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 (3.41 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) and candidate genes associated with lactose percentage regions harbored many candidate genes with biological roles associated with milk production.

Key words:候选基因, 埃及水牛, 基因组, 基因座, 乳糖


DOI: https://dx.doi.org/10.36380/scil.2020.wvj5

Candidate gene, Egyptian buffalo, Genome, Genomic loci, Lactose

Bioassay test; Glycogen; Nematode; Parasitic helminth,

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

DOI: https://dx.doi.org/10.36380/scil.2020.wvj4

Trichinella spiralis


DOI: https://dx.doi.org/10.36380/scil.2020.wvj5

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DOI: https://dx.doi.org/10.36380/scil.2020.wvj4

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DOI: https://dx.doi.org/10.36380/scil.2020.wvj4

Trichinella spiralis
Immunomodulatory Effect of CpG ODN-Adjuvanted Bacterin Against Enteritidis bacterin in broiler chickens. Two hundreds one-day-old broiler chicks, divided into 5 groups, were used in this study. First three groups were immunized with Enteritidis bacterin adjuvanted with different doses of aluminum hydroxide, the CpG-ODN adjuvant bacterin induced significant protection and improved survival rate of challenged chickens. At two weeks post-immunization, 20 chicks from each group were orally challenged by Enteritidis fresh bacterial culture (1.2x10^8 CFU/mL). The intestinal colonization, cellular responses, mucosal and systemic immune responses of vaccinated challenged groups were measured at different intervals, until 42 days of age. The highest IgA response followed by 100-CpG ODN group then the 50-CpG ODN and the non-immunized group. In conclusion, the presented findings have shown the significant immunostimulatory effect of CpG-ODN and its effect on the dose-dependent protection against Enteritidis bacterin in broiler chickens. Also, CpG-ODN adjuvanted with aluminum hydroxide adjuvanted bacterin, the CpG-ODN adjuvant bacterin induced significant protection and improved survival rate of challenged chickens. There was no recovery of Enteritidis bacterin in the intestine of vaccinated challenged groups. There was no recovery of Enteritidis bacterin in the intestine of vaccinated challenged groups.

Salmonella Oligodeoxynucleotide containing Cytosine Guanine motifs (CpG-ODN) has been reported to induce immunostimulatory activity against a variety of bacterial, viral, and protozoan infections in a wide range of vertebrate species. The objective of this study was to investigate the effect of CpG ODN on the intestinal colonization, cellular responses, mucosal and systemic immune responses of vaccinated challenged groups. Two hundreds one-day-old broiler chicks, divided into 5 groups, were used in this study. First three groups were immunized with Enteritidis bacterin adjuvanted with different doses of aluminum hydroxide and a non-immunized group. Two groups were immunized with Enteritidis bacterin adjuvanted with aluminum hydroxide and a non-immunized group. Two groups were immunized with Enteritidis bacterin adjuvanted with different doses of aluminum hydroxide and a non-immunized group. Two groups were immunized with Enteritidis bacterin adjuvanted with different doses of aluminum hydroxide and a non-immunized group.

The intestinal colonization, cellular responses, mucosal and systemic immune responses of vaccinated challenged groups were measured at different intervals, until 42 days of age. The highest IgA response followed by 100-CpG ODN group then the 50-CpG ODN and the non-immunized group. In conclusion, the presented findings have shown the significant immunostimulatory effect of CpG-ODN and its effect on the dose-dependent protection against Enteritidis bacterin in broiler chickens.
Capri Pox Virus (Ca PV) is the causative agent of important diseases in sheep and goat with the 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 differentiating SPPV and GTPV from AGPT and CIE in CAM or in clinical samples without any post-processing steps. DNA extraction from clinical samples and positive CAM with pox lesions using DNA slandered membrane after 2-3 passages post samples inoculation, and harvested positive CAMs, which were vaccinated in Chorio-Allantoic-Membranes (CAM) from 10-days-old embryonated-chicken eggs. The positive CAM showed pock lesions, which were observed with a thickening of the skin. 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 qPCR, RPO30, Sheep pox RNA polymerase gene based and Real-Time qPCR fluorescent dyes was done in 3 minutes only. The results of the current study confirmed that the suitability of the PCR-based RNA polymerase gene RP030 gene is suitable for differentiating between SPPV and GTPV; in one PCR run; without any further purification steps required. It was done in 3 minutes only. The results of the 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 disease surveillance, detection and differentiation of Ca PV in clinical and subclinical samples. The incidence of stillbirth at sow level was 47.9%, and the stillbirth rate was 5.2%. Multivariate logistic regression showed that parity 1 (OR=1.81, 95%CI=1.24-2.63) and >4 (OR=1.87, 95%CI=1.33-2.64), a gestation length <114 days (OR=1.80, 95%CI=1.23-2.65), a birth litter size ≥9 (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 in swine farms in Vietnam. Special attention should be paid to sows at parity 1, >4, sows with a gestation length <114 days, sows with a birth litter size ≥9, and sows with a farrowing duration ≥5 hours. Research Paper 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, farrowing duration, and previous stillbirths on stillbirth occurrence in the sow herd. The data was collected from 1174 litters of 1174 Landrace x Yorkshire crossbred sows in 16 farms in the Northeast region of Vietnam during 2018. The actual data recorded during three trimesters according to the curved crown-anus length was used to classify parity, gestation length, and birth litter size. The following risk factors were identified: parity 1, >4, gestation length <114 days, birth litter size ≥9, and farrowing duration ≥5 hours. The results of this study suggest that stillbirth rate could be reduced by improving herd management practices and increasing the quality of services provided to sow farmers in Vietnam. Stillbirth in pig is an important issue to be dealt with in swine farms in Vietnam. Special attention should be paid to sows at parity 1, >4, sows with a gestation length <114 days, sows with a birth litter size ≥9, and sows with a farrowing duration ≥5 hours. To reduce stillbirth, it is important to improve herd management practices and increase the quality of services provided to sow farmers 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

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

Research Paper
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

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.
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 freezability of buck semen using two different types of cryoprotectants supplemented with melatonin as antioxidant in cold and hot temperature of breeding season. Ejaculates from four mature Egyptian baladi bucks were pooled after breeding season. All semen samples were cryopreserved in glycerol based extender supplemented with melatonin in dose of 10^-3 M and 10^-6 M. Gene Expression Profile and Enzymatic Activities of Frozen Buck Sperm Supplemented with Melatonin in Cold and Hot Temperature of Breeding Season. DOI: 10.1250/2020.wvj17

Dimethyl Sulfoxide (DMSO) is used as a cryoprotectant in the cold temperature group. The results showed that the progressive motility percentage increased in low compared to high melatonin dose in glycerol based extender during cold and hot temperature. The activity of total antioxidant capacity (TAC) was significantly higher in samples cryopreserved with glycerol (75.1 versus 53.5) and DMSO (32.1 versus 22) in hot temperature. 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 of breeding season. Ejaculates from four mature Egyptian baladi bucks were pooled after breeding season. All semen samples were cryopreserved in glycerol based extender supplemented with melatonin in dose of 10^-3 M and 10^-6 M. Gene Expression Profile and Enzymatic Activities of Frozen Buck Sperm Supplemented with Melatonin in Cold and Hot Temperature of Breeding Season. DOI: 10.1250/2020.wvj17

The present study was conducted to investigate the effect of body weight, blood biochemical parameters and Maternal and kid's behavior on kid's post-thaw fertilizing ability. Research Paper

The key words are: Antioxidant enzymes, Bucks, Melatonin, Motility, Transcript abundance.