**EFFECT OF ZINC OXIDE SOURCES AND DOSES ON *C. PERFRINGENS*-CHALLENGED BROILERS**

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Necrotic enteritis (NE) is a main concern for poultry producers, but some feed additives can mitigate its severity. This experiment compared the effects of two zinc oxide (ZnO) sources on *C. perfringens*-challenged broilers. At the beginning of the trial, 384 male broilers (Ross 308) were assigned to 4 treatment groups: experimental diets were supplemented with standard ZnO (45 ppm of Zn) or a potentiated ZnO source (HiZox®, Animine; 45, 75 or 105 ppm of Zn). Birds in all groups were orally inoculated with inoculum of mixed *Eimeria tenella, Eimeria maxima* and *Eimeria acervulina* on day 9. On days 14, 15, 16, they were given *C. perfringens* Type A inoculum by intracrop administration. Bodyweights (BW) and feed intake were measured for each growing phase. On day 20, intestinal sample were collected for NE lesion scoring, intestinal morphology and *C. perfringens* count. The overall bird performance showed that birds fed the potentiated ZnO source tended to have higher BW gain and lower feed conversion ratio than birds fed 45 ppm zinc from standard ZnO. The NE lesion score and *C. perfringens* count were lower in birds fed the potentiated ZnO source as compared those fed diet with standard ZnO. Villus to crypt ratio was improved in groups fed the potentiated ZnO source, numerically (45 ppm of Zn) or significantly (75 ppm of Zn, 105 ppm of Zn). Higher level of added Zn over the 45 ppm by HiZox supplementation could show further reduction in NE lesion score and *C. perfringens* count.

Key words: Zinc oxide, necrotic enteritis, gut health