Research Paper

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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Rapid Detection of Streptococci in Cultured Tilapia Fish Using PCR and Chemical Analysis.

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 analysis. The results of water quality parameters examination revealed that the mean values of pH, dissolved oxygen, unionized ammonia, and nitrite were 8.2 ± 0.73, 7.44 ± 0.54 parts per million (ppm), 0.05 ± 0.008 ppm, and 0.00 ppm, respectively. All water quality parameters increased, compared to non-infected fish species isolated from organs from fish and water samples revealed that 5 species were detected at 310 bp while 3 species were detected at 310 bp. On the other hand, from 8 positive farms water samples, 7 (87.5%) were positive samples for some fish and water isolates, 6 (15.78%) were Streptococcus iniae, 2 (25%) were Enterococcus faecium, and 3 (37.5%) were Streptococcus agalactiae. Streptococcus iniae was the most predominant species, followed by Enterococcus faecium and Streptococcus agalactiae.

Enterococcus faecalis, Streptococcus pyogenes, and Enterococcus faecium were also detected in cultured tilapia fish. The incidence rate of ticks significantly increased during hot months, thereby increasing animal density and humidity in the shaded farms. It is concluded that 12 mM ZnO nanoparticles have the best antibacterial effect against E. coli. The antibacterial activity of ZnO, TiO2, and combination of ZnO and TiO2 was also examined using the disc diffusion method. In this regard, minced meat samples were inoculated with 10(3) bacteria/ml. It is concluded that 12 mM ZnO nanoparticles have the best antibacterial effect against E. coli.

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) and their combination on E. coli in minced meat. 6 mM and 12 mM ZnO, 6 mM and 12 mM TiO2, and a combination of 6 mM ZnO and 6 mM TiO2 were detected. The destructive effect on bacterial cell was evaluated by TEM and the results showed that ZnO (12 mM) was the most effective concentration used against E. coli. The antibacterial activity of these nanomaterials was evaluated using the disc diffusion method showed that ZnO (12 mM) was the most effective concentration used against E. coli. Minced meat, Nanoparticles, TEM, Titanium dioxide, Zinc oxide.


Modern pig farming worldwide has been facing substantial economic loss due to perinatal conditions. The study aimed to identify factors affecting the farrowing duration in natural farrowing sows in the intensive farms. The association between potential risk factors and farrowing duration was analyzed by using general linear models. Two final models demonstrated that the number of total born piglets were more important than litter weight and average birth weight in explaining the variation of farrowing duration. The findings of this study indicated an active transport for Fe, Zn, Cu, Mg, Se, and Mn between maternal and fetus trace elements in the pregnant camels. In conclusion, this study revealed that serum trace elements could be used as potential biomarkers for monitoring fetal health and early diagnosis of fetal disorders.
Sparus aurata

Crossref Metadata

Azooz MF, SEL-Wakeel A, and Yousef HM. (2020). Prevalence of Salmonella Typhimurium in the overall herd by the prevalence of 13.3%. The results of total bacterial plate cfu/ml. The geometric mean of somatic cell count (SCC)/ml in Bulk tank milk samples of 150 cows. The PCR amplification with (virulence gene) for Salmonella Typhimurium isolates (100%). Phylogenetic and partial gene sequence analysis of isolates. The PCR identification of Staphylococcus aureus isolates were detected and confirmed phenotypically by culturing, gram staining, biochemical, and molecular identification to be specific primers revealed a product with an approximate size of 937 bp. The aromatic plants and their active compounds can be used as additives in rabbit nutrition.

Growing rabbit

Benlemlih M, Sarhan A, Aarab A, Bakkali M, Arakrak A and Laglaoui A. (2020). Effect of Dietary Dried Fennel and Oregano and Thyme Supplementation on Zootechnical Parameters of Growing Rabbit. Thyme dietary supplements on the feeding of rabbits. In this regard, 96 weaned rabbits were distributed at a ratio of 4:4:4 into 3 diets: Control diet (Control diet), F diet (Control diet + 5% Foeniculum vulgaris), O diet (Control diet + 5% Origanum compactum), and T diet (Control diet + 5% Thymus capitatus). The research paper’s abstract was as follows: The present study aimed to determine the prevalence of Salmonella spp. in seabass and seabream in fish markets, especially streptomycin-resistant strains that can pose a great risk to human health.

Figure 5. Phylogenetic tree for Salmonella Typhimurium (sp). (a) virulence gene partial nucleotide sequences that were generated using a neighbor joining in MEGA6. It shows a clear clustering of the Egyptian isolated strains and different Salmonella Typhimurium strains uploaded from gene bank.

Figure 6. Phylogenetic tree for Staphylococcus aureus (sp). (a) virulence gene partial nucleotide sequences that was generated using a neighbor joining in MEGA6. It shows a clear clustering of the Egyptian isolated strain and different S. aureus strains uploaded from gene bank.


Volume 10 : Issue 3, September 2020
The main objective of this study was to apply different dietary crude protein levels and citric acid on broiler chickens’ growth performance, carcass yield, abdominal fat, chemical composition of meat, intestinal morphology, cecal bacterial counts, blood cholesterol reduction, and glycated proteins. The present study was conducted to investigate the effect of dietary protein levels and citric acid on broiler chickens’ growth performance, carcass yield, abdominal fat, chemical composition of meat, intestinal morphology, cecal bacterial counts, blood cholesterol reduction, and glycated proteins. The results showed that the diet containing 100% required crude protein (CP) supplemented with citric acid could compensate for the growth performance equivalent to those fed the optimal CP diet. Both required protein level and citric acid were significantly improved blood albumin and reduced haemoglobin Ac1 and fructosamine, which could serve as indicators of early-stage interdigital necrobacillosis. The treatment was discontinued when a cow was considered cured. On day 15, the overall cure rates for cows in both groups were 80.87% and 83.48%, respectively. The overall odds ratio of Early Stage Interdigital Necrobacillosis in Dairy Cows. Comparison of Probiotic Lactobacillus acidophilus and Oxytetracycline for the Treatment of Early Stage Interdigital Necrobacillosis in Dairy Cows. World Vet. J. 2020; 10(3): 362-374. DOI: 10.36380/scil.2020.wvj46

The current study was designed to evaluate the protective effects of 
Pentadiplandra brazzeana in improving growth performances of broiler chickens. This study was designed to assess the rearing performances of broiler chickens under two dietary treatments: a control diet and a diet containing the powder of P. brazzeana. The results revealed that the incorporation of the powder to broiler chickens via drinking water (2 g/l) or dry feed (2 g/kg) and comparing the result with the negative control diet showed a significant improvement in growth performances, gut microbiota, and haemato-biochemical indices. Additional studies are needed to further explore the effects of dietary inclusion of P. brazzeana powder in broiler chickens.
Helicobacter pylori is a group of Gram-negative, microaerophilic bacteria, which are known for causing gastritis and peptic ulcer disease. The objective of the present study was to determine the prevalence of H. pylori in both dogs and dog owners in Egypt. Zoonotic transmission of H. pylori gene sequencing. Phylogenetic analysis based on partial sequence of this gene was performed from dog isolates. Dogs and their role in the transmission of H. pylori gene by nested PCR. The PCR positive samples from human and dog isolates were further subjected to partial 16S rRNA sequencing. The achieved results indicated that C-fibers, which represent the excitatory afferent C-fibers increase the contractions of the smooth muscle of the trachea and bronchi of mammal. The obtained results indicated that C-fibers affect the constricting influence of fibers was performed a minor and additional role in muscle contraction by the release of tachykinins. In conclusion, it is identified that the non-adrenergic non-cholinergic system on muscle contraction of the trachea and bronchi. Moreover, the study was targeted toward the investigation of the effect of the local reflex through local intramural ganglia. Furthermore, it was observed that C-fibers affected the smooth muscle of the trachea and bronchi. The obtained data can contribute to the study of the interaction of the autonomous nervous system and bronchi. The massive implementation of pesticides in agronomy, public health series, manufacturing, and bovine milk. The Role of Afferent C-Fibers in Muscle Contraction of Trachea and Bronchi in Rat. 


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Research Paper


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

Research Paper


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