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.

Sohsuebngarm D, Kongpechr S and Sukon P.

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
The present study designed an experimental model of coccidiosis caused by Eimeria tenella, which is constantly growing in Russia. The oocysts per gram of feces in broilers of the groups 1 to 6 was 4,080; 6,880; 1,780; 1,530; 662 and 94, respectively. The average daily weight gain in groups 1 to 4 was significantly lower 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.
ABSTRACT

Delta, Egypt.

Key words: Epidemiology, Generalized estimating equation, Highly pathogenic avian influenza

Non-Typhoidal Salmonella spp. at approximately similar rates of 4.7% and 4.4%, respectively. Chicken isolates were obtained from cloacal samples and stool samples. A total of 601 samples, including cloacal samples (150), eggshell (150), egg content (150), hand swab (68) and stool samples (68) from five Nile Delta governorates, Egypt (Dakhlia, Qalyobia, Sharkia, Gharbia, and Menofia) were analyzed. Salmonella spp. (60%) and Escherichia coli (38.9%) were the most prevalent bacteria isolated from the samples. The prevalence of Salmonella Enteritidis, Typhimurium, and Paratyphi A isolates were 8.3%, 9.0%, and 0.3%, respectively. The prevalence of Salmonella Typhi, Paratyphi B, and Paratyphi C isolates were 0.2%, 0.7%, and 0.3%, respectively. Salmonella enterica isolates were 5.3% for the classic clades and 1.2% for the endemic clades. In addition, 1.5% of isolates were identified as Salmonella enterica serovar Newport. The sensitive bacteria to antibiotics were streptomycin, tetracycline, and kanamycin. The resistant bacteria to antibiotics were ampicillin, clindamycin, and cefotaxime. This study demonstrated high prevalence of multidrug-resistant bacteria among isolates, particularly against commonly used antibiotics. Therefore, it is recommended to use antibiotic sensitivity tests and accurate therapeutic doses to efficiently treat and control bacterial infections in humans and poultry.
Activity of Aloe vera, Apium graveolens and Sauropus androgynus alcoholic extracts against methicillin-resistant Staphylococcus aureus (MRSA)

Prakoso YA, Kurniasih, Wijayanti AD and Kristianingrum YP.

DOI: [Full text-abstract combinations did not consistently increase phytochemical content, antimicrobial effect, Activity of Aloe vera, Apium graveolens and Sauropus androgynus Alcoholic Extracts and DPPH scavenging activity of the herb extracts. However, one mg/mL of dose of herbal extract has the highest phytochemical screening and antimicrobial effects compared to the other extracts and its combinations could be used as the minimum dose to inhibit colonisation of MRSA. This study aimed to elucidate the chemical compounds, antioxidant activity and efficacy of three herbal alcoholic extracts against MRSA. The animals were recorded with a decrease in alkali reserve, the content of these trace elements in small ruminants had been compensated by changes in hematological parameters include high Red Blood Cell (RBC) and White Blood Cell (WBC) and biochemical activity of the antioxidant protection system.

Key words: Antioxidant, Metabolism, Micronutrient deficiency, Sheep, Trace elements.
Research on protein hydrolysate has been performed by using various types of enzymes worldwide. The present study aimed to determine amino acid profile and composition of protein hydrolysates prepared from Nile tilapia (Oreochromis niloticus) viscera. Fresh Nile tilapia viscera had a high protein content (57.81% ± 0.01 (dry basis)), which was reduced to 35.14% ± 0.02 (dry basis) after defatting. Alcalase enzyme was used as the hydrolytic enzyme at a concentration of 1.5% (w/v), pH 7.9, and temperature of 55.80 °C for 1.5 h. Fresh Nile tilapia viscera had a high protein content of 35.14% ± 0.02 (dry basis) and the defatting process reduced fat content from 60.24 ± 0.04 to 46.80 ± 0.04%. Glutamine had the highest amino acid level in hydrolysates (5% ± 0.17) (dry basis). Moisture content of tilapia viscera was reduced from 72.24 ± 0.01 to 57.81% ± 0.01 (dry basis) after hydrolysis with Alcalase enzyme. The results indicated that the hydrolysis of Nile tilapia viscera led to the production of proteins with high amino acid content, which can be used as a source for fish feed protein. Moreover, chemical characteristics and amino acid profile of Nile tilapia protein hydrolysates indicated a high nutritional value which could be met adult human nutritional needs.