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 is a worldwide problem in poultry industries as it is known to contaminate poultry feed. Kurniasih and Prakoso YA. J. World Po

The present aimed to investigate for the first time the characteristics and conservation of local chicken cock's sperm, and the effects of conservation in situ at different temperatures (2h, 18°C; 24 h, 25°C; 4°C). Post-mortem sperm, obtained from epididymis and the vas deferens of 18 pairs of adult local chicken cocks from the east of Algeria (age, 12-24 months, body weight 1.50-2.53 kg). And chickens from each replication were slaughtered for carcass evaluation. The Crude Protein (CP) content of the rations during the starter and finisher phases were 22% and 18%, respectively. The Metabolizable Energy (ME) content of the rations during the starter and finisher phases were 3615 kcal/kg DM, and 3235 kcal/kg DM, respectively. The highest net income, marginal rate of return and chicks' sale to feed cost were obtained for T3. Baker's yeast can be an important feed additive, which can be included up to 9% in the diet of chickens.
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 protection rate 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: Microalgae, Immune response, Newcastle disease virus, Poultry feed, Antibiotics residues.
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 a severe form with a high rate of mortality or a subclinical form with decreased growth rate and increased condemnation rate. The major factor responsible for pathogenicity of *Clostridium perfringens* is alpha toxin. The aim of the present study was to prepare *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 revealed that antibody titer expressed by international antitoxin unit 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 dose of 48 MLD is able to protect turkey for 6 months.

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