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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ABSTRACT

A total of 100 cultured tilapia fishes and 20 water samples were collected from 4 different fish farms. Using mPCR to identify streptococci, 53 (53%) were positive samples for Streptococcus with 310 base per (bp) were detected while 3 samples (25%) were Streptococcus agalactiae, species except for ammonia were within the permissible limit. The bacterial isolation results revealed 38 species isolated from water samples. Of those 38 positive fish samples, 25 (65.78%) were Streptococcus pyogenes and 3 (7.89%) were Streptococcus iniae 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.

Rapid Detection of Streptococci in Cultured Tilapia Fish Using PCR and Chemical Analysis. By PCR and chemical analysis in cultured tilapia fish.

Keywords: PCR, Crossref Metadata, streptococci, Tilapia fish, Water examination.


Crossref Metadata
Plate Count and Somatic Cell Count in Bulk Tank Milk in Cattle Dairies.

The geometric mean of somatic cell count (SCC/ml) in Bulk tank milk samples of 150 cattle dairy farms was 556.7×10³ cfu/ml. The prevalence of Salmonella Typhimurium in the overall herd was 13.3%. The results of total bacterial plate count in this study was 3.7×10³ cfu/ml. Serological identification of the 20 isolates revealed that they were of Egyptian isolated strain indicated a great homology with the different strains uploaded from the gene bank. Phylogenetic analysis of Salmonella Typhimurium field isolates from bulk tank milk samples revealed that 20 locally field isolates were detected and confirmed phenotypically by culturing, gram staining, biochemical and molecular identification to be Salmonella Typhimurium. The study provided various risk factors that had a clear and effective role in determining the level of bacterial quality of bulk tank milk and monitoring mastitis economic losses. 

Risk Factor Analysis of Salmonella Typhimurium, Staphylococcus aureus, Standard Plate Count and Somatic Cell Count in Bulk Tank Milk in Cattle Dairies - Significant factors that had a clear and effective role in determining the level of bacterial quality of bulk tank milk and monitoring mastitis economic losses.

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Adel M. Di-Garmal and Engy T. Elshahi (2020). Presence of Vibrio parahaemolyticus in seabass (Dicentrarchus labrax) and seabream (Sparus aurata) and Detection of Streptomyces-resistant Strains.

The PCR assay was used for the detection of virulence genes (tdh, trh, aminoglycoside resistance gene) and 30 seabream (Sparus aurata) isolates were detected and confirmed phenotypically by culturing, gram staining, biochemical, and molecular identification to be Vibrio parahaemolyticus, Vibrio mimicus, and Vibrio vulnificus species, especially streptomycin-resistant strains that can pose a great risk to human health.

The results indicated that good hygienic measures should be taken to avoid infection with these species, especially Vibrio parahaemolyticus.


The essential oils of the above mentioned aromatic plants were extracted and were analyzed using a florimetric method. The aromatic plants and their active compounds can be used as additives in rabbit nutrition.
Crossref Metadata

vaccine production against Typhimurium strain and the different

Many of the duck farms from which we isolated the Egyptian Salmonella gene of Salmonella Typhimurium. A PapC N-terminal conserved domain can be used as a vaccine target for strains uploaded from GenBank. Sequence identities between the isolated Egyptian strain and Mexico.

ABSTRACT

Salmonella gene-specific primers was conducted with genomic DNA, which revealed a product with the

The main objective of this study was to applying

56-424bp). The PapC N-terminal domain was a structural domain found at the N-terminus of Salmonella Typhimurium. The PCR amplification with

bcfC were PapC N-terminal domain (107-394bp), Salmonella Typhimurium isolates were located in the same geographical area of cattle farms in addition to Salmonella gene protein translation using ExPasy (SIB Bioinformatics Resource Portal) indicated all open

S. S.

[Full text-

transmission of salmonella strains between the human beings and other animal farms, including Salmonella Typhimurium isolate was related to the common sequence types isolated from humans and a duck farms. Moreover, the PapC N-terminal domain was a central conserved domain encoded

El-Maghraby AS, Mwafy A and Ahmed El- Sawy HE-S.

[Full text-}

all cows in both groups were found to be clinically free from the disease, and cure rates were

per gram, and then bandaged. Cows in the positive control group were subjected to a single

The objective of this multilocation field trial was to compare the effectiveness of the topical

subsequent two-week follow-up period. The treatment was discontinued when a cow was

100%. No recurrence was recorded in any of the cases. It was concluded that the topical
treatment of interdigital necrobacillosis in dairy cows. The current study was conducted from

015k-1 strain and oxytetracycline were 80.87% and 83.48%, respectively. The overall odds ratio

application of a powdered probiotic strain and intramuscular injection of oxytetracycline for the

for the cure rate in the probiotic group versus oxytetracycline was 0.837. However, on day 28,
animals were recruited randomly to one of the following groups. A trial group in which the

intramuscular injection of oxytetracycline at the dosage of 1.0 milligram per kilogram of

administration of the probiotic powder to dairy cows with early-stage interdigital necrobacillosis

bodyweight which is considered the routine treatment for interdigital necrobacillosis in the

feedlots. Both procedures were executed every 72 hours during a period of two weeks with the


https://dx.doi.org/10.36380/scil.2020.wvj47

ABSTRACT

Lactobacillus acidophilus assessed as cured. Both groups were monitored daily for their limb condition and the degree of

parameters (Albumin, haemoglobin Ac1, fructosamine, and cholesterol). Chickens fed the diet containing 100% required Crude Protein (CP) supplemented with citric

chickens fed the diet containing 100% Crude Protein (CP) supplemented with citric acid could compensate for the growth performance equivalent

Effect of Different Dietary Crude Protein Levels and Citric Acid on Broiler Chickens’

indicators of the blood protein glycation. In conclusion, citric acid addition could alleviate the

https://dx.doi.org/10.36380/scil.2020.wvj45

unsexed one-day-old broilers were assigned to 4 dietary treatments, 4 replicates of 10 chickens

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Dairy cows, Foot rot, Interdigital necrobacillosis, Broiler, Citric Acid, Glycation, Performance, Protein level.
The current study was designed to evaluate the protective effects of Tribulus terrestris fruit against cadmium toxicity in female mice. Effects of Tribulus terrestris Fruits on Renal and Lung Tissues in Female Mice

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 between alveolar sacs and thick interalveolar septa. The lungs of some mice exposed to cadmium and treated with Tribulus terrestris fruit (200 mg/kg). The substances were administered orally by stomach tube daily for 10 days. The large aggregations of lymphocytes around the bronchus and edema in the lungs exposed to cadmium were observed. The lungs of some mice exposed to cadmium and treated with Tribulus terrestris fruit indicated normal tissue appearance, while others showed large aggregations of lymphocytes between alveolar sacs and thick interalveolar septa. The large aggregations of lymphocytes around the bronchus and edema in the lungs exposed to cadmium were observed. The lungs of some mice exposed to cadmium and treated with Tribulus terrestris fruit indicated normal tissue appearance, while others showed large aggregations of lymphocytes between alveolar sacs and thick interalveolar septa.

Further studies are needed to explore the protective effects against cadmium in the lung tissue. These results demonstrated that Tribulus terrestris fruit protected the kidneys against the toxicity of the cadmium while this plant had fewer protective effects against cadmium in the lung tissue.

References:


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