Early intervention leads to improved piglet performance

As we all continue to feel the effects of the coronavirus pandemic impacting on our personal lives, it is also taking its toll on our professional lives. Tradeshows and events are a staple in the animal feed industry, and they too have suffered postponements, cancellations and in the case of EuroTier this year, switching to a completely new format.

EuroTier was due to take place in Nuremberg, Germany back in November 2020, with more than 2,200 exhibitors from 60 countries and over 250,000 people expected to attend in person. With people's safety more scrutinised in every aspect of life, it was decided that the event would take place on a new digital platform.

Insightful look at piglets

To coincide with this new format, Tonisity developed their own speaker programme, with the view of delivering a knowledgeable and insightful look at key areas within the production lifecycle of piglets, including the physiology of the piglet itself.

Dr Laura Boyle and Dr Keelin O'Driscoll, senior researchers from Teagasc in Ireland, introduced how working with pig biology and behaviour improves welfare and could help to reduce pre-weaning mortality. They discussed the common causes of pre-weaning mortality, and how to optimise piglet survival. Piglet survival is not only down to the viability of the piglets themselves but also monitoring of their activity and intervention at key stages of their development. They highlighted the importance of keeping accurate records of their performance, to help manage piglets pre-weaning, in line with their physical and behavioural needs. Facilitating the piglet's natural behaviour sets a platform for reducing stress on the pig and helps improve their welfare.

When it comes to cross-fostering they suggested that farmers should reduce the amount of cross-fostering, only do so if absolutely necessary within the first 12-24 hours and only once. Lower birthweight piglets, less than 1kg, should also be left with their birth mother to increase the chance of survivability.

Professor Richard Ducatelle, Head of the

Laboratory of Veterinary Pathology at the University of Ghent in Belgium, author or co-author of more than 650 scientific publications, discussed small intestinal absorption versus small intestinal infection. With higher performance and increased feed intake in piglets, there is more oxidative stress on the gastrointestinal tract.

Ducatelle explained how bacteria can compete with the host for the nutrients in the small intestine. The absorption of nutrients by the transepithelial transport system must be fast and efficient to prevent bacteria absorbing these nutrients, instead ensuring they are absorbed into the small intestine. The small intestine has an elaborate defence system against bacterial colonisation. The intestinal epithelial cells, along the small intestine, play a key role in the antimicrobial defence. The number of these cells can then determine the length of these villus. It is important to prime these cells, so they are best placed to provide this defence mechanism within the small intestine

Dr Alfons Jansman, Senior Scientist Animal Nutrition, Wageningen Livestock Research, Netherlands, provided an insight into 'Nutrition and intestinal development in young piglets'. Jansman discussed the importance of gut health and development, and reduction of post-weaning diarrhoea. He explained how the digestive system is an organ with a variety of functions, has a great complexity and shows large dynamics.

The piglet's diet composition can influence the development and function of the complex digestive system. There are functional properties of feed ingredients and additives related to gut health that need to be a more integral part of diet formulation. He also showed how further optimisation of diets and nutrition for pigs contributes to improvement of gut health and reduction of the use of antibiotics.

Early intervention solutions

Tonisity also presented some of their own solutions during the webinar programme. Mathieu Cortyl, Managing Director for Europe and Asia, presented 'Early intervention solutions for improved life performance of pigs.' As Professor Ducatelle highlighted, the enterocytes, intestinal cells, play a key role in the absorption of nutrients into the bloodstream.

Tonisity has developed Tonisity Px, an isotonic protein drink for pigs, which contains a balanced combination of key nutrients to feed the enterocytes. This helps to stimulate and boost the development of the small intestinal villi, enabling them to better absorb nutrients into the bloodstream. This has positive effects on intestinal health, encouraging consumption of milk and feed, leading to a decrease in pre-weaning mortality, by up to 20% on average.

Tonisity PxW is a new solution designed to be fed through water lines. It increases water intake and supports the gut after weaning, helps to reduce fall-behinds and improves post-weaning and fattening performances, up to seven days less to market.

Tonisity's R&D team of Dr Ava Firth and Dr Stefan Buzoianu provided a detailed presentation of their research findings into pre-weaning mortality across different birthweights. There is a common misunderstanding that small piglets have high mortality and heavier pigs will thrive on their own without any intervention.

In reality, 68% of piglets that do not make it to weaning, started off as medium or heavy birthweight piglets. Although small piglets have a higher rate of pre-weaning mortality, they only represent 11% of the population.

Tonisity have amassed substantial research to support this data with 166 trials across 35 countries, and over 267,000 piglets. ■

Watch the webinar recordings at https://tonisity.com/blog