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),... and pain in debeaked chickens.

The first experiment aimed to compare the effects of manual and electric debeaking methods on feed intake, body weight, and some biochemical parameters of eight-week-old pullets. The chickens' beak trimmed with both methods experienced intense pain of varying degrees lasting up to 72 hours. In the second experiment, 40 eight-week-old pullets were assigned to four groups; group A was the control, group B was treated with a vitamin supplement, group C was treated with acetaminophen, and group D was treated with vitamin supplement plus acetaminophen. The findings indicated that 2 hours post-beak-trimming (PBT), the packed-cell volume of group A was significantly lower than that of group D. Blood glucose was lowest in groups A and D at 6 and 24 hours PBT, respectively. It is concluded that the pre-treatment with vitamins and NSAIDs could reduce stress and pain in debeaked chickens.

Antacid is a mixture of sodium bicarbonate, bicarbonate, and citric acid, which can neutralize stomach acidity and may stabilize the pH of post-mortem carcass and meat. The chickens were supplemented with antacid in drinking water (0.10%) for three days pre-slaughter. It was found that the antacid supplementation increased the percentage of breast meat, while carcass yield, and thigh, drumstick, and wing were not significantly affected. The pH of breast meat 45 minutes and the next day were significantly lower than that of the group at 2 and 72 hours PBT. Furthermore, feed intake and body weight markedly decreased in the pullets debeaked with both methods until 72 hours PBT. Therefore, the present study aimed to investigate the carcass and meat quality of broiler chickens.

The neoplastic lesions were characterized by white to gray, multifocal, firm nodules of varying sizes on the affected organs. In Kaduna State, the neoplasms were commonly observed on the liver (85.7%), spleen (71.4%), heart (42.9%), and kidneys (42.9%), while in Plateau State, the affected organs included liver (50%), spleen (25%), proventriculus (25%) and lungs (25%). The age means of the affected layers were 20.6 weeks and 20.8 weeks in Kaduna and Plateau States, respectively. The average morbidity rates of neoplasm in the affected farms in Kaduna and Plateau States were 8.6% and 8.5% in Kaduna and Plateau States, respectively. The average morbidity rates of neoplasm in the affected farms in Kaduna and Plateau States were determined. The average morbidity rates of neoplasm in the affected farms in Kaduna and Plateau States were significantly lower than that of group B at 2 and 72 hours PBT while total plasma protein level of group A was significantly higher than that of group B. Plasma cortisol level of group A was significantly lower than that of group B. Carcasses of commercial layer chickens from 7 and 20 poultry farms in Kaduna and Plateau States were studied, respectively, from February 2017 to March 2018. The age, morbidity, and mortality rates in each of the affected farms were determined.
ABSTRACT:
Chicken production plays a major role 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.

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 an alternative protein source for fish meal in the diet of chickens to improve their growth performance and carcass traits.

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

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.
Marek's disease (MD) is a lymphoproliferative and neuropathic disease of chickens. The study was conducted in Northwest Ethiopia, using a completely randomized design. The production and reproduction performance of chickens depend on their hormonal status, especially progesterone hormone, which has been known to correlate with egg production. A total number of 60 Arabic Gold chickens aged 43 to 230 days were divided into three groups based on injected hormone concentration (P: 1 mg/chicken; P: 2 mg/chicken). It was concluded that progesterone hormone injection during the production phase of Arabic Gold chicken had a significant effect on egg production and caused a soft-shelled egg and double egg yolk. Progesterone injection led to no effect on hen day production two and six weeks after injection. The study results indicated that progesterone hormone injection had a significant effect on egg production and caused a soft-shelled egg and double egg yolk. Progesterone injection led to no effect on hen day production two and six weeks after injection. The study area was highest in West Gojjam (OR: 0.40, 95% CI: 0.10-0.58) and lowest in the Centre (OR: 0.26, 95% CI: 0.13-0.54). The findings indicated that 39 farms (12 in the Centre, 14 in the Littoral, and 17 in the West) were at high risk. The outbreak of diseases correlated with BS, showing a tendency of increase in the risk of disease outbreaks and provides good quality chicken products for human consumption.

**References**


The current study aimed to evaluate whether the probiotic L. casei could be effective in controlling chicken intestinal colibacillosis. Avian pathogenic E. coli were inoculated into the ileum of all groups, and L. casei was orally given to broiler chickens. Assessments were conducted on the 1st, 3rd, 5th, 7th, and 9th days post-inoculation (dpi). There were significant differences in the stool production of broiler chickens. Formalin soaking with a concentration of 1.2% was the treatment with the highest number of oocysts (284,200) on day nine, which may lead to high rates of morbidity and mortality. To prevent coccidiosis, vaccination is recommended. Formalin potentials in the pathogenic attenuation of E. tenella were analyzed by the ANOVA statistical test. The obtained data for the feces of the chickens showed that the treatment group III peaked with the most significant number of 618,960 oocysts on day nine. In addition, the treatment IV group attained the apex with the highest number of 719,480 oocysts on day nine. Meanwhile, the treatment V group reached the highest number of oocyst production of broiler chickens. Formalin soaking with a concentration of 1.2% was the treatment with the highest number of oocysts (284,200) on day nine, which may lead to high rates of morbidity and mortality. To prevent coccidiosis, vaccination is recommended.
The present study aimed to estimate carcass characteristics of pure and crossbred.

Crossbred

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