Research Paper

Effects of Diet Containing Fermented Canola Meal on Performance, Blood Parameters and Gut Health of Broiler Chickens.

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ABSTRACT: The current research aimed to study the effects of the fermented canola meal (Lactobacillus) diet on productive performance, blood parameters, and gut health of broiler chickens under high ambient temperature conditions. A total number of 320 (Ross-308) one-day-old broiler chickens were allocated randomly into four experimental groups for 42 days. Four experimental groups with four types of diet, including the control group (CON) received basal diet, and three other experimental groups were supplemented with 20% of the canola meal (CM), 20% fermented canola meal (FCM), and 20% canola meal with probiotic (PCM). The chickens that fed FCM presented improvement in live body weight, feed conversion ratio, and higher nutrient digestibility, compared to CM and PCM groups. Serum glucose, total protein, albumin, and aspartate aminotransferase (AST) of levels of chickens fed by FCM were higher than chickens fed CM and PCM, while there was a decrease in cholesterol. Fermented canola meal resulted in some noticeable beneficial changes in the cecum microflora communities through increasing the population of Lactobacillus spp. and decreasing the Escherichia coli and improved its morphology by increasing villus height. The results indicated that the fermentation of canola meal has enhanced performance, nutrient digestibility, and gut health, which allow using greater amounts of fermented canola meal as a replacement of soybeans meal in the broiler diet.

Keywords: Broiler, Canola meal, Fermentation, Gut health, Performance, Serum parameter.
Avian neoplastic diseases, including Marek’s disease (MD), avian leukosis (AL), ...
Effect of Egg Storage Length on Hatchability and Survival of Koekoek Chickens.

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ABSTRACT:
Chicken production plays a major in the livelihood of rural people due to the provision of eggs and meat which are high sources of protein. This calls for sustainable production of chickens through strategies aimed at improving the hatchability of eggs and survival of chickens. Therefore, the present study was conducted to determine the effect of egg storage length on egg hatchability and survival of the Koekoek chickens. A total number of 270 eggs were divided into three treatment groups, and the eggs of each group were stored for 3, 7, and 11 days before incubation. Each treatment consisted of three replicates. The General Linear Model procedure was used to analyze the data. The eggs that were stored for three days before incubation had a higher hatching percentage, compared to those that were stored for 7 and 11 days before incubation. Storing eggs for few days before incubation resulted in reduced embryonic mortality rate and lower mortality of chickens during the first seven days after hatching. Based on these results, it is recommended that Koekoek chicken eggs should be stored for three days before incubation to maximize hatchability and survival of chickens before the age of seven days.

Keywords: Eggs, Storage, Embryo mortality, Hatchability, Koekoek chicken.

The Effect of Substitution of Fish Meal by Maggot Meal (Hermetia Illucens L) on the Relative Length of Digestive Tract, Histomorphology of Small Intestines, and the Percentage of Carcass Parts in Native Chickens.

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ABSTRACT:
The development of the digestive tract organs is closely related to the increased body weight growth in chickens. The present study aimed to determine the effect of using maggot meal as an antibacterial and protein source of fish meal substitution in diets on the relative length of the digestive tract organs, small intestine histomorphology, and the percentage of the native chicken carcass. A total of 140 one-day-old chickens were randomly assigned to one of the five treatments according to a completely randomized design with four replications for each treatment. The treatments included P0 (basal diet + 15% fish meal + 0% maggot meal), P1 (basal diet + 11.25% fish meal + 3.75% maggot meal), P2 (basal diet + 7.5% fish meal + 7.5% maggot meal), P3 (basal diet + 3.75% fish meal + 11.25% maggot meal), and P4 (basal diet + 0% fish meal + 15% maggot meal). The results showed that the use of maggot meal in P3 had a significant effect on the relative length of the digestive tract organs, small intestine histomorphology, and the percentage of the native chicken carcass. Based on these results, it is recommended that maggot meal can be used as a protein source in diets for native chickens to improve their digestive tract development and carcass yield.

Keywords: Carcass parts, Digestive tract, Histomorphology, Maggot meal, Native chicken.

The Effects of Mixed Vitamins, Minerals, Fatty Acids and Amino Acids Supplementation into Drinking Water on Broiler Chickens' Performance and Carcass Traits.


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ABSTRACT:
The present study was conducted to evaluate the effects of different levels of the feed supplement containing minerals, fatty acids, vitamins, and amino acids added to drinking water on broiler chickens' performance and carcass traits. A total of 100 one-day-old Cobb 707 (mean weight 46.7 g) were randomly assigned into four treatments, including control group (C), C + 2.25 ml/L Viterna Plus (V1), C + 2.50 ml/L Viterna Plus (V2), and C + 2.75 ml/L Viterna Plus (V3). Each treatment group contained 5 replicates of 5 birds in each (25 birds per treatment). Birds were maintained for 28 days. The results suggested that feed supplement at 2.50 ml/L could successfully improve final body weight, performance index, and carcass weight. Based on these results, it is recommended that broiler chickens should be supplemented with a mixed feed supplement containing vitamins, minerals, fatty acids, and amino acids to improve their performance and carcass traits.
Marek's disease (MD) is a lymphoproliferative and neuropathic disease of chickens. In the present preliminary study, a high flock and chicken level of MDV was observed. The aim of the study was to estimate sero-epidemiology and assess potential risk factors, as well as the status of occurrences and spread in the Northwest Ethiopia. A total of 768 serum samples from 3 zones were collected and assayed for MDV antibodies using the indirect enzyme-linked immunosorbent assay (ELISA) method.

The study was conducted using a completely randomized design and the obtained data were analyzed with a descriptive analysis for qualitative data and one-way analysis of variance (ANOVA) for quantitative data. The results presented that progesterone hormone injection had a significant effect on egg production and caused a decrease in the occurrence of MD. Progesterone injection led to no significant change in the concentration of progesterone in blood plasma.

The production and reproduction performance of chicken depends on their hormonal status, especially progesterone hormone, which has been known to correlate with egg production, fertility, hatchability, and luteinizing hormone profile of progesterone. The study was conducted using a completely randomized design and the obtained data were analyzed with a descriptive analysis for qualitative data and one-way ANOVA for quantitative data. The results presented that progesterone hormone injection had a significant effect on egg production and caused a decrease in the occurrence of MD.

The implementation of biosecurity measures in poultry farms is essential to reduce the spread of diseases. The outbreak of diseases correlated with biosecurity (BS), showing a tendency of increase in the outbreaks of diseases with increasing BS. This study underlines the fact that biosecurity practices in poultry farms have not been well implemented by chicken farmers in Cameroon. This leads to drug-resistant bacteria and drugs that may be unsafe for human consumption. Therefore, the effective monitoring of biosecurity practices is crucial to reduce the spread of diseases.

Keywords: Biosecurity, Practices, Characteristic, Poultry Farms, Cameroon, Poultry farms.
Etiology of Respiratory Diseases of Poultry Farms in North Coast

ABSTRACT:

The treatment groups presented clinical symptoms of reducing the pathogenicity of an organism by creating rigidity in its structure. As a result, the Formalin Potentials in the Pathogenic Attenuation of E. tenella required to inactivate and attenuate Productions.

Lactobacillus casei isolates were obtained from other fowls. The current study aimed to isolate and identify the ND virus from ducks infected by the ND virus rarely show clinical symptoms, thus they can potentially spread the disease to other fowls. The current study consisted of 100 pooled samples, each containing a cloacal swab sample from ducks infected with the ND virus. The study revealed that 9 out of 100 pooled samples were positive for ND virus.

ABSTRACT:

El-Samahy HS and Mourad DM (2021) concluded that ND and IB viruses isolated in this study were not related to their vaccinal strains. The positive findings indicated that 22 out of 89 flocks were positive for AI H9N2 virus (2 layers and 20 broilers), while the other three IB isolates belonged to EGY/Variant ӏӏ. Four H9N2 AI isolates were located in the north coast of Egypt from October 2018 to November 2019. A total of 89 poultry isolates of six ND, five IB, four H9N2, and three H5N8 viruses was applied, then nucleotide sequences were accessed on GenBank. Six ND isolates belonged to genotype Vӏӏ viruses while the other three IB isolates belonged to the highly diverse clade 2.3.4.4.b viruses circulating in Egypt. It was isolated respiratory viruses on the north coast of Egypt. Two IB isolates were related to the classical strain circulating in Egypt, and the other three IB isolates belonged to EGY/Variant ӏӏ.
The present study aimed to estimate carcass characteristics of pure and crossbred guinea fowls. An analysis of 1320 adult guinea fowls (529 males and 791 females) was carried out in Benin to meet consumer preferences. The guinea fowl weight was 1.34 kg for males, which was 4.38% heavier than for females. All guinea fowl were subjected to direct phenotypic description, biometric measurements, and mortality percentages. The eyes were predominantly black-white (67.1%), grey-orange (24.8%), and yellow-orange (24.8%). The plumage colors were predominantly pearl grey (30%), red (18%), and blue (17%). The birds had wattles, with red-white (59.4%) and white-red (30.5%) being the dominant colors. The average live weight of guinea fowl was significantly diverse, with local populations in the Sudanian zone being higher (1.40 ± 0.18 kg) than those in Benin. Component analysis indicated three distinct groups of guinea fowl based on their biometric measurements (live weight, chest circumference, body length, drumstick length, shank length, shank diameter, and wingspan). The phenotypes' diversity was relatively high, but mortality percentages, hatching weight, and mRNA expression levels of some muscle growth marker genes were analyzed to determine the effect of different light colors on hatchability. Red or blue light during turkey eggs' incubation could improve hatchability via upregulating the expression of muscle growth marker genes. The use of red or blue light systems during turkey eggs' incubation could improve hatchability via upregulating the expression of muscle growth marker genes. The current study aimed to investigate the effects of different light colors on hatchability and muscle traits in the cross of three South African indigenous chicken genotypes: Potchefstroom Koekoek, Vlaaiervogel, and Potchefstroom Koekoek. Three purebred, three crossbred (P × V, P × O, and V × O), and three reciprocal groups (O × P, V × P, and P × V) were formed. The nine groups were reared from hatch to 27 weeks. The results showed that the Potchefstroom Koekoek strain had normal meat color and pH values, whereas the crossbred groups (P × O, V × P, and P × V) showed lower pH values ranging from 5.54 to 6.38 at 24 hours post-slaughter. In terms of meat color, the crossbred groups showed significant differences, with the crossbred P × O having the highest pH values ranging from 6.06 to 6.38. In terms of shear force, the O × P had the highest shear value, ranging from 35.89N to 74.80N, compared to the other groups. It can be concluded that the use of a red or blue light system during turkey eggs' incubation could improve hatchability via upregulating the expression of muscle growth marker genes.

Keywords: Guinea fowl, Phenotypic characteristic, Hatchability, Incubation, Light color, Marker Gene expression, Turkey, Chicken, Histopathology of liver, Infection, Toxocara vitulorum.