

International Conference on Livestock Nutrition

August 11-12, 2015 Frankfurt, Germany

Influence of essential oils and organic acids blend on productive performance, immune status and controlling of *Clostridium perfringens* infections in broiler chickens

M A Tony¹, Samah H Mohamed², Ashgan F El-Sissi² and M M Hamoud¹

¹Cairo University, Egypt

²Animal Health Research Institute, Egypt

The present study was conducted to evaluate the effects of a commercial blend of cinnamaldehyde, thymol, eugenol combined with propionic, formic and sorbic acids (Fordex®) on zoo technical performance, immune status and controlling of *Clostridium perfringens* infections in broiler chickens. A total of 300 one-day-old chicks (Hubbard breed) were reared on floor pens and allocated randomly to three dietary treatments. The first group consumed basal broiler diets without any additive and served as a control group (G1). Broiler chicks in the second and third groups (G2 and G3) consumed diets containing Fordex® at 250 and 500 g/ton feed respectively. Feed and water were offered ad-libitum for 35 days experimental period. Feed consumption and body weight were recorded weekly to calculate body gain and feed conversion. Blood samples were collected weekly after vaccination and after challenge from each group to evaluate the immune status and some immunological parameters. At day 16 of age 25 birds from each group were isolated and challenged orally with 1ml containing *Clostridium perfringens* (107 cfu/mL) daily for 3 consecutive days. Post-challenge, lesion scores, mortalities and intestinal *Clostridium perfringens* levels were assessed. Feed intake and live body gain were improved significantly ($p < 0.05$). Feed conversion (FCR) was reduced in broiler chickens receiving Fordex® compared with the control group. The best results for live body weight and FCR were recorded in G3. The results of immunological parameters measured showed that additive used could enhance broiler chickens innate immunity as it significantly increased ($p < 0.05$) phagocytic activity and humoral immune responses against vaccines. Fordex® reduced the lesion scores during infections. The log₁₀ *C. perfringens*/g of intestinal contents was significantly reduced ($p < 0.05$) in the treated groups. Birds in the third group showed the best results. Mortality was reduced in both treated groups in contrast to the control group.

Biography

M A Tony has completed his PhD in the year 2000 at Federal Agricultural Research Centre, Braunschweig, Germany. Currently, he is working as Associate Professor of Poultry and Animal Nutrition, Faculty of Veterinary Medicine, Cairo University, Egypt.

mohamed_tony@hotmail.com

Notes: