Feeding a microencapsulated blend of organic acids and nature identical compounds to weaning pigs improved growth performance and intestinal metabolism

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One-hundred and seventy weaning pigs were divided in two groups, and housed in 34 pens (17 replicates, 5 pigs each). Piglets received a basal diet without (control diet, CTR) or with the addition of a microencapsulated blend of organic acids and nature identical compounds at 3 kg/ton (AviPlus®, EPI391155B1, Vetagro SpA, Italy). Piglets were weighed on d0, 14, and 41 of the experiment. Average daily gain and feed conversion rate were calculated between 0–14 d, 15–41 d, and 0–41 d. On d41, 8 animals per group were slaughtered and intestinal contents were collected to perform an analysis of microbial metabolites. Throughout the 0–41d period, AviPlus® group animals tended to have higher feed intake (+4.6%; P=0.08), higher average daily gain (+8%; P<0.01), and final body weight (+6.5%, Pb0.01). Tyramine was higher in AviPlus® group in cecum and colon, and spermidine and spermine resulted significantly lower in the stomach when compared to CTR. VFA was affected by AVIplus® all across the GI tract. Animals fed with AviPlus® had better growth performance, and a different metabolic intestinal pattern, due to the action of the released organic acids and nature identical compounds on microflora metabolism, being both polyamines and VFA as the end products of microbial fermentation.

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