



Microencapsulation allows slow release of organic acids in the GI tract of broilers

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Aim of the study was to investigate intestinal concentrations of citric and sorbic acid (OA) from a microencapsulated blend and the possible consequences on intestinal fermentations. Twelve male ROSS 508 broilers were selected from 2 dietary treatments: a control diet (CTR), or the control diet added with a microencapsulated blend of citric and sorbic acid at 400 ppm (TRT). Contents of gizzard, small intestine and ceca were collected to be analysed for pH, NH₃, VFA and OA concentration; coliforms and lactic acid bacteria were counted. All data were analysed with an unpaired t-student test, and considered statistically significant at P<0.05. Citric acid was detected all along the GI tract in both CTR and TRT group, but it was present in higher concentrations in TRT (gizzard: 1.8 mmol/L for the CTR group vs. 3.8 mmol/L; small intestine 0.58 mmol/L vs 1.16 mmol/L; ceca: 0.40 mmol/L vs 0.46). Sorbic acid was not detectable in birds fed the CTR diet whereas it decreased along the GI tract of TRT fed birds (gizzard: 60 µmol/L; small intestine: 6 µmol/L; ceca: 0 µmol/L). Data showed that the microencapsulation allowed the supply of sorbic acid to the small intestine.

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