Effect of a microencapsulated combination of organic acids and nature-identical flavors on the growth performance of piglets

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The efficiency of a microencapsulated combination of citric acid, sorbic acid, thymol and vanillin (AVIP) on the growth performance of post-weaning piglets was investigated in the following two sets of studies. A trial was conducted at the VRP Research Center (Denmark) on 768 piglets (110 blocks with approximately 7 piglets each), divided into 3 treatments: 1) Control (CTR), 2) CTR + 2 kg/T of AVIX (a preliminary formula of the additive AVIP without sorbic acid), and 3) CTR + 3 kg/T of AVIP. In the second study, a meta-analysis was performed including four studies from two EU countries (Italy and UK) with a total of 720 pigs. The growth performance of piglets receiving a control or an AVIP diet was studied. In study 1, the ADG was statistically higher in piglets from AVIP and AVIX groups as compared to CTR (5.7%, $P < 0.05$). In contrast, the FCR was better in piglets fed AVIP (-3 points and -5 points compared to AVIX and CTR groups, respectively; $P < 0.05$). In the meta-analysis (study 2), piglets from the AVIP group showed a significantly higher ADG (+2.9%, $P = 0.05$) and better FCR (-0.08 points, $P < 0.001$) than the CTR. All these studies showed that this additive can increase the growth rate and improve feed efficiency in post-weaning piglets. Effet d'une combinaison équilibrée d'acides organiques et d'arômes identiques naturels micro-encapsulés sur les performances de croissance du porcelet. L'efficacité des acides organiques (AO) et des arômes identiques naturels (équivalents chimiques des extraits de plantes; AIN) dans la prévention et le traitement des pathogènes dans l'aliment est bien connue. Le facteur limitant de l'efficacité de ces composés est la nécessité d'être libérés dans l'intestin pour exercer leur activité antibactérienne. La micro-encapsulation des AO et AIN dans une matrice de lipides hydrogénés peut modifier le site d'action et renforcer l'activité antimicrobienne de ces principes actifs (Piva et al., 2007). Le but de cette étude était d'évaluer les effets d'une combinaison équilibrée d'acide citrique, acide sorbique, thymol et vanilline micro-encapsulée sur les performances zootechniques chez le porcelet post-sevrage.

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