MediaRoom

Scientific study demonstrates slow release butyrate is effective replacement for antibiotic growth promoter

Encapsulated ButiPEARL™ effective option for growth promoter in broilers

HERENTALS, Belgium – Feb 16, 2016 – Recently, a novel and timely study evaluating the effect of a slow release calcium butyrate versus avilamycin was published in *Poultry Science,* an international journal publishing research notes, symposium papers and studies of basic science as applied to poultry. The timing of this study, which provides an effective alternative to antibiotic growth promoters, is critically important as the global trend and pressure to move away from antibiotics continues.

The alternative, butyric acid, is a short chain fatty acid which is known to be involved in mucosal immune response and to have an anti-inflammatory effect in animals. Although butyric acid is a small molecule, it can have diverse modes of action, such as increase villi height and crypt depth, leading to increases in absorptive surface of the small intestine and resulting in better nutrient utilization.

As butyrates are so quickly absorbed and metabolized, an encapsulation technology is needed in order to secure the slow release of the butyrate in the small intestine. ButiPEARL™ is a slow release calcium butyrate which has been tested in a C14 labelled study to have a targeted release of butyric acid in the small intestine1.

In a recent study (Table 1), the efficacy of ButiPEARL versus avilamycin was studied. Both ButiPEARL (300 g /ton) and avilamycin (6 mg / kg active substance) treated groups were able to demonstrate a statistically significant difference versus the control group on body weight gain (BWG) and feed conversion ratio (FCR), which demonstrated their effect to improve performance.

Table 1. Animal performance data of ButiPEARL versus avilamycin

Parameters	Control	Control + ButiPEARL	Control +avilamycin
BWG (g)	2,123	2,323*	2,356*
FCR (g:g)	1.59	1.49*	1.50*

* significantly different from Control with $P < 0.05$

Between the ButiPEARL and the avilamycin group, no statistically significant difference was observed. Birds in these two treatment groups had the thickest mucosa, and both ButiPEARL and avilamycin increased digestibility of several amino acids (e.g. threonine, serine and proline) at statistically significant levels.

This study demonstrates that ButiPEARL can improve digestion and absorption, and consequently bird performance results. Reference: Poultry Science 00:1-9 (2016), Table 1.

- Smith J. et al. In Vitro Dissolution and In Vivo Absorption of Calcium [1-14C] Butyrate in Free or Protected forms. Journal of Agricultural Food Chemistry 2012.

About Kemin – Inspired Molecular Solutions™

Kemin (www.kemin.com) provides “inspired molecular solutions” specifically developed to provide nutrition and health benefits for humans and animals. Committed to feed and food safety, Kemin maintains top-of-the-line manufacturing facilities where approximately 500 specialty ingredients are made for the global feed and food industries as well as the health, nutrition and beauty markets. A privately held, family-owned and operated company, Kemin has nearly 2,000 employees and operates in more than 90 countries with manufacturing facilities in Belgium, Brazil, China, India, Italy, Singapore, South Africa and the United States.

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