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.
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 in cultured tilapia fish. Enterococcus faecium and Streptococcus iniae were isolated from water samples. Of those 38 positive fish samples, 25 (65.78%) were isolated from tilapia fishes and 40 % were positive for Streptococcus agalactiae species. On the other hand, from 8 positive farms water samples, 7 (87.5%) were positive for 

 noting some fish and water isolates, 6 (15.78%) were increased, compared to non-infected fish streptococcal species with 310 base per (bp) were detected while 3 (25%) were positive samples for Streptococcus pyogenes, Enterococcus faecalis, and 3 (7.89 %) were positive for Streptococcus pyogenes. ABSTRACT Streptococcus agalactiae, Enterococcus faecium, and followed up to record the incidence of tick infestation in Al-Ahsa Oasis in the Eastern Region of the Kingdom of Saudi Arabia. From 24 herds distributed in eleven localities, a total of 4068 animals (123 camels, 60 cattle, 1780 sheep, and 2105 goats) were individually examined and followed by cattle (15 tick/infested cow, 5 ticks/cow, and 33.33%, respectively), goats (1.35 tick/infested goat, 0.33 tick/goat, and 23.52%, respectively), and sheep (1.27 tick/infested sheep, 0.18%, respectively). Tick infestation in terms of mean intensity, abundance, and prevalence rates was increased during the warmest summer months of the year (highest recorded temperature 50℃), mainly due to the management practices of farmers. During this period animals were housed and water was supplied for some fish and water isolates, 6 (15.78%) were infected by PCR and chemical analysis in cultured tilapia fish. For some fish and water isolates, 6 (15.78%) were infected by PCR and chemical analysis in cultured tilapia fish. For some fish and water isolates, 6 (15.78%) were infected by PCR and chemical analysis in cultured tilapia fish. For some fish and water isolates, 6 (15.78%) were infected by PCR and chemical analysis in cultured tilapia fish. For some fish and water isolates, 6 (15.78%) were infected by PCR and chemical analysis in cultured tilapia fish.
ABSTRACT

Modern pig farming worldwide has been facing substantial economic loss due to perinatal mortality which is mainly associated with the farrowing process. Therefore, the present study aimed to identify factors affecting the farrowing duration in natural farrowing sows in the intensive indoor conditions. In total, 210 farrowing sows in 4 commercial farms were included in the study. The association between potential risk factors and farrowing duration was analyzed. 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 were analyzed on the atomic absorption spectrophotometer. Concentrations of trace elements, Fe, Zn, Cu, Mg, Se, and Mn in VUCS correlated positively with venous cord serum Fe, Se, and Zn levels. There was a scarcity of data on the trace elements in AF, but it could even be the result of simple filtration of maternal blood. Evaluation of selected trace element levels in MS did not appear to be useful within the assessment of fetus growth. The association between potential risk factors and farrowing duration was analyzed. Two models explained about 19.1-19.5% variation of the farrowing duration.

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Associated Factors for Farrowing Duration in Sows with Natural Parturition in Intensive Farming.
cfu/ml. Serological identification of the 20 isolates revealed that they were hlg were detected and confirmed phenotypically by culturing, gram staining, biochemical and Standard plate count, and Somatic cell count in bulk tank milk. The PCR amplification with (Staphylococcus aureus) gene-specific primers revealed a product with an approximate size of 937 bp. (Staphylococcus aureus) virulence gene strains uploaded from the gene banks. The results of the present study emphasize the Salmonella ABSTRACT SopB (sopB Staphylococcus aureus Plate Count and Somatic Cell Count in Bulk Tank Milk in Cattle Dairies. The geometric mean value of (Staphylococcus aureus) isolates were detected and confirmed phenotypically by culturing, gram staining, biochemical, Salmonella strains. The PCR identification of in the overall herd by the prevalence of 8.6%. Isolation and identification of bacteriological quality of bulk tank milk and monitoring mastitis economic losses. Typhimurium isolates (100%). Phylogenetic and partial gene sequence analysis of Staphylococcus aureus hlg sopB Staphylococcus aureus Typhimurium) gene found in 13 (54%) Staphylococcus aureus sopB Staphylococcus aureus) virulence gene for milk quality and mastitis pathogens in cattle dairy herds. Out of the total number of 150 pooled Salmonella Typhimurium field isolates from bulk tank milk samples revealed that 20 locally field isolates Salmonella Typhimurium in the overall herd by the prevalence of 13.3%. The results of total bacterial plate count (cfu/ml) revealed that the geometric mean of 150 dairy farms was 3.2×10³. Growing rabbit ABSTRACT Effect of Dietary Dried Fennel and Oregano and Thyme Supplementation on Zootechnical Parameters of Growing Rabbit. Parameters of Growing Rabbit. (30-day-old), white New Zealand, were divided into 4 groups and submitted to the following dietary treatments: (1) Control diet + 5% Foeniculum vulgare, (2) Control diet + 5% Origanum compactum, and (3) Control diet + 5% Thymus capitatus. The components of Foeniculum vulgare, Origanum compactum, and Thymus capitatus essential oils of the above mentioned aromatic plants were extracted and were analyzed using a SHIMADZU GC-2010 gas chromatograph coupled to a mass spectrometer. The treatment of fennel, oregano, and thyme had no beneficial effects on the growth performance of the rabbits but reduced the essential oils. The aromatic plants and their active compounds can be used as additives in rabbit nutrition. Effect of Dietary Dried Fennel and Oregano and Thyme Supplementation on Zootechnical Parameters of Growing Rabbit. Keywords: Fennel, Oregano, Rabbit, Thyme, Essential oil. Parameters of Growing Rabbit. Growth performance of rabbits was assessed in the present study. The rabbits were divided into 4 groups and submitted to the following dietary treatments: (1) Control diet + 5% Foeniculum vulgare, (2) Control diet + 5% Origanum compactum, and (3) Control diet + 5% Thymus capitatus. The components of Foeniculum vulgare, Origanum compactum, and Thymus capitatus essential oils were extracted and were analyzed using a gas chromatograph coupled to a mass spectrometer. The treatment of fennel, oregano, and thyme had no beneficial effects on the growth performance of the rabbits but reduced the essential oils. The aromatic plants and their active compounds can be used as additives in rabbit nutrition. Growing rabbit
Salmonella bovine-based products across the world especially in the United Kingdom, USA, Ireland, and strains uploaded from GenBank. Nucleotide alignment report of the sequenced domains region in the nucleotide sequence isolates were detected and confirmed phenotypically by culturing, gram staining, biochemically Typhimurium strains uploaded from GenBank. Sequence identities between the isolated Egyptian strain and Typhimurium. Phylogenetic and partial gene sequence analysis of Salmonella by bcfC Typhimurium isolate was related to the common sequence types isolated from humans and strains uploaded from GenBank. In conclusion, the Egyptian 56-424bp). The PapC N-terminal domain was a structural domain found at the N-terminus of transmission of salmonella strains between the human beings and other animal farms, including a urium, Sequencing. Salmonella Salmonella reading frames of a specified minimum size in a sequence of (453 bp). The 3 conserved FimD Outer membrane usher protein FimD/PapC (cell motility, extracellular structures, gene at (417bp) demonstrated great homology between the Egyptian Typhimurium. The PCR amplification with Typhimurium strains from GenBank revealed 99.8-100% homology. Open reading frame (ORF) (CUP). Amino acids alignment report of the sequenced 415 amino acid of S. and serologically to be bcfC bcfC gene showed great homology between the Egyptian Typhimurium isolates were located in the same geographical area of cattle farms in addition to Typhimurium. A PapC N-terminal conserved domain can be used as a vaccine target for gene of Salmonella Salmonella typhimurium PapC protein and had a central role in the pili assembly chaperone usher system Salmonella gene was found in 7 (46.6%) isolates of Salmonella gene at (453bp) demonstrated great homology between the Egyptian Salmonella bcvC bcfC gene sequence of Typhimurium. Sequencing of bcvC Typhimurium.
The current study was designed to evaluate the protective effects of Tribulus terrestris on kidney and lung tissues against cadmium toxicity in female mice. In this regard, 20 female mice were randomly assigned into three groups; the first group served as the control group, the second group was administered with cadmium, and the third group was administered with the combination of cadmium and Tribulus terrestris. On the last day of the study, the animals were euthanized, and their kidney and lung were sampled for histological study. The kidney tissue in mice exposed to cadmium showed cellular aggregations of lymphocytes around the bronchus and edema in the lungs exposed to cadmium. The large aggregations of lymphocytes were observed in tissues of the cadmium group compared to the control group, while others showed normal tissue appearance. The results demonstrated that Tribulus terrestris ameliorated cadmium toxicity.
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Research Paper

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

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**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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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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