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Effects of phytogetic additives associated with acidifiers on intestinal morphology of broiler chick

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A study was undertaken to examine the synergic effects of a phytogetic feed additive (ENTX) containing cinnamon, fenugreek and garlic with an acidifier including butyric acid (C4) on performance, carcass characteristics and intestinal morphology of broiler chickens. The experiment was conducted in a completely randomized design with a 2×2 factorial arrangement of treatments (with 0.05% or without ENTX × with 0.15% or without C4). A total of 400 one day old Ross 308 broiler chicks were equally distributed to 4 dietary treatments with 25 birds per pen and 4 replicates per treatment. Two birds per replicate (8 birds per treatment) with body weights close to the pen average were selected for carcass and intestinal morphology evaluation. Results show that weight gain, feed intake and feed conversion ratio were not significantly influenced by using ENTX and C4 isolated or associated in broiler diets. However, the use of ENTX isolated or associated with C4 in broiler diets decreased the fat deposits ($P<0.05$). Isolated or associated ENTX and C4 decreased the epithelium thickness and increased the number of goblet cells ($P<0.05$) in small intestine of broiler chicks. In conclusion, isolated or associated phytogetic additives and organic acids provided better carcass characteristics and better small intestine condition in broiler chicks.