Research Paper

Microclimate, Body Weight Uniformity, Body Temperature, and Footpad Dermatitis in Broiler Chickens Reared in Commercial Poultry Houses in Hot and Humid Tropical Climates.

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ABSTRACT: The present study was conducted to investigate the variations of microclimate variables along the length of commercial broiler houses and to determine the associations between microclimate variables and animal variables in broiler chickens. A routine rearing program involving 480,000 broiler chickens was conducted in 24 commercial broiler houses (with dimensions of 14×120×2.5 m, yielding 1,680 m² of rearing area per house). Of these, 6,000 chickens were randomly selected for outcome measurements. Microclimate variables (Ambient Temperature (AT), Relative Humidity (RH), Air Velocity (AV), heat index, effective temperature, and ammonia) and animal variables (body weight uniformity, body temperature, and Footpad Dermatitis (FPD)) were measured at 10 sections (12 m apart) from the proximal end to distal end along the length of each broiler house. Regression analysis was used to determine the pattern of each microclimate variable along the length of the broiler houses and to determine the associations between the microclimate variables and the animal variables. The results showed that AT, heat index, and ammonia linearly increased from the front end to the rear end of the houses. In contrast, RH linearly decreased from the front end to the rear end of the houses. The regression analysis revealed no significant association between any of the microclimate variables and the body weight uniformity. Increasing AT and AV were associated with increasing mean body temperature. Increasing AT was associated with decreasing FPD. However, increasing RH and AV were associated with increasing FPD. In conclusion, the microclimate variables had various trends along the length of broiler houses.

Key words: Body weight uniformity, Broiler house, Footpad dermatitis, Microclimate


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Broilers, Carcass, Enzyme, Feed intake, Rabbits

Cinnamon powder, Egg quality, Performance, Quail, Turmeric powder

Supplementation of turmeric and cinnamon mixture significantly reduced low-density lipoprotein cholesterol with T3 and T4, whereas there were no differences in total cholesterol, triglycerides, and high-density lipoprotein cholesterol among the treatments. Dietary supplementation with the mixture of turmeric and cinnamon significantly increased the average egg production, weight, yolk weight, yolk color index, and eggshell weight. It is concluded that the dietary supplementation of the mixture of turmeric and cinnamon decreased feed intake and increased egg production, egg weight, yolk weight, yolk color index and eggshell weight.


Quail weight at 42 days was not significantly different in different treatments. The percentage of laying quails increased in experimental groups compared to the non-infected control group. The experimental model of coccidiosis in broiler chickens revealed that the number of oocysts excreted with feces is dependent on the dose of infection.


The experiments were carried out from the days 6 to 12 after infection. Chickens in groups 1, 2, 3, 4, 5 and 6 were orally infected with 1000; 250; 125; 62 and 15 oocysts/ml, respectively. Broilers of group 7 were uninfected and served as control. To determine the number of oocysts, all feces from the broilers of each group were daily collected from the days 6 to 12 after infection. Counting was induced by concentration in Karen Timberit's culture at the doses of 2,000; 1,000; 500; 250; 125; 62 and 15 oocysts/ml.
The highest prevalence rate was recorded in Dakhlia and Qalyobia governorates, Egypt (Dakhlia, Qalyobia, Sharkia, Gharbia, and Menofia) where outbreaks by about 6% and 4%, respectively. According to the obtained results, it seems that the poultry flocks in Egypt. The present study described the spatiotemporal dynamics of HPAI H5N1 virus in five Nile Delta governorates, while Menofia governorate had the lowest one. From 2006 to 2009, the classic outbreaks occurred with peak incidence in the years 2006 to 2008. Moreover, this study explored the impact of climate variability in outbreaks occurrence using the statistical generalized estimating equation model. The highest prevalence rate was recorded in Dakhlia and Qalyobia governorates, Egypt (Dakhlia, Qalyobia, Sharkia, Gharbia, and Menofia) where outbreaks by about 6% and 4%, respectively. According to the obtained results, it seems that the poultry flocks in Egypt. The present study described the spatiotemporal dynamics of HPAI H5N1 virus in five Nile Delta governorates, while Menofia governorate had the lowest one. From 2006 to 2009, the classic outbreaks occurred with peak incidence in the years 2006 to 2008. Moreover, this study explored the impact of climate variability in outbreaks occurrence using the statistical generalized estimating equation model. 


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Research on protein hydrolysate has been performed by using various types of enzymes on the visceral mass of Nile Tilapia (Oreochromis niloticus) in bovine worldwide.

Key words: alveolitis (15%), proliferative pneumonia (10%), and pleuropneumonia (5%). In addition, cellular adaptation was characterized by hyperplasia of alveolar cells (52%), bronchial epithelium hyperplasia (31%) and fibroplasia (26%). Hemosiderosis and parasitic infestation were also detected. The study concluded that all lungs collected from stray cats showed pathological changes, reflecting the presence of the pathogen agents and pollution in the environment of this city.

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Detection of Lung Affections of Stray Cats in Mosul City, Iraq. From February to March 2013, 19 ailing cats were caught through animal control campaigns and euthanized. Necropsy and histopathologic findings were recorded for the collected lungs. The results indicated lesions in all the lung samples. Pathomorphogical characterization included emphysema (84%), atelectasis (63%), and bronchiectasis (26%)

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Research Paper

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Detection of the antiviral effect of green tea and propolis extracts against BHV-1 virus comparing to commercial Acyclovir (ACV) in rabbits as a laboratory animal's model. The cytotoxicity assay was determined the safe dose for the extracts. Results of the study showed water green tea, and ethanol propolis extracts were potent inhibitor on BHV-1, which showed 80% protection against this virus and able to induce cytokines and antibodies levels production.

Figure 1: Antiviral activity of green tea, propolis ethanol and ACV on BHV-1 virus infected cells. The virus replication were reduced in the presence of the extracts. The cytotoxicity test showed that the safe dose is 10 mg/ml, which means the extracts and ACV are safe for use in vivo.

Figure 2: Histopathological changes in BHV-1 infected lungs. A) Normal lung tissue. B) BHV-1 infected lung tissue. C) BHV-1 infected lung tissue with antiviral treatment (green tea and propolis). D) BHV-1 infected lung tissue with antiviral treatment (ACV). The antiviral treatment showed a significant reduction in the virus replication and the pathological changes, including hyperplasia of alveolar cells, bronchiectasis, and fibroplasia.

Figure 3: Cytokine levels in the treated infected animals. A) BHV-1 infected animals. B) BHV-1 infected animals with antiviral treatment. The antiviral treatment showed a significant increase in the cytokine levels, including TNF-α, IFN-γ, IL2, and Immunoglobulin Production. The cytokine levels in the treated infected animals were significantly higher than those in the infected animals. The cytokine levels in the treated infected animals were also significantly higher than those in the non-treated infected animals.

Figure 4: Antibody production levels in the treated infected animals. A) BHV-1 infected animals. B) BHV-1 infected animals with antiviral treatment. The antiviral treatment showed a significant increase in the antibody production levels, including IgG, IgA, and IgM. The antibody production levels in the treated infected animals were significantly higher than those in the infected animals. The antibody production levels in the treated infected animals were also significantly higher than those in the non-treated infected animals.

Figure 5: Viral DNA detection in the treated infected animals. A) BHV-1 infected animals. B) BHV-1 infected animals with antiviral treatment. The antiviral treatment showed a significant reduction in the viral DNA levels. The viral DNA levels in the treated infected animals were significantly lower than those in the infected animals. The viral DNA levels in the treated infected animals were also significantly lower than those in the non-treated infected animals.

Figure 6: CPE reduction in the treated infected animals. A) BHV-1 infected animals. B) BHV-1 infected animals with antiviral treatment. The antiviral treatment showed a significant reduction in the CPE in the treated infected animals. The CPE in the treated infected animals were significantly lower than those in the infected animals. The CPE in the treated infected animals were also significantly lower than those in the non-treated infected animals.

The Effects of Green Tea and Propolis Extracts on pro-inflammatory cytokines TNF-α, IFN-γ, and Immunoglobulin Production in Experimentally Infected Rabbits

Key words: BHV-1, ELISA, Green tea, Propolis, Propolis extracts, Green tea extract. The study was aimed to describe the pathological features of lung lesions in stray cats in Mosul city. The study was aimed to describe the pathological features of lung lesions in stray cats in Mosul city. The study was aimed to describe the pathological features of lung lesions in stray cats in Mosul city.