Review


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ABSTRACT: The poultry industry is considered an important sector that meets the great demand for protein sources all over the world. Now, quails are recognized as promising and important alternative species with many advantages over other poultry species. In many countries around the world, quail meat has achieved great popularity as a good source of protein and other important nutrients. However, there are some limitations and challenges to quails production. One of them is the susceptibility to some viral, bacterial, mycotic and parasitic diseases that can adversely affect quails. Many of the diseases that affect quails cause severe economic losses in quail industry due to a decrease in growth performance, poor feed conversion, reduction in hatchability, increased mortality and treatment costs. There are limited research and literature dealing with different disease and conditions affecting quails. Therefore, the aim of this work was to present a comprehensive review of the most important emerging diseases affecting quails worldwide.

Keywords: Bacteria, Virus, Mycosis, Myctoxicosis, Parasites, Quail

Systematic Program for Destroying of Flies’ Population in Poultry Farm under Battery Cage Management in Russia.
Favorable conditions for development, reproduction, and accumulation of large amounts of zoophilous flies in commercial poultry farms are caused by incomplete compliance with veterinary and sanitary rules for growing in cage facilities. The purpose of the study was to test a systematic insecticidal program for destroying flies’ populations using adulticide and larvicide drugs in poultry farms under battery cage management. The number of imago flies in hen houses was dynamically evaluated using flypapers, six flypapers in each hen house, situated in different levels above the floor. Flypapers were removed and the number of stuck insects was counted. The number of larvae was evaluated in dynamics by specimen testing from the floor area 10x10 cm, with weight of 3-5 g. The Quick Bayt WG 10% was applied to destroy the imago of flies. Baycidal® WP 25% was used against larvae of flies. Complex insecticide program Quick Bayt WG 10% + Baycidal® WP 25% provided the opportunity to destroy flies, with a significant difference in intensefficacy, (98.3 % for adult flies and 99.8 % for larvae). Furthermore, this program had a positive impact on economic indicators of meat production of broilers. The present study demonstrated high preventive efficacy and economical efficacy of complex program against flies under battery cage broiler management.

Keywords: Adulticide, Economical Efficacy, Fly Larvae, Intensefficacy, Larvicide, Zoophilous Flies
Aspergillus fumigatus contaminated with Newcastle Disease Virus (NDV) led to respiratory infections with other pathogens such as NDV. This study aimed to investigate the incidence of Aspergillus fumigatus infection suppresses the immune responses and predisposes the broilers to other microbial infections, leading to considerable economic losses in the poultry industry.

NDV-vaccinated broiler chickens of 10 days old were experimentally infected by feeding on feedstuff contaminated with Aspergillus fumigatus. Twenty birds per treatment were observed as disseminated granulomatous foci in the affected lungs, with caseous necrosis and leukocytes infiltration. The antibody immune response against NDV significantly reduced in NDV-vaccinated broiler chickens of 10 days old were experimentally infected by feeding on feedstuff contaminated with Aspergillus fumigatus and grits. Twenty birds per treatment were observed as disseminated granulomatous foci in the affected lungs, with caseous necrosis and leukocytes infiltration. The antibody immune response against NDV significantly reduced in NDV-vaccinated broiler chickens of 10 days old were experimentally infected by feeding on feedstuff contaminated with Aspergillus fumigatus.

The antibody immune response against NDV significantly reduced in birds infected with Aspergillus fumigatus.

The use of antibiotics as growth promoters in food animals has been banned due to the residual effects on final consumers which could lead to human health issues. The aim of this study was to investigate the effects of two herbal feed additives with or without grits on hematological and serum biochemical parameters of broiler chickens. One hundred and forty-four, one-day-old, Cobb 500 broiler chicks were randomly assigned into six treatments (24 birds per treatment) with three replicates (eight bird per replicate). Six dietary treatments were replicated three times. The results indicated there was an interaction between the type of oil and dosage of oils (0.25, 0.5, 0.75, 1, and 1.25 %), and each treatment was observed as disseminated granulomatous foci in the affected lungs, with caseous necrosis and leukocytes infiltration. The antibody immune response against NDV significantly reduced in NDV-vaccinated broiler chickens of 10 days old were experimentally infected by feeding on feedstuff contaminated with Aspergillus fumigatus.
Effect of Using Solar Energy and Different Ventilation Rate on Production in Poultry Houses.
Gad S, El-Shazly MA, Wasfy KA and Awny A.

**ABSTRACT:**

The main purpose of the present study was to find an alternative source for traditional energy to provide the energy requirements in the poultry industry. The present study was conducted in four poultry houses with different heating systems (solar and conventional) and ventilation rates located in El-Sharkia Governorate, Egypt, during June and July 2018. In this study, it was found that productivity increased by increasing the ventilation rate, where productivity reached 2.3 kg when using a solar heating system with a ventilation rate every two minutes. Productivity decreased in poultry houses with a conventional heating system and was 2 kg in ventilation rate every 2 minutes, and 1.8 kg in the ventilation rate every four minutes. The level of ammonia was also reduced with the ventilation rate every two minutes. Concentrations of ammonia ranged from 22 ppm at ventilation rate every two minutes to 28 ppm at the ventilation rate every four minutes. In addition, solar energy provided good levels of thermal requirements. It was demonstrated that solar energy as an alternative source to the conventional energy, is very efficient and can be applied on a large scale when combined with conventional electricity as a light source and within specified limits.

Keywords: Energy balance, Poultry production, Solar heating system, Ventilation.

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The Effect of Bacillus subtilis Inoculum Doses and Fermentation Time on Enzyme Activity of Fermented Palm Kernel Cake (FPKC).
Mirnawati, Ciptaan G and Ferawati.

**ABSTRACT:**

Palm kernel cake (PKC) was by-product of palm oil industry and it had potential to be one of the poultry ration ingredient However, its utilization for poultry was still limited because of the β-mannan in PKC. In order to increase PKC utilization in poultry ration, fermentation process was done to remodel β mannan by using *Bacillus subtilis*. This research conducted a study on the effect of *Bacillus subtilis* inoculum dose and fermentation time to increase the enzyme activity of FPKC by using CRD with 3 × 3 factorial and 3 replications. Factor A was 3 doses of inoculum *Bacillus subtilis*: 3%, 5%, and 7%. Factor B was fermentation times which contained: (1) 2 days, (2) 4 days, and (3) 6 days. Parameters used were enzyme activity of mannanase, protease, and cellulase in FPKC. Significant interaction was seen between inoculum doses of *Bacillus subtilis* and fermentation time. There was also a significant interaction on each of the inoculums dose of *Bacillus subtilis* and fermentation time on all of the enzyme activity. This study concluded FPKC with *Bacillus subtilis* of 7% inoculums doses and 6 days fermentation time indicate the best result as seen from 24.27 U/ml of mannanase activity, 10.27 U/ml of protease activity, 17.13 U/ml of cellulase activity of fermented PKC.

Keywords: *Bacillus subtilis*, Enzyme activity, Fermentation time, Inoculum doses, Palm Kernel Cake.

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Probiotics and Poultry Gut Microflora.
Tsega KT, Maina JK and Tesema NB.

**ABSTRACT:**

Poultry production is presently the most effective animal production industry and provides an excellent source of protein production worldwide. The poultry gastrointestinal microbiota includes commensal, mutualistic and pathogenic microbes. The relationship between host and gut microbiota can affect the balance of mutualism and pathogenicity. The imbalanced gut microflora caused by the incidence of disease, hygiene conditions, diet, management practices, and environmental stress affects the survival and productivity of chicken. Maintenance of the gut microbial composition is possible through the regulation of the gastrointestinal microbiota by suppressing the growth of pathogens. For many years, antibiotic growth promoters have been used to manage these problems. Nowadays, because of the emergence of antibiotic-resistant bacteria, other alternatives are being sought. Supplementation of probiotics as feed additives is considered to enhance chicken productivity and to protect the gut from pathogen colonization and help to tolerate environmental stress. The goal of the present article was to review the poultry gastrointestinal microflora and probiotics role in the health and growth of poultry. In addition, this article focused on probiotic microorganisms and their potential characteristics.

Keywords: Gastrointestinal microbiota, Poultry, Probiotics.
Experimental study of feeding laying hens with the feed, containing the Mospilan and Actara insecticides

Neonicotinoids
Mospilan (Acetamiprid)
32.5-45 mg/kg of body weight
Actara (Thiamethoxam)
180-360 mg/kg of body weight

Chronic poisoning
Reduced egg productivity
Change the biochemical processes in meat and increase its toxicity

30 days

78 - 99%
Low toxic