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


ABSTRACT

Streptococcus Enterococcus faecalis, Streptococcus iniae at 215 bp were detected. However, the mPCR from, 3 (37.5%) were positive samples for was identified at 153 bp. The biochemical results indicated that the infected fish with the species isolated from organs from fish and water samples revealed that 5 species directly from organs from fish and water samples were detected while 3 species had reduced total protein, albumin, and globulin in the blood serum while total cholesterol, urea, creatinine levels, and AST, ALT, GPX, CAT, SOD activities significantly increased, compared to non-infected fish species.

A total of 100 cultured tilapia fishes and 20 water samples were collected from 4 different fish farms, and 38 positive fish samples, 25 (65.78%) were species isolated from water samples. Of those 38 positive fish samples, 25 (65.78%) were species had reduced total protein, albumin, and globulin in the blood serum while total cholesterol, urea, creatinine levels, and AST, ALT, GPX, CAT, SOD activities significantly increased, compared to non-infected fish species. The antibacterial activity of ZnO, TiO2, and combination of ZnO and TiO2 was also examined against Escherichia coli in minced meat. It is concluded that 12 mM ZnO nanoparticles have the best antibacterial effect against E. coli and treated with different concentrations of two nanomaterials (approximately 20 nm), including ZnO and TiO2, then stored at 4°C for 17 days. The results indicated that ZnO (12 mM) had a significant reduction effect on bacterial cell than the mixture of ZnO + TiO2, and 12Mm TiO2 alone. The disc diffusion method showed that ZnO (12 mM) was the most effective concentration used against E. coli in minced meat, followed by the combination of ZnO and TiO2, and 12 mM TiO2 alone.

The antibacterial activity of these nanoparticles is a new approach to control the safety of meat and meat products.
ABSTRACT

The results also demonstrated that the number of total born piglets, stillborn, and mummified piglets, litter weight, and average birth weight were significantly associated with farrowing duration. Among the four factors, average birth weight was the most important factor. The number of total born piglets and stillborn piglets were the next important factors. Litter weight and average birth weight were the least important factors. Two final models explained about 19.1-19.5% variation of the farrowing duration. Two models explained about 19.1-19.5% variation of the farrowing duration. Two final models demonstrated that the number of total born piglets, stillborn, and mummified piglets, litter weight, and average birth weight were significantly associated with farrowing duration. Among the four factors, average birth weight was the most important factor. The number of total born piglets and stillborn piglets were the next important factors. Litter weight and average birth weight were the least important factors. Two final models explained about 19.1-19.5% variation of the farrowing duration.

Keywords:

- Birth weight
- Total born piglets
- Stillborn piglets
- Mummified piglets
- Litter weight
- Farrowing duration
- General linear models
Current analysis of the page contents indicates a document discussing the prevalence and identification of various pathogens in dairy milk. The study includes an examination of Salmonella Typhimurium isolates from bulk tank milk samples. Additionally, there is an investigation into the presence of Vibrio parahaemolyticus in seabass and seabream, along with the detection of Streptomycin-resistant strains.

**ABSTRACT**

Prevalence of *Salmonella* Typhimurium isolates was determined in the study. The geometric mean of somatic cell count (SCC)/ml in Bulk tank milk samples of 150 dairy farms was 3.7×10^8 cfu/ml. The geometric mean of total bacterial plate count (cfu/ml) revealed that the geometric mean of 150 dairy farms was 3.2×10^8 cfu/ml. The prevalence of *Salmonella* Typhimurium isolates (100%) was confirmed phenotypically by culturing, gram staining, biochemical, and molecular identification. A total of 20 isolates were detected and confirmed using virulence gene-specific primers. The results of the study emphasize the need for improved hygiene and management practices in dairy herds to control the spread of these pathogens.

**Keywords:** Salmonella, Typhimurium, bulk tank milk, molecular identification.

Keywords:
The large kidney and lung tissues against cadmium toxicity in female mice. In this regard, 20 female Tribulus terrestris ameliorated cadmium toxicity.

On the last day of the study, the animals were euthanized, and their kidney and lung were found to have significant differences. The lymphocytes between alveolar sacs and thick interalveolar septa. The inflammation, necrosis, hyperplasia, and large urinary space in Bowman's capsule increased in these tissues.

The study included four groups: the first group served as the control group, the second group was given the toxic substance (cadmium 6 mg/kg) only, the third group was given cadmium (6 mg/kg) plus the alcoholic extract of the Tribulus terrestris, and the fourth group was given the alcoholic extract of the Tribulus terrestris.

The results showed that the alcoholic extract of the Tribulus terrestris had a protective effect on the kidney and lung tissues against cadmium toxicity. The genetic correlation, heritability, and post-weaning weight were calculated to be 0.2, 0.25, and 0.4, respectively. The genetic correlation, heritability, and post-weaning weight were calculated to be 0.2, 0.25, and 0.4, respectively.

The study was designed to assess the rearing performances of broiler chickens under two crosses. The study samples included three parities (½G ½V, and ½ V ½G; sire G × V and sire V × G); the first group served as the control; and the second group was given the toxic substance (cadmium 6 mg/kg) only.

The results showed that the inclusion of Pentadiplandra brazzeana powder in the diet and drinking water decreased feed intake, compared to the negative control diet. The low feed conversion ratio was reported with the water supplemented with Pentadiplandra brazzeana powder. The incorporation of Pentadiplandra brazzeana powder improved the growth performances of broiler chickens. The results revealed that the incorporation of Pentadiplandra brazzeana powder in feed and the negative control diet improved the growth performances of broiler chickens.
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

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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