Research Paper

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

Elbaz AM.
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.
Antacid, Broiler chickens, Carcass yield, Meat quality.

The first experiment aimed to compare the effects of manual and electric beak trimming on feed intake, body weight, and some biochemical parameters of eight-week-old pullets. A total of 20 pullets aged 3 weeks 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. After 24 hours, chickens were beak-trimmed using a manual cutter. The results revealed that 2 hours post-beak-trimming (PBT), the packed-cell volume of group A was significantly lower than that of the group at 2 and 6 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 higher than that of group B. Furthermore, feed intake and blood glucose were 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 acute pain responses of pullets subjected to beak trimming.

ABSTRACT:

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 two treatment groups; those in group A received antacid supplementation in the drinking water (0.10%) for three days pre-slaughter. It was found that the antacid neutralized stomach acidity and may stabilize the pH of post-mortem carcass and meat. However, the treatment did not significantly affect carcass yield and meat quality.

ABSTRACT:

Effect of Pre-Slaughter Antacid Supplementation of Drinking Water on Carcass Yield and Meat Quality of Broiler Chickens.


Clinicopathological Findings in Suspected Cases of Virus-induced Neoplastic Diseases in Commercial Layer Chickens in Nigeria.

Effect of Egg Storage Length on Hatchability and Survival of Koekoek Chickens.

Molapo SM, Mahlehla M, Kompi PP, and Taoana M.

DOI: https://dx.doi.org/10.36380/jwpr.2021.5

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.

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.

Auza FA, Purwanti S, Syamsu JA, and Natsir A.

DOI: https://dx.doi.org/10.36380/jwpr.2021.6

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 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. 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.


DOI: https://dx.doi.org/10.36380/jwpr.2021.7

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. Keywords: Broiler chicken, Carcass, Feed supplement, Tropics, Viterna plus.
Marek's disease (MD) is a lymphoproliferative and neuropathic disease of Arabic Gold chicken. Egg quality, Hen day production, Luteinizing hormone, Crossref Metadata

The outbreak of diseases is the main factor affecting poultry production in NW Ethiopia, Risk factors, Sero-epidemiology

Keywords: group produced a soft-shelled egg and double egg yolk. Progesterone injection led to no: control; P

Hormone Injected to Arabic Gold Chicken (Egg Production, Fertility, Hatchability and Luteinizing Hormone Profile of Progesterone quantitative data. The results presented that progesterone hormone injection had a significant production phase of Arabic Gold chicken had a significant effect on egg production and caused Arabic production. The present study aimed to analyze the effect of progesterone hormone injection on

Biosecurity Practices and Characteristics of Poultry Farms in Three Regions of Cameroon. The implementation of biosecurity measures in poultry farms is essential to reduce risk of disease outbreaks and provides good quality chicken products for human consumption. The outbreak of diseases with increasing BS. This study underlines the fact that biosecurity the farms surveyed, 9/30 (30.0%) in the Centre; 8/30 (26.7%) in the Littoral; and 13/30 (43.3%) support the efficient production of chickens by respecting biosecurity that drastically reduces the disease outbreaks, and consequently, important economic losses as well as massive use of chickens per farm did not significantly influence BS, while the farm category could significantly battery cage (2.2%), and both deep litter and battery cage (20.0%) housing systems. Amongst reasons for keeping chickens and the number of disease outbreaks, and consequently, important economic losses as well as massive use of chickens per farm did not significantly influence BS, while the farm category could significantly

Sero-Epidemiology of Marek's Disease Virus on Local and Exotic Chickens in the Northwest Ethiopia. A total of 768 serum samples from 3 zones were collected and assayed for domestic fowl caused by alphaherpesviruses. The current cross-sectional study with a simple management when farmers used chickens as fertilizer has decreased the odds of occurrence of MD, and consequently, important economic losses as well as massive use of chickens per farm did not significantly influence BS, while the farm category could significantly

In conclusion, the present study revealed a high flock and chicken seroprevalence level of MDV. Therefore, it warrants control attention to reduce its economic and disease spread.
The current study aimed to evaluate whether the probiotic organism based on Oocyst Productions.

**ABSTRACT:**
E. tenella is a coccidian parasite that causes coccidiosis in poultry, which may lead to high rates of morbidity and mortality. To prevent coccidiosis, vaccination is used for attenuation. One of the compounds applied for attenuation is formaldehyde. Formaldehyde soaking can be effective in controlling chicken intestinal colibacillosis. Avian pathogenic Escherichia coli (E. coli) infection in broiler chicks using probiotics isolated from Lactobacillus casei, and L. plantarum. The treatments were as follows: group A (control), group B (infected and treated with formalin), group C (infected), group D (infected and treated with probiotics), and group E (infected and treated with both formalin and probiotics). The obtained data showed that group A had the lowest oocyst production and clinical symptoms. The treatment group II with the same condition reached its peak with the highest number of 1,363,160 oocysts on day nine. 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 3,218,300 oocysts on day nine. The treatment group V had the lowest oocyst production and clinical symptoms.

Keywords: E. tenella, probiotic, coccidiosis, oocyst production.
The present study aimed to estimate carcass characteristics of pure and crossbred guinea fowl populations in Benin.

The guinea fowl populations in Benin were significantly diverse, but the most widespread plumage colors were pearl grey (30%) and natural black (20%). The eyes were predominantly black-white (67.1%). Grey-orange (24.8%) was the predominant color for wingspans. The phenotypes' diversity was relatively high, with a high representation of the Sudanian zone (1.40 ± 0.18 kg) in comparison to the Guinean zone (1.33 ± 0.28 kg) and the Sudano-Guinean zone (1.27 ± 0.24 kg).

Principal Component Analysis indicated that three distinct groups of guinea fowl can be formed based on their biometric measurements (live weight, chest circumference, body length, drumstick length, and other organ damages). The current study was carried out on 1320 (529 males and 791 females) adult (at least 24 weeks old) indigenous guinea fowls. The live weights of guinea fowl were significantly higher in males.

All the guinea fowl were bred in the Sudanian zone, with the Potchefstroom breed having the highest pH values ranging from 5.66 to 6 at two hours post-slaughter and from 5.54 to 5.88 at 24 hours post-slaughter. The shear force values for the different breeds were as follows: P × O had the highest shear value ranging from 35.89N to 74.80N, compared to the other breeds.

Effects of Red and Blue Light during the Incubation of Turkey Eggs on Hatchability Performance

ABSTRACT:

Abd El Naby WSH, Basha HA, Ibrahim SE, and Abo-Samaha MI.

Non-hatched turkey chicks were produced from fertile eggs incubated under red or blue LED light. Incubation of turkey eggs under red or blue LED light could improve hatchability via upregulating the expression of muscle growth marker genes. Red and blue light systems during turkey eggs' incubation could improve hatchability and expression pattern of some myogenic regulatory genes.

Histopathology Description of Chicken Liver Infected by L2 Toxocara Vivatulus

ABSTRACT:

Auliyah R, Kusnoto, and Hamid IS.

The present study was a true experiment using a completely randomized design. A total number of six chickens produced from three parental populations were used to infect their liver with L2 Toxocara vivatulus larvae and were grouped in accordance with observations of the 1, 2, 3, 7, 14, and 21 days after infection. The infection caused changes in histopathological features of broilers chickens. This infection also caused hydropic inflammation and degeneration of liver cells, cholangitis, and eventually caused liver cell and other organ damages as well as increasing the potential for the transmission of Toxocara vivatulus larvae.

Diallel Analysis on Breast and Thigh Muscle Traits in the Cross of Three South African Indigenous Chicken Genotypes

ABSTRACT:

Tyasi TL, Ng’ambi JW, and Norris D.

The present study was a true experiment using a completely randomized design. A total number of 10 chickens produced from three parental populations were used to study carcass characteristics, meat colour, meat pH, and other traits in the cross of three South African Indigenous Chicken Genotypes.