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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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 to study the effects of replacing clover hay with Peanut Vein Hay and Enzymes in diets on Performance, Nutrients Digestibility and Carcass Traits of Growing New Zealand White Rabbits. The use of herbal ingredients to improve poultry production is increasingly being used in animal nutrition. This study aimed to determine the effect of replacing clover hay with Peanut Vein Hay and Enzymes in diets on weight, feed conversion ratio, egg production, egg weight, yolk weight, yolk color index, egg white weight, eggshell weight, and egg cholesterol level. In conclusion, feeding growing rabbits with 25% Peanut Vein Hay (PVH), with or without Galzym, leads to better growth performance and higher economic efficiency without any adverse effect on rabbit health.
Avian Cellulitis


ANTIBIOTIC PROFILE OF BACTERIAL SPECIES ISOLATED FROM BROILER CHICKENS WITH CELLULITIS.

Disc diffusion test was used to study the sensitivity pattern of bacterial isolates with high predominance of O78 (19%). On antibiotic susceptibility profiling, E. coli isolates suffered from cellulitis (65 with head and 225 body lesions) to isolate bacterial agents. All body samples were positive on bacteriological examination. E. coli was the most prevalent Enterobacteriaceae agent (50.3% of all isolates), followed by staphylococci (38.5%) and streptococci (33.3%). Serological typing of E. coli identified nine O serotypes, especially O111 (36.8%) and O157 (29.3%). E. coli isolates showed 100% resistance to tetracycline, enrofloxacin, and cefotaxime.

Staphylococci isolates showed high resistance to ampicillin (97.0%) and clindamycin (82.9%). Aeromonas spp. isolates showed 100% resistance to chloramphenicol and cefotaxime.

The study was applied on 290 broiler chickens, aged 30-35 days, involved in field cases of avian cellulitis in broiler chickens and also to examine isolated bacteria extensively drug-resistant and 1.5% pan drug-resistant. The present study concluded that antibiotic sensitivity tests and accurate therapeutic doses to efficiently treat and control bacterial infections in poultry. Therefore, it is recommended to use antibiotic treatment for antibiotic susceptibility. The study was applied on 290 broiler chickens, aged 30-35 days, involved in field cases of avian cellulitis in broiler chickens and also to examine isolated bacteria extensively drug-resistant and 1.5% pan drug-resistant. The present study concluded that antibiotic sensitivity tests and accurate therapeutic doses to efficiently treat and control bacterial infections in poultry. Therefore, it is recommended to use antibiotic treatment for antibiotic susceptibility.
The emphasis should be placed on effective meat inspection, proper disposal of organ condemnations, and the implementation of disease surveillance aimed at preventing or minimizing losses at the abattoir. The aim of this study was to evaluate the causes of organ and carcass condemnations in cattle and sheep and the associated financial loss at the Nablus Municipal Slaughterhouse during the study period, which was estimated to be 16,356 USD. Both parasitic infestations and bacterial diseases were the most common causes of condemnations in sheep, while parasitic infestations were the most common cause of condemnations in cattle. There was no doubt that effective disease control programs and preventive measures should be immediately implemented in the slaughterhouse to reduce carcass condemnations and the financial loss due to these condemnations. A slaughterhouse survey was conducted for six months to determine the major causes of carcass and organ condemnations and the financial loss due to these condemnations. The results of this slaughterhouse study showed that the parasitic infestations were the most common cause of condemnations in sheep, and bacterial diseases were the most common cause of condemnations in cattle. There was no doubt that effective disease control programs and preventive measures should be immediately implemented in the slaughterhouse to reduce carcass condemnations and the financial loss due to these condemnations.

**Key Words:** Carcass and organ condemnation, Cattle and sheep, Economic losses, Palestine, Biogeochemistry, Goat, Metabolism, Micronutrient deficiency, Sheep, Trace elements, Aloe vera, Apium graveolens, Sauropus androgynus, alcoholic extracts against methicillin-resistant Staphylococcus aureus (MRSA),pathological lesions such as fatty change, incomplete bleeding, discoloration and tumors, were associated financial loss.
An research on protein hydrolysate has been performed by using various types of enzymes. The hydrolysates contain sufficient quantities of the essential amino acids that can be used as a nutritional substitute for animal feeds.

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 changes, reflecting the presence of the pathogen agents and pollution in the environment of this city, were detected. The study concluded that all lungs collected from stray cats showed pathological characterization included emphysema (84%), atelectasis (63%), and bronchiectasis (26%), hyperplasia of alveolar cells (52%), bronchial epithelium 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 also showed 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. The present study was aimed to describe the pathological features of lung lesions in stray cats in Mosul city, Iraq.

Abbreviations: AL: alveolitis; AG: atelectasis; AP: adenopathy; AT: alveolitis; BV: bronchitis; PN: pneumonia; PB: pleural effusion; PC: polycystic kidney disease; PE: pulmonary edema; PH: pleural hyperplasia; PI: papilloma; PI: pleural inflammation; PC: pleural cyst; PT: peritonitis; P: protein; F: fat; A: ash; TCID50: 50% tissue culture infective dose; WGE: water green tea extract; EPE: ethanol propolis extract; ACV: acyclovir; TCID50/250 ul: tissue culture infective dose 50% per 250 ul; dpi: days post-infection; IFN-γ: interferon-γ; IL-2: interleukin-2; TNF-α: tumor necrosis factor-α; BKV: bovine herpesvirus 1; MDBK: Madin-Darby bovine kidney cell line; PCR: polymerase chain reaction; EIA: enzyme-linked immunosorbent assay; MTT: 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; p: p-value; TUNEL: terminal deoxynucleotidyl transferase dUTP nick end labeling; S: standard deviation; N: number of animals; P: p-value; TUNEL: terminal deoxynucleotidyl transferase dUTP nick end labeling; S: standard deviation; N: number of animals; SE: standard error; RS: relative standard error; CI: confidence interval; i.v.: intravenous; p.o.: per os.

Figure 1: Chemical composition of the analyzed samples after different treatments: (A) Control samples (B) Water green tea extract; (C) Ethanol propolis extract; (D) WGE; (E) EPE; (F) WGE + EPE. The data are presented as the mean ± standard deviation.

Figure 2: Detection of the antiviral effect of green tea and propolis extracts against BHV-1. Groups 1, 2, and 3 were inoculated with BHV-1 virus 10^7 TCID50/250 ul in nostrils without extracts or commercial drug. Group 4 was inoculated with BHV-1 virus 10^7 TCID50/250 ul in nostrils and received propolis ethanol, water green tea extracts and ACV. Group 5 was considered as control negative.

Figure 3: Histopathological examination of the lungs after BHV-1 infection. (A) Control samples, (B) WGE, (C) EPE, (D) WGE + EPE, (E) WGE + EPE + ACV. The data are presented as the mean ± standard deviation.

The effects of green tea and propolis extracts on pro-inflammatory cytokines TNF-α, IL-2, and immunoglobulin production in experimentally infected rabbits were evaluated.

In conclusion, the present study aimed to evaluate antiviral activities of water green tea extract (WGE) and ethanol propolis extract (EPE) against BHV-1 virus comparing to commercial acyclovir (ACV) in vitro and in vivo. The results showed that both extracts were potent inhibitors of BHV-1, with WGE showing 80% protection against this virus and EPE being able to prevent virus replication and reduced CPE in MDBK cell cultures infected with BHV-1 in vitro. In vivo, there is no antiviral prophylactic treatment available capable of the complete cure of the viral disease and facilitating recovery from latent infection in animals. The present study aimed to study the effects of green tea and propolis extracts on pro-inflammatory cytokines TNF-α, IL-2, and immunoglobulin production in experimentally infected rabbits.

Key words: Green tea, Propolis extracts, BHV-1, Rabbit, Pro-inflammatory cytokines, TNF-α, IL-2, Immunoglobulin, Antiviral activity.