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 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

[Full text- PDF ] [XML] [ Google Scholar ] [ Crossref Metadata ]
32 significant and seven suggestive SNPs for LP, however; only two suggestive SNPs were
deviated performance were selected for genotyping with Axiom Buffalo Genotyping 90K Array.
Buffalo.

Genome-wide analysis was performed using a single marker regression. The GWAS revealed
different cattle breeds. In addition, novel genomic loci were detected. The identified genomic
regions are overlapped with previously reported QTL in (LP) and lactose yield (LY) in Egyptian buffalo.

ABSTRACT

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


Key words: Genomics, Lactose traits, Pig, Egyptian sheep.

Bioassay test; Glycogen; Nematode; Parasitic helminth,

Blood metabolites, Egyptian breeds, Gene expression, Growth performance, Linear

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

Sidor EA and Andreyanov ON (2020), The role of glycogen in biological cycle of Trichinella spiralis

World Vet. J.

Key words:


Key words: Genomics, Lactose traits, Pig, Egyptian sheep.

Bioassay test; Glycogen; Nematode; Parasitic helminth,

Blood metabolites, Egyptian breeds, Gene expression, Growth performance, Linear
**ABSTRACT**

Bacterial oligodeoxynucleotide containing Cytosine Guanine motifs (CpG-ODN) has been recognized as a promising modulator of the immune system, providing protection and improved survival rate of challenged chickens infected with *Salmonella* serovar Enteritidis in Broiler Chickens. In this experiment, different doses of CpG-ODN adjuvanted bacterin were administered to chickens, and the effects on immune responses were measured. The **Salmonella* Enteritidis fresh bacterial culture (1.2x10⁶ CFU/ml) was administered to vaccinated and challenged chickens at 18 days of age. The survival rates and pathological changes of challenged chickens in the different groups were monitored for extra 10 days. Compared to the control group, there was 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 highest IgA response followed by 100-CpG ODN group then the 50-CpG ODN and the control groups. Also, cellular interactions were remarkably reduced in the liver and intestine of 200-CpG ODN treated group. In conclusion, the presented findings have shown the significant immunostimulatory effect of CpG-ODN and its effect on the intestinal colonization, cellular responses, mucosal and systemic immune responses of *Salmonella* Enteritidis bacterin adjuvanted with different doses of *Salmonella* aluminum hydroxide adjuvanted bacterin, the CpG-ODN adjuvant bacterin induced significant protective effect of CpG ODN on infections in a wide range of vertebrate species. The objective of this study was to investigate the immunomodulatory effect of CpG ODN-Adjuvanted Bacterin Against *Salmonella* Enteritidis fresh bacterial culture (1.2x10⁶ CFU/ml) in Broiler Chickens. World Vet. J., 10 (1): 43-52.

**Key words:** Immunomodulatory Effect of CpG ODN-Adjuvanted Bacterin Against *Salmonella* Enteritidis.
Rapid Detection and Differentiation between Sheep Pox and Goat Pox Viruses by conventional PCR RNA polymerase gene RP030 gene based and Real-Time qPCR fluorescent ABSTRACT

We collected eighty scabs from clinically affected animals (54 sheep and 26 goat) that 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. 

The positive CAM showed pock lesions, which were observed with a thickening of the membrane after 2-3 passages post samples inoculation, and harvested positive CAMs, which were further isolation and propagation in embryonated-chicken eggs. The novel microwave method (Microwave extraction) compared to novel modification method (KOH extraction method). The DNA extraction from clinical samples and positive CAM with pox lesions using DNA slandered references extraction kits.

Key words: DNA extraction, Goat pox, KOH extraction method, Real-Time RT-qPCR, Sheep pox.

World Vet. J. 

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Capripox virus, DNA extraction, Goat pox, KOH extraction method, Real-Time RT-qPCR

Comparison between Biochemical Analysis of Cattle Amniotic Fluid and Maternal Serum during the first, second and third trimesters of pregnancy in cattle might be changed with progressing the gestation.

Key words: Globulins, Cholesterol, Triglycerides, Lipoproteins, Total Protein, Albumin, Calcium, Phosphorus, Sodium, K, Urea, Creatinine, Na, K, Cl, Ca and P in AF and MS.

The present study aimed to compare the biochemical components including Total Protein (TP), albumin, globulins, cholesterol, triglycerides, High and Low-Density Lipoproteins (HDL and LDL), creatinine, urea, Na, K, Cl, Ca and P in AF and MS.

Components during Pregnancy.

Components during Pregnancy.

The actual data recorded during three trimesters according to the curved crown-anus interval (CAI), fetal body length (FBL), gestation length (GL < 114 days), birth litter size (≥9 piglets), parity (≥4), farrowing duration (≥5 hours), and the birth weight of the piglets (≥2.1 kg) were the risk factors for stillbirth. The percentage of stillbirth was higher for sows at parity 1, > 4, sows with a birth litter size ≥9 piglets, gestation length <114 days and farrowing duration ≥5 hours than those in the MS or FS. The concentrations of Ca and inorganic-P in the FS were lower than those in the MS or FS. The concentrations of Globulins, Cholesterol, Triglycerides, Lipoproteins, TP, Albumin, Ca, and P in the AF were higher than those in the MS or FS. The concentrations of Na and Ca in the AF were lower than those in the MS or FS. The levels of TP, creatinine, urea in the AF and urea in the MS increased as the gestation stages advanced. The levels of Na and Ca in the AF and FS were collected. Maternal blood samples and gravid uteri were collected after accidental abortion. 

The effect of herd, parity, gestation length, litter size, and farrowing duration on stillbirth in pig has been studied worldwide, but, its situation in Vietnam has never been reported. Therefore, present study aimed to investigate effects of herd, parity, gestation length, litter size, and farrowing duration on piglet stillbirth in swine farms in Vietnam.

Special attention should be paid to sows at parity 1, > 4, sows with a birth litter size ≥9 piglets (OR=1.64, 95%CI=1.04-2.61) and a farrowing duration ≥5 hours (OR=1.48, 95%CI=1.05-2.09) were risk factors for stillbirth.

This study indicated that stillbirth was common problem to be dealt with in swine farms in Vietnam. Potential risk factors for stillbirth were identified by using logistic regression.


Stillbirth in pig has been studied worldwide, but, its situation in Vietnam has never been reported. Therefore, present study aimed to investigate effects of herd, parity, gestation length, litter size, and farrowing duration on piglet stillbirth in swine farms in Vietnam. 

Reduce stillbirth. Since the use of highly prolific sows is increasing, stillbirth continues to be an issue to be dealt with in swine farms in Vietnam.

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 lower than those in the MS or FS. The concentrations of Globulins, Cholesterol, Triglycerides, Lipoproteins, TP, Albumin, Ca, and P in the AF were higher than those in the MS or FS. The levels of TP, creatinine, urea in the AF and urea in the MS increased as the gestation stages advanced. The levels of Na and Ca in the AF and FS were collected. Maternal blood samples and gravid uteri were collected after accidental abortion. 

The effect of herd, parity, gestation length, litter size, and farrowing duration on stillbirth in pig has been studied worldwide, but, its situation in Vietnam has never been reported. Therefore, present study aimed to investigate effects of herd, parity, gestation length, litter size, and farrowing duration on piglet stillbirth in swine farms in Vietnam.
**Research Paper**

**Using Feed Additives to Produce Functional Eggs in Fayoumi Hens.**

Dief Allah RA, Ali MN, EL-Manylawi MAF, Abass AO and Desouky A.


**DOI:** [https://dx.doi.org/10.36380/scil.2020.wvj12](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 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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**Research Paper**

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

Abdelmageed ShMEl, El-Shafii SElA and El Jakee JKAH.


**DOI:** [https://dx.doi.org/10.36380/scil.2020.wvj13](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 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*

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**Research Paper**

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

Mikail HG, Saidu SNA and Mamman M.


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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 $1.5 \times 10^3$ 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 $\leq 0.05$) 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

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This study was carried out to improve the freezability of buck semen using two different types of cryoprotectants: Dimethyl Sulfoxide (DMSO) and glycerol. The semen was cryopreserved with each cryoprotectant at two different doses: 0.16 and 0.32 mM/L. The results demonstrated that the cryopreservation process using DMSO at both doses (0.16 and 0.32 mM/L) significantly increased the percentage of normal spermatozoa and motility compared to glycerol-based extender. Furthermore, the transcript abundance of certain genes, including NFE2L2, was up-regulated in the groups cryopreserved with DMSO compared to those cryopreserved with glycerol. Therefore, it could be concluded that glycerol-based extender is more effective than DMSO for cryopreserving buck semen in cold and hot temperatures. Key words: Antioxidant enzymes, Bucks, Melatonin, Motility, Transcript abundance.

**ABSTRACT**

The results showed that there was no interaction between the inoculum dose and incubation time in the reduction of DM, OM, crude fat, and CF. The inoculum dose significantly decreased the DM, OM, crude fat, and CF and increased the CP. The best reduction in the DM, OM, and crude fat as well as the increase in the CP of fermented CLM and TD was at 10% inoculum dose. The optimum incubation period for the mixture of Cassava Leaf Meal (CLM) and Tofu Dreg (TD) fermented with Rhizopus oligosporus was 3 days. The results indicated that the appropriate incubation period was 3 days for each inoculum dose. This experiment was carried out in a completely randomized design in a 3 x 4 factorial arrangement of treatments. The first factor was the inoculum dose (5, 10, and 15%), and the second factor was the incubation period of the fermentation (2, 3, 4, and 5 days).

**Key words:** Fermentation, Inoculum dose, Incubation time, Cassava leaf meal and Tofu dreg mixture fermented with Rhizopus oligosporus.

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

The inoculum dose (5, 10, and 15%) and incubation period of the fermentation (2, 3, 4, and 5 days) were selected as the experimental factors. The inoculum dose was applied to the fermentation at a ratio of 10% at each incubation period. The appropriate incubation period was 3 days for each inoculum dose.


**Ferric Chloride (FeCl3)**

**Melatonin**

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