Research Paper

Molecular Analysis of *Coxiella Burnetii* by Isocitrate Dehydrogenase Gene Sequence-Based Typing and PCR-RFLP in Isfahan, Iran.

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ABSTRACT

In the recent years, considerable advances have been made in the detection and genotyping of *Coxiella burnetii*, the causative agent of Q fever. The selection of appropriate genotyping method has enabled description of the clonal diversity of *C. burnetii* around the world. Since, in the place of study, *C. burnetii* genotyping has not been done, the *icd* gene Restriction fragment length polymorphism (RFLP) and sequence-based typing for differentiation between the genomic detected *C. burnetii* from the various sources and compared the two methods is used. In an observational study, a total of 15 genomic positive cases of *C. burnetii* infection from different sources in Isfahan province (Central Iran) were enrolled and underwent two genotyping methods: the *icd* gene PCR-RFLP and *icd* gene sequence-based typing. The degree of similarity between the *icd* gene sequences was high (98.3-100%). In compare with *C. burnetii* Nine Mile *icd* gene sequence, the nucleotide sequences were different at 11 positions, which resulted in 7 differences in the amino acid sequences. After digesting the 370 bp amplified *icd* gene fragments all the samples indicated only one band of 370bp, while amplified *C. burnetii* Nine Mile strain *icd* gene were digested into two bands with sizes of 221bp and 149bp. The results of two genotyping methods matched together. Used methods in present study were cheaper and easier than new methods and they can used for detection of acute and chronic phases of
infection. **Keywords:** *Coxiella burnetii*, Isocitrate dehydrogenase, Iran, Restriction fragment length polymorphism, Sequence-based typing

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The Protective Role of Date Palm (*Phoenix Dactylifera* Seeds) against Aflatoxicosis in Broiler Chickens Regarding Carcass Characteristics, Hepatic and Renal Biochemical Function Tests and Histopathology.

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ABSTRACT

Harmful effects caused by aflatoxin (AF) directed researchers towards to find out new strategies for its control and detoxification increasing the safety of poultry feed. The aim of the present work was to study the protective role of date pits (Phoenix dactylifera) seeds against aflatoxicosis regarding carcass traits, biochemical function tests and histopathology of both liver and kidney in broiler chickens. 210 one-day old Arbor Acres broiler chicks were allotted into 7 equal groups as the first control (G1) supplemented by the basal diet, G2 had the basal diet with date pits supplementation 2%, G3 fed on the basal diet with date pits 4%, G4 was fed a basal diet containing 100µg aflatoxin/kg (100 ppb). G5 fed on a basal diet containing Hydrated Sodium Calcium Aluminum Silicates (HSCAS) 0.3% plus aflatoxin, (G6) fed a basal diet containing date pits 2% plus aflatoxin and finally G7 fed a basal diet containing date pits 4% plus aflatoxin. The aflatoxin supplemented to the broiler ration from first day to the end of experiment at 35 days. Aflatoxins supplementation significantly increased relative liver and small intestine weight, affect liver and kidney biochemical function tests and induced histopathological changes as fatty degeneration of hepatocytes, and interstitial nephritis with mononuclear cell infiltrations in both liver and kidney, respectively. However, addition of date pits (2% and 4%) and HSCAS (0.3%) to broiler's diet partially ameliorated these harmful effects of aflatoxins, indicating their protective effect against aflatoxicosis and this protection is dose-related. Addition of date palm seed (2% and 4%) gave a better results regarding carcass traits, biochemical parameters and histopathological examination of liver and kidney, finally concluding that date palm seed powder could be used as an effective feed additive to control aflatoxicosis in poultry with avoiding harmful effect of chemical mycotoxin binders (HSCAS). Keywords: Aflatoxins, Broilers, Biochemical traits, Carcass characteristics, Date palm, Histopathological changes.
Reptile plays an essential role in human life and act as a reservoir of pathogenic bacteria. It is observed that bacteria from the faeces of pet-reptile. A total of 129 fresh faecal samples were collected from snakes, lizards and tortoises. The isolation was conducted using the Micro ID method, and SM extract using minimum inhibitory concentration test. The isolated bacteria were identified as Escherichia coli (48.83%), Salmonella enteritidis (32.55%), Pseudomonas sp (76.74%), Proteus sp (96.89%), and Staphylococcus sp (53.48%). Those isolated bacteria indicated various resistance patterns against several antibiotics.

The study aimed to evaluate the potency of Sansevieria masoniana Extract against isolated antimicrobial resistant bacteria isolated from faeces of pet – reptile. The Sansevieria masoniana leaf extract was tested against isolated bacteria and the minimum inhibitory concentration (MIC) was determined. The extract was most effective against Pseudomonas sp with an MIC of 62.5 mg/mL.

The research paper is titled "Potency of Sansevieria masoniana Extract against Antimicrobial Resistant Bacteria Isolated from Faeces of Pet – Reptile." It was presented by A. Ramadhan, P. Purnama, L.Y. Widyasinguhan, I. K. Widyatno, and Y.A. Prakoso.


The incidence rate ranged from 1.78 to 14.36% with an average of 6.39% per year and per 104 animals. The appropriate data recording, improving owner awareness, and implementing a vaccination program are required to control the spread of the disease.

The influence of hairline crack eggs on hatchery parameters and chicks performance was studied by Jabbar A, Hameed A, Yousef A, Riaz A, and Ditta YA (2019). The study was conducted from October to December 2018 at Chakri hatchery SALMAN Poultry Pvt. Ltd, Pakistan. The focus was on the effects of hairline crack eggs on hatchability, candling, putrification/blasting, and mortality in chicks.

The results showed that the hatchability was highest for normal eggs (49.07 ± 0.51b) and lowest for hairline crack eggs. The candling was highest for normal eggs (17.12 ± 0.064a) and lowest for hairline crack eggs. The putrification/blasting was highest for hairline crack eggs with 49.07 ± 0.51b.

The study concluded that hairline crack eggs are detrimental to hatchery parameters and chicks performance. The research was conducted using the Sanovo STAALKAT Alpha 125 Machine number JB 11786. The eggs were collected from infertile, contaminated eggs and 3rd week mortality were found for hairline crack eggs as higher for hairline crack eggs as compared to normal eggs of same flocks. The research paper is titled "Influence of Hairline Crack Eggs on Hatchery Parameters and Chicks Performance." It was presented by Jabbar A, Hameed A, Yousef A, Riaz A, and Ditta YA.


The average morbidity, mortality, and case fatality rate were 8.89%, 2.89%, and 33.57% respectively. Temporal analysis obtained that Peste des petits ruminants is more epizootic in the dry season between April and August with a significant peak on June. The Peste des petits ruminants vaccination rate in Palestine was low and not well organized, ranging from 0.77-34.39% with an average rate of 9%.

The research paper is titled "Epidemiology, Goat, Palestine, Peste des petits ruminants, Sheep." It was presented by A. Ramadhan, P. Purnama, L.Y. Widyasinguhan, I. K. Widyatno, and Y.A. Prakoso.


The research paper is titled "Epidemiological Study of Peste des petits ruminants in Sheep and Goat During 2005-2017 in Palestine." It was presented by A. Ramadhan, P. Purnama, L. Y. Widyasinguhan, I. K. Widyatno, and Y. A. Prakoso.

Effect of Zeolite Dietary Supplementation on Physiological Responses and Production of Laying Hens Drinking Saline Well Water in South Sinai.

ABSTRACT

180 hens were randomly divided into six equal groups (30 hens / group). Group (S), hens drank saline well water and fed basal diet. Group (T), hens drank tap water and fed diet containing 2% zeolite. Group (T1), hens drank tap water and fed diet containing 4% zeolite. Group (T2), hens drank tap water and fed diet containing 6% zeolite. Group (T3), hens drank saline well water and fed diet containing 2% zeolite. Group (T4), hens drank saline well water and fed diet containing 4% zeolite. Group (T5), hens drank saline well water and fed diet containing 6% zeolite. Group (S2), hens drank saline well water and fed diet containing 2% zeolite. Group (T), hens drank tap water and fed basal diet.

Egg weight significantly increased in the hens of group (T5) compared to them in T, T1 and T2 groups. Egg number and egg mass were significant increase in the hens of group (S2) compared with hens in T and S groups. Egg number and egg mass were significant increased in the hens of group (T5) compared with them in S and T2 groups.

Digestion coefficient of Crude Protein and Digestible Crude Protein (DCP%) followed by 5%TOP. It was concluded that rabbit group fed 5%TOP recorded a better growth performance, best digestibility for CP%, DCP and economic efficiency.

Conception rate was higher in the does of T5 than that in T3, T4 and T6. Litter traits, productive performance and eggshell quality.

This study conducted to investigate the effects of dietary zeolite on egg production, egg quality and blood constituents of hens under drinking saline well water. Laying hens (New Zealand White, NZW X California), six weeks of age with live body weight ranging from 729.20 to 738.30 g were divided to five experimental groups. The results indicated that rabbit group fed 5%TOP recorded a better growth performance, best digestibility for CP%, DCP and economic efficiency.
Formaldehyde Toxicity in Male Rats. The results showed the induction of oxidative stress and biochemical changes in different body organs, especially the liver, lung, heart, and intestine. In this study, seven animal groups (five rats for each) were treated with melamine at different doses (0.9, 90, 9000 ppm) and compared with a control group. The treated rats showed marked oxidative, biochemical, hematological changes as well as histological changes on male albino rats. These findings assured that marked antioxidant and ameliorative effect of bee's honey is significant in alleviating the harmful effect induced by melamine toxicity and to show the urine bladder, crystals deposition and stone formation were detected with variable degrees depending upon the dose of melamine. Interestingly, rats treated with melamine plus the bee's honey showed mild changes in comparison to the only melamine treated rats. These findings showed that bee's honey successfully reduced the noxious effect of melamine on different body organs.

Present study aimed to evaluate the impacts of probiotic mixtures as a biological feed additive productivity. The first mixture of probiotic added as liquid forms (Mixture Probiotic Liquid, MPL), groups, but the number of lambs born alive was significantly higher in MPP groups [19 lambs for group 2 (G2) and 18 lambs for group 3 (G3)] compared to MPL groups (16 and 18 lambs for groups 4 and 5). Thyroid hormones T3 and T4 concentrations increased (P<0.05) with enzymes mixtures used at two levels (6 and 10ml or g/h/d). The two additives formed of exogenous enzymes used at two levels (6 and 10ml or g/h/d). The two additives formed of exogenous enzymes also increased (P<0.05) weaning weights as well as average daily gain in MPL and MPP groups. 

Intestinal Parasitic Infections. The aims of this paper were to provide an overview to the role of lipids in selected apicomplexan, anaerobic, and protozoan infections which are important for infection. Lipids play a considerable role as growth promoter, increasing virulence, and helping to facilitate attachment, invasion, and other stages of parasitic infection. So far, evidences in lipid profile alteration related to different parasitic infection suggested that parasites are able to remodel/metabolize host lipids during the overall pathogenesis of parasitic infection. The apicomplexan parasites utilized lipid particles for various purpose including changing adaptive immunity and support pathogen survival. The lipid bodies also utilized by the intestinal parasites can partly or fully utilized significant amount lipids during infection. The lipid droplets also employed to facilitate attachment, invasion, and replication of the organism. In anaerobic bacteria, the lipid droplets also utilized to facilitate attachment, invasion, and replication of the organism.