |
| AUTHORS  | : RAGAB HASSAN MOHAMED 1; RASHA S. MOHAMED 2; IBRAHIM SAMIR ABD EL-HAMID 3; FATMA A. MADKOUR 4, AHMED M. SALLAM 5; FATMA ALI 6 AND HASSAN A. HUSSEIN 7  |
| ADDRESS  | : 1 Theriogenology Department, Faculty of Veterinary Medicine, Aswan University, 2 Department of Animal Health, Animal and Poultry Production Division, Desert Research Center, Cairo, Egypt.<br>3 Department of Animal and Poultry Physiology, Animal and Poultry Production Division, Desert Research Center, Cairo, Egypt<br>4 Department of Anatomy and Embryology, Faculty of Veterinary Medicine, South Valley University, Qena, Egypt.<br>5 Department of Animal and Poultry Breeding, Animal and Poultry Production Division, Desert Research Center, Cairo, Egypt<br>6 Physiology Department, Faculty of Veterinary Medicine, Aswan University, Aswan,<br>7 Department of Theriogenology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 176 January 2023pp 76-87   |

**ABSTRACT**

High temperature during hot summer months is associated with poor animal reproductive performance. The study aimed to explore the seasonal thermal impacts on the bucks fertility. Twenty healthy mature bucks were used in this study. Depending on environmental temperature, bucks were equally divided into two groups: Winter season (n=10) and Summer season (n=10). Scrotal width, circumferences, length and diameter of right and left testicles, as well as length of right and left testicles were evaluated. From each goat, the semen samples were collected once a month during Summer and Winter seasons. Immediately after collection of semen, volume of semen, pH, concentration, motility, live sperm percentage, sperm morphology (1st abnormalities and 2nd abnormalities), sperm viability and intact acrosome were evaluated. Plasma triglyceride, cholesterol, glucose and testosterone concentrations were monitored. The results revealed that scrotal circumferences, length, diameter of right and left testicles and length of right and left testicles were lower ( $p < 0.05$ ) in Summer season than winter. Scrotal width was not different between the seasons. The Semen volume, concentration, motility, percentage of live sperm and intact acrosome in the Summer season were lower ( $p < 0.05$ ) compared to winter. Semen pH, 1st abnormalities and 2nd abnormalities in Summer season were higher ( $p < 0.05$ ) compared to winter. Plasma triglyceride, cholesterol, glucose and testosterone concentrations were decreased ( $p < 0.05$ ) during summer than in winter. Histopathological lesions were found in Summer group in comparison to winter. In conclusion, the findings confirm that a high temperature during summer conditions negatively affects bucks semen quality.

**Nature and Environment****( GROUND WATER )**

|          |  |
|----------|--|
| NO       | : 191  |
| TITLE    | : SCREENING OF THE EFFECT OF GROUND WATER QUALITY ON THE STABILITY OF NORFLOXACIN AND DOXYCYCLINE IN DRINKING WATER OF POULTRY   |
| AUTHORS  | : SABER KOTB 1; MOUSTAFA AHMED 1; DALIA HASSAN 1 and ESRAA SOLTAN 2  |
| ADDRESS  | : 1 Animal and Poultry Hygiene and Environmental Sanitation Department, Faculty of Veterinary Medicine, Assiut University, Egypt. <a href="http://www.aun.edu.eg/">http://www.aun.edu.eg/</a><br>2 Animal Health Research Institute, Sohag, Egypt. |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 162 July 2019, 1-6   |

**ABSTRACT**

This study was conducted to clarify the possible effects of ground water characteristics of the New Valley- Egypt, on the concentrations of both norfloxacin and doxycycline "in- vitro". Thirty two ground water samples (pooled samples) were collected and examined for their water quality parameters and heavy metals concentrations (pH, chloride (Cl<sup>-</sup>), calcium (Ca<sup>+ 2</sup>), magnesium (Mg<sup>+ 2</sup>), sodium (Na<sup>+</sup> ), total hardness, electrical conductivity (EC), total dissolved solids (TDS), iron (Fe), copper (Cu), zinc (Zn) and nickel (Ni). Therapeutic doses of both norfloxacin and doxycycline were added separately to the ground-water samples and were left for different contact times. Results showed that norfloxacin concentrations significantly decreased with increasing the time of contact till 3 hours while, doxycycline showed a non-significant decrease which increased with increasing the contact time to 8 hours. Each of TDS, EC, Mg<sup>+ 2</sup>, Na<sup>+</sup> , Cl<sup>-</sup> and Fe<sup>+ 2</sup> showed significant positive correlations with the decreasing percent of norfloxacin while only Ca<sup>+ 2</sup> ions concentration showed a significant negative correlation with the decreasing percent of doxycycline.

Key words: Groud-water- water quality, norfloxacin, doxycycline, poultry, heavy metals.

## Nature and Environment

## (HEAVY METALS)

|          |  |
|----------|--|
| NO       | : 192  |
| TITLE    | : ESTIMATION OF SOME HEAVY METALS AND BLOOD PICTURE IN FATTENING BULLS IN ASSIUT GOVERNORATE   |
| AUTHORS  | : AHMED A. SHARKAWY* and SAHAR A. ABOU-ELWAGA**  |
| ADDRESS  | : * Department of Forensic Medicine and Toxicology, Faculty of Vet. Medicine, Assiut University, Assiut, Egypt.<br>** Department of Internal Medicine, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 149 April 2016, 60-68  |

## ABSTRACT

Environmental pollutants have hazardous impact on living organisms as they affect the health of livestock as well as human beings. They have been broadly categorized as heavy metals, pesticides and mycotoxins. Lead, and Cadmium, get deposited in the vital organs through the food chain. Blood being a major medium of transfer of heavy metals into milk and other tissues including meat. It is necessary to assess the levels of these metals in bull blood. Forty random samples of blood were collected from native breed fattening bulls from villages located nearby Assiut City, Assiut Governorate, Egypt were used in this study. Blood levels of lead, cadmium, copper and iron with Inductively Coupled Plasma Emission Spectrometer (ICP). Blood picture were estimated with automatic cell counter. This study revealed that blood levels (ppm) for heavy metals were ranged from 17.49-77.00 for Pb, 0.0142-0.9625 for Cd, 3.424-6.325 for Cu and 385-614 for Fe. All estimated blood parameters were within the normal levels. In conclusion: Despite the presence of potential sources of environmental contaminants containing heavy metals, the level of these metals in the blood of bulls reached the alarming level and continuous monitoring should be done. Necessary action should have to be taken to avoid hazardous situation which may arise in future for betterment of next generation.

## Nature and Environment

## (HENS' EGGS)

|          |  |
|----------|--|
| NO       | : 193  |
| TITLE    | : MICROBIOLOGICAL STATUS OF FARMS AND BALADI HENS' EGGS  |
| AUTHORS  | : O.A. SADEK1; M.F. HUSSEIN1 and S.M. EL BERBAWY2  |
| ADDRESS  | : 1 Food Hygiene Department, Animal Health Research Institute, Assiut Lab.<br>2 Bacteriology Department, Animal Health Research Institute, Assiut Lab. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 148 January 2016, 58-68  |

## ABSTRACT

This study was done to determine the microbiological status of farms and baladi hens' eggs and isolation of some pathogens of public health hazard. A total of 300 farms and baladi eggs samples (150 eggs of each) and every five eggs from each sample were represented as one egg pooled sample (N = 60 pools from farms and baladi hens' eggs representing 30 pools for each) were microbiologically examined. The incidences of aerobic bacteria, Enterococci, coliforms, faecal coliforms, E. coli and yeasts and molds in farms hens' eggs shell were 90, 36.7, 10, 6.7, 6.7 and 63.3%, respectively; while, for baladi hens' eggs shell, the incidences were 100, 80, 86.7, 73.3, 53.3 and 76.7%, respectively. In farms hens' eggs content, the incidences of aerobic bacteria, Enterococci, coliforms, faecal coliforms, E. coli and yeasts and molds were 36.7, 13.3, 0, 0, 0 and 26.7%, respectively; while, for baladi hens' eggs shell, the incidences were 80, 10, 20, 10, 6.7 and 36.7, respectively. For pathogenic microorganisms, the incidences of Staphylococcus aureus in farms and baladi hens' eggs shell were 33.3 and 40%, respectively; while, for egg content, the incidences were 10 and 13.3%, respectively. Coagulase negative Staphylococci (CNS) were isolated from farms and baladi hens' eggs shell in incidences of 3.3 and 46.7%, respectively; while, in eggs content, the incidences were 13.3 and 43.3%, respectively. Listeria monocytogenes was isolated only from baladi hens' eggs shell in an incidence of 3.3%. Salmonella spp. couldn't be isolated from the shell and content from both types of eggs in this study. The public health significance and hygienic control measures were discussed in this study.

## Nature and Environment

## Heat stress and fertility

NO : 194  
TITLE : EFFECT OF HOT DRY ENVIRONMENT ON THE OXIDATIVE STRESS INDICES IN MALE BARKI LAMBS  
AUTHORS : MOSTAFA A. SALEH 1; M. H. RATEB 1; ELHAM A. ABD-ALLAH 2 AND GHADA A.E. MOHAMED 1  
ADDRESS : 1 Biochemistry Unit, Regional Animal Health Research Laboratory, Animal Health Research Institute, Agriculture Research Center, Assiut, 71526, Egypt.  
2 Department of Zoology, Faculty of Science, New-Valley University, 72511, Egypt.  
BULLETIN : Assiut Vet. Med. J. Vol. 68 No. 174 July 2022, 88-95

## ABSTRACT

Heat stress (HS) is the main challenge facing livestock health. The present work aimed to study the oxidative stress status in the blood of desert Barki lambs during the hot dry season in El-Kharga oasis in the western Egyptian desert. Twenty-four male Barki lambs (4-5 months) were included in this study. Twelve of them were selected during July (hot dry, HS group) and the remaining 12 animals were selected during December (thermoneutral, TN-group) as controls. Temperature humidity index (THI) registered 65.4 (satisfactory) in winter and 89.6 (risky HS) in summer. Compared to controls, increased rectal temperature ( $P < 0.001$ ) and respiration rate ( $P < 0.001$ ) were detected in the HS group. Red blood cells count ( $P < 0.001$ ), packed cell volume ( $P < 0.01$ ) and hemoglobin concentration ( $P < 0.001$ ) were reduced in HS group. Increased total peroxides (TPx,  $P < 0.05$ ), the free radical superoxide anion ( $P < 0.05$ ) and decreased total antioxidant capacity (TAC,  $P < 0.05$ ) were shown in plasma of the HS group. Malondialdehyde concentration as an indicator of lipid peroxidation was increased ( $P < 0.05$ ) but superoxide dismutase activity was decreased ( $P < 0.05$ ) in the erythrocyte of the HS group. Oxidative stress index (OSI, TPx/TAC ratio) increased ( $P < 0.05$ ) in HS group. In conclusion, HS is associated with oxidative stress and corpuscular redox imbalance in lambs under tropical conditions.

Keywords: Erythrocyte; Hot dry heat stress; Lambs; Oxidative stress

**Nature and Environment**

**(LABENAH)**

|          |  |
|----------|--|
| NO       | : 195  |
| TITLE    | : COMPARATIVE STUDY BETWEEN THE MICROBIOLOGICAL QUALITY OF COMMERCIAL AND HOMEMADE LABENAH |
| AUTHORS  | : MARWA M.N. EL-GENDI  |
| ADDRESS  | : Animal Health Research Institute, Assiut Lab.  |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 147 October 2015   |

**ABSTRACT**

A total of 50 commercial and homemade Labenah samples were collected randomly from supermarkets and houses (n=25 for each product) in Asiut Governorate. It was concluded that the average of total counts of yeasts and molds and total coliforms were  $8.8 \times 10^2$  and  $9.6 \times 10^2$  cfu /g in commercial labneh and  $6 \times 10^2$  and  $7.6 \times 10^4$  cfu/g in homemade labenah, respectively. Pathogenic E.coli could be isolated in percentage of 28% from homemade one. The isolated pathogenic E.coli could be serologically identified to O103 : H2(EHEC), O26 : H11(EHEC), O125 : H21(ETEC), O26 : H11(EHEC), O55: H7(EPEC), O91(EPEC) and O125: H21(EHEC). *Serratia liquefaciens*, *Klebsiella pneumonia*, *Providencia rettgeri*, *Proteus mirabilis*, *Enterobacter aerogenes* and *Serratia marcescens* could be isolated and identified in percentages of 4%, 12%, 12%, 12%, 12% and 4% in the examined samples of homemade labenah. Coliforms which could be detected in examined samples of commercial labenah were *Citrobacter diversus*, *Proteus mirabilis* and *Enterobacter aerogenes* in percentages of 4%, 4% and 4%, respectively. The results obtained show that labenah samples collected from Supermarkets were safer than that made at home.

**Nature and Environment****(LAMBS)**

|          |  |
|----------|--|
| NO       | : 196  |
| TITLE    | : IMPACT OF RUMEN JUICE TRANSFAUNATION ON BEHAVIORAL ACTIVITIES, PERFORMANCE PARAMETERS AND KIDNEY FUNCTION IN FATTENING LAMBS   |
| AUTHORS  | : AHMED ELRAWY 1; AHMED MOHAMMED 1; MAHMOUD S. SABRA 2; USAMA MAHMOUD 1 AND MADEHA DARWISH 1   |
| ADDRESS  | : 1 Department of Animal and Poultry Behavior and Management, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt<br>2 Department of Pharmacology, Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt |
| BULLETIN | : Assiut Vet.Med.J.Vol. 69 No. 178 July 2023 pp 87-74  |

**ABSTRACT**

Rumen juice transfaunation (RT) has been suggested as one of the effective ways to improve the performance and health of the host. This study's objective was to investigate the effect of RT on behavior, performance and kidney function of fattening lambs. Twelve male lambs were divided into three groups at random: controls (CON, n = 4): lambs were given one liter of normal saline, (Ts, n = 4): lambs received 1 liter of sheep ruminal juice and (Tc, n = 4): lambs received 1 liter of cattle ruminal juice, once throughout the study. Each lamb was caged in a single pen with alive weight of 20.7 ( $\pm 1.95$ ) and the experiment lasted six weeks. The instantaneous scan sampling approach was used to record behavioral observations on days 1, 2, 3, 7, 8, 15, 16, 30, 31 and 45 & 46 after rumen fluid transfaunation; production parameters and kidney function were measured every week. Rumen juice transfaunation resulted in a significant decrease in chewing pen fixtures behavior especially in Ts and feed conversion ratio in both (Ts and Tc) at first and second weeks, however a significant increase in body weight in both (Ts and Tc) at third, fifth and sixth week compared to control lambs. There was no significant effect on the serum creatinine and urea levels. In conclusion, the current results indicate that RT has a beneficial effect on fattening lamb's behavior and performance; therefore it can be used in intensive fattening sheep farms.

Keywords: Rumen juice transfaunation, fattening lambs, behavior, performance

**Nature and Environment****( Miswak )**

|          |   |
|----------|---|
| NO       | : 197   |
| TITLE    | : EFFECTS OF AQUEOUS EXTRACT OF Miswak (SALVADORA PERSICA) ON HISTOMORPHOLOGICAL STRUCTURE OF THE UTERUS IN THE FEMALE RATS |
| AUTHORS  | : SABREEN M. GHAREEB, MAHMOUD ABD-ELKAREEM AND AHMED ABOU-ELMAGD  |
| ADDRESS  | : Department of Cell and Tissues, Faculty of Veterinary Medicine, Assiut University, Assiut 71526, Egypt                    |
| BULLETIN | : Assiut Vet. Med.J.Vol.69No.179 October2023,pp 49-59   |

**ABSTRACT**

The uterus is a very important reproductive organ for implantation and holding embryos till labor. Many drugs and medicinal plants affect the uterus, some researchers reported that *Salvadora persica* (Miswak) is a phytoestrogen plant as it contains flavonoids and can be used as a contraceptive drug; however, no available investigations explain the histomorphological structure of the uterus after Miswak extract administration. Twelve female albino rats ( $165.3 \pm 3.269$  g) were divided equally into two groups. In the control group, the animals received normal saline daily for 4 weeks. While in the Miswak treated group, the animals received 900 mg/kg of body weight of the Miswak aqueous extract daily for the same period. Grossly, at the end of the experiment, our results revealed that the uteri in the Miswak-treated group had characteristics of low active organs; they were pale with low weight and high thickness. In contrast to the treated group, the uteri of the control group had the signs of active organs; they were more vascular, relatively thin and edematous. Microscopically, in the control group, the uterine lumen was wide and the mucosa was folded and covered by secretory columnar epithelium. The uterine glands were more active, and the myometrium was thick. Whereas, in the Miswak-treated group, the lumen was slit-like, the uterine glands were less active, and the uterine wall had thick lamina propria and thin myometrium. In conclusion, the oral administration of Miswak extract reduces the uterus activity. It showed a state of anestrous with a narrow slit-like lumen and a decrease in glandular activity.

**Keywords:** *Miswak, Uterus, Structure, Rat, Endometrium, Myometrium*



## Nature and Environment

## ( NILE TILAPIA)

NO : 198  
TITLE : QUALITY PARAMETERS AND NUTRITIVE VALUE OF WILD AND CULTURED NILE TILAPIA SOLD IN ASSIUT CITY, EGYPT  
AUTHORS : SHERIEF M.S. ABD-ALLAH and HESHAM A.A. ISMAIL  
ADDRESS : Department of Food Hygiene (Meat Hygiene), Faculty of Veterinary Medicine, Assiut University, Egypt  
BULLETIN : Assiut Vet. Med. J. Vol. 62 No. 151 October 2016, 90-100

## ABSTRACT

Fish have always been considered to be an excellent source of protein, minerals and a low-fat product. The present study was carried out to evaluate the sensory, chemical and bacterial quality as well as proximate chemical composition of the wild Nile tilapia in comparison with the cultured one available in Assiut fish-sale markets. A total of 99 (50 wild and 49 cultured) samples of fresh Nile tilapia fish were randomly collected from different fish-sale markets in Assiut city. Sensory evaluation revealed that all of the wild and cultured tilapia samples were organoleptically accepted. The mean sensory score value of the cultured samples was significantly ( $P<0.05$ ) higher than that of the wild. The pH, total volatile bases "TVB" (mg N/100g fish flesh) and thiobarbituric acid "TBA" (mg malonaldehyde/kg fish flesh) mean values were  $6.81\pm 0.03$ ,  $17.81\pm 0.5$  and  $1.84\pm 0.17$  in wild tilapia and  $6.79\pm 0.02$ ,  $21.38\pm 0.63$  and  $1.02\pm 0.08$  in cultured tilapia, respectively. The incidence of coliforms, fecal coliforms, E. coli and Cl. perfringenes in wild tilapia samples was 88, 34, 0 and 0%, while in cultured samples it was 83.67, 40.82, 2.02 and 6.12%, respectively. The results of proximate chemical composition percentages revealed that the mean values of moisture, protein, fat, ash and carbohydrate were significantly ( $P<0.05$ ) different in wild than in cultured tilapia. The calculated gross energy mean value (Kcal/100g fish flesh) was higher in cultured ( $100.73\pm 1.44$ ) than in wild ( $83.29\pm 0.06$ ) tilapia with a significant ( $P<0.05$ ) difference between them. From the obtained results it could be concluded that from the quality point of view wild Nile tilapia is better than the cultured one.

## Nature and Environment

## (OVINE)

|         |   |   |
|---------|---|---|
| NO      | : | 199   |
| TITLE   | : | OVINE FAT NECROSIS (FIRST RECORD IN EGYPT)  |
| AUTHOR  | : | EL-SEBAIE, A.* and SARY KHALEEL ABD ELGHAFAR**                                    |
| S       |   |   |
| ADDRES  | : | * Dept. of Animal Medicine, Faculty of Vet. Med., Assiut University               |
| S       |   | ** Dept. of Pathology Clinical Pathology, Faculty of Vet. Med., Assiut University |
| BULLETI | : | Assiut Vet. Med. J. Vol. 61 No. 147 October 2015                                  |
| N       |   |   |

## ABSTRACT

Ovine lipomatosis was observed in a herd of native breed of sheep. The herd was raised in area adjacent to the desert and kept for milk production, while rams used for fattening purpose on the other hand, the herd also used for wool production. The owner paid our attention that the herd showed clinical signs in the form expressed by emaciation, loss of body condition, drop of milk yield from lactating ewes, and reproductive imperformance. Tracing the history of the herd, animals raised and kept on the rest of different typed of maise, wheat and growing grass. While, drinking water was artisan water. Selected cases of the herd were used for further biochemical analysis of some indices reflecting the fat metabolism on the other hand some cases were slaughtered for post-mortem changes. Biochemical indices included total lipids, Triglycerides phospholipids and serum selenium. Postmortem findings showed massive amount of omental adipose tissues with lumpish lesions, and massive fat depot showing lumpish lesion of calcification in mesenteric fat too. Biochemical analysis indicated that there is a marked changes in total lipidis triglycerides, phospholipids and selenium

## Nature and Environment

## (Parasite)

|          |   |
|----------|---|
| NO       | : 200   |
| TITLE    | : EFFECT OF FREEZING AND CHILLING ON THE VIABILITY AND INFECTIVITY OF THE METACERCARIAE OF HAPLORCHIS PUMILIO AND PROHEMISTOMUM VIVAX                                   |
| AUTHORS  | : YOUSSEF, T.H.1; HEFNAWY, Y.A.1; KHALIFA, R.2 and MAHMOUD, A.E.2   |
| ADDRESS  | : 1 Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, Egypt<br>2 Department of Parasitology, Faculty of Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 62 No. 148 January 2016, 164-167   |

## ABSTRACT

Effect of freezing and chilling on the metacercariae of *Haplorchis pumilio* and *Prohemistomum vivax* infecting the fresh water fish (*Tilapia nilotica* and *Clarias lazera*) in Assuit province is studied. Test of the viability of the metacercariae was done not only by microscopic examination but also by experimental infection in albino rats. Chilling of *Tilapia nilotica* and *Clarias lazera* at (4 oC) for 24 hr and 48 hr, respectively has ended the viability of metacercariae of *Prohemistomum vivax* and *Haplorchis pumilio*. Exposure of infected fishes of both species to freezing at (-10 oC) for 24 hr has proved to be lethal to the metacercariae of both *Prohemistomum vivax* and *Haplorchis pumilio*

## Nature and Environment

## ( REFRIGERATED)

|          |   |
|----------|---|
| NO       | : 201   |
| TITLE    | : QUALITY EVALUATION OF FRESH AND REFRIGERATED BEEF BURGER SOLD IN ASSIUT CITY  |
| AUTHORS  | : WESAM SAMEEH <sup>1</sup> ; HADEEL BARAKAT <sup>2</sup> ; WALAA M. ELSHERIF <sup>3</sup> ; EL-KHATEEB T. 4 AND ABD-EL-MALEK, ASHRAF M. 5  |
| ADDRESS  | : 1 Clinical Microbiology Unit, Assiut University Hospital<br>2 Training Center for Quality of Meat, Poultry, Fish & their Products<br>3 Food Hygiene Department, Nanotechnology Research Unit, Animal Health Research Institute, Agriculture Research Center, Egypt<br>4, 5 Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut University, Egypt |
| BULLETIN | : Assiut Vet. Med. J. Vol. 68 No. 173 April 2022, 31-42   |

## ABSTRACT

The present study aimed to assess the safety and quality of the beef burger sold in Assiut city, Egypt. Hundred random samples of fresh and refrigerated beef burger (50 for each) were collected during the period from August to October 2021 from different butcher's and refrigerators of markets, respectively. Samples were subjected to sensory, physico-chemical as well as microbiological evaluation. The findings revealed that the examined refrigerated samples have low scores of sensory attributes less than the fresh ones obtained from butchers. Deterioration criteria of samples indicated low thiobarbituric acid values (TBA), their means were  $0.22 \pm 0.02$  and  $0.25 \pm 0.03$  mg malonaldehyde/kg and the mean pH values were  $5.8 \pm 0.23$  and  $6.0 \pm 0.30$ , in fresh and refrigerated samples, respectively. Furthermore, microbiological evaluation: regarding fresh burger, the mean values of aerobic plate count (APC) and total yeast and mold count (CFU/g), were  $8.5 \times$  and  $1.1 \times$ , respectively. Regarding the refrigerated beef burger, the mean values of APC and total yeast and mold count (CFU/g) were  $4.5 \times$  and  $3.9 \times$ , respectively. The incidence of Salmonellae in all burger samples was 24%. It was 22 % and 26% in fresh and refrigerated samples, respectively, where *S. enteritidis* and *S. typhimurium* contaminated 8% and 7% of examined samples, respectively. This study could conclude a substandard production and storage system in the area, necessitating the development of new burger production methods as well as raising knowledge about sanitary beef burger production, processing, and handling.

Short title: Evaluation of beef burger sold in Assiut city

Key words: TBA; Salmonella spp.; beef burger; pH and APC.

## Nature and Environment

**(THEILERIA)**

|          |  |
|----------|--|
| NO       | : 202  |
| TITLE    | : DIAGNOSTIC AND GENETIC STUDIES OF THEILERIA ANNULATA WITH SPECIAL REFERENCE TO GENETIC POLYMORPHISM OF THEILERIA ANNULATA MEROZOITE SURFACE (TAMS-1) ANTIGEN   |
| AUTHORS  | : AMIRA A.T. AL-HOSARY*; LAILA S. AHMED* and ULRIKE SEITZER**  |
| ADDRESS  | : * Department of Animal Medicine (Infectious diseases), Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt, PO Box 71526.<br>** Division of Veterinary Infection Biology and Immunology, Research Center Borstel, parkallee 22, 23845, Borstel, Germany.<br>Email: amiraelhosary@ yahoo.com). |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 144 January 2015   |

**ABSTRACT**

Diagnosis of bovine theileriosis was carried out by blood film and polymerase chain reaction-PCR methods. In the current study, Theileria annulata merozoite piroplasm Surface Antigen (Tams-1) target based PCR was used for specific detection of T. annulata infection in cattle from different localities in Upper Egypt then followed by cloning and sequencing of this gene then alignment of all obtained sequences and their translated amino acids to studying its polymorphism among different local strains. The results of this study concluded that blood film is still important for diagnosis. (Tams-1) target based PCR test was more sensitive than blood film. The infection rates with T. annulata in the examined cattle were 46.19% and 28.57% by using Tams-1 target based PCR and thin blood film, respectively. The (Tams-1) gene sequencing, alignment and translation into amino acids concluded that Tams-1 sequences and its translated amino acids were highly variable. This makes it not recommended for use in vaccination and/or serological diagnostic tests. The sequences and their translated amino acids were deposited in the GenBank<sup>TM</sup> databases and available under accession numbers as following (GenBank<sup>TM</sup>: KJ021626, GenBank<sup>TM</sup>: KJ021627, GenBank<sup>TM</sup>: KJ021628, GenBank<sup>TM</sup>: KJ021629).

**Nature and Environment**

**(TRACE ELEMENT)**

|          |  |
|----------|--|
| NO       | : 203  |
| TITLE    | : TRACE ELEMENT CONCENTRATIONS IN ILL-THRIFT CALVES IN RELATION TO THE ECOLOGY OF EL-KHARGA OASIS, THE NEW-VALLEY PROVINCE, EGYPT  |
| AUTHORS  | : SAMERA A. SANOSI*; SAHAR A. ABOU EL-WAFA**; M.H. RATEB*** and MOSTAFA A. SALEH****   |
| ADDRESS  | : * Animal Health Research Institute, El-Dakhla, El-Wady El Gadid.<br>** Department of Animal Medicine, Faculty of Veterinary Medicine, Assiut University.<br>*** Animal Health Research Institute, Assiut Laboratory.<br>**** Animal Health Research Institute, El-Kharga, Elwady El Gadid. |
| BULLETIN | : Assiut Vet. Med. J. Vol. 61 No. 144 January 2015   |

**ABSTRACT**

Mineral imbalance in water and forages inhibit livestock production in tropical and subtropical parts of the world. This study aimed to determine trace element concentrations in blood serum of healthy and unthrifty calves and their relation with the surrounding environment including the trace element content in the soil, in addition to food and water allowed to these animals. A total of 20 yearling ill-thrift crossbred calves (group A) were chosen from El-thawra village (area A), where unthrifty calves occur. A similar number of healthy crossbred calves were chosen from El-Sabat area (area B) as a control group (group B). Results revealed that the area A soils have higher Fe and Mn ( $P < 0.001$ ) and lower Cu and Zn ( $P < 0.003$  and  $0.004$ , respectively) than the area B. The area A forages have higher Fe and Mn ( $P < 0.001$ ) and lower Cu and Zn ( $P < 0.2$  and  $<0.001$ , respectively) than the area B. Both areas have higher Fe and Mn and lower Cu and Zn in water than the recommended levels. Values of serum Fe or Mn for both groups were within the published reference ranges. However, 10% and 55% of calves had lower Cu, and 15% and 60% had lower Zn in the groups B and A, respectively, than the reference ranges. On the other hand, blood serum of group B had significantly lower Cu ( $P < 0.001$ ) and Zn ( $P < 0.001$ ) than that of group A. It can be concluded that soil, forages and water in some localities in El-Kharga oasis are deficient in Cu and Zn and contain high concentrations of Fe and Mn. These mineral disturbances may directly affect the health of calves reared in these areas.

## Nature and Environment

## ( TUMOR )

NO : 204  
 TITLE : THE TUMOR SUPPRESSOR NDRG2 DISRUPTS THE ONCOGENICITY OF THE CYTOPLASMIC PRMT5 IN ATL LEUKEMIA  
 AUTHORS : OBEID SHANAB\*, KAZUHIRO MORISHITA\*\*, AHMED Y. NASSAR\*\*\*, MOHAMMED N. ISMAIL\*\*\*\* and MOHAMMED SALAH\*.  
 ADDRESS : \* Biochemistry Dept., Fac. Vet. Med. South Valley University, Egypt.  
 \*\* Tumor and Cellular Biochemistry Dept., Fac. of Medicine, University of Miyazaki, Japan.  
 \*\*\* Biochemistry Dept., Fac. of Medicine. Assiut University, Egypt.  
 \*\*\*\* Animal Internal Med. Dept., Fac. Vet. Med. South Valley University, Egypt.  
 BULLETIN : Assiut Vet. Med. J. Vol. 63 No. 153 April 2017, 145-156

## ABSTRACT

Adult T-cell leukemia (ATL) is an oncogenic disease derived from the HTLV-1-infected T cells and there is no effective therapy known yet. We previously reported that down-regulation of N-myc downstream-regulated gene-2 (NDRG2) expression by DNA Methylation and genetic deletion presents one of the most common alterations in adult T-cell leukemia (ATL) and other various kinds of cancers. A stress-induced NDRG2 suppresses important signaling pathways (PI3K and NF- $\kappa$ B) through the de-phosphorylation of PTEN and NIK as a PP2A recruiter. In this manuscript, we identified protein arginine methyltransferase 5 (PRMT5) as a NDRG2/PP2A binding partner. A NDRG2/PP2A complex down-regulated arginine methyltransferase activity of PRMT5 through de-phosphorylation of the serine and threonine residues and changing its co-localization to the nucleus of ATL cell lines increasing the histone arginine methylation; however, PRMT5 was highly phosphorylated and localized in cytoplasm in NDRG2-deficient ATL.

**Nature and Environment****(WATER)**

|          |   |
|----------|---|
| NO       | : 205   |
| TITLE    | : ESTIMATION OF SOME HEAVY METALS CONCENTRATION IN WATER SUPPLY OF DAIRY FARM AND RAW COW'S MILK SOLD IN ASSIUT CITY, EGYPT |
| AUTHORS  | : YASSER, S., WAFY  |
| ADDRESS  | : Fellow, Assiut University Hospitals Egypt   |
| BULLETIN | : Assiut Vet. Med. .Vol. 65 No. 162 July 2019, 1-6  |

**ABSTRACT**

A total of 120 random samples of dairy water supply, raw cow's milk from different, dairy farms, dairy shops and street vendors (30 samples each) Assiut, Egypt during the period from April 2018 to march 2019 to estimate concentration of Lead, cadmium, manganese and Mercury in water supply of dairy farm and dairy farms, dairy shops and street vendors raw milk samples in Assiut governorate, Egypt. Statistical analytical results of heavy metals mean values (ppm) in dairy farm water supply were  $0.192 \pm 0.006$ ,  $0.0005 \pm 0.0001$ ,  $0.950 \pm 0.0034$  and  $0.648 \pm 0.002$  respectively. While in in dairy farm cow's milk they were  $0.084 \pm 0.026$ ,  $0.032 \pm 0.067$ ,  $0.830 \pm 0.002$  and  $3.523 \pm 0.002$  (ppm) respectively. But in in dairy shop cow's milk were with means  $0.217 \pm 0.045$ ,  $0.053 \pm 0.067$ ,  $0.900 \pm 0.002$  and  $4.200 \pm 0.038$ , respectively. The street vendors cow's milk the mean values were found to be  $0.289 \pm 0.067$ ,  $0.064 \pm 0.045$ ,  $0.954 \pm 0.056$  and  $4.769 \pm 0.052$  respectively. All results of heavy metals were in concentration higher than Maximum permissible limits. The health importance of heavy metals and methods of control are discussed.

Key words: heavy metals, water supply, dairy farm, raw cow's milk, Assiut, Egypt.



**Nature and Environment****( YOGHURT)**

|          |   |
|----------|---|
| NO       | : 206   |
| TITLE    | : SENSORY, RHEOLOGICAL, PHYSICAL, CHEMICAL AND MICROBIOLOGICAL PROPERTIES OF DIFFERENT TYPES OF YOGHURT   |
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**ABSTRACT**

This study was designed to evaluate the quality of yoghurt sold in Assiut city, Egypt, in which a total of 60 samples of Baladi, pasteurized plain and pasteurized flavored (20 each) were collected randomly. The sensory evaluation was based on visual, texture and flavor. Syneresis was applied for rheological properties and pH for physical properties. Chemical analysis was applied through moisture, TS, fat and SNF%. Also, titratable acidity% and starch were detected. The microbiological examination for coliforms, fecal coliforms, E. coli, anaerobes and yeasts & molds were counted. The achieved results showed that the sensory evaluation of the pasteurized plain and pasteurized flavored samples was of higher scores than the Baladi samples, however on contrast, syneresis was higher in the Baladi samples. The average values of pH were 4.9, 4.89 and 4.83 for the Baladi, pasteurized plain and pasteurized flavored samples, respectively. For the fat content, the Baladi samples had higher fat%, followed by the pasteurized plain then the pasteurized flavored types. All the examined Baladi samples were starch free, while 70 & 65% of the pasteurized plain and pasteurized flavored types were positive, respectively. The average values of titratable acidity% were 0.91, 0.82 and 0.75, respectively. The microbiological examination cleared that the Baladi samples were more contaminated for coliforms, fecal coliforms and E. coli, while, the pasteurized plain and pasteurized flavored samples were more contaminated for anaerobes. It was found that 85% of the total examined samples were unacceptable according to the Egyptian Standards for their content of yeasts and molds.

Key words: Sensory, Rheological, Physical, Chemical, Microbiological, Yoghurt

