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

Nokhodian Z, Khalili M, Ataei B, Feizi A, Moradi A, Rostami S and Yaran M.

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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**Research Paper**

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 finding new strategies for its control and detoxification to increase 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 the 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 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.
ABSTRACT

The influence of hairline crack eggs on hatchery parameters and chicks performance. The purpose of study was to evaluate the influence of hairline crack eggs on hatchery parameters and chicks performance. The eggs were collected from flock having thin egg shells. The blasting/putrification and dead in the shell were significantly high for hairline crack eggs. The highest hatchability (49.07 ± 0.51b) and lowest candling (9.98 ± 0.064a) for hairline crack eggs were found for AP27 due to young age and good quality eggshell. The chicks from normal eggs were also significantly better than chicks from hairline crack eggs in terms of mortality, feed intake, weight gain and FCR. The hairline crack eggs are the source of contamination. Such kinds of eggs should not be used for incubation.

Keywords: infertile, contaminated eggs and 3rd week mortality were found for hairline crack eggs as compared to normal eggs for SSF5 flock. The water loss, chick yield and culling chicks were higher for hairline crack eggs as compared to normal eggs of same flocks. The highest blasting of age and good quality eggshell. The lowest hatchability was found for SP117 which is the oldest age with good quality eggshell. On simple hatch debris analysis, the highest 1st week mortality, hairline crack eggs was found for SSF6 f, SSF1. The dead in the shell was found highest for normal eggs in terms of mortality, feed intake, weight gain and FCR. The hairline crack eggs are the source of contamination. In this experiment, the crack eggs like hairline crack eggs were detected by simple observation and confirmed by simple hatch debris analysis.

Candling, Dead in shell, Hairline crack, Hatchability, Water loss


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

**ABSTRACT**

This study conducted to investigate the effects of dietary zeolite on egg production, egg quality, and hemoglobin concentrations as compared to the hens in T and S groups. Egg number and egg mass were significant increased in the T1, T2 and S2 compared to hens in T, S and S1 groups. Hens of T1, T2 and S2 groups showed an increase in total antioxidant capacity when compared to the rabbits of T1. Conception rate was higher in the does of T5 than that in T3, T4 and T6. Litter traits, productive performance, best digestibility for CP%, DCP and economic efficiency of growing rabbit diets.

**Keywords:** Zeolite, Saline water, Drinking saline well water, addition of zeolite to laying hens’ diets at levels 4 % might improve productive performance and eggshell quality.

**Hematological parameters, Laying hens, Productive performance, Saline water, Heat stress, HSP70, Physiological responses, Productive and reproductive performance, Rabbits under Hot Desert Conditions.**

**Research Paper**


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

Keywords:
- Apicomplexan
- Anaerobic
- Kinetoplastid
- Intestinal Parasites

Lipids are a diverse class of biomolecules that play a major role as energy source, membrane components and cellular signaling molecules. Because of the variation in modes of life, different groups of parasites, the lipid plays a considerable role as growth promoter, increasing virulence, adaptive immunity and support pathogen survival. The lipid bodies also utilized by the intestinal parasites are able to remodel/metabolize host lipids during the overall pathogenesis of parasitic infection.

Mechanism to mobilize lipid

Lipid droplets

Parasites from each group

PROBIOTICS

Potential Ameliorative Effect of Bee's Honey on Experimentally Induced Melamine Formosanohya Toxicity in Male Albino Rats

MELAMINE 0.5 g

MELAMINE 5000 ppm

MELAMINE 5000 ppm

5 Male albino rats

5 Male albino rats

5 Male albino rats

No remarkable toxic effects

Reduced toxic effects

Eimeria media species were present and identified from oocyst positive samples. Eimeria's 23.3% vs. 65.3% respectively. These results indicated that the prevalence of coccidiosis is high among the rabbit population in Medea province, North of Algeria. As a conclusion, it seems that coccidiosis is an important parasitosis that should be considered in order to minimize the economic losses caused by this parasitosis.

Prevalence of Rabbit Coccidia in Medea Province, Algeria.

Keywords:
- Eimeria media
- Prevalence
- Rabbit Coccidia

Coccidiosis has an economic impact for poultry and livestock. The current study examined the economic impacts of coccidiosis in rabbits. The overall prevalence of coccidial infections was 47.6% (197/414). The highest prevalence was observed in growing rabbits (75%, 75/100, P< 0.0001), followed by weaners (77%, 77/100, P< 0.0001). The mortality rate from birth to weaning decreased (P<0.05) in treated groups with 5%, 5%, 0% and 5% for G2, G3, G4 and G5, respectively, while the control group recorded 18 lambs. The birth and milk yield tended to increase in MPP then MPL groups. The number of lambs born alive was significantly higher in MPP groups [19 lambs for G2, G3, G4 and G5, respectively, while the mortality rate increased (P<0.05) by 11% in group 4 (G4) and group 5 (G5), respectively), while the control group recorded 18 lambs. The feed intake was higher in MPL and MPP treated groups compared to control groups, but the number of lambs born alive was significantly higher in MPP groups [19 lambs for G2, G3, G4 and G5, respectively, while the mortality rate increased (P<0.05) by 11% in group 4 (G4) and group 5 (G5), respectively), while the control group recorded 18 lambs. The feed intake was higher in MPL and MPP treated groups compared to control groups. The milk yield tended to increase in MPP then MPL groups. The number of lambs born alive was significantly higher in MPP groups.

Present study aimed to evaluate the impacts of probiotic mixtures as a biological feed additive on the productive and reproductive performance and metabolic profile of Barki ewes. The first mixture of probiotic added as liquid forms (Mixture Probiotic Liquid, MPL), the second mixture of probiotic added as powder forms (Mixture Probiotic Powder, MPP). A total number of 100 Barki ewes were randomly assigned and divided into five equal groups (20 each). The enzyme preparations of MPL and MPP were supplemented with Two Forms of Probiotics as Feed Additives. The milk yield tended to increase in MPP then MPL groups. The birth and milk yield tended to increase in MPP then MPL groups.

Thyroid hormones T3 and T4 concentrations increased (P<0.05) with enzymes mixtures supplemented with Two Forms of Probiotics as Feed Additives. The milk yield tended to increase in MPP then MPL groups. The birth and milk yield tended to increase in MPP then MPL groups.

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