

Editorial news and events

Book reviews

Proceedings of the Society of Nutrition Physiology, H. Martens (Editor), DLG-Verlag Frankfurt (Main), Vol. 16, 2007, 148 pp. Price: 29,90 € plus postage, Softcover, ISBN 9-3-7690-4100-2

The 61st Annual Meeting of the Society of Nutrition Physiology of Germany was held at Goettingen from 6 to 8 March, 2007.

The Proceedings of the meeting comprise 109 abstracts, one review paper on “Trace elements and immunology” (4 p.), and four contributions (11 p.) of the workshop “Energy and protein evaluation for dairy cows in Europe”.

The abstracts (one page each) are devoted to the following topics:

1. Metabolism, growth, lactation (15 papers)
2. Minerals and trace elements (14 papers)
3. Fat and lipids (5 papers)
4. Transport- and epithelial physiology (11 papers)
5. Digestion (14 papers)
6. Undesired materials (6 papers)
7. Free topics (5 papers)
8. Feeding in ecological animal husbandry (3 papers)
9. Additives (15 papers)
10. Animal feed (15 papers)
11. Vitamins (4 papers)
12. Amino acids and nitrogen (6 papers)
13. Energetics (3 papers)

Most of the papers are presented from scientists at German Institutes of Animal Nutrition and Animal Physiology, but papers of scientists from other European countries as well as from overseas are also included.

The invited lecture by Jerry W. Spears from the Department of Animal Science of the North Carolina State University dealt with trace elements and immunology.

He divided the immune system into innate and adaptive or acquired immunity. Innate immunity is non-specific in regard to organisms that it will attack, and consists of physical barriers to organisms such as skin and internal mucous membranes, as well components that are induced by exposure to foreign material such as phagocytic and complementary cells. Phagocytic cells destroy invading organisms by generating reactive oxygen and nitrogen species that are toxic to invading organisms. Certain trace minerals are required for the functioning of enzymes involved in the antioxidant defence system. The author analysed and discussed the role of the trace elements selenium, copper, zinc, iron and chromium in immune responsiveness and disease resistance.

Four European energy and protein evaluation systems for dairy cows were presented and discussed in workshops at the end of the meeting. Speakers from Denmark, the UK, France and the Netherlands were invited to present current developments in this field in their countries:

1. T. Hvelplund from the University of Aarhus, Research Centre Foulum informed about the energy and protein evaluation systems used for dairy cows in Denmark. The energy and protein evaluation system in use in Denmark is at present in a state of change from the traditional systems where individual feed were characterized by fixed values for energy and protein to a system based on a mechanistic model, where the energy and protein values of the diet are predicted based on modelling of the nutrient output of the diet and thereby vary according to ration composition and feed intake level.
2. I. Givens from the Animal Science Research Group of the University of Reading (UK), presented the contribution "Feed into Milk. An applied feeding model coupled with a new system of feed characterisation. A model for harmonisation?" The "Feed into Milk" (FiM) concept consists of a number of work packages within the context of a requirement – based system. The project reviewed currently available data and, where possible, incorporated the most useful parts rather than carrying out new research. I. Givens concluded that these key philosophies would be crucial in any serious attempt to create an integrated approach throughout the EU. The book "Feed into Milk: A New Applied Feeding System for Dairy Cows" edited by C. Thomas is available from the Nottingham University Press (www.nup.com).
3. H. Rulquin from the INRA Research Unit, Agrocampus Dairy Production, Saint Gilles, reported about the French AADI system. It is an operating system for the amino acids lysine and methionine that has been running since 1993 and will be updated in 2007. The main objective is feeding according to an amino

acid composition “ideal” for milk production which will allow a reduction in the protein content of diets of dairy cows.

4. S. Tamminga from the Wageningen University/CVB, Product Board Animal Feed, Lelystad, informed about the new energy and protein systems in the dairy cows in the Netherlands. This system takes into account ingestion, conversions due to rumen fermentation, intestinal digestion and utilization of ketogenic, glucogenic and aminogenic nutrients. Further refinement seems to be possible by taking into account requirements for individual essential amino acids. The new system is published in: S. Tamminga, G.G. Brandsma, J. Dijkstra, G. van Duincken, A.M. van Vuuren, M.C. Blok “Protein evaluation for ruminants: the DVE/OEB 2007 system”, CVB Documentation Report Nr. 53, March 2007, CVB Lelystad, pp. 58.

One objective of the workshop was to assess the chances for a harmonization of energy and protein evaluation systems for dairy cows in Europe. It can be concluded that many similarities exist, but a harmonization, if at all possible, would be a long-term step-by-step process.

The Proceedings review present research activities in animal physiology and animal nutrition in Central Europe and are recommended to all those working in animal nutrition and animal physiology.

The Proceedings of the 61st Meeting (vol. 16, 2007) are available from the DLG-Verlag, Eschborner Landstraße 122, D-60489 Frankfurt am Main, Germany.

The next meeting of the Society of Nutrition Physiology of Germany (the 62nd) will be held in Goettingen from 1 to 3 April, 2008.

Gerhard Flachowsky
Institute of Animal Nutrition,
Federal Agricultural Research Centre (FAL),
Bundesallee 50, D-38116 Braunschweig, Germany
Tel.: +49-531-596-3102; Fax: +49-531-596-3199
e-mail address: gerhard.flachowsky@fal.de