**EFFECT OF DIETARY ZINC ON GUT LESIONS AND MORTALITY OF *C. PERFRINGENS*-CHALLENGED BROILERS**

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Necrotic enteritis (NE) alters gut integrity and increases mortality in broilers. In this study, two sources of Zn were compared in *C. perfringens*-challenged broilers. The trial consisted of 72 cages of 8 chicks, divided in 3 groups: one fed with zinc sulfate (ZnSO4, 80 ppm of Zn) and the others with potentiated zinc oxide (ZnO) source (Hizox®, Animine; 80 or 120 ppm of Zn). Then, each group was subdivised in 3 groups: non-challengeds birds, challenged birds with non-medicated feed and challenged birds with virginiamycin at 20 ppm. On day 14, all the broilers were orally inoculated with *E. maxima*. On days 19, 20 and 21, animals of challenged groups were given a broth culture of *C. perfringens*. On day 21, 3 birds per cage were sacrificed and examined for the degree of presence of NE lesions, from 0 (normal) to 3 (most severe). Non-challenged birds and challenged birds fed virginiamycin had higher performance than challenged birds with non-medicated feed. Challenged birds fed either level of the potentiated ZnO had improved growth performance compared to ZnSO4 fed birds. For the NE lesions, non-challenged birds obtainted 0, and there was no significant difference between challenged birds; nevertheless, scoring of challenged broilers fed 120 ppm of Zn from ZnO was lower. Mortality of challenged birds was significantly reduced by virginiamycin. In addition, it decreased in groups fed ZnO, compared to groups fed ZnSO4. These results emphasize the benefits of a potentiated ZnO source in reducing NE compared to ZnSO4.

Key words: Zinc oxide, necrotic enteritis, gut health