

## Editorial news and events

### Conference Report \*

The 54<sup>th</sup> Annual Meeting of the Society of Nutrition Physiology of Germany was held at Goettingen, Germany, 7.-9. March 2000. (Editor: J. Pallauf, DLG-Verlag). The Proceedings of the Meeting contain 1 review paper, 119 abstracts and 5 papers to the workshop „Influence on health and performance of the preruminant calf“. The abstracts are attributed to the following topics:

1. Macro and trace elements as well as desirable substances (19 papers)
2. Fat digestion and lipid metabolism (10 papers)
3. Feed additives (16 papers)
4. Special problems of nutrition in pigs and poultry (11 papers)
5. Special problems of ruminant nutrition (11 papers)
6. Vitamins (5 papers)
7. Amino acids and nitrogen metabolism (13 papers)
8. Energy metabolism (6 papers)
9. Transport physiology (10 papers)
10. Digestion and metabolism (13 papers)
11. Calf nutrition (5 papers).

Most of the papers are contributions from German institutes of animal sciences, and other European countries (i. e. Albania, Austria, Czech Republic, Denmark, France, Hungary, The Netherlands, Norway, Poland, Slovak Republic, Switzerland, Turkey) as well from overseas (Canada, India, Mexico, Nigeria, PR China, Sudan) included in the proceedings.

Without going into details of various subjects, it can be stated that the abstracts give a comprehensive overview of present research activities in animal nutrition and nutrition physiology in Germany and some other countries.

The invited paper by P.T. Sangild et al. from the Royal Veterinary and Agricultural University, Frederiksberg (Denmark) is entitled „Perinatal development of

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\* The Proceedings of the 54<sup>th</sup> Meeting of the Society of Nutrition Physiology (Vol. 9, 2000, 172 pp. softcover) are available from the DLG-Verlag-gmbH, Eschborner Landstrasse 122, D 60489 Frankfurt and Main, Germany. ISBN 3-7690-4093-7, Price 46.00 DM plus postage.

digestive enzymes in farm animals". In this paper, it is shown in large domestic animals that the functional characteristics of the gastrointestinal tract change dramatically immediately before and after birth. These changes are closely related to the nutritional transition from total parenteral nutrition before birth to enteral nutrition. The review describes enzyme development in the perinatal period with the main focus on the pig. It reports how enzyme development may be influenced by hormones and luminal nutrition.

The workshop papers deal with colostrum as functional food for neonatal calves, its effects on the immune status and the metabolism, digestive and metabolic aspects in milk-fed calves, health problems in milk-fed calves and the feeding of preruminant calves.

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As an announcement, the next meeting of the Society of Nutrition Physiology of Germany (the 55<sup>th</sup> one) will be held at Goettingen during 6-8 March 2001.

## Book review

Ausschuss für Bedarfsnormen der Gesellschaft für Ernährungsphysiologie (Committee of Nutrient Requirement of the Society of Nutrition Physiology): Empfehlungen zur Energie- und Nährstoffversorgung der Legehennen und Masthühner (Broiler) (Recommendations for the energy and nutrient supply of laying hens and broilers). DLG-Verlagsgesellschaft GmbH, Frankfurt am Main, Germany, e-mail: [dlg-verlag@dlg-frankfurt.de](mailto:dlg-verlag@dlg-frankfurt.de), <http://www.dlg-verlag.de>, 1999, 185 pp., 62 tables, 11 figures, in German, ISBN 3-7690-0577-5, Price: 36,- DM

The book contains six chapters in total which deal with the energy, protein and amino acid, major and trace mineral, essential fatty acid, and water- and fat-soluble vitamin requirements of laying hens and broilers. Requirements or recommendations for supply data for energy and nutrients were derived in different ways. Whereas energy-, protein- and amino acid and major mineral requirement were derived by the so-called factorial approach, the recommendations for the supply of the remaining nutrients were obtained by evaluating a number of published experiments. Moreover, the latter recommendations for supply were given not only for laying hens and broilers, but also for additional gallinaceous poultry, such as chicks, breeders and pullets.

The different approaches used to derive data imply that these values have to be interpreted in different ways. The factorial approach models the requirement by adding the particular factors of total requirement, namely that for maintenance, growth and/or egg production with consideration of net requirement and utilization figures. Therefore, the so-derived requirement represents the requirement per se and does not include safety margins which must be taken into account in practical feed formulation. In contrast, recommendations for supply with vitamins, trace minerals and essential fatty acids include both the physiological requirements and respective safety margins.

Energy requirement was derived for laying hens and broilers by the factorial approach using literature data for energy maintenance requirements, energy concentration of eggs and of live weight gain. Furthermore, different housing and keeping conditions were considered for the hen's energy maintenance requirement. Finally, tables summarizing factorial and total energy requirements were given for selected levels of performance.

Protein requirements were also modeled by the factorial approach assuming an ideally composed protein. These crude data on total alpha-amino-nitrogen requirements were subdivided into the requirement of the particular essential- and semi-

essential amino acids. It should be noted that the requirement of protein and of amino acids is given as gross requirement. A further step toward digestible requirement figures was not taken, and reasons why were given. Tables with amino acid requirements for some relevant performance profiles are given at the end of this chapter.

The need to supply poultry with the essential fatty acids linoleic acid and alpha-linolenic acid was justified on the basis of a critical literature review.

Recommendations for supply with these fatty acids were given at the end of this chapter.

Requirements of major minerals, i.e., calcium, phosphorus, magnesium, sodium, chloride and potassium were also derived according to the factorial approach. Data for mineral maintenance requirements, for mineral composition of eggs, and live weight gain were obtained from a review of literature data. Phosphorus requirements were formulated as gross requirements rather than as requirements for available or non-phytin-phosphorus, mainly because of uncertainties with respect to definition and quantification of these terms.

Recommendations for the supply of gallinaceous poultry with the trace minerals iron, copper, zinc, manganese, iodine and selenium as well as for water-soluble (thiamin, riboflavin, niacin, vitamin B<sub>6</sub>, B<sub>12</sub>, pantothenic acid, biotin, folic acid and choline) and fat-soluble vitamins (Vitamins A, D<sub>3</sub>, E and K<sub>3</sub>) are based on a critical review of the literature. The recommended values are given in tables and include safety margins to account for practical purposes.

In summary, the book gives not only suggestions on energy and nutrient requirements, and recommendations for supply, but also provides an up-dated literature review on the particular issues. Consequently, gaps in knowledge on requirements of poultry were identified and future research needs were determined.

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