Research Paper

Impact of Thyme Oil and Lactobacillus acidophilus as Natural Growth Promoters on Performance, Blood Parameters and Immune Status in Growing Rabbits.

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ABSTRACT

Present study was conducted to evaluate the effect of thyme oil and *lactobacillus acidophilus* (supplement) as growth promoters in rabbit. 72 weaned V-Line male rabbits were randomly allocated into 4 equal groups. The first group (G1) was without any additives and consider as control group. The second group (G2) treated with the addition of *lactobacillus acidophilus* in drinking water in a concentration of 10<sup>8</sup> cfu/ml. The third group (G3) treated with the addition of thyme oil in drinking water in a concentration of 1 ml/ liter. The fourth group (G4) treated with the addition of both *lactobacillus acidophilus* and thyme oil in drinking water in a concentration of 10<sup>8</sup> cfu/ml plus 1ml/L, respectively. The obtained results showed that, all treatments had significant improvement effects on the measured parameters (performance characteristics, cecum characteristics, RBCs, WBCs, kidney function, trigly-cerides, total cholesterol, sheep RBC’s titer, liver antioxidant markers and hormones markers) when compared to the control group. The live body weight of G3 and G4 groups were higher (2116 and 2058 g) than those found in G2 and G1 groups (1958 and 1850 g) respectively. In addition, the body weight gain of G3 and G4 groups were higher (1364 and 1307 g) than those found in G2 and G1 groups (1207 and 1100 g). Moreover, the daily weight gain of G3 and G4 groups were higher (32.49 and 31.13 g/d) than those found in G2 and G1 groups (28.74 and 26.19 g/d). In addition, feed conversion ratio of G3 and G4 groups were higher (3.41 and 3.61) than those found in G2 and G1 groups (3.66 and 4.67). While G4, G2 and G3 groups had a significant enrichment effect on the intestinal beneficial bacteria. In conclusion, in present experiment inclusion thyme oil and/or *lactobacillus acidophilus* in the drinking water that stimulated body weight gain and increased feed conversion rate, and can be used as growth promoters in rabbit nutrition successfully without notable side effects on growing rabbits. Furthermore, it showed a significant positive effect on the physiology for treatment groups G3, G4 and G2 respectively compared to the control group.

**Key words:** Immunity, *Lactobacillus acidophilus*, Performance, Probiotic, Rabbit, Thyme oil
Genome-wide analysis was performed using a single marker regression. The GWAS revealed genetic mechanisms that control lactose traits variation in Egyptian buffalo. Buffaloes were genotyped with Axiom Buffalo Genotyping 90K Array for nucleotide polymorphisms (SNPs) and candidate genes associated with lactose percentage measures for LP and LY from 1481 animals. A total number of 114 animals with high and low deviated performance were selected for genotyping with Axiom Buffalo Genotyping 90K Array.

The aim of the present genome-wide association study (GWAS) was to identify single regions harbored many candidate genes with biological roles associated with milk production (LP) and lactose yield (LY) in Egyptian buffalo. The phenotypic dataset included 60,318 monthly identified for LY. The identified genomic regions are overlapped with previously reported QTL in the same species.

The Role of Glycogen in Biological Cycle of Trichinella spiralis. T. spiralis infects laboratory mice. The invasive capacity of T. spiralis was used to infect laboratory mice. The glycogen concentration was reduced to 0.0472 ± 0.0003 μg in one nematode. The glycogen level was passaged on laboratory rodents under the vivarium conditions. Sixty-nine white rats (350 g each) were infected with T. spiralis.
Enteritidis bacterin adjuvanted with different doses of Enteritidis was not recovered from the intestinal tract of vaccinated challenged groups. There was a significant IgA response followed by 100-CpG ODN group then the 50-CpG ODN and the 25-CpG ODN groups. Bacterial oligodeoxynucleotide containing Cytosine Guanine motifs (CpG-ODN) has been reported to induce immunostimulatory activity against a variety of bacterial, viral, and protozoan infections. The intestinal colonization, cellular responses, mucosal and systemic immune responses of chickens immunized with Salmonella Enteritidis fresh bacterial culture (1.2x10^8 CFU/ml) were measured at different intervals, until 42 days of age. At two weeks post-immunization, 20 chicks from each group were orally challenged by Enteritidis. The intestinal colonization, cellular responses, mucosal and systemic immune responses of chickens immunized with Salmonella Enteritidis non-immunized group showed the dose-dependent effect of CpG ODN on Enteritidis. A reduction in the dose of CpG ODN from 200µg to 25µg led to a significant reduction in the survival rate of challenged chickens. In conclusion, the presented study demonstrated the role of CpG ODN in the prevention and control of Salmonella Enteritidis infections in a wide range of vertebrate species. The objective of this study was to determine the effectiveness of Salmonella Enteritidis bacterin adjuvanted with different doses of CpG ODN and aluminum hydroxide adjuvanted bacterin in Broiler Chickens. The control groups included a group that was immunized with Salmonella Enteritidis fresh bacterial culture (1.2x10^8 CFU/ml). The survival rates and the pathological changes of challenged chickens in the different groups were measured at different intervals, until 42 days of age. At two weeks post-immunization, 20 chicks from each group were orally challenged by Enteritidis. The intestinal colonization, cellular responses, mucosal and systemic immune responses of chickens immunized with Salmonella Enteritidis fresh bacterial culture (1.2x10^8 CFU/ml) were measured at different intervals, until 42 days of age. At two weeks post-immunization, 20 chicks from each group were orally challenged by Enteritidis. The intestinal colonization, cellular responses, mucosal and systemic immune responses of chickens immunized with Salmonella Enteritidis fresh bacterial culture (1.2x10^8 CFU/ml) were measured at different intervals, until 42 days of age. At two weeks post-immunization, 20 chicks from each group were orally challenged by Enteritidis.
Capripox virus (Ca PV) is the causative agent of important diseases in sheep and goat with stillbirth in pigs. To investigate the prevalence of Ca PV, DNA extraction from clinical samples and positive CAM with pox lesions using DNA laden modification method was done. Further isolation and propagation in embryonated-chicken eggs were carried out. The positive CAM showed pock lesions, which were observed with a thickening of the egg membrane after 2-3 passages post samples inoculation, and harvested positive CAMs, which were vaccinated in Chorio-Allantoic-Membranes (CAM) from 10-days-old embryonated-chicken eggs. The novel microwave method was determined by Agar Gel Precipitation Test (AGPT), Counter Immune Electrophoresis (CIE), and conventional PCR and real time qPCR were examined for the presences of Ca PVs.

**Key words:** Capripox virus, DNA extraction, Goat pox, KOH extraction method, Real-Time qPCR, c-PCR, RT-qPCR

**Research Paper**
Zeidan GSG, Mahmoud AH, Abdalhamed AM, Ghazy AA and Abd EL-Razik KhA.

**ABSTRACT**

Stillbirth in pig has been studied worldwide, but, its situation in Vietnam has never been fully studied. Risk Factors Associated with Stillbirth in Swine Farms in Vietnam. Special attention should be paid to sows at parity 1, > 4, sows with a short gestation, sows with a large birth litter size and sows with a long farrowing duration to reduce stillbirth. Since the use of highly prolific sows is increasing, stillbirth continues to be an ongoing challenge. The incidence of stillbirth at sow level was 47.9%, and the stillbirth rate was 5.2%. Multivariate logistic regression showed that parity 1 (OR=1.81, 95%CI=1.24-2.63) and >4 (OR=1.87, 95%CI=1.05-2.09) were risk factors for stillbirth. This study indicated that stillbirth was common in swine farms in Vietnam. Special attention should be paid to sows at parity 1, > 4, sows with a short gestation, sows with a large birth litter size and sows with a long farrowing duration to reduce stillbirth.

**Key words:** Stillbirth, Sow, Pregnancy, Risk factors, Risk assessment, Vietnam, Pig.

**Research Paper**
Hoai Nam N and Sukon P.

**ABSTRACT**


**Key words:** Amniotic fluid, Cattle, Fetal serum, Gestation, Maternal blood, Albumin, Globulins, Cholesterol, Triglycerides, High and Low-Density Lipoproteins (HDL and LDL), Creatinine, Urea, Sodium (Na), Potassium (K), Chloride (Cl), Calcium (Ca) and inorganic Phosphorus (P), of Amniotic Fluid (AF) with those of Maternal Serum (MS) during the first, second and third trimesters of pregnancy in cattle and Fetal Serum (FS) at birth. At birth AF, MS and FS were collected. Maternal blood samples and gravid uteri were collected after accidental delivery. The concentrations of cholesterol, triglycerides, and creatinine in the AF and urea in the FS were higher than those in the MS or AF. The levels of TP, creatinine, urea in the AF and urea in MS were significantly higher than the AF during the first trimester. At delivery, the concentrations of cholesterol, triglycerides, and creatinine in the AF increased, while the levels of TP, albumin, globulins, calcium (Ca), phosphate (P) and inorganic phosphorus (P) in the AF decreased as the gestation stage advanced while the K concentration increased. In conclusion, our results indicated an active placental transport for Ca and P. The TP, albumin, globulins, cholesterol, triglycerides, HDL and LDL, creatinine, urea, Na, K, Cl, Ca and P in AF and MS were lower than those in the MS or FS. The concentrations of Ca and inorganic-P in the FS were higher than those in the MS or AF. The levels of TP, creatinine, urea in the AF and urea in MS were significantly higher than the AF during the first trimester. At delivery, the concentrations of cholesterol, triglycerides, and creatinine in the AF increased, while the levels of TP, albumin, globulins, calcium (Ca), phosphate (P) and inorganic phosphorus (P) in the AF decreased as the gestation stage advanced while the K concentration increased. In conclusion, our results indicated an active placental transport for Ca and P. The TP, albumin, globulins, cholesterol, triglycerides, HDL and LDL, creatinine, urea, Na, K, Cl, Ca and P in AF and MS were lower than those in the MS or FS. The concentrations of Ca and inorganic-P in the FS were higher than those in the MS or AF. The levels of TP, creatinine, urea in the AF and urea in MS were significantly higher than the AF during the first trimester. At delivery, the concentrations of cholesterol, triglycerides, and creatinine in the AF increased, while the levels of TP, albumin, globulins, calcium (Ca), phosphate (P) and inorganic phosphorus (P) in the AF decreased as the gestation stage advanced while the K concentration increased. In conclusion, our results indicated an active placental transport for Ca and P.
ABSTRACT

Lately, humans have become more apprehensive about their health and their relationship with food. Eggs are considered a cheap source of animal protein and are rich in various essential nutrients that contribute to the quality of human diet. However, their cholesterol content can contribute to some human serious diseases. The current study examines the hypothesis that the addition of antioxidants such as CAX, SS, B or their mixtures to the diet can produce functional eggs from Fayoumi hens at late phase of egg production.

A number of 168 Fayoumi hens (46 weeks of age) were randomly assigned into 8 dietary groups as follows: Basal diet alone or with CAX (6 ppm), SS (0.5 g/kg), B (1 g/kg), CAX+SS, CAX+B, SS+B, and CAX+SS+B separately. Forty-eight eggs (6 per each group) were analyzed for estimating cholesterol and total antioxidant capacity.

Eggs of hens fed a combination of CAX+SS+B which had the best total antioxidant capacity value. The CAX group recorded the best lowest cholesterol value compared to other groups (P < 0.05). It could be concluded that basal diet supplemented with CAX, SS, B alone or with mixture of them may have a lowering effect on yolk total cholesterol, leading to the production of functional eggs that have positive effects on human health and are favorable for those suffering from heart syndromes.

Key words: Cholesterol, Fayoumi, Functional Egg, Total Antioxidant Capacity

Research Paper

SDS-PAGE Profile Analysis of SeM-like Protein of Streptococcus equi subspecies equi.

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ABSTRACT

S. equi subspecies equi, causing strangles in equine, is characterized by comprising a major virulence factor called M-like protein or SeM protein. This study aimed to extract SeM protein from local S. equi strain in Egypt and to detect its antigenic components. After centrifugation, the native 58 kilo Dalton (kDa) SeM protein was detected both in the supernatant and sediment of the prepared extract. With modification by more centrifugation, the formed supernatants were separated and fractionated using SDS-PAGE with silver nitrate staining, which led to the appearance of a band at Molecular Weight (MW) 70.9 kDa. In SeM1, the presence of 7 bands at MW of 105, 87.8, 70.9, 61.1, 44, 37.9 and 18.4 kDa in SeM2; 5 bands at MW 70.9, 58.9, 37.2, 29.8 and 18.3 kDa in SeM3 and 4 bands at MW of 72.0, 58.6, 29.8 and 18.0 kDa in SeM4. This study suggested that a further modification of SeM extraction revealed the presence of heterogeneous complex fragments of SeM.

Key words: SeM protein, SDS-PAGE, Strangles, Streptococcus equi subspecies equi

Research Paper

Evaluation of The Efficacy of Oxytetracycline on Experimentally Induced Caprine Coccidiosis Due to Eimeria arloingi Infection.

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ABSTRACT

Coccidiosis is a protozoan disease caused by members of the genus Eimeria that affect domestic animal species. The current study was aimed at evaluating the effect of oxytetracycline administration on experimental caprine coccidiosis. Sixteen red Sokoto goat kids divided into four groups (A to D) of four goat kids each, were used for the study. Groups A, B and C were infected by oral inoculation with two ml containing 1.5 ×10^3 sporulated oocysts of Eimeria arloingi per animal, while group D was the neutral control group. Group A was treated with 10% oxytetracycline intramuscularly daily for five days. Group B was treated with Sulfadimidine 33.3% subcutaneously daily for five days and group C served as an infected untreated group.

Fecal oocysts per gram count was conducted during the experiment. The present result showed a significant decrease (P ≤ 0.05) in fecal oocysts load in the treated groups. Neither schizonts nor merozoites were detected in the intestinal smear of kid treated with oxytetracycline but were detected in the intestinal smear of infected untreated goat kid. Cystic degenerative changes were seen in the intestinal glandular cells of the infected untreated goat kid. Conclusively, the current finding suggests that oxytetracycline can effectively be used in treating caprine coccidiosis.

Key words: Coccidiosis, Caprine, Eimeria arloingi, Goat Kids, Oxytetracycline, Treatment
This study was carried out to improve the freezability of buck semen using two different types of cryoprotectants supplemented with melatonin as antioxidant in cold and hot temperature of collection. Semen was extended with Tris-fructose-citric containing egg yolk using glycerol and dimethyl sulfoxide supplemented with two doses of melatonin (10^{-6} - 10^{-3}) M) compared to high dose (10^{-3} M) in glycerol (74.4 versus 64.4) and compared with all other experimental groups. Therefore, it could be concluded that the glycerol-based extender in cold season supplemented with low dose of melatonin improved semen quality, antioxidant defense capacity and transcriptional profile, which may maintain the post-thaw fertilizing ability of buck semen.

**Key words:** Antioxidant enzymes, Bucks, Melatonin, Motility, Transcript abundance

**Abbildung:** Determination of the Appropriate Inoculum Dose and Incubation Period of Cassava Leaf Meal and Tofu Dreg Mixture Fermented with Rhizopus oligosporus

**Inoculum: Rhizopus oligosporus**

The inoculum dose (6, 8, and 10%), and the incubation period of the fermentation (2, 3, 4, and 5 days), with 4 replications.

**Tofu dose**

Cassava leaf meal

The appropriate inoculum dose to ferment CLM and TD mixture with R. oligosporus was 10% at each incubation period. In the meanwhile, the appropriate incubation period was 3-days for each inoculum dose.

**Abbildung:** Quantitative real-time PCR analysis for gene expression profile

**Melatonin**

CASAs evaluation  antioxidant enzymes


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