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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DOI: https://dx.doi.org/10.36380/scil.2020.wvj1
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 10⁸ 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 10⁸ 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
The aim of the present genome-wide association study (GWAS) was to identify single nucleotide polymorphisms (SNPs) associated with milk lactose in Egyptian buffalo. The GWAS was performed on a group of 532 buffalo with milk lactose levels measured. A total of 871,564 SNPs were genotyped using the Axiom Buffalo Genotyping 90K Array. The identified genomic regions are overlapped with previously reported QTL in different cattle breeds. In addition, novel genomic loci were detected. The identified genomic regions harbored many candidate genes with biological roles associated with milk production traits. Three of these candidate genes, COL3A3, COL8A1, and PLOD2, were located on chromosome 1. Our findings provide the basis to uncover the genetic basis of milk lactose traits in Egyptian buffalo.

**Key words:** Candidate gene, Egyptian buffalo, Genome, Genomic loci, Lactose

**References:**

Salmonella Bacterial oligodeoxynucleotide containing Cytosine Guanine motifs (CpG-ODN) has been found to have significant immunostimulatory effects and its effect on infections in a wide range of vertebrate species. The objective of this study was to report the immunostimulatory activity against a variety of bacterial, viral, and protozoan infections, including Salmonella Enteritidis bacterin adjuvanted with different doses of CpG-ODN. The study found a significant dose-dependent immunostimulatory adjuvant effect of CpG-ODN on the level of secretory IgA and the induced mucosal responses. The 200-CpG ODN group showed the strongest mucosal and systemic immune responses. In conclusion, the presented results demonstrate the current situation of circulation FMDV type A, O, and SAT2 serotypes in cattle and buffaloes in Egypt. The population of Sunda porcupine (Hystrix javanica) declines each year since it is rarely found in nature. The present study aimed to obtain information about the distribution of carbohydrate residues in testes of immature and mature Sunda porcupine (Hystrix javanica). The results can be used as basic data for conservation efforts.
Differentiating SPPV and GTPV from AGPT and CIE in CAM or in clinical samples without post-processing steps. We collected eighty scabs from clinically affected animals (54 sheep and 26 goat) that were used to isolate high quality of DNA extracted from infected skin biopsy with SPPV and GPPV were 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. Current study confirmed that the suitability of the PCR-based RNA polymerase gene RP030 gene and real-time-PCR considered sensitive, rapid, and reliable methods for Ca PV (SPPV and GTPV) in natural, infected scabs biopsy samples, which were collected from sheep and goats in different governorates in 2017 during outbreaks in Egypt using the 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 RPO30 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 components during pregnancy in cattle might be changed with progressing the gestation. The levels of Na and Ca in the AF increased as the gestation stages advanced. The levels of Na and Ca in the AF were higher than those in the MS or AF. The levels of TP, creatinine, urea, sodium (Na), potassium (K), chloride (Cl), calcium (Ca) and inorganic-P were significantly higher than the AF during the first trimester 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 slaughter. The actual data recorded during three trimesters according to the curved crown-anus and FS were collected. Maternal blood samples and gravid uteri were collected after accidental slaughter. The actual data recorded during three trimesters according to the curved crown-anus which were observed with a thickening of the eggs. The positive CAM showed pock lesions, which were detected and identified by Isolation of DNA extraction from clinical samples and positive CAM with pox lesions using DNA slandered...
Using Feed Additives to Produce Functional Eggs in Fayoumi Hens.
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DOI: https://dx.doi.org/10.36380/scil.2020.wvj12

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 contribute 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

SDS-PAGE Profile Analysis of SeM-like Protein of Streptococcus equi subspecies equi.
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DOI: https://dx.doi.org/10.36380/scil.2020.wvj13

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

Evaluation of The Efficacy of Oxytetracycline on Experimentally Induced Caprine Coccidiosis Due to Eimeria arloingi Infection.
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DOI: https://dx.doi.org/10.36380/scil.2020.wvj14

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 freezeability of buck semen using two different types of cryoprotectants supplemented with melatonin as antioxidant in cold and hot temperature of semen. The results revealed that the progressive motility percentage was significantly higher in samples supplemented with low dose of melatonin (10^{-6} M) compared to high dose (10^{-5} M) in glycerol (74.4 versus 64.4) and dimethyl sulfoxide supplemented with two doses of melatonin (10^{-6} M and 10^{-5} M) in addition to CPT2, ATP5F1A and SOD2 genes were up-regulated in glycerol based extender. The results also demonstrated that CASA parameters (VAP and VCL) were significantly higher in samples cryopreserved with DMSO in hot temperature (35.5 versus 32.9) in cold temperature. The same trend was found in samples cryopreserved with glycerol in hot temperature. The activity of total antioxidant capacity (TAC) was significantly higher in groups cryopreserved with DMSO in hot temperature and cryoprotected with melatonin in cold temperature. The present study was conducted to determine the appropriate inoculum dose and incubation period of fermentation in the reduction of DM, organic matter, and crude fat as well as the increase in the CP of fermented CLM and TD with 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. The results indicated that the appropriate inoculum dose was 10% at each incubation period. In the meanwhile, the appropriate incubation period was 3 days for each inoculum dose.