The Effect of *In Ovo* Exposition to Ethanol Upon Osteogenesis of the Chicken Embryo.

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ABSTRACT

Excessive alcohol consumption by a pregnant woman may delay foetal development and may cause malformations. In this study, the model of the chicken embryo to demonstrate the teratogenic effect of ethanol (33%) on the chicken osteogenesis on the 10th day of embryonic development have been used. 49 fertilized eggs were used in present investigation. Hence, different doses of ethanol were injected into the chicken embryos at 33% (20, 40, 80μl) in the air space at gastrulation and, on the other hand, an equivalent amount of the mentioned doses of distilled water were injected into the control-group eggs which was done once in every two days in order to maintain a high concentration in the blood. Experiments were repeatedly and independently carried out for three times. The eggs were incubated in a humid incubator at the temperature of 37.7 °C and at 60-65% of humidity. On the 10th day of incubation, the embryos were taken out and fixed in formalin at 10%. After that, the eggs were sectioned at 5μm of thickness with a Leica micrtome and, then, stained with the Hematoxylin and eosin. Histological examination has revealed that the exposition of chicken embryos to ethanol (33%) delays the skeletal development in a dose-dependent manner by reducing the length of the cartilaginous proliferation zone and hypertrophic zone during the bone formation period. Furthermore, under the effect of ethanol, the cell proliferation activities were repressed. In conclusion, present results indicated that using ethanol to treat chicken embryos at early stages caused considerable malformations and a decreased in the embryo survival rate. The exposition to alcohol affects the chicken osteogenesis in a dose-dependent manner.

Keywords: Chicken embryo, Ethanol, Malformations, Osteogenesis, Teratogenic effect
Aflatoxin induces stress and increases mortality rate during infection in poultry, especially broiler chickens. The objectives of this study was to observe the pathological effects due to aflatoxicosis in broiler chickens. A total of 120 chickens were divided into four groups, group A, Aflatoxin, group B, Normal, group C, Normal with antibiotics, and group D, Aflatoxin with antibiotics. The results showed that group A had a significantly higher mortality rate (72%) compared to the other groups. The mean body weight of group A was lower than the other groups. The hematological parameters (hemoglobin, total protein, albumin, globulin, calcium, sodium, total bilirubin, and serum aspartate transferase) were significantly different between the groups. The findings also indicated in the hematological parameters that bedding materials caused differences in the glucose, serum total protein, globulin, calcium, sodium, total bilirubin, and serum aspartate transferase within the groups. The highest net income, marginal rate of return and chicks' sale to feed cost were obtained for T3 groups. The highest feed intake than the other supplemental groups. The highest daily body weight gain was observed in T4. The effects of feeding baker's yeast performance of Cobb 500 broilers were studied. Four nearly isocaloric and isonitrogenous starter and finisher rations were prepared. 240 chicks with an average weight of 76g were used. The treatments were replicated three times each with ten birds in each experimental unit. The birds were slaughtered for carcass evaluation. The Crude Protein (CP) of the rations during the starter and finisher phases were 22.6% and 20.4%, respectively. The ME content of the rations during the starter and finisher phases were 3200 kcal/kg and 3200 kcal/kg respectively. Feed intake during the starter phase and entire trial period was lower for T4, whereas during the finisher phase in control diet group showed the highest feed intake. Baker's yeast containing ration had higher WBC, PCV and Hb. Partial budget analysis indicated that the highest net income, marginal rate of return and chicks' sale to feed cost were obtained for T3 groups. The abbreviations used in the study were: WBC, white blood cells; PCV, packed cell volume; Hb, hemoglobin; ME, metabolizable energy; DM, dry matter; CP, crude protein; T1, T2, T3 and T4 were 0, 0.5, 1.5 and 2.5% of the total ration.
Research Paper

Microalgae Biomass Application in Commercial Broilers Nutrition and Their Efficacy

ABSTRACT

Using microalgal biomass in animal diets has been studied recently. Many species of cultivated microalgae were found effective in maintaining animal growth performance, and in improving body function and body weight, they have similar effect with the free microalgae groups in normal viabilities. And in regards to immune responses, serological response and viral shedding post vaccination with NDV vaccines as well as similar protection rates and body weight gain. In conclusion, microalgae can be used in broiler ration up to 5, 10 or 20% (W/W) in order to assess better performance on poultry production.

Keywords: Algae biomass, Immune response, Newcastle disease virus, Poultry feed.

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ABSTRACT

Present study consisted of performing a meta-analysis on data about the detection of antibiotic residues in chicken meat achieved from all over the researches with a wide collection and very available scientific publications using important keywords, in order to evaluate all studies about antibiotic residue and detection methods and the reliability of the results obtained by the first phase was a descriptive study of positive and negative cases followed by a modeling of two compounds (population size, residue detection methods and positive case rates). All performed steps are reported in detail. The results indicated that the accuracy of the detection technique is not influenced by the population size and the residue detection methods. However, the positive case rates were influenced by both population size and residue detection methods. Moreover, the birds fed diet supplemented with the studied medicinal plants showed significant differences in terms of egg production rate and some biochemical properties in Japanese quail.

Keywords: Antibotic residue, Detection methods, Positive case rates, Production rate, Biochemical properties

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ABSTRACT

The fatty acid composition of turkey meat was as follows: saturated fatty acids 50.67% in white and 54.09% in red meat. Palmitic and stearic are the major saturated fatty acids, where the oleic and linoleic acids are in a large amount in monounsaturated and polyunsaturated fatty acids, respectively. The fatty acid composition showed a significant difference in the fat content of red and white meat. The fatty acids composition in turkey meat included 68.07% in white meat and 65.44% in red meat. Palmitic and stearic are the major saturated fatty acids, where the oleic and linoleic acids are in a large amount in monounsaturated and polyunsaturated fatty acids, respectively. The fatty acid composition showed a significant difference in the fat content of red and white meat.
ABSTRACT

Clostridium perfringens is the most important cause of enteritis in domestic animals, in chicken and turkey it is known as a pathogen responsible for necrotic enteritis, hepatitis, and cholecystitis. The disease in turkey is characterized by either severe form with high rates of mortality or subclinical form of reduced growth rate and increased condemnation rate. The major factor responsible for the pathogenicity of Clostridium perfringens is alpha toxin. The aim of the present study was to prepare a Clostridium perfringens alpha Toxoid vaccine for controlling the necrotic enteritis disease. The vaccine was prepared at different doses depending on the lethality of the toxin (24, 48, and 96 Minimum Lethal Dose) for controlling necrotic enteritis disease. Antibody titer elicited by vaccination was measured by toxin neutralization test, ELISA, and challenge test. It was revealed that the antibody titer expressed in international antitoxin units per ml was 7.4, 4.1, and 1.26 respectively according to the mentioned dose, and also the protection percent against challenge was 100% when vaccinated with either 48 or 96 Minimum Lethal Dose, while it gave 80% when vaccinated with 24 Minimum Lethal Dose. It concluded that use of Clostridium perfringens alpha Toxoid with recommended doses of 48 MLD can protect turkeys for 6 months.

Keywords: Alpha toxin, Clostridium perfringens, Turkey, Type A, Vaccine