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Kevin Industries discusses new insights related to efficient nutrient absorption

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Kemin Industries, a global nutritional ingredient manufacturer focused on improving the quality of life for more than half the worldâ??s population, recently hosted a three-day KemINSIGHT conference in Bangkok on the importance of nutrient absorption in animal production.

Global ingredient manufacturer hosts conference with industry experts to discuss new insights on nutrient variability and the link between nutrition and animal health.

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With new industry trends and issues to address in animal production, focusing on nutrient absorption as a new cornerstone for future animal production will be instrumental.

"Today, animal production needs to be aligned with several important market trends," said Dr. Chris Nelson, President and CEO, Kemin Industries. "Nutritionists are being challenged on the availability and composition of feed raw materials and final feed costs. In several regions around the world, consumers are becoming concerned with sustainability, and veterinarians must use different tools to fight diseases, gradually making the borders between health and nutrition vaguer. These factors are causing a shift in focus towards efficient utilization and nutrient absorption in animals. We have never had a more urgent need for a new approach to bridge animal nutrition and health, sustainability and profitable production."

A panel of nutrition and biochemistry experts led the conversation at the event, with nutritionists in attendance from more than 30 countries. The panellists provided educational, practical and business-focused insights to attendees representing Africa, North America, South America, Asia, China, the Middle East, Russia and Europe.

Julian Wiseman, professor at the University of Nottingham, talked about how the biological composition and nutritional value of fats and oils varies and can greatly influence animal production. He explained that the degree of saturation, the content of free fatty acids and the chain length of the fatty acids and contaminants are all factors affecting the energy value – as well as

the age – of the animal.

The Wiseman equation brings these numerous parameters together into one general equation to accurately estimate the apparent metabolizable energy (AME) and digestible energy (DE) of the fat. Prof. Wiseman stressed the importance of â??diluting factorsâ??, which often receive less attention, but can greatly lower the fatâ??s nutritional value. Diluting factors include oxidized and polymerized lipids, moisture, impurities and contaminants. A key conclusion of Prof. Wisemanâ??s presentation was the call to action for the industry to put quality parameters in place and monitor nutritional status and oxidative quality of lipids used in the feed industry.

David Tey, Senior Customer Laboratory Services Manager, Kemin Animal Nutrition and Health – Asia Pacific spoke about the wide range of oil and fat sources used in the feed industry, making it critical to understand and properly evaluate the fat quality used at the feed mill. He introduced the Kemin Lipid Evaluation Test, a customer-service tool to assess the oxidative quality and nutritional value of oils and fats in feed.

Tey explained the analytical method Kemin laboratories are employing to assess the nutritional and oxidative quality of oils and fats. Traditionally, these tests had to be done by â??wet chemistryâ?? analysis. Today, automated tests – such as FT-NIR, which accelerates the analysis and allows faster analytical reporting – are becoming more prevalent.

Dr. C Sugumar, Regional Director for Kemin AquaScience™ in South Asia, presented data showing the impact of lipid peroxidation on average daily gain, feed intake, and feed efficiency are correlated. Kemin laboratories around the world have been analyzing more than 1,400 oils and fat samples over the last couple of years to confirm a large variation between samples.

Kemin scientists around the globe analyzed soybean oil samples and observed large variations in free fatty acid levels, saturated/unsaturated levels and diluting factors, resulting in AME value variations. The highest and lowest oil energy values reported varied by 23 percent.

During feed manufacturing, this variation in soy bean oil energy value can easily lead to variation or underestimation of the feed energy level, up to 32 kcal/kg of feed versus the standard book values. Similarly, a large variation exists in the oxidative status between oils and fats.

Dr. Matias Jansen, Product Manager, Kemin Animal Nutrition and Health – EMENA (Europe, Middle East, North Africa) described the scientific discovery of LYSOFORTE® EXTEND, a revolution in the LYSOFORTE® product line that delivers more benefits for animal nutrition experts.

"For the past two decades, the Kemin LYSOFORTE brand has set a gold standard for absorption enhancers worldwide," said Dr. Jansen. "LYSOFORTE EXTEND is a revolutionary new total nutrient absorption enhancer that builds on the key science and benefits of the LYSOFORTE brand while further expanding its benefits into overall nutrient absorption."

Intensive scientific research has demonstrated the complete mode of action in LYSOFORTE EXTEND. In the early phase, it supports faster enzyme activity, better hydrolysis and overall nutrient absorption through the gut. Scientific work has demonstrated a direct impact on the enterocytes improving the absorption of all nutrients, including lipids and amino acids. A metagenomic study has confirmed that LYSOFORTE is effective in improving collagen production in the gut and increasing villi length for improved nutrient absorption.

Dr. Mauro Di Benedetto, Head of Technical Services, Kemin Animal Nutrition and Health – EMENA addressed the practical use of LYSOFORTE EXTEND.

"Managing feed costs is a major factor of success for animal production," said Dr. Di Benedetto. "The development of LYSOFORTE EXTEND allows us to help animal producers around the globe run efficient and profitable operations."

More than 25 research trials in broilers have been carried out across the globe, confirming the animal performance benefits and nutritional matrix value of LYSOFORTE EXTEND. In addition, testimonials from field trials carried out on broilers, turkey and swine confirm its economic benefits. LYSOFORTE EXTEND is available in dry form to be dosed to the feed and in a liquid version to be directly added to the fat.

Professor Rommel Sulabo, University of the Philippines Los Baños, exhibited that the gut is a complex and dynamic ecosystem in which feed, microbiota and gut mucosa interact with each other. Several nutritional aspects of feed influence the microbiota, including the water quality given to animals, diet characteristics, anti-nutrientsâ?? presence (trypsin inhibitor, phytase, amino acid imbalance) and toxins (mycotoxins, biogenic amines, rancid fat) in the feed.

Having good microflora in the intestine is crucial for animals to reach good nutrient digestion and absorption. Good microflora support intestinal epithelial barrier construction and the development and function of the animalâ??s immune system. They also prevent harmful propagation of pathogenic microbes by competition. An upset of the microbiota will lead to a shift in microflora, resulting in nutrient malabsorption, making more nutrients available for bacterial overgrowth and buildup of toxic amines.