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.

Abdel-Sattar WM, Sadek KM, Elbestawy AR and Mourad DM.

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 \textit{(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).

\textbf{Keywords:} Aflatoxins, Broilers, Biochemical traits, Carcass characteristics, Date palm, Histopathological changes.

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Antibiotic, Pet – reptile, Reservoir, Resistance, Sansevieria masoniana.
Effect of Zeolite Dietary Supplementation on Physiological Responses and Production of Laying Hens

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Emam KRS, Toraih HM, Hassan AM, El-Far AA, Morsy AS and Ahmed NA.

This study conducted to investigate the effects of dietary zeolite on egg production, egg quality, and physiological responses in laying hens. Hens were divided into six groups: two control groups (S1 and S2) drank saline well water and were fed diets containing 2% and 4% zeolite, respectively, and four test groups (T1, T2, T3, and T4) drank tap water and were fed diets containing 0%, 2%, 4%, and 6% zeolite, respectively.

Key findings include:
- Egg number and egg mass were significantly increased in the S2 group compared to the S1 group.
- Egg weight significantly increased in the hens of the S2 group compared to the T and T1 groups.
- Feed conversion capacity was significantly improved in the S2 group compared to the S1 group.
- Aldosterone hormone was significantly decreased in the S2 group compared to the other treatments.
- Red blood cells, packed cell volume, and hemoglobin concentration increased in the T1, T2, and S2 groups compared to the T, S, and S1 groups.
- Hens in the T1, T2, and S2 groups showed significant decreases in total protein, globulin, glucose, and total antioxidant concentrations compared to the T, S, and S1 groups.

In conclusion, under saline well water drinking conditions, addition of zeolite to laying hens' diets at levels of 4% might improve egg production, egg quality, and physiological responses.

Key words: Egg production, egg quality, physiological responses, laying hens, zeolite.
ABSTRACT

Melamine, Vital assets toxicity, Bee's honey, White albino rats

A Review on the Role of Lipid in Selected Apicomplexan, Anaerobic, Kinetoplastid and Intestinal Parasitic Infections.