

## Feeding a microencapsulated blend of organic acids and natural identical compounds to weaning pigs improved growth performance and intestinal balance

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One-hundred and seventy weaning piglets were divided in two groups, and housed in 34 pens (17 replicates, 5 pigs each). Piglets received a basal diet with or without (control diet, CTR) the addition of a microencapsulated blend of organic acids and natural identical compounds (AviPlus®, EPI391155B1, Vetagro SpA, Italy) at 3 kg/ton. Piglets were weighed on day 0, 14, and 41 since the study began. Average daily gain and feed conversion rate were calculated between 0-14d, 15-41d, and 0-41d. On d41, 8 animals per group were slaughtered and intestinal contents were collected to perform chemical and microbiological analyses. 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%,  $P<0.01$ ). 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 were 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 natural identical compounds on microflora metabolism, being both polyamines and VFA the end products of microbial fermentation.

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