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 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, 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 (3.49 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 phenotypic dataset included 60,318 monthly trait measures for LP and LY from 1481 animals. A total number of 114 animals with high and low glycogen levels were assessed on day 45 post-infection. For the study of intestinal energy requirements during the period when the helminth cannot obtain enough food, the glycogen concentration in muscular larva was 0.0054 ± 0.0027 μg/ larva on day 21, 0.0136 ± 0.0029 μg/larva in the body of intestinal nematodes and 0.0786 ± 0.0023 μg in the muscular larvae isolated from the rat muscles. In the body of adult nematodes, 3 hours after infecting the rat, the glycogen concentration was reduced to 0.0472 ± 0.0003 μg in one nematode. The amount of glycogen at the muscle stage of Trichinella spiralis development was extremely important in the first hours of the helminth's residing in the host's body. Each laboratory rat was not fed a day before infection, and 30 Egyptian sheep males from three breeds (Ossimi, Rahmani and Barki) were divided into three ages categorize (7 – 9, 10 – 12, and 13 – 16 months). The results showed that there was a significant increase in sheep's live body weights toward advanced ages till the second age category for all breeds, the highest values of blood glucose (GH) were recorded in Ossimi breed when comparing to the other breeds. The Ossimi breed showed a significant up-regulation of leptin expression between 10-12 months age category. Therefore, the aim of this study was to compare the blood metabolites concentrations and gene expression analysis of Ossimi breed with two other domestic breeds (Rahmani and Barki) across age. In conclusion, phylogenetic analysis of BRSV can provide information about the viral strains present in cattle and subsequently may be useful for infection control programs.
Bacterial oligodeoxynucleotide containing Cytosine Guanine motifs (CpG-ODN) has been reported to induce immunostimulatory activity against a variety of bacterial, viral, and protozoan pathogens. In chickens, the administration of CpG-ODN resulted in enhanced immune responses and improved survival rates against Salmonella Enteritidis. In this study, two hundreds one-day-old broiler chicks were divided into five groups; one group was given CpG-ODN at different doses (50µg, 100µg, and 200µg), while the other groups served as control and were immunized with Salmonella Enteritidis bacterin. The intestine colonization, cellular responses, mucosal and systemic immune responses of chickens were monitored for extra 10 days. Compared to the control groups, chickens in the CpG-ODN treated groups showed significantly lower Salmonella Enteritidis counts in the liver and intestine. No inflammatory cellular infiltrations were observed in the liver and intestine of CpG ODN-treated chickens. In conclusion, the presented study demonstrates the immunomodulatory effect of CpG ODN on protection and improved survival rate of challenged chickens against Salmonella Enteritidis.
Rapid Detection and Differentiation between Sheep Pox and Goat Pox Viruses by DNA Extraction with Microwave Method

**ABSTRACT**

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 Agar Gel Precipitation Test (AGPT) and Counter Immune Electrophoresis (CIE) was compared to novel modification method (Microwave extraction). The Ca PV (SPPV and GTPV) in natural, infected scabs biopsy samples, which were collected from early confirmation of positive Ca PVs in low-income countries. PCR based RNA polymerase gene RPO30, Sheep pox (SPPV), Goat pox (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 Agar Gel Precipitation Test (AGPT) and Counter Immune Electrophoresis (CIE) was compared to novel modification method (Microwave extraction). The Ca PV (SPPV and GTPV) in natural, infected scabs biopsy samples, which were collected from early confirmation of positive Ca PVs in low-income countries. PCR based RNA polymerase gene RPO30, Sheep pox (SPPV), Goat pox (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 Agar Gel Precipitation Test (AGPT) and Counter Immune Electrophoresis (CIE) was compared to novel modification method (Microwave extraction). The Ca PV (SPPV and GTPV) in natural, infected scabs biopsy samples, which were collected from early confirmation of positive Ca PVs in low-income countries.
ABSTRACT
Lately, humans have become more apprehensive for their health and their food relationship. Eggs are considered a cheap source of animal protein. Eggs are rich in various essential nutrients that contribute to the quality of human diet. However, their cholesterol 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 the 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. Forty-eight eggs (6 per each group) were analyzed for estimating cholesterol and total antioxidant capacity.

Eggs from the hens fed a combination of CAX+SS+B 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 a mixture of them may have a lowering effect on yolk total cholesterol. This could lead 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.
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. The results revealed that the progressive motility percentage compared with all other experimental groups. Therefore, it could be concluded that the glycerol extender groups in cold temperature compared to other groups of this study. On the other hand, types of motility as well as velocity, enzymatic activity and expression profile of NFE2L2 gene was up-regulated in groups cryopreserved with DMSO in hot temperature. The activity of total antioxidant capacity (TAC) was significantly higher in control group.

ABSTRACT

The experimental results showed that there was no interaction between the inoculum dose and incubation period of fermentation. The best results were achieved with Rhizopus oligosporus as the inoculum and the appropriate inoculum dose to ferment CLM and TD mixture with Rhizopus oligosporus was 10% at each inoculation period. The incubation period of fermentation was at 3 days. The results indicated that the changes in DM, OM, CF and CP, and also increased the CP. The best incubation period for the mixture of Cassava Leaf Meal (CLM) and Tofu Dreg (TD) fermented with Rhizopus oligosporus was 3 days. The results also demonstrated that CASA parameters (VAP and VCL) were significantly affected by inoculum dose and incubation period of the fermentation (2, 3, 4, and 5 days). The determination of the appropriate inoculum dose and incubation period of cassava leaf meal and tofu dreg mixture fermented with Rhizopus oligosporus can improve the quality of fermented CLM and TD mixture and provide an alternative feed for domestic animals. However, death stopped in Baladi kids after 14 days, but continued in Shami kids to 28 days post-partum. Present data revealed that goat breed and neonatal period showed a significant interaction. The percent of death for male and female kids in Baladi and Shami breeds during neonatal period. Male kids spend lesser time to concern their newly born kids. Baladi kids had more strong behavior towards their dams when compared to Shami ones. It was concluded that body weight, blood biochemical indices and post parturient behavioral activities of goats and their kids on kids' mortality rate.