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


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

The aim of the present study was to detect the streptococci species directly from organs from fish and water samples. 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. Using mPCR to identify % positive samples for Streptococcosis causes economic losses due to the high mortality in Nile tilapia (Oreochromis niloticus). Using mPCR to identify Streptococcus iniae. Using mPCR to identify Streptococcus agalactiae. Using mPCR to identify Enterococcus faecalis. Using mPCR to identify Enterococcus faecium. Using mPCR to identify Streptococcus pyogenes.

Keywords: Streptococcus pyogenes, Streptococcus iniae, Streptococcus agalactiae, Enterococcus faecalis, Enterococcus faecium, PCR.
Recent developments in veterinary science include the contribution of the veterinary sector to the control of COVID-19 pandemic in Nepal. In this regard, veterinarians are serving as crucial players with rapid diagnostic tests and polymerase chain reaction (PCR) facilities. The Government of Nepal has established five veterinary diagnostic laboratories with RT-PCR facilities, which are contributing significantly to fighting the pandemic.

The impact of the COVID-19 pandemic on the livestock sector has been substantial. The dairy and poultry industries, which are significant contributors to the national economy, have faced challenges due to the pandemic. The loss of commercial sectors, such as dairy, feed, and poultry, has been estimated to be in billions of rupees in Nepal.

In this context, the role of veterinarians in addressing the pandemic is crucial. They are involved in various activities, including the development of newer diagnostic tools, surveillance, and research. The One Health (OH) approach, which is a multi-sectoral approach, is being emphasized to combat the COVID-19 pandemic. Veterinarians, in this regard, have been working alongside other sectors to ensure the health and well-being of both humans and animals.

The loss of commercial sectors, such as dairy, feed, and poultry, has been estimated to be in billions of rupees in Nepal. The imposition of lockdown started from March 24 and was extended until July 22. The loss of important sectors, such as dairy and poultry, is estimated to be in billions of rupees, leading to significant economic loss.

The One Health (OH) approach, which is a multi-sectoral approach, is being emphasized to combat the COVID-19 pandemic. Veterinarians, in this regard, have been working alongside other sectors to ensure the health and well-being of both humans and animals. The contribution of the veterinary sector to the control of COVID-19 pandemic in Nepal is significant and underscores the importance of multi-sectoral collaboration in the fight against the pandemic.
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A study was conducted to compare the effectiveness of a topical application of a powdered probiotic strain (Lactobacillus acidophilus) and an intramuscular injection of oxytetracycline for the treatment of early-stage interdigital necrobacillosis in dairy cows. The objective of this multilocation field trial was to compare the effectiveness of the topical application of the probiotic powder versus oxytetracycline on 6 farms situated in the Almaty region of Kazakhstan. The treatment was administered to cows with early-stage interdigital necrobacillosis. Both procedures were executed every 72 hours during a period of two weeks with the subsequent two-week follow-up period. The treatment was discontinued when a cow was found to be clinically free from the disease. All cows in both groups were found to be clinically free from the disease, and cure rates were considered 100%. No recurrence was recorded in any of the cases. It was concluded that the topical application of a powdered probiotic strain and intramuscular injection of oxytetracycline for the treatment of early-stage interdigital necrobacillosis in dairy cows with no disease recurrence recorded within the observation period,
Tribulus terrestris protected the kidneys against the toxicity of the cadmium while this plant had fewer protective effects on lungs.

On the last day of the study, the animals were euthanized, and their kidney and lung were compared to the normal appearance of tissues in the mice in the other two groups. The large inflammation, necrosis, hyperplasia, and large urinary space in Bowman's capsule in the cadmium group was ameliorated by the alcoholic extract of the Tribulus terrestris fruits.

Effects of Tribulus terrestris Fruits on Renal and Lung Tissues in Female Mice Administered with Cadmium.

Tribulus terrestris fruit (200 mg/kg) was given orally by stomach tube daily for 10 days. The substances were administered in the following groups: (1) Control group, (2) Cadmium group, (3) Cadmium + Tribulus terrestris group.

The results indicated normal tissue appearance, while others showed large aggregations of inflammatory cells in the kidney and lung. The protective effects of Tribulus terrestris fruits on the kidneys were significant compared to the cadmium group.


This study aimed to assess the possible impact of hereditary factors on the crossbreeding of Gabali and V-Line rabbits. A total of 250 male and female rabbits were used in the study, with 125 rabbits per breed. The rabbits were crossed and their offspring were evaluated for growth performance and feed conversion.

The results revealed that the direct additive variance was moderate for both breeds, and its reciprocal cross ranged from 0.2 to 0.25. The genetic correlation between BW and ADG was 0.22 ± 0.07.

The cross-protectivity of IgY as a preventive method against HPAI outbreak was tested against different clades. The protection rate was 80-100%. Further research should be done to discover the cross-protectivity of IgY as a preventive method against HPAI outbreak.

Pathogenic Avian Influenza (HPAI) clade 2.1 (A/Chicken/Blitar/2003) was tested against different clades. The protection rate was 80-100%. Further research should be done to discover the cross-protectivity of IgY as a preventive method against HPAI outbreak.


Adiplandra brazzeana powder, when added to the feed and water recorded the highest live weight and weight gain, compared to the negative control diet. Chickens fed with the powder in feed and water supplemented with 2 g/l recorded the highest (p < 0.05) ratio of feed conversion to those obtained from chickens fed on antibiotic (1 g/kg) and chickens fed without additive. The results revealed that the incorporation of Pentadiplandra brazzeana powder to the birds fed with the powder in feed and the negative control diet. The low feed conversion ratio was reported with the water supplemented with antibiotic.
Fecal and blood samples were collected from diarrheic dogs and dog owners in Egypt. Zoonotic transmission of Helicobacter species is a concern as they can colonize the gastrointestinal and biliary tracts of humans and various animal species. The objective of the present study was to determine the prevalence of Helicobacter pylori in dog owners and the role of dogs in the transmission of this bacterium.

Methods: 60 gastric biopsy samples from dog owners and 80 stool samples from owned dogs were collected and examined for the presence of Helicobacter pylori. The genus-specific 16S rRNA sequence of H. pylori gene of human and dog isolates were similar. In conclusion, this study indicated a high prevalence of Helicobacter pylori between dogs and humans is probable and represents a public health concern.

Keywords: Helicobacter pylori, Dogs, Human, Phylogenetic analysis, 16s rRNA sequencing.
**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