



Antibiotic alternative strategies, gut health hot topics at the 2017 FIAAP Animal Nutrition Conference

Eighth edition explores utilization of animal feed additives for AGP replacement, improved animal health and performance. By Jackie Roembke.

The 8th edition of the FIAAP Animal Nutrition Conference aims to address the most pressing issues facing today's nutritionists and animal feed producers. The one-day event, held on June 14, 2017 in Cologne, Germany, will circle around several key topics: antibiotic elimination strategies, animal feed additives, alternative ingredients and monogastric gut health.

Antibiotic replacement strategies explored

Animal nutrition and feeding is an essential part of the EU strategy to fight against antimicrobial resistance (AMR). In its "Vision on Animal Nutrition," the European Feed Manufacturers' Federation's (FEFAC) illustrates the commitment of European compound feed producers to combat

antimicrobial resistance by addressing animal welfare, animal health, economic performance and environmental impact.

The plan requires the use of dynamic nutritional models, modern diagnostic tools and a variety of feed ingredients, including functional micro-ingredients, which prove to be effective in fostering and optimizing the composition of the gut microflora and the functioning of the digestive track. FEFAC's animal nutrition committee chairman Peter Radewahn will discuss the scientific developments and research needed to support the innovation necessary to reduce the need for antimicrobials in the livestock sector in his presentation, "Reducing the need for antibiotics by means of animal nutrition."

Meanwhile, in the United States, the animal agriculture industry is also making

strides toward removing antibiotics from production.

The U.S. FDA's Veterinary Feed Directive (VFD), which bans the use of antibiotics for growth promotion in animal feed, has created economic, welfare and animal health challenges for U.S. swine producers. Purina Animal Nutrition's Dr. Dari Brown will explore new alternative feeding strategies and related research for reducing and eliminating antibiotic use in pig feed during her talk, "U.S. strategies & research on antibiotic alternatives in swine diets."

Learning about phyto-genics

Bridging the gap between antibiotic alternatives and feed additives, the conference's morning session will feature a track focused on natural animal nutrition solutions.

Livestock gut health is the key to efficient nutrient utilization and the production of high-quality animal protein; however, it is constantly challenged by internal and external conditions, including pathogens, stress and intestinal infections. Plant-based phytochemical additives have been shown to improve intestinal integrity and immune function; reduce the virulence of potential pathogens; and stimulate nutrient digestibility via the synthesis of endogenous enzymes and bile secretion. In his presentation, “How phytochemicals support livestock gut health,” Delacon’s director of products & innovation Jan Dirk van der Klis will explore the different modes of action and look at these effects in poultry and swine feeding applications.

Phytochemical feed additives are shown to provide numerous beneficial biological activities, including improved animal health and growth performance — but the speed to adopt has varied from region to region. BIOMIN Holding GmbH’s Michael Noonan will explore the prevailing uses for phytochemical feed additives and examine certain barriers to PFA use during his talk, “Regional trends shape global phytochemical feed additive usage.”

In addition to the aforementioned presentations, a panel discussion titled, “AGPs: Feed additive alternatives & replacement strategies,” will feature phytochemical feed additive suppliers, a nutritionist from a major US poultry producer and university researchers to field questions from the audience on this interesting topic.

Additives for efficiency

While the nature of the commodity feed additive business is very traditional and stable, the realm of specialty feed additives is characterized by the need for continuous innovation. Soon, livestock producers will have to overcome several major challenges to meet the demand for animal products. In Dr. Bernhard Eckel’s presentation, “Three drivers of animal nutrition innovation & the impact on your business,” he will examine how evolving additive categories will help nutritionists meet consumer expectations and advance modern feed formulations.

Drilling down into specific additives, thymol research out of the Italy promises to introduce new attributes for this natural animal feed flavorant.

Although anti-inflammatory and antimicrobial modes of action have been reported, new data connects thymol to a more general concept of intestinal health. A recent study conducted by the University of Bologna suggests that thymol was shown to improve the intestinal barrier function and play a role in intestinal sensory perception by reducing the expression of receptors generally upregulated during

intestinal inflammatory status. In her presentation, “Thymol promotes the intestinal barrier function of Caco-2 cells,” Dr. Ester Grilli, a professor at the University of Bologna – School of Veterinary Medicine, will explore how this data can be used to support the “intestinal health-enhancer” mode of action of thymol-based products in animal nutrition.

Ingredient solutions

Beyond additives, nutritionists are always looking for new research and formulation insights regarding the use of novel ingredients.

For example, corn price volatility and availability has threatened the competitiveness and sustainability enjoyed by poultry over other protein. Fusion Biosystems’ David Akinde believes in the huge untapped potential of cassava as an ingredient to reduce – or even eliminate the corn inclusion – in broiler feeding.

Though cassava does have its strengths, it also poses the challenge of poor nutrient levels and the presence of cyanogens, which causes cyanide poisoning in animals when present beyond threshold limits. To overcome these issues, recent studies look at the use of free methionine as thiol precursor for in vivo detoxification of cyanide. The research suggests no negative effect on growth, carcass yield and meat quality parameters when corn was completely replaced in the presence of increased ingestion of methionine. Could cassava completely replace corn under practical feed formulation? Akinde will explore this possibility in his talk, “Cassava as a surrogate for corn – how high can we go in broiler diets?”

From raw soy bean to soy protein isolate, the various steps of processing affect the character of the end product. To understand the influence of the various steps in processing enables the feed formulator to better create a diet with the necessary dietary benefits for the animal in question. Digestibility of the protein is not merely a calculation factor to be used in formulation to obtain the correct level of digestible amino acids, but also a tool to reduce undigested protein and reduce gut health stress. This approach enables removal of causes for gut health issues, which in turn does not have to be treated



by antibiotics or overcome by addition of other perhaps expensive solutions. During the presentation, “The effect of processed proteins on swine nutrition,” Lars Sangill Andersen, nutritionist, Hamlet Protein A/S, will discuss which approaches should be used when evaluating digestibility of raw materials for piglets.

On a related note, Dr. Mike Varley, director of The Pig Technology Company, will explore the principles and practice of feeding pre- and post-weaned piglets, the elements of nutritional delivery and gut health management. Significant changes in these applications have altered feed ingredient utilized and the practice of formulation itself. The withdrawal of antibiotics, use of alternative energy ingredients and the introduction of novel protein and fiber sources offer nutritionists new opportunities and challenges. Varley will address these issues and speculate about the future of piglet diets in “Pre- and post-weaned piglet nutrition: a modern approach for tomorrow’s production landscape.”

● For more information about the 2017 FIAAP Animal Nutrition Conference and its speakers, please visit: www.FIAAP-Conferences.com

FIAAP Exclusive!

World Feed Panorama: 2017 global feed production trends

For more than 25 years Feed International magazine has gathered and published its survey of global compound feed production volumes. Feed International editor Jackie Roembke will kick off the 2017 FIAAP Animal Nutrition Conference with an exclusive sneak peek at the magazine’s 2017 survey findings and a look at the factors influencing world production.