

Pancosma Highlights Plant Extract and Organic Trace Mineral Benefits at US Symposium

29 July 2008 - The US - in which, Pancosma, a Swiss manufacturer of palatants, trace minerals and plant extracts, has been present since April 2006 when Pancosma USA Inc was inaugurated in Palatine, near Chicago - is a growing market for natural and safe feed additives.

However, as US producers are also faced with record raw material prices, the need to reduce feeding costs by alternative feeding methods and multi-function products, has become all the more important.

To help address the problem, Pancosma took part in the ADSA/ASAS Symposium held in Indianapolis, Indiana, earlier this month.

The Swiss firm presented an update of its work on the use and multiple benefits of plant extracts and organic trace minerals in animal nutrition.

Pancosma, for whom R&D represents approximately 7-8% of the company's turnover, gave a total of nine presentations at the event.

1- Dr. Jean-Philippe Meunier, Nutrition & Technology, R&D Department at Pancosma, presented an in vitro model (TIM) to simulate the porcine ileal digestion of diets differing in the carbohydrate composition.

Meunier revealed that the TIM model yielded ileal digestibility results comparable with those obtained in vivo for crude protein and organic mass with a corn-soybean diet or with a diet including coarse corn, but it underestimated digestibility when fibrous ingredients were included.

Meunier argued that TIM can be an interesting model to study the interactions among different nutrients and digestive variables as it shows the modification of a single variable of digestion. It is also well suited to the study of the kinetics of the digestion and absorption of nutrients or additives.

2- Meanwhile, in another presentation on veal calves, Pancosma outlined its objective to find new additives to minimize the consequences of the prohibition of AGPs in Europe, such as the increase of gastrointestinal pathologies and sudden death frequency for calves.

The company demonstrated that an in vitro system modelling the jejuno-Ileal ecosystem of veal calves allows the evaluation of potentially new feed additives on the intestinal microflora of calves. This technology will be valuable especially for natural products as essential oils and plant extracts due to the company.

3- Another Pancosma study, in cooperation with the University of Barcelona, looked at the antimicrobial activity on commensal microbiota of Carvacrol, Cinnamaldehyde and Capsicum Oleoresin in different sections of the intestine of weaned piglets by using fermentation essay.

The scientists showed that the product XTRACT™ 6930, a standardized combination of microencapsulated plant extracts, presented good antimicrobial activities at doses similar to formic acid in intestinal contents. The more noticeable results were viewed in the piglets' jejunum.

Additionally, the microencapsulated physical form secured a prolonged, sustainable and optimised release kinetic in the digestive tract of the bioactive compounds. Dr Jean-

Philippe Meunier also added that it is important to control the biopharmaceutical behaviour in the digestive environment to ensure optimum use of plant extracts.

4- A further presentation gave an overview of the effect of a specific blend of essential oils on ruminal parameters of beef calves receiving high grain diets compared to an ionophore.

Using XTRACT™ 7065, a new 3-way-combination of Eugenol, Cinnamaldehyde and Capsicum, which was launched by Pancosma in January this year, allowed similar responses in terms of eating behaviour, ruminal environment and performance compared to an ionophore in feedlot calves.

A trial was carried out on 24 Aberdeen Angus calves weighing 135 kg and fed XTRACT™, during which feed intake was not altered for 84 days. The researchers discovered an animal feeding behaviour similar to calves having had ionophore supplementation.

5- Pancosma's work on organic trace minerals was also highlighted thanks to a presentation on B-TRAXIM®2C Fe, a crystalline form of iron glycinate Fe, a Pancosma product which can improve the piglet's iron status.

After a trial was carried out on 384 weaned piglets, the company was able to record a significant improved iron status when using 100mg/kg Fe from the crystalline iron glycinate compared to 100 mg/kg Fe from FeSO₄.

This latest trial confirms previous Pancosma studies, which showed the higher bioavailability of crystalline glycine chelates in pigs compared to conventional iron sources. At the same time, the percentage of piglets fed B-TRAXIM®2C Fe showed less anemia symptoms and better hemoglobin status than those who were not fed the organic trace mineral.

6- Also during the symposium, Pancosma's director of R&D, Dr. David Bravo, showed the effect of the combination of Cinnamaldehyde, Eugenol (CIE) and Capsicum (CAP) on rumen fermentation and feeding behaviour in beef heifers fed a high-concentrate diet. He provided his audience with the results of a study conducted in cooperation with University of Barcelona.

These revealed that CIE decreased DMI corresponding to a potentially caloric adjustment of feed intake as total VFA production was at the same time numerically increased. CAP increased significantly the consumption of water and feed in the trial. Moreover, CAP altered feed intake pattern and behaviour, animals spent more time eating and the pattern of intake was more stable during the day.

According to Bravo, this modification of intake pattern could be responsible for controlling the pH-Value in the rumen, especially the sharp drop of pH-value after feeding.

7- In an accompanying talk, it was later shown that the use of XTRACT™ 6933, a Pancosma product based on 20 % of Capsicum extract, enabled a control on heat stress and rumen acidosis in ruminants.

8- Dr. Bravo also looked at the value of Meta-analyses to study the effect of a Cinnamaldehyde and Eugenol mixture in lactating dairy cows.

"A feed additive needs to act with a consistent mechanism leading to an overall response which is converted into an effect", said the researcher.

9 - Pancosma's Meta-Analyses on 18 trials in cooperation with ADM Research showed that the addition of its product, XTRACT™ 6965, a microencapsulated two-way-

combination of Eugenol and Cinnamaldehyde, improved zootechnical performance of lactating dairy cows with high intensity and consistency.