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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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 10^8 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 10^8 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, TRIGLYCERIDES, 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
Determination of Potential Candidate Genes Associated with Milk Lactose in Egyptian Buffalo

The aim of the present genome-wide association study (GWAS) was to identify single nucleotide polymorphisms (SNPs) and candidate genes associated with lactose percentage traits, such as TPD52 and ZBTB10 on chromosome 15; AADAT and GALNTL6 on chromosome 2, and PPARγ2 and SLC39A2 on chromosome 3. Several key markers and candidate genes were identified to affect lactose traits, which facilitates the exploration of the genetic mechanisms that control lactose traits variation in Egyptian buffalo.

Key words: Lactose, Genes, GWAS, Egyptian buffalo.

The energy sources of Trichinella spiralis in a host organism were studied. In the muscular stage of infection, 3 hours after infecting the host, the glycogen concentration was 0.3194 ± 0.0049 μg. In the intestine of infected rats, 24 hours after infection, the glycogen concentration was 0.0786 ± 0.0023 μg. In the body of intestinal nematodes, 3 hours after infecting the host, the glycogen concentration was 0.0889 ± 0.0031 μg. Post-infection, after infection, the amount of glycogen in the intestinal stage was reduced to 0.0272 ± 0.0002 μg. The amount of glycogen at the muscle stage of T. spiralis was 0.2657 ± 0.0043 μg. During the life cycle, the glycogen concentration in T. spiralis varied significantly, with a gradual change in both the muscular and intestinal stages of its development in rats. The muscular larvae isolated from the rat muscles at different stages of its development had a glycogen concentration of 0.0054 ± 0.0027 μg/ larva on day 21, 0.0136 ± 0.0029 μg/larva on day 14, and 0.0272 ± 0.0002 μg/larva at day 1 of infection.

Key words: Glycogen, T. spiralis, Biological cycle.
Abed M, Elhariri M, El-Helw R, Khattab MS, Setta A and Soliman R. 

Enteritidis bacterin adjuvanted with different doses of CpG ODN on protection and improved survival rate of challenged chickens seen in the liver and intestine of 200-CpG ODN treated group. In conclusion, the presented Enteritidis fresh bacterial culture (1.2x10^9 cells/ml) was inoculated into three groups, were used in this study. First three groups were immunized with Enteritidis bacterin (100 µg) with different doses of CpG ODN (50 µg, 100 µg and 200 µg). The control groups included a group that was immunized with aluminum hydroxide groups (P < 0.05). Also, cellular interactions were remarkably reduced in immunized chickens was measured at different intervals, until 42 days of age. Immunomodulatory Effect of CpG ODN-Adjuvanted Bacterin Against Salmonella enterica serovar Enteritidis in Broiler Chickens. 

Research Paper 

Key words: Cellular responses, CpG ODN, Mucosal immunity, Immunomodulatory, Enteric Salmonella, Chicken.
Capri Pox Virus (Ca PV) is the causative agent of important diseases in sheep and goat with severe socio-economic impact. Sheep Poxvirus (SPPV), Goat Poxvirus (GTPV) and Lumpy Skin Disease Virus (LSDV) are three members of the Capripox virus genus of Poxviridae family, which infect sheep, goats, and cattle, respectively. A rapid diagnostic assay for Ca PV by using PCR based RP030 gene and the real-time qPCR showed 15 positive with percentage 27.77% for management and treatments of outbreaks. The present study aimed to detect and identify references extraction kits compared to novel modification method (Microwave extraction). The results of the post-processing steps.

Differentiating SPPV and GTPV from AGPT and CIE in CAM or in clinical samples without DNA extraction from clinical samples and positive CAM with pox lesions using DNA slandered based. We collected eighty scabs from clinically affected animals (54 sheep and 26 goat) that Capri Pox Virus (Ca PV) by using the lower result than molecular methods, they gave 11 and 13 positive samples from 54 sheep and 3 positive with percentage 12.5% in 26 goats. Although, AGPT and CIE gave current study confirmed that the suitability of the PCR-based RNA polymerase gene RP030 membrane after 2-3 passages post samples inoculation, and harvested positive CAMs, which in goats were 1 and 2 from 26 scab biopsy samples respectively, however they are useful for post-processing steps.

Skin biopsy samples

RT-qPCR

DNA extraction by Microwave methods

c-PCR


Using Feed Additives to Produce Functional Eggs in Fayoumi Hens.

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ABSTRACT

Lately human have become more apprehensive for the health and their food relationship. Egg considered cheap source of animal protein. Eggs are rich in various essential nutrients that contribute to the quality of human diet. But its cholesterol can contributes with some human serious disease. The current study examines the hypothesis that assumed addition of antioxidant such as CAX, SS, B or their mixtures to the diet can produce functional egg 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. Egg of hens fed a combination of CAX+SS+B which had the best total antioxidant capacity value, while 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 lowering effect on yolk total cholesterol. This could lead to produce functional eggs which have positive effects on human health and favorable for those suffering from heart syndromes.

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

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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 in SeM2; 5 bands at MW 70.9, 58.9, 37.2, 29.8 and 18.3kDa 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

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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 arlongi 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 arlongi, Goat Kids, Oxytetracycline, Treatment
This study was carried out to improve the freezability of buck semen using two different types of cryoprotective agents, dimethyl sulfoxide (DMSO) and glycerol. Semen was extended with Tris-fructose-citric containing egg yolk using glycerol and DMSO as cryoprotective agents. The results showed that the progressive motility percentage and sperm viability were significantly higher in groups cryopreserved with glycerol (75.1 versus 53.5) and DMSO (32.1 versus 22) in hot temperature. The activity of total antioxidant capacity (TAC) was significantly higher in samples supplemented with low (0.49 mM/L) compared to high dose (10 mM/L) melatonin. The analysis of gene expression profiles revealed that the NFE2L2 gene was up-regulated in groups cryopreserved with DMSO in hot temperature. The CPT2, ATP5F1A, and SOD2 genes were up-regulated in glycerol based extender during cold and hot temperature. The activity of total antioxidant capacity (TAC) was significantly higher in samples supplemented with low (0.49 mM/L) compared to high dose (10 mM/L) melatonin. 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.