

# Growth performance and carcass traits of two broiler breeds fed a diet supplemented with cinnamon powder

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## **Abstract:**

Cinnamon powder, known for its antimicrobial and antioxidant properties, was evaluated for its impact on growth performance and carcass traits in Arbor Acres and Hubbard broilers. A total of 180 one-day-old chicks were used, consisting of 90 Arbor Acres and 90 Hubbard. Each strain was divided into three treatment groups receiving 0, 4, or 8 g of cinnamon powder per kg diet. Thus, Arbor Acres were distributed into  $Ac_0$ ,  $Ac_4$ , and  $Ac_8$  groups, while Hubbard were assigned to  $Hc_0$ ,  $Hc_4$ , and  $Hc_8$  groups. Each group consisted of 30 chicks, further subdivided into three replicates of 10 birds each. Diets were provided for 35 days, during which growth indices such as body weight (BW), body weight gain (BWG), relative growth rate (RGR), average daily gain (ADG), feed intake (FI), and feed conversion ratio (FCR) were measured, alongside carcass yield and relative organ weights at the end of the experiment. Significant breed  $\times$  diet interactions were observed for BW, BWG, RGR, ADG, and FCR, particularly during the final growth stage and cumulatively.  $Hc_0$  exhibited the highest growth and most efficient FCR, while  $Hc_4$  showed the poorest performance. In contrast, Arbor Acres groups did not differ statistically but displayed a consistent numerical improvement with increasing cinnamon levels ( $0 < 4 < 8$  g). Carcass traits were largely unaffected. These results suggest that cinnamon supplementation exerts breed-specific effects, with Arbor Acres showing potential dose-related improvements, whereas Hubbard broilers responded negatively at intermediate inclusion levels.