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 10^8 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 (3.41 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

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Determination of Potential Candidate Genes Associated with Milk Lactose in Egyptian Buffalo.

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Genome-wide analysis was performed using a single marker regression. The GWAS revealed key markers and candidate genes affecting lactose traits which facilitate the exploration of the genetic mechanisms that control lactose traits variation in Egyptian buffalo. 32 significant and seven suggestive SNPs for LP, however; only two suggestive SNPs were identified for LY. The identified genomic regions are overlapped with previously reported QTL in different cattle breeds. In addition, novel genomic loci were detected. The identified genomic


The content of glycogen in Trichinella spiralis in white rats during the infection period

Saider SA and Andreyamov ON (2020). The Role of Glycogen in Biological Cycle of Trichinella spiralis

Bovine respiratory syncytial virus, Cattle, PCR, Phylogenic analysis.

Accession number MN129181 Mosul isolate. The phylogenetic tree of local isolates of BRSV in Nineveh province, Iraq. Molecular diagnosis using nested RT-PCR and phylogenetic analysis of the G gene were performed. The results indicated a 37.31% prevalence rate of BRSV using swab samples were collected from cows with different ages and breeds in different areas across Nineveh province, Iraq.

Key words: Bovine respiratory syncytial virus, Cattle, PCR, Phylogenic analysis.
Immunomodulatory Effect of CpG ODN-Adjuvanted Bacterin Against Salmonella Enteritidis bacterin in broiler chickens. Two hundreds one-day-old broiler chicks, divided into 5 groups were immunized with Salmonella Enteritidis bacterin adjuvanted with different doses of CpG ODN (50µg, 100µg and 200µg). The control groups included a group that was immunized with aluminum hydroxide groups. The intestinal colonization, cellular responses, mucosal and systemic immune responses of challenged chickens in the different groups were monitored for extra 10 days. Compared to the non-immunized control group, the highest IgA response followed by 100-CpG ODN group then the 50-CpG ODN and the aluminium hydroxide adjuvanted bacterin, the CpG ODN adjuvant bacterin induced significant immunostimulatory activity against a variety of bacterial, viral, and protozoan infections. Also, cellular interactions were remarkably reduced in the dose-dependent manner. The survival rates and the pathological changes of challenged chickens in the different groups were determined. There was no Salmonella Enteritidis bacterin in the intestinal tract of vaccinated challenged groups. There was no Salmonella Enteritidis bacterin in the intestine and liver of 200-CpG ODN treated group. In conclusion, the presented study demonstrates that the administration of CpG ODN adjuvanted bacterin can effectively control salmonella enteritis in broiler chickens.

Key words: Immunomodulatory effect, CpG ODN, Salmonella Enteritidis, Broiler Chickens.
**ABSTRACT**

Lately, humans have become more apprehensive for the 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, its 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 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 a lowering effect on yolk total cholesterol. This could lead to the production of functional eggs which 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 extender groups in cold temperature compared to other groups of this study. On the other hand, the activity of total antioxidant capacity (TAC) was significantly higher in 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.

The progressive motility percentage increased in low compared to high melatonin dose in glycerol based extender during cold and hot temperature. The same trend was found in samples 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 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.

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.

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

The present study was conducted to investigate the effect of body weight, blood biochemical parameters and Maternal and kid’s behavior had notable effect on kids’ mortality rate.


