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.
Avian neoplastic diseases, including Marek's disease (MD), avian leukosis (AL),...
Research Paper
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.

Research Paper
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 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

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

Research Paper
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 poultry. The outbreak of diseases is the main factor affecting poultry production in Cameroon. The present study aimed to analyze the effect of progesterone hormone injection on egg production. The study was carried out using a structured questionnaire on 90 randomly selected poultry farms. Most of the farmers were men (85%) with deep litter (77.8%). The implementation of biosecurity measures in poultry farms is essential to reduce the risk of disease outbreaks and provides good quality chicken products for human consumption. The outbreak of diseases correlated with BS, showing a tendency of increase in the farms surveyed, 9/30 (30.0%) in the Centre; 8/30 (26.7%) in the Littoral; and 13/30 (43.3%) in the West. The study was carried out using a structured questionnaire on 90 randomly selected poultry farms. Most of the farmers were men (85%) with deep litter (77.8%). The implementation of biosecurity measures in poultry farms is essential to reduce the risk of disease outbreaks and provides good quality chicken products for human consumption.
Etiology of Respiratory Diseases of Poultry Farms in North Coast

Isolation and identification of Newcastle disease virus from ducks sold at traditional livestock market center in Indonesia.


Formalin potentials in the pathogenic attenuation of Eimeria tenella based on oocyst productions.

Newcastle disease (ND) is one of the important infectious diseases in the poultry industry. Two ND isolates were related to the classical strain circulating in Egypt, while the other three IB isolates belonged to EGY/Variant ӏӏ. Four H9N2 AI isolates were isolated respiratory viruses on the north coast of Egypt.

Avian pathogenic Escherichia coli (E. coli) is one of the most significant threats to the poultry industry. The positive findings indicated that 22 out of 89 flocks were positive for AI H9N2 virus (2 layers + 30 broilers), 32 out of 43 flocks were positive for IB virus (2 layers + 30 broilers), 24 out of 31 flocks were positive for ND virus (1 duck + 1 layer + 22 broilers) and 9 out of 15 flocks were positive for AI H5N8 virus (1 turkey + 1 duck + 7 broilers). Partial sequencing for selected isolates provided additional insights into the genetic diversity of these respiratory pathogens, aiding in the development of effective control strategies.
The present study aimed to estimate carcass characteristics of pure and crossbred

Crossbred populations of indigenous guinea fowl in Benin can guide farmers to select specific phenotypes with wattles relatively dominated by red-white (59.4%) and white-red (30.5%). The average live weight of guinea fowls was higher in males (500.6 ± 35.7 g) than females (451.2 ± 35.2 g). A positive correlation was observed between live weight and the number of body measurements taken from 3 climatic zones (Sudanian, Sudano-Guinean, and Guinean) of Benin. Each guinea fowl population had a distinct color pattern, with grey-orange (24.8%) and yellow-orange (1-Hill: 0.69) being the most abundant colors in all climatic zones. The phenotypic biodiversity observed in the guinea fowl populations can be used to improve the selection of specific guinea fowl phenotypes for local production needs.

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 wing length). The results showed that the Potchefstroom Koekoek had higher meat pH values ranging from 5.66 to 6 at two hours post-slaughter and from 5.54 to 5.58 at 24 hours post-slaughter. The Potchefstroom Koekoek had normal meat colour and pH values, whereas P × O had higher values in all colour indicators, L* (lightness), a* (redness), and b* (yellowness), compared to the other chicken breeds. The Potchefstroom Koekoek was found to be a suitable genotype for local production and commercial purposes.

Crossbreeding experiments were conducted using three parental populations: Potchefstroom Koekoek (P), Venda breed (V), and Ovambo (O). Six chickens per genetic group were randomly selected for slaughter at two weeks of age. Samples were collected for histopathological analysis of the chicken liver infected by L2 Toxocara vitulorum. The larvae were given to the samples. The larvae caused changes in histopathological features of broiler chickens. This infection led to other organ damages as well as increasing the potential for the transmission of Toxocara vitulorum. A 3 × 3 Diallel crossing was performed to analyze the distribution of carcass traits. The results showed that the Potchefstroom Koekoek had higher values in all colour indicators, L* (lightness), a* (redness), and b* (yellowness), compared to the other chicken breeds. The Potchefstroom Koekoek was found to be a suitable genotype for local production and commercial purposes.

The study was conducted to investigate the effects of environmental stress on meat, fat, and carcass traits. Nine growth groups, including P × O, P × V, O × V, P × V × O, and O × P × V, were developed in a diallel cross mating system. The study suggested that the P × V × O genotypes had higher meat and carcass traits than other chicken groups.