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Dietary sodium diformate improves productivity index in broilers under tropical conditions

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Abstract

Gastrointestinal diseases pose a serious threat to commercial poultry production. In the past this hazard was controlled by the prophylactic use of antibiotics. However, animal production is viewed critically for its use of in-feed antibiotics, both from consumers and regulatory authorities. As a result, various feed additives have been studied as alternatives. Organic acids, particularly salts of organic acids, have been reported by many experts to enhance growth performance in the absence of antibiotic growth promoters (AGPs). In a new study, sodium diformate (Formi® NDF, ADDCON, hereafter abbreviated as NDF) was tested against various control diets, partly with AGP-inclusion to demonstrate similar effects in poultry.

The trials were conducted in South Asia and aimed to test NDF (0.15 % inclusion) against a commercial broiler diet containing an antibiotic growth promoter (0.02 % Oxytetracycline), or the basal diet as a negative control. Feed and water were available ad libitum. 250 one day old birds were included in the study, which lasted for 35 days. Performance data were measured at the end of the trial and the European Broiler Index (EBI) calculated as: EBI = ADG [g] × Survival [%] / (10 × FCR). EBI data were analysed using the t-test. The results are given as mean ± SD with a confidence level of 95 %.

Results of negative and positive control did not differ (average EBI: 365; standard deviation 0.8), as such they were pooled and compared against the EBI achieved in NDF-fed broiler. Birds receiving the sodium diformate containing diet reached an EBI of 398, which was significantly ($p = 0.0037$) increased by 8.9 % in comparison to the control.

These findings lead to the conclusion that the addition of 0.15 % sodium diformate considerably improves overall broiler performance, combining effects on daily gain, survival and feed efficiency, against negative- and positive controls under tropical conditions.

Keywords: Broiler, productivity index, sodium diformate

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