Prevalence and Risk Factors Associated with Cryptosporidium Infection in Raw Vegetables in Yazd District, Iran.


ABSTRACT

Consumption of raw vegetables is an important route of parasites transmission. It is an important source for foodborne outbreaks in both developed and developing countries, and outbreaks of parasitic diseases in humans. The objective of the present study was to detect the presence of Cryptosporidium oocysts in raw fresh vegetables in Yazd city, Iran, from 2017 to 2018. A total of 275 fresh vegetable samples were collected and tested using a sucrose flotation medium of 1.21 specific gravity and a Modified Ziehl-Nielsen staining procedure. Of the 275 vegetables examined, 85 (31.5%) samples were positive for Cryptosporidium oocysts. Lettuce had the highest rate (n= 16, 47.1%) of contamination with Cryptosporidium oocysts while basil and parsley showed the lowest rates of contamination (n= 6, 20%). There was a significant association between the occurrence of Cryptosporidium oocysts and the investigated vegetable types. According to the locations of the vegetable field, Amir Abad and Bahaman Hospital area had the highest (n: 16, 59.3%) and lowest (n= 5, 18.5%) rates of Cryptosporidium oocysts contamination, respectively. The plant part showed that the root vegetables had the highest contamination rates (n= 41, 45.6%), followed by leafy vegetables (n= 44, 24.4%). The analysis further indicated a significant association between the occurrence of Cryptosporidium oocysts and the route of vegetable consumption. Based on these results, the edible vegetables in Yazd city are one of the potential sources of Cryptosporidium infections in humans. Moreover, the vegetable fields within the city of Yazd are contaminated with Cryptosporidium oocysts which can pose public health problems.

Keywords: Cryptosporidium, Oocysts, Raw vegetables, Yazd city, Iran.

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**Antibacterial Efficacy of Zinc Oxide and Titanium Dioxide Nanoparticles against Escherichia coli in Minced Meat**

![Diagram of antibacterial efficacy](image1)

**ABSTRACT**

Antibacterial nanoparticles are a new approach to control the safety of meat and meat products. This work aimed to investigate the antibacterial effect of zinc oxide (ZnO) and titanium dioxide (TiO₂) on Escherichia coli in minced meat. In this study, minced meat samples were inoculated with E. coli and treated with different concentrations of two nanomaterials (approximately 20 nm), including 6 mM and 12 mM ZnO, 6 mM and 12 mM TiO₂, and a combination of 6 mM ZnO and 6 mM TiO₂. The disc diffusion method showed that ZnO (12 mM) was the most effective concentration used against E. coli. The SEM/TEM analysis revealed that the nanoparticles were uniformly distributed and had a higher reduction effect on bacterial cell than the mixture of ZnO + TiO₂, and 12Mm TiO₂ alone. The study provided evidence for the potential of these nanoparticles in meat processing for improving food safety.


**Incidence and Prevalence of Hard Ticks in Ruminants of Al-Ahsa Oasis Region, Kingdom of Saudi Arabia.**


**Detection of Streptococci**

![Detection of Streptococci](image2)

**ABSTRACT**

The present study was carried out to detect the streptococci and Enterococcus species isolated from tilapia fishes and 40% were positive for some fish and water isolates. 6 Enterococcus faecalis, 2 Enterococcus faecium, and 2 Enterococcus faecalis were detected in 15 and 15% of the tilapia and water samples, respectively. Enterococcus faecalis was identified at 153 bp. The biochemical results indicated that the infected fish with the Streptococcus species had reduced total protein, albumin, and globulin in the blood serum while total Streptococcus pyogenes number increased, compared to non-infected fish. The results of water quality parameters examination revealed that the mean values of biochemical parameters, total Streptococcus agalactiae, and total Streptococcus iniae species isolated from water samples. Of those 38 positive fish samples, 25 (65.78%) were Enterococcus faecalis, 2 (25%) were Enterococcus faecium, and 1 (12.5%) was Enterococcus faecalis, Streptococcus iniae, and 3 (7.89%) were Enterococcus faecalis, Streptococcus iniae, and 3 (7.89%) were Enterococcus faecalis, and 3 (7.89%) were Enterococcus faecalis, and 3 (7.89%) were Enterococcus faecalis, and 3 (7.89%) were Enterococcus faecalis.

A total of 100 cultured tilapia fishes and 20 water samples were collected from 4 different fish farms at different locations in Kafr El-sheikh Governorate for bacteriological and chemical examination. The results of water quality parameters examination revealed that the mean values of biochemical parameters, total Streptococcus agalactiae, and total Streptococcus iniae species isolated from water samples. Of those 38 positive fish samples, 25 (65.78%) were Enterococcus faecalis, 2 (25%) were Enterococcus faecium, and 1 (12.5%) was Enterococcus faecalis, Streptococcus iniae, and 3 (7.89%) were Enterococcus faecalis, and 3 (7.89%) were Enterococcus faecalis, and 3 (7.89%) were Enterococcus faecalis, and 3 (7.89%) were Enterococcus faecalis, and 3 (7.89%) were Enterococcus faecalis.

**REFERENCES**


**ACKNOWLEDGEMENT**

The authors are grateful to the Ministry of Agriculture and Fisheries, Kingdom of Saudi Arabia, for providing financial support.
ABSTRACT

Hoai Nam N and Sukon P.

Modern pig farming worldwide has been facing substantial economic loss due to perinatal mortality. The present study aimed to identify factors affecting the farrowing duration in natural farrowing sows in the study. The association between potential risk factors and farrowing duration was analyzed. Two models explained about 19.1-19.5% variation of the farrowing duration. Among the four factors, average birth weight was significantly associated with farrowing duration. The results also demonstrated that the number of total born piglets, stillborn, and mummified piglets, litter weight, and average birth weight were significantly higher, compared to MS or AF. The trace elements, Fe, Zn, Cu, Mg, Se, and Mn in VUCS were significantly higher, compared to MS or AF. The trace elements, Fe, Zn, Cu, Mg, Se, and Mn in VUCS were significantly higher, compared to MS or AF. The trace elements, Fe, Zn, Cu, Mg, Se, and Mn in VUCS were significantly higher, compared to MS or AF.
Sparus aurata

Growing rabbit

Adel M. Di-Giulio and Egy E. El-Tihabi (2020). Presence of Vibrio parahaemolyticus in seabass (Dicentrarchus labrax) and seabream (Sparus aurata) and Detection of Streptomycin-resistant Strains. World Vet. J. (30-day-old), white New Zealand, were divided into 4 groups and submitted to the following thyme dietary supplements on the feeding of rabbits. In this regard, 96 weaned rabbits components of Foeniculum vulgaris, Origanum compactum, and Thymus capitatus essential oils. The aromatic plants and their active compounds can be used as additives in rabbit nutrition.

The objective of this study was to analyze and compare the effects of fennel, oregano, and thyme had no beneficial effects on the growth performance of the rabbits but reduced the mortality rate. The phenylpropanoid and the phenolic monoterpenes were the major results indicated that good hygienic measures should be taken to avoid infection with species, especially Dicentrarchus Labrax toxR trh genes were found in all isolates, while hlg was found in 80% of isolates. Antimicrobial sensitivity test of isolates showed sensitivity to ciprofloxacin, norfloxacin, cefotaxime, and chloramphenicol.

Research Paper


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Dairy cows with early-stage interdigital necrobacillosis


Dairy cows with early-stage interdigital necrobacillosis


Fecal and blood samples were collected from diarrheic dogs and their owners. For this purpose, 60 gastric biopsy samples from dog owners were further subjected to nested PCR. The PCR positive samples from human and dog isolates were further subjected to gene sequencing. Phylogenetic analysis based on partial sequence of this gene was performed and identified after the amplification and sequencing of a 292 bp fragment of 16S-rRNA ribosomal unit from 20 children and 28 calves. Assemblage A was isolated from both diarrheic children and their close contact calves while the assemblage E was isolated from the dogs. IgG antibodies in infected humans or animals using EITB revealed that α-1 giardin antigen with molecular weight ranged 29-34KDa. This specific immunogenic assemblage was identified in all the samples examined. The results of the current study highlighted the use of EITB as a preliminary step for the diagnosis of giardiasis in Humans and Animals. The Use of Immunogenic Protein Fraction to Distinguish Assemblages in Humans and Animals. World Vet J, 10 (3): 446-450. DOI: 10.3638/wvjl.2020.wvj52

A spatial monitoring of pyrethroid residues by RP-HPLC in raw bovine milk in West Delta of Egypt was performed. Cypermethrin was present with the highest mean concentration and frequency levels in raw bovine milk sourced from local producers at West Delta of Egypt. There was no α- Cypermethrin in all the investigated samples while Cyhalothrin and Deltamethrin had concentrations close to the maximum residue levels (MRLs) set by the European Commission and Codex regulation, respectively. As for Cypermethrin, its concentrations did not exceed MRLs. These results indicated a significant amount of these chemical pollutants in raw bovine milk offered by local producers in the West Delta of Egypt, which can threaten human life. Consequently, continual monitoring of pyrethroids is essential to avoid the increased risk of human exposure to these chemicals. Pyrethoids, RP-HPLC; Spatial Monitoring of Pyrethroid Residues by RP-HPLC in Raw Bovine Milk in West Delta of Egypt. World Vet J, 10 (3): 446-450. DOI: 10.3638/wvjl.2020.wvj53

The role of afferent C-fibers in muscle contraction of the trachea and bronchi was studied. The study was targeted toward the investigation of the effect of the local humoral mechanism of C-fibers and non-adrenergic non-cholinergic system, caused smooth muscle contraction by the realization of reflex through local intramural ganglia. Furthermore, it was observed that С-fibers affected the contraction, and the dilatation effect of nitric oxide was associated with preganglionic and non-adrenergic non-cholinergic system, performed a minor and additional role in muscle contraction by the release of tachykinins. The constricting influence of fibers was greater in the case of involving local reflex through the ganglion, and less significant in the case of atropine, and with activating C-fiber capsaicin applications. It was also observed that in the rat trachea and bronchus the elimination of NO-ergic mechanisms led to an increase in the muscle contraction. The Role of Afferent C-Fibers in Muscle Contraction of Trachea and Bronchi in Rat. World Vet J, 10 (3): 446-450. DOI: 10.3638/wvjl.2020.wvj54

Research Paper

Capacity of *Mentha spicata* (spearmint) Extract in Alleviating Hormonal and Folliculogenesis Disturbances in Polycystic Ovarian Syndrome Rat Model.

Alaee S, Jafar Bagheri M, Sadeghi Ataabadi M and Koohpeyma F.


**ABSTRACT**

Polycystic ovary syndrome, a common cause of infertility among women in the reproductive age, is associated with high levels of androgens. Recognizing the anti-androgenic effects of spearmint, the present study aimed to evaluate the effects of its hydroalcoholic extract on the levels of luteinizing hormone, follicle-stimulating hormone, and testosterone and ovarian folliculogenesis in normal and letrozole-induced polycystic ovary syndrome rats. Female mature rats were divided into six groups (n=8 per group), as follows: Normal rats (I or Control), normal rats which received 250 mg/kg spearmint extract (II) or 500 mg/kg spearmint extract (III), and PCOS-induced rats (IV), PCOS-induced rats which received 250 mg/kg spearmint extract (V), or 500 mg/kg spearmint extract (VI). At the end of the experiment the animals were euthanized, and then mentioned parameters were evaluated. Administration of spearmint extract to PCOS rats resulted in a decrease of body weight and testosterone level, higher corpus luteum, and lower ovarian cysts and atretic follicles, compared to PCOS rats which received no spearmint. Accordingly, the spearmint can attenuate polycystic ovarian syndrome-related problems, such as a high testosterone level and ovarian cysts.

**Keywords:** Folliculogenesis, *Mentha spicata*, Ovary, PCOS, Rat

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Research Paper

Comparison of Serological Tests in Cattle and Ovine Brucellosis; an Abattoir Study in Algeria.


**ABSTRACT**

Despite the paucity of data, brucellosis is considered as a major problem in Algeria. The aim of present study was to assess the presence of bovine and ovine brucellosis in the areas close to the capital city (Algiers) where its vaccination is not implemented. A total of 402 cattle and 203 ovine sera were collected from two slaughterhouses, and examined by the Rose Bengal Test (RBT). Positive samples were then tested by Complement Fixation Test (CFT) and Hypertonic Double Gel Diffusion (DDG) with a smooth lipopolysaccharide, and the extract of native hapten was also tested by Indirect Enzyme Linked Immuno Sorbent Assay (iELISAs) with smooth lipopolysaccharide and polyclonal or protein G conjugates. Twenty-four bovine sera (5.97%) were RBT positive. Of these, 23 were positive in CFT, DDG, and 16 samples were also positive in iELISA when the assay was adjusted to 100% specificity. Only two ovine sera were RBT positive; one was CFT and DDG positive, and the other one had a CFT-titer of 1/4, and was DDG negative. This preliminary study confirmed that bovine brucellosis is a major problem in Algeria, and indicated that some field studies are needed to determine the prevalence of Brucellosis in Algeria urgently. Similarly, other studies are necessary in areas with dominance of ovine breeding system. Further studies in the areas with a dominance of ovine breeding system are necessary. The results of this work showed that simple tests like RBT and DDG are not outperformed by CFT or iELISA for assessing the apparent prevalence of brucellosis in the absence of vaccination. Finally, isolation and typing of the involved Brucella species are also necessary in order to have a complete epidemiological picture of brucellosis in Algeria.

**Keywords:** Abattoirs, Algeria, Brucellosis, Cattle, Serology, Sheep, Prevalence

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